

ORANGE COUNTY FIRE AUTHORITY AGENDA

EXECUTIVE COMMITTEE REGULAR MEETING

Thursday, November 16, 2023 5:30 P.M.

Regional Fire Operations and Training Center Board Room 1 Fire Authority Road

Irvine, CA 92602

Vince Rossini, Chair • John O'Neill, Vice Chair Dave Shawver • Shelley Hasselbrink • Donald P. Wagner Noel Hatch • Mark Tettemer • Phil Bacerra • Gene Hernandez Ex Officio Member - Dennis Wilberg, Mission Viejo

NOTICE REGARDING PUBLIC ACCESS AND PARTICIPATION

This meeting is open to the public. Committee members will participate in person. There are several alternative ways to make comments including:

In Person Comments at Meeting: Resolution No. 97-024 established rules of decorum for public meetings held by the Orange County Fire Authority. Resolution No. 97-024 is available from the Clerk of the Authority.

Any member of the public may address the Committee on items within their subject matter jurisdiction, but which are not listed on this agenda during PUBLIC COMMENTS. However, no action may be taken on matters that are not part of the posted agenda. We request comments made on the agenda be made at the time the item is considered and that comments be limited to three minutes per person. Please address your comments to the Committee and do not engage in dialogue with individual Board Members, Authority staff, or members of the audience.

If you wish to speak, please complete a Speaker Form identifying which item(s) you wish to address. Please return the completed form to the Clerk of the Authority prior to item being considered. Speaker Forms are available at the entryway of meeting location.

E-Comments: Alternatively, you may email your written comments to <u>coa@ocfa.org</u>. E-comments will be provided to the Committee members upon receipt and will be part of the meeting record as long as they are received during or before the Committee takes action on an item. Emails related to an item that are received after the item has been acted upon by the Committee will not be considered.

This Agenda contains a brief general description of each item to be considered. Except as otherwise provided by law, no action or discussion shall be taken on any item not appearing on the following Agenda. Unless legally privileged, all supporting documents, including staff reports, and any writings or documents provided to a majority of the committee members after the posting of this agenda are available for review at the Orange County Fire Authority Regional Fire Operations & Training Center, 1 Fire Authority Road, Irvine, CA 92602 or you may contact the Clerk of the Authority at (714) 573-6040 Monday through Thursday, and every other Friday from 8 a.m. to 5 p.m. and available online at http://www.ocfa.org



In compliance with the Americans with Disabilities Act and <u>Board of Directors policy</u>, if you need reasonable accommodations to participate in this meeting, please complete the <u>ADA Reasonable Accommodation Form</u> available on the Agency's website and email to <u>COA@ocfa.org</u>, or you may contact the Clerk of the Authority at (714) 573-6040 during regular business hours to submit your request orally. Please notify us at least 48 hours prior to the meeting to enable the Authority to make reasonable arrangements to assure accessibility to the meeting.

CALL TO ORDER by Chair Rossini

INVOCATION by OCFA Chaplain Brett Peterson

PLEDGE OF ALLEGIANCE by Director Tettemer

ROLL CALL by Clerk of the Authority

REPORTS

- A. Report from the Budget and Finance Committee
- **B.** Report from the Human Resources Committee

PUBLIC COMMENTS

Please refer to instructions on how to submit a public comment on Page 1 of this Agenda.

1. PRESENTATIONS None.

2. CONSENT CALENDAR

All matters on the consent calendar are considered routine and are to be approved with one motion unless a Committee Member or a member of the public requests separate action on a specific item.

A. Minutes for the Executive Committee Meeting Submitted by: Maria D. Huizar, Clerk of the Authority

The record will show that any Director not in attendance at the meeting of the Minutes will be registered as an abstention, unless otherwise indicated.

<u>Recommended Action:</u> Approve the Minutes for the October 26, 2023, Regular Meeting as submitted.

B. Monthly Investment Reports

<u>Submitted by: Robert Cortez, Assistant Chief/Business Services Department, Tricia Jakubiak,</u> <u>Treasurer/Treasury & Financial Planning and James Slobojan, Assistant Treasurer/ Treasury</u> <u>& Financial Planning</u> On November 8, 2023, the Budget and Finance Committee reviewed the proposed agenda item and directed staff to place the item on the Executive Committee agenda by a vote of 6-0 (Directors Lumbard, Patel, and Nguyen absent).

<u>Recommended Action</u>: Receive and file the reports.

C. First Quarter Financial Newsletter

Submitted by: Robert Cortez, Assistant Chief/Business Services Department, Tricia Jakubiak, Treasurer/Treasury & Financial Planning and Stuart Lam, Budget Manager/ Treasury & Financial Planning

On November 8, 2023, the Budget and Finance Committee reviewed the proposed agenda item and directed staff to place the item on the Executive Committee agenda by a vote of 6-0 (Directors Lumbard, Patel, and Nguyen absent).

<u>Recommended Action</u>: Receive and file the report.

D. First Quarter Purchasing Report

Submitted by: Robert Cortez, Assistant Chief/Business Services Department and Sara Kennedy, Purchasing Division Manager

On November 8, 2023, the Budget and Finance Committee reviewed the proposed agenda item and directed staff to place the item on the Executive Committee agenda by a vote of 6-0 (Directors Lumbard, Patel, and Nguyen absent).

<u>Recommended Action</u>: Receive and file the report.

E. New Salary Range for Medical Director Classification

Submitted by: Stephanie Holloman, Assistant Chief/Human Resources Director, Samuel Penrod, Human Resources Manager/ Human Resources Department and Rob Capobianco, Assistant Chief/Emergency Medical Services & Training

On November 7, 2023, the Human Resources Committee reviewed the proposed agenda item and directed staff to place the item on the Executive Committee agenda by a vote of 6-0 (Director Chun absent).

Recommended Action:

Approve the new salary range for the Medical Director classification at \$140-\$160 per hour.

F. Award of Contract for 911 Digital Logging Recorder System RFP RO2549B Submitted by: Jim Ruane, Assistant Chief/Logistics Department and Joel Brodowski, IT Division Manager/Logistics Department

Recommended Action:

Approve and authorize the Purchasing Manager to enter into a Professional Services Agreement for a five-year term with NICE Systems, Inc. for a 911 Digital Logging Recorder System in an amount not to exceed \$480,159.22 for Contract Year One and up to \$55,000 annually for Contract Years Two through Five for maintenance and support.

2. DISCUSSION CALENDAR

None.

COMMITTEE MEMBER COMMENTS

ADJOURNMENT – The next meeting will be a Regular Meeting of the Executive Committee on Thursday, January 25, 2024, at 5:30 p.m.

AFFIDAVIT OF POSTING

I hereby certify under penalty of perjury and as required by the State of California, Government Code § 54954.2(a), that the foregoing Agenda was posted in the lobby and front gate public display case of the Orange County Fire Authority, Regional Fire Operations and Training Center, 1 Fire Authority Road, Irvine, CA, not less than 72 hours prior to the meeting.

Maria D. Huizar, CMC Clerk of the Authority

FUTURE EC AGENDA ITEMS – THREE-MONTH OUTLOOK:

- Monthly Investment Report
- Quarterly CIP Update
- 2nd Quarter Financial Newsletter
- 2nd Quarter Purchasing Report
- Security Services Contract
- GE Firehawk Helicopter Engine Maintenance Contract
- Firehawk Helicopter Insurance

UPCOMING MEETINGS:

Budget & Finance Committee Legislative & Public Affairs Committee Executive Committee Board of Directors Wednesday, January 10, 2024, 12 noon Wednesday, January 17, 2024, 12 noon Thursday, January 25, 2024, 5:30 p.m. Thursday, January 25, 2024, 6:00 p.m.

MINUTES ORANGE COUNTY FIRE AUTHORITY

Executive Committee Regular Meeting Thursday, October 26, 2023 5:30 P.M.

Regional Fire Operations and Training Center Board Room 1 Fire Authority Road Irvine, CA 92602

CALL TO ORDER

Chair Vince Rossini called the regular meeting of the Orange County Fire Authority Executive Committee to order at 5:30 p.m. on October 26, 2023.

INVOCATION

The Invocation was led by Chaplain Jim Gwaltney.

PLEDGE OF ALLEGIANCE

Director Hatch led the assembly in the Pledge of Allegiance.

ROLL CALL

- Present:Vince Rossini, Villa Park, Chair
John O'Neill, Garden Grove, Vice Chair
Phil Bacerra, Santa Ana
Shelley Hasselbrink, Los Alamitos
Noel Hatch, Laguna Woods
Gene Hernandez, Yorba Linda
Dave Shawver, Stanton
Mark Tettemer, Lake Forest
Donald P. Wagner, County of Orange
- Absent: Dennis Wilberg, Ex-Officio

Also present were:

Fire Chief Brian Fennessy	Deputy Chief Lori Zeller
Assistant Chief Robert Cortez	Deputy Chief TJ McGovern
Assistant Chief Lori Smith	Assistant Chief Jim Ruane
Assistant Chief Shane Sherwood	Assistant Chief Rob Capobianco
Assistant Chief Stephanie Holloman	Assistant Chief Tim Perkins
Director of Communications Matt Olson	General Counsel David Kendig
Clerk of the Authority Maria D. Huizar	

REPORTS

Report from Budget and Finance Committee Chair O'Neill

Budget and Finance Committee Chair John O'Neill reported at its October 17, 2023, Special meeting, the Committee reviewed and by a unanimous vote recommended forwarding the Monthly Investment Reports to the Executive Committee to receive and file.

PUBLIC COMMENTS

None.

1. PRESENTATIONS None.

2. CONSENT CALENDAR

On motion of Director Hernandez and second by Director Shawver, approved unanimously 9-0 Agenda Item Nos. 2A-2E.

A. Minutes for the Executive Committee Meeting (FILE 12.02A2)

The record will show that any Director not in attendance at the meeting of the Minutes will be registered as an abstention, unless otherwise indicated.

Action: Approve the Minutes for the September 28, 2023, Regular Meeting as submitted.

B. Monthly Investment Reports (FILE 11.10D2)

On October 17, 2023, the Budget and Finance Committee reviewed the proposed agenda item and directed staff to place the item on the Executive Committee agenda by a vote of 6-0 (Directors Bourne, Gabbard, and Hasselbrink absent).

Action: Receive and file the reports.

C. Blanket Order Contract Renewal for Fire Station Alerting System Maintenance (FILE 19.07I)

Action: Approve and authorize the Purchasing Manager to extend and increase the annual maintenance contract with Westnet for up to five years based on the proposed pricing schedule with the ability to increase the annual amount as additional equipment is added up to an amount not to exceed an average of \$300,000 annually (\$1,500,000 total five-year term).

D. Cooperative Contract – Blanket Order for Wireless Service and Hardware (FILE 19.08A1)

Action:

- 1. Approve and authorize the Purchasing Manager to increase Blanket Order contract B02291 with ATT/Firstnet Wireless from \$30,000 to a new amount not to exceed \$236,697 annually, utilizing the NASPO Valuepoint cooperative contract #MA 149 and a term ending May 22, 2025, with one (1) two-year option to extend at the State's sole discretion.
- 2. Approve and authorize the Purchasing Manager to increase the above-described contract with ATT/Firstnet Wireless for services as needed not-to-exceed 3% per year, provided that the cooperative agreement is in effect and funding is available.

E. Agreement with Citygate Associates, LLC for Field Deployment Standards of Cover (SOC) Plan Update (FILE 17.16)

Action: Approve and Authorize the Purchasing Manager to enter into a Professional Services Agreement with Citygate Associates, LLC, utilizing the sole source procurement provision in the Purchasing Ordinance, to update the Standards of Cover Plan for an amount not to exceed \$70,731.

2. DISCUSSION CALENDAR None.

COMMITTEE MEMBER COMMENTS None.

DIOUDNMENT Chain Dessini adjourned the meeting of

ADJOURNMENT – Chair Rossini adjourned the meeting at 5:34 p.m. The next meeting will be a Regular Meeting of the Executive Committee on Thursday, November 16, 2023, at 5:30 p.m.

Maria D. Huizar, CMC Clerk of the Authority



Orange County Fire Authority AGENDA STAFF REPORT

Executive Committee Meeting Agenda Item No. 2B November 16, 2023 Consent Calendar Monthly Investment Reports Contact(s) for Further Information

Robert Cortez, Assistant Chief Business Services Department	robertcortez@ocfa.org	714.573.6012
Tricia Jakubiak, Treasurer Treasury & Financial Planning	triciajakubiak@ocfa.org	714.573.6301
James Slobojan, Assistant Treasurer Treasury & Financial Planning	jamesslobojan@ocfa.org	714.573.6305

Summary

This agenda item is a routine transmittal of the monthly investment reports submitted to the Committee in compliance with the investment policy of the Orange County Fire Authority and with Government Code Section 53646.

Prior Board/Committee Action

On November 8, 2023, the Budget and Finance Committee reviewed the proposed agenda item and directed staff to place the item on the Executive Committee agenda by a vote of 6-0 (Directors Lumbard, Patel, and Nguyen absent).

RECOMMENDED ACTION(S)

Receive and file the reports.

Impact to Cities/County Not Applicable.

Fiscal Impact Not Applicable.

Background

Attached is the final monthly investment report for the month ended September 30, 2023. A preliminary investment report as of October 20, 2023, is also provided as the most complete report that was available at the time this agenda item was prepared.

Attachment(s)

Final Investment Report - September 2023/Preliminary Report - October 2023

Orange County Fire Authority Monthly Investment Report



Final Report – September 2023

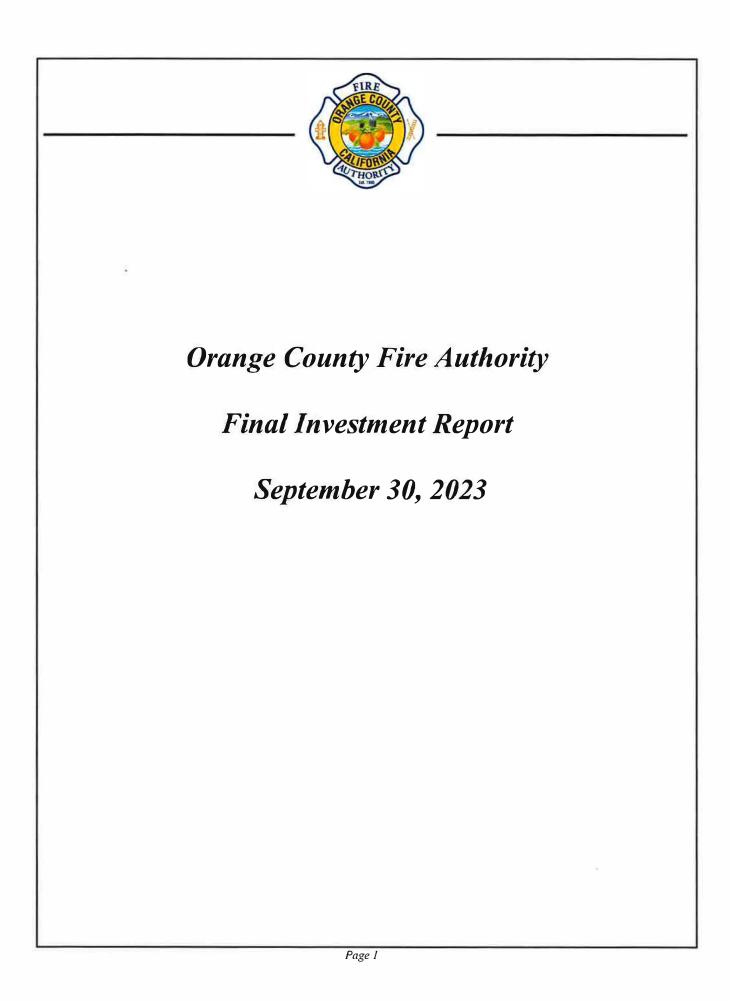
Preliminary Report – October 2023



Monthly Investment Report Table of Contents

Final Investment Report – September 30, 2023	1
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Monthly Investment Report

EXECUTIVE SUMMARY

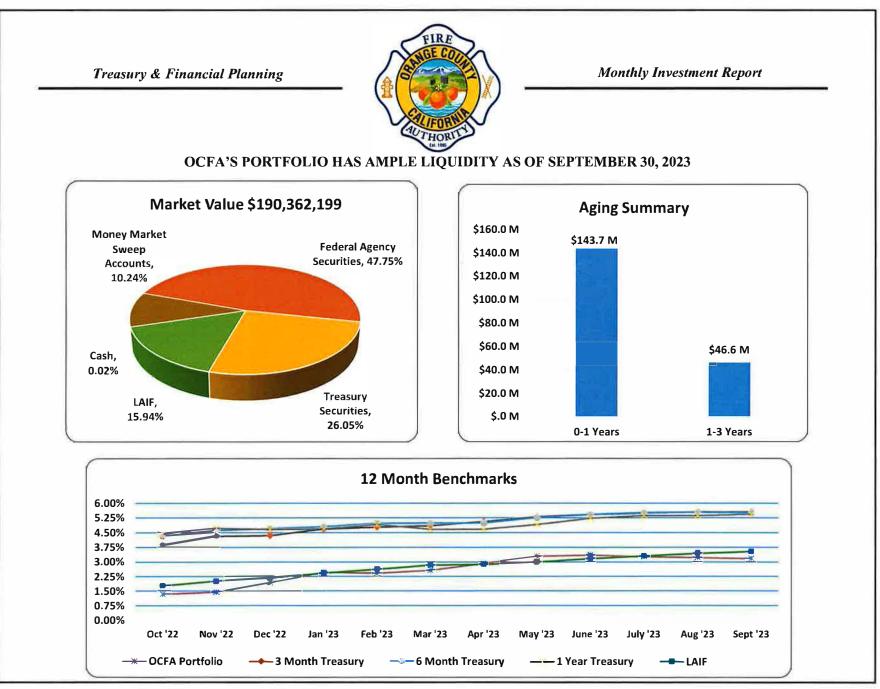
Portfolio Activity & Earnings

During the month of September 2023, the size of the portfolio decreased by \$22 million to approximately \$189 million. Receipts for the month totaled \$28.4 million, including property tax apportionment payments totaling \$4 million, receipts from cash contract payments totaling \$21.9 million, and various grant reimbursement payments and charges for current services totaling approximately \$2.4 million. Total September cash outflows amounted to nearly \$50.8 million. Significant disbursements for the month included three biweekly payrolls (instead of the typical two) and related benefits totaling approximately \$45.7 million. The portfolio's balance is expected to decrease in October as expenditures will exceed projected receipts. In September, the portfolio's yield to maturity (365-day equivalent) increased by sixteen basis points to 3.40%. The effective rate of return decreased by 5 basis points to 3.17% for the month, while the average maturity of the portfolio decreased by 5 days to 43 days to maturity.

Economic News

Nonfarm payroll employment increased 336,000 in September 2023, and the unemployment rate held steady at 3.8%. Average hourly earnings rose 4.2% over last year. Retail sales increased 0.7% in September, and up 3.8% on a year-over-year basis. Consumer spending was led by sales at gasoline stations and elevated gas prices, followed by auto sales and parts and online shopping. This was the sixth consecutive month in which consumer spending has increased despite a decline in U.S. consumer confidence. Consumers remain concerned with rising prices in groceries and gasoline along with rising interest rates. The Consumer Price Index (CPI) rose 0.4% in September and 3.7% over last year. More than half of the increase is attributed to shelter followed by gasoline prices. The Producer Price Index (PPI), which measures the prices paid by wholesalers, increased 0.5% in September and 2.2% for the year. PPI is considered a forward-looking inflation measure as it tracks prices in the pipeline for goods and services that eventually reach consumers.

In September, housing starts were up 7.0% while building permits, a leading indicator for housing starts, were down 4.4%, a sign of potential weakness approaching. Mortgage demand fell to the lowest level in 28 years while interest rates climbed to a 23-year high, impacting home sales that are now on pace for their lowest volume since the 2008 foreclosure crisis. Our current economy has seen a slowdown in home sales for the past year due to high interest rates, low inventory and home prices which remain high combined with a limited inventory of homes for sale. The Federal Reserve met on September 20th and held rates steady with the target interest rate remaining at 5.25% - 5.50%. Fed Chairman Powell recently reiterated the central bank's resolute commitment to the 2% inflation mandate. They will meet next on November 1, 2023.



Treasury & Financial Planning



BENCHMARK COMPARISON AS OF SEPTEMBER 30, 2023

3 Month T-Bill:	5.56%			1 Year T-Bill:	5.44%
6 Month T-Bill:	5.51%			LAIF:	3.53%
		OCFA Portfolio:	3.17%		

PORTFOLIO SIZE, YIELD, & DURATION

	Current Month	Prior Month	<u>Prior Year</u>
Book Value	\$189,321,437	\$211,353,381	\$140,719,078
Yield to Maturity (365 day)	3.40%	3.24%	1.29%
Effective Rate of Return	3.17	3.22%	1.15%
Days to Maturity	43	48	17

CONTROL OF THE STATE		ORANGE COUNTY Portfolio Ma Portfolio S September		с	Irvin	Fire Authority thority Road e, CA 92602 14)573-6301		
		See Nole 1 on page 10	See Note 2 on page 10					
Investments	Par Value	Market Value	Book Value	% of Portfolio	Term	Days to Mat./Call	YTM/Call 360 Equiv.	YTM/Cal 365 Equiv
Money Mkt Mutual Funds/Cash	19,526,955.97	19,526,955.97	19,526,955.97	10.02	1	1	5.038	5.10
Federal Agency Coupon Securities	67,450,000.00	63,382,351.15	67,451,094.51	34.62	1,384	28	0.628	0.6
Federal Agency DiscAmortizing	28,000,000 00	27,502,860.00	27,481,961.12	14_11	248	128	5 201	5,2
Treasury Discounts -Amortizing	50,000,000.00	49,589,480.00	49,592,377.25	25.46	146	57	5 293	5.3
Local Agency Investment Funds	30,753,000 49	30,331,922.38	30,753,000.49 194,805,389.34	15,79	1 551	1 43	<u>3.486</u> <u>3.354</u>	3.53
	195,729,956.46	190,333,569.50		100.00%				3.4
Cash								
Passbook/Checking (not included in yield calculations)	28,630.36	28,630 36	28,630.36		1	1	0.000	0.0
Total Cash and Investments	195,758,586.82	190,362,199.86	194,834,019.70		551	43	3.354	3.4
Total Earnings	September 30 Month Ending	Fiscal Year To	Date					
Current Year	526,478.80	1,849,8	81.26					
Average Daily Balance	202,379,791.34	226,716,8	39.08					
Effective Rate of Return	3.17%		3.24%					

"I certify that this investment report accurately reflects all pooled investments and is in compliance with the investment policy adopted by the Board of Directors to be effective on January 1, 2023. A copy of this policy is available from the Clerk of the Authority. Sufficient investment liquidity and anticipated revenues are available to meet budgeted expenditure requirements for the next thirty days and the next six months.

Pathicia Jakubiak, Treasurer

23

 Cash and Investments with GASB 31 Adjustment:

 Book Value of Cash & Investments before GASB 31 (Above)
 \$

 GASB 31 Adjustment to Books (See Note 3 on page 10)
 \$

 Total
 \$

 \$
 194,834,019.70

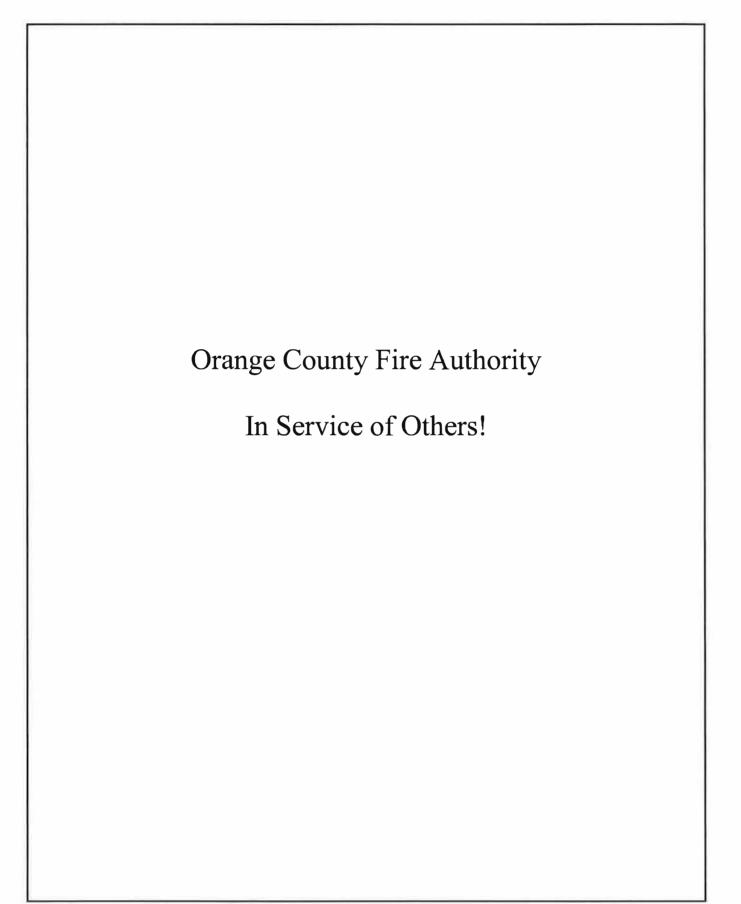
 \$
 (5,512,582.65)

 \$
 189,321,437.05

SYS1042 SYS528 SYS530	Investment # Funds/Cash 1042 528 530	Issuer	Average Balance	Purchase	tember 30, 2023	See Nole 1 on page 10	See Note 2 on page 10			
SYS528	1042 528		DaidiiLe	Date	Par Value	Market Value	Book Value	Stated	YTM/Call D 365 Ma	•
SYS528 SYS530	528			euto				Nele	000 1110	
SYS530		US Bank - Treasury Oblig	ations		11,290,145 42	11,290,145.42	11,290,145,42	5,228	5 228	1
	530	MUFG Treasury Obligation	าร	07/01/2023	0.00	0.00	0.00	4.620	4 620	1
Federal Agency Co		US Bancorp Sweep Accou	int		8,236,810 55	8,236,810 55	8,236,810 55	4,945	4 945	1
Federal Agency Co	Sub	total and Average	18,990,734.76		19,526,955.97	19,526,955.97	19,526,955.97		5.108	1
	upon Securitie	s								
3133EMWH1	1030	Federal Farm Credit Bank	(Callable 10/21/2023)	04/22/2021	3,000,000_00	2,793,990_00	3,001,094.51	0.710	0.672	20 04/21/202
3133EMXS6	1032	Federal Farm Credit Bank		04/28/2021	12,000,000.00	11,152,080 00	12,000,000 00	0.720	0.720	0 04/28/202
3130ALNY6	1025	Fed Home Loan Bank	(Callable 12/30/2023)	03/30/2021	8,000,000 00	7,611,120.00	8,000,000 00	0 550	0.550	90 09/30/202
3130ALTJ3	1029	Fed Home Loan Bank	(Callable 10/08/2023)		9,435,000 00	9,183,557.25	9,435,000.00	0.375	0 375	7 04/08/202
3130ALVR2	1031	Fed Home Loan Bank	(Callable 10/23/2023)	UHILDILULI	11,015,000 00	10,445,083.90	11,015,000 00	0.520	0 520	22 10/23/202
3130AM6P2	1034	Fed Home Loan Bank	(Callable 10/29/2023)	0412512021	12,000,000.00	10,796,760.00	12,000,000 00	1,000	1.000	28 04/29/202
3130AM6H0	1035	Fed Home Loan Bank	(Callable 11/11/2023)	05/11/2021	12,000,000 00	11,399,760,00	12,000,000.00	0.550	0.550	41 10/11/202
	Sub	total and Average	77,251,122.85		67,450,000.00	63,382,351.15	67,451,094.51		0.636	28
Federal Agency Dis	scAmortizing									
313384MW6	1080	Fed Home Loan Bank		04/20/2023	14,000,000 00	13,980,120.00	13,979,252.78	4,850	5 106	11 10/12/202
313384XV6	1095	Fed Home Loan Bank		07/20/2023	14,000,000.00	13,522,740.00	13,502,708.34	5,115	5.447	250 06/07/202
	Sub	total and Average	27,425,769.59		28,000,000.00	27,502,860.00	27,481,961.12		5.274	128
Treasury Discount	s -Amortizing									
912797FC6	1081	US Treasury Bill		05/18/2023	17,000,000,00	16,940,160.00	16,940,972 22	5.000	5.257	25 10/26/202
912797FJ1	1083	US Treasury Bill		06/21/2023	14,000,000,00	13,921,740,00	13,922,801.68	5,090	5 339	39 11/09/202
912797GC5	1096	US Treasury Bill		08/03/2023	9,000,000.00	8,866,080.00	8,867,144.99	5.210	5,483	102 01/11/202
912797FW2	1097	US Treasury Bill		09/14/2023	10,000,000,00	9,861,500.00	9,861,458,36	5.250	5.486	95 01/04/202
	Sub	total and Average	51,292,496.99		50,000,000.00	49,589,480.00	49,592,377.25		5.366	57
Local Agency Inve	stment Funds									
SYS336	336	Local Agency Invstmt Fun	d		30,753,000.49	30,331,922.38	30,753,000.49	3,534	3.534	1
	Sub	total and Average	27,419,667.16		30,753,000.49	30,331,922.38	30,753,000.49		3.534	1

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ORANGE COUNTY FIRE AUTHORITY Portfolio Management Portfolio Details - Cash September 30, 2023										
CUSIP Money Mkt Mu	Investment #	Issuer	Average Balance	Purchase Date	Par Value	Market Value		tated YTM/C C Rate 365 Ma	-	
SYS10033	10033	Revolving Fund		07/01/2023	20,000_00	20,000.00	20,000.00	0.000	1	
SYS4	4	Union Bank		07/01/2023	0.00	0.00	0.00	0.000	1	
SYS5	5	US Bancorp		07/01/2023	8,630.36	8,630.36	8,630,36	0.000	1	
		Average Balance	0.00						1	
	Total Cas	h and Investments	202,379,791.34		195,758,586.82	190,362,199.86	194,834,019.70	3.400	43	



	FIRE						E COUNTY F Aging R By Maturit As of Octobe	eport ty Date	HORITY			ounty Fire Authority Fire Authority Road Irvine, CA 92602 (714)573-6301
									Maturity Par Value	Percent of Portfolio	Current Book Value	Current Markot Valuo
	Aging Interval:	0 days	(10/01/2023	•	10/01/2023)		7 Maturities	0 Payments	50,308,586.82	26.21%	50,308,586.82	49,887,508.71
	Aging Interval:	1 - 30 days	(10/02/2023	÷	10/31/2023)		2 Maturities	0 Payments	31,000,000.00	16.24%	30,920,225.00	30,920,280.00
	Aging Interval:	31 - 60 days	(11/01/2023		11/30/2023)		1 Maturities	0 Payments	14,000,000.00	7.31%	13,922,801.68	13,921,740.00
	Aging Interval:	61 - 90 days	(12/01/2023	•	12/30/2023)		0 Maturities	0 Payments	0.00	0.00%	0.00	0.00
	Aging Interval:	91 - 120 days	(12/31/2023	•	01/29/2024)		2 Maturities	0 Payments	19,000,000.00	9.84%	18,728,603.35	18,727,580.00
Page	Aging Interval:	121 - 365 days	(01/30/2024	•	09/30/2024)		3 Maturities	0 Payments	31,435,000.00	15.93%	30,937,708.34	30,317,417.25
00	Aging Interval:	366 - 1095 days	(10/01/2024		09/30/2026)		5 Maturities	0 Payments	50,015,000.00	24.47%	50,016,094.51	46,587,673.90
	Aging Interval:	1096 days and after	(10/01/2026	•)		0 Maturities	0 Payments	0.00	0.00%	0.00	0.00
						Total for	20 investments	0 Payments		100.00	194,834,019.70	190,362,199.86

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Treasury & Financial Planning



Monthly Investment Report

NOTES TO PORTFOLIO MANAGEMENT REPORT

- Note 1: Market value of the LAIF investment is calculated using a fair value factor provided by LAIF. The U.S. Bank Corporate Trust and Custody Department provides market values of the remaining investments.
- Note 2: Book value reflects the cost or amortized cost before the GASB 31 accounting adjustment.
- Note 3: GASB 31 requires governmental entities to report investments at fair value in the financial statements and to reflect the corresponding unrealized gains/ (losses) as a component of investment income. The GASB 31 adjustment is recorded only at fiscal year-end. Fluctuations in the marketplace have little effect on our long-term investment yield because it is our policy to hold investments to maturity. However, adjusting to market values as required by GAAP resulted in a decrease in recorded interest earnings of \$5,512,582.65. The adjustment for June 30, 2023, includes a decrease of \$612,970.63 to the LAIF investment and a decrease of \$4,899,612.02 to the remaining investments.
- Note 4: The Federated Treasury Obligations money market mutual fund functions as the Authority's sweep account. Funds are transferred to and from the sweep account to/from OCFA's checking account in order to maintain a target balance of \$1,000,000 in checking. Since this transfer occurs at the beginning of each banking day, the checking account sometimes reflects a negative balance at the close of the banking day. The negative closing balance is not considered an overdraft since funds are available in the money market mutual fund. The purpose of the sweep arrangement is to provide sufficient liquidity to cover outstanding checks yet allow that liquidity to be invested while payment of the outstanding checks is pending.

Treasury & Financial Planning



Monthly Investment Report

Local Agency Investment Fund (LAIF)

As of September 30, 2023, OCFA has \$30,753,000.49 invested in LAIF. The fair value of OCFA's LAIF investment is calculated using a participant fair value factor provided by LAIF on a quarterly basis. The fair value factor as of September 30, 2023 is .986307739. When applied to OCFA's LAIF investment, the fair value is \$30,331,922.38 or \$421,078.11 below cost. Although the fair value of the LAIF investment is lower than cost, OCFA can withdraw the actual amount invested at any time.

LAIF is included in the State Treasurer's Pooled Money Investment Account (PMIA) for investment purposes. The PMIA market valuation on September 30, 2023 is included on the following page.

STRET LIQUOT

State of California Pooled Money Investment Account Market Valuation 9/30/2023

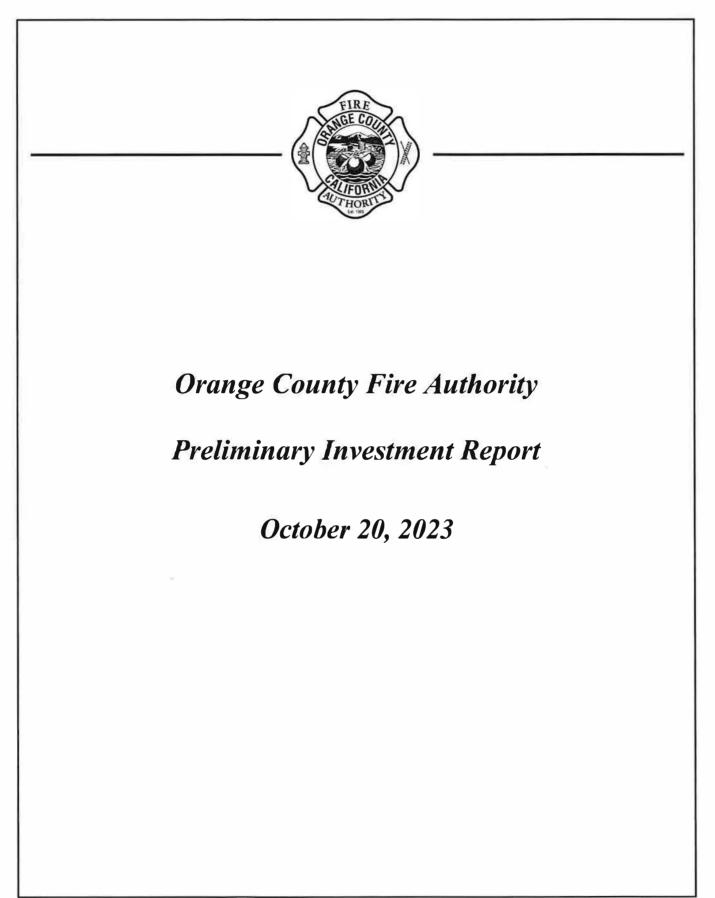
Description		arrying Cost Plus rued Interest Purch.		Amortized Cost	Fair Value	Ac	crued Interest
United States Treasury:			_			_	
Bills	\$	22,254,070,554.26	\$	22,573,811,770.05	\$ 22,564,630,000.00		NA
Notes	\$	75,736,882,320.52	\$	75,726,070.719.47	\$ 73,914,693,500.00	\$	356,275,509.00
Federal Agency:							
SBA	\$	289,931,607.50	\$	289,931,607.50	\$ 289,283,255.27	\$	1,343,664.44
MBS-REMICs	\$	2.444,395.28	\$	2,444,395.28	\$ 2,377,611.11	\$	10,790.37
Debentures	\$	8,932,358,628.46	\$	8,931,933,628.45	\$ 8,757,401,100.00	\$	56,448,847.70
Debentures FR	\$		\$	-	\$ -	\$	
Debentures CL	\$	800,000,000.00	\$	800,000,000.00	\$ 778,527,500.00	\$	6,377,986.50
Discount Notes	\$	19,299,127,548.54	\$	19,592,303,562.55	\$ 19,597,035,000.00		NA
Supranational Debentures	\$	3,069,440,886.57	\$	3,069,197,136.57	\$ 3,000,342,800.00	\$	21,753,731.10
Supranational Debentures FR	\$	-	\$		\$ -	\$	
CDs and YCDs FR	\$	· · · · · · · · · · · · · · · · · · ·	\$		\$ <u>ب</u>	\$	
Bank Notes	\$	100,000,000.00	\$	100,000,000.00	\$ 99,998,636.29	\$	3,441,666.67
CDs and YCDs	\$	10,900,000,000.00	\$	10,900,000,000.00	\$ 10,895,339,264.35	\$	125,772,666.67
Commercial Paper	\$	6,278,680,305.56	\$	6,336,423,069.39	\$ 6,333,243,472.32		NA
Corporate:	-					_	
Bonds FR	\$		\$	-	\$ 	\$	•
Bonds	\$	438,461,769.11	\$	438,392,491.33	\$ 413,769,970.00	\$	2,753,541.98
Repurchase Agreements	\$		\$	-	\$	\$	
Reverse Repurchase	\$		\$		\$ · ·	\$	-
Time Deposits	\$	5,243,000.000.00	\$	5,243,000,000.00	\$ 5,243,000,000.00		NA
PMIA & GF Loans	\$	380,513,000.00	\$	380,513,000.00	\$ 380,513,000.00		NA
TOTAL	\$	153,724,911,015.80	\$	154,384,021,380.59	\$ 152,270,155,109.34	\$	574,178,404.43

Fair Value Including Accrued Interest

\$ 152,844,333,513.77

Repurchase Agreements, Time Deposits, PMIA & General Fund loans, and Reverse Repurchase agreements are carried at portfolio book value (carrying cost).

The value of each participating dollar equals the fair value divided by the amortized cost (0.986307739), s an example: if an agency has an account balance of \$20,000,000.00, then the agency would report its participation in the LAIF valued at \$19,726,154.79 or \$20,000,000.00 x 0.986307739.





ORANGE COUNTY FIRE AUTHORITY Portfolio Management Portfolio Summary October 20, 2023

Orange County Fire Authority 1 Fire Authority Road Irvine, CA 92602 (714)573-6301

		See Note 1 on page 19	See Nole 2 on page 19					
Investmente	Par	Market	Book	% of		Days to	YTM/Call	YTM/Call
Investments	Value	Value	Value	Portfolio	Term	Mat./Call	360 Equiv.	365 Equiv.
Money Mkt Mutual Funds/Cash	13,879,243.07	13,879,243.07	13,879,243.07	7.90	1	1	5.106	5.177
Federal Agency Coupon Securilies	67,450,000.00	63,581,546,60	67,451,055.42	38.40	1,384	27	0.632	0.641
Federal Agency DiscAmortizing	14,000,000.00	13,564,040.00	13,542,491.67	7.71	323	230	5.372	5.447
Treasury Discounts -Amortizing	50,000,000.00	49,744,190.00	49,734,405.01	28.32	146	37	5,293	5.366
Local Agency Investment Funds	31,034,495 04	30,609,562.63	31,034,495.04	17,67	1	1	3 486	3 534
	176,363,738.11	171,378,582.30	175,641,690.21	100.00%	598	39	3.175	3.219
Investments								
Cash			See Note 4 on page 19					
Passbook/Checking (not included in yield calculations)	-76,563.66	-76,563.66	-76,563,66		0	0	0.000	0,000
Total Cash and Investments	176,287,174.45	171,302,018.64	175,565,126.55		598	39	3.175	3.219
Total Earnings	October 20 Month Ending	Fiscal Year To	Date					
Current Year	333,542.71	2,183	,423.97					
Average Daily Balance	187,333,424.80	219,684	,086.53					
Effective Rate of Return	3.25%		3.24%					

"I certify that this investment report accurately reflects all pooled investments and is in compliance with the investment policy adopted by the Board of Directors to be effective on January 1, 2023. A copy of this policy is available from the Clerk of the Authority. Sufficient investment liquidity and anticipated revenues are available to meet budgeted expenditure requirements for the next thirty days and the next

eatricia Jakybiak, Treasurer

Cash and Investments with GASB 31 Adjustment: Book Value of Cash & Investments before GASB 31 (Above) GASB 31 Adjustment to Books (See Note 3 on page 19) Total

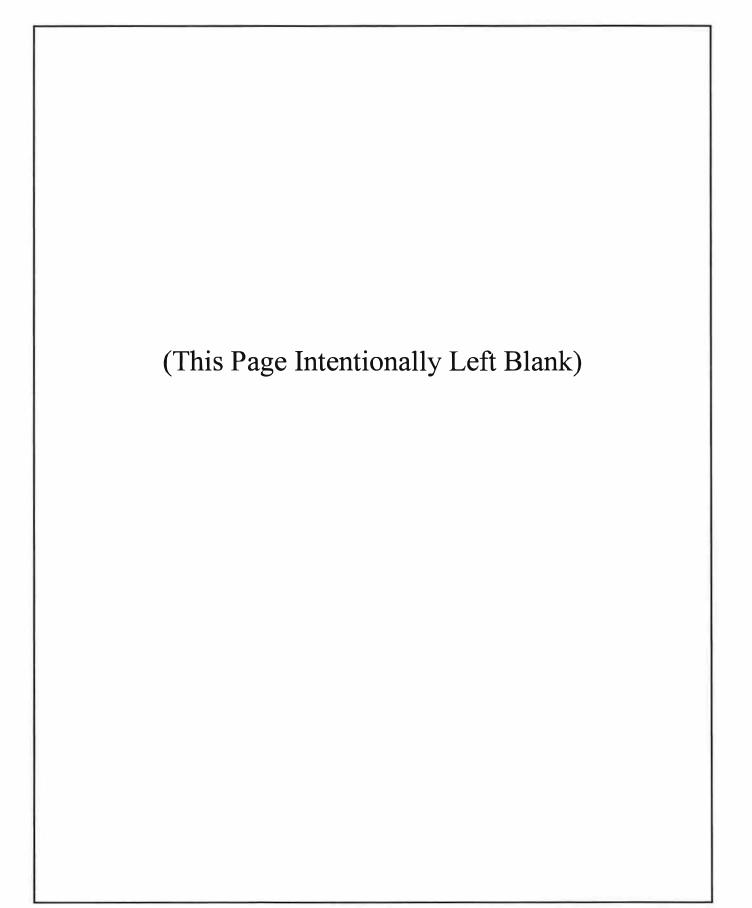
\$ 175,565,126.55 \$ (5.512,582.65) \$ 170,052,543.90

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					Details - Invest tober 20, 2023	ments				
CUSIP	Investment	# Issuer	Average Balance	Purchase Date	Par Value	See Nole 1 on page 19 Market Value	See Nole 2 on page 19 Book Value	Stated <u>Rate</u>	YTM/Call I 365 M	Days to Matur at./Call Da
Money Mkt Mutu	ual Funds/Cash									
SYS1042	1042	US Bank - Treasury Obl	ligations		11,379,007,50	11,379,007.50	11,379,007,50	5 228	5.228	1
SYS528	528	MUFG Treasury Obligat	lions	07/01/2023	0.00	0.00	0.00	4 6 2 0	4 6 2 0	1
SYS530	530	US Bancorp Sweep Acc	count		2,500,235.57	2,500,235.57	2,500,235 57	4.945	4,945	1
	s	ubtotal and Average	18,131,402.89		13,879,243.07	13,879,243.07	13,879,243.07		5.177	1
Federal Agency	Coupon Securi	ties								
3133EMWH1	1030	Federal Farm Credit Bar	RK (Callable 41/24/2023)	04/22/2021	3,000,000.00	2,803,710.00	3,001,055,42	0.710	0.672	0 04/21/20
3133EMXS6	1032	Federal Farm Credit Bar		04/28/2021	12,000,000,00	11,196,600.00	12,000,000,00	0 720	0.720	11 04/28/20
3130ALNY6	1025	Fed Home Loan Bank	(Callable 12/30/2023		8,000,000.00	7,637,200.00	8,000,000 00	0.550	0 550	70 09/30/2
3130ALTJ3	1029	Fed Home Loan Bank	(Callable 1/08/2024)		9,435,000,00	9,213,371.85	9,435,000.00	0.375	0.409	79 04/08/20
3130ALVR2	1031	Fed Home Loan Bank	(Callable 1/23/2024)		11,015,000.00	10,482,424.75	11,015,000.00	0.520	0.520	2 10/23/2
3130AM6P2	1034	Fed Home Loan Bank	(Callable 10/29/2023		12,000,000.00	10,809,120.00	12,000,000 00	1.000	1.000	8 04/29/20
3130AM6H0	1035	Fed Home Loan Bank	(Callable 11/11/2023)	05/11/2021	12,000,000.00	11,439,120.00	12,000,000 00	0 550	0 550	21 10/11/20
	s	ubtotal and Average	67,451,073.99	-	67,450,000.00	63,581,546.60	67,451,055.42		0.641	27
Federal Agency	DiscAmortizi	ng								
313384XV6	1095	Fed Home Loan Bank		07/20/2023	14,000,000.00	13,564,040,00	13,542,491.67	5,115	5.447	230 06/07/20
	s	ubtotal and Average	21,218,407.78		14,000,000.00	13,564,040.00	13,542,491.67		5.447	230
Treasury Discou	unts -Amortizing									
912797FC6	1081	US Treasury Bill		05/18/2023	17,000,000.00	16,992,520.00	16,988,194,44	5,000	5.257	5 10/26/20
912797FJ1	1083	US Treasury Bill		06/21/2023	14,000,000 00	13,965,000,00	13,962,390.56	5.090	5,339	19 11/09/20
912797GC5	1096	US Treasury Bill		08/03/2023	9,000,000.00	8,894,070.00	8,893,194,99	5,210	5 483	82 01/11/20
912797FW2	1097	US Treasury Bill		09/14/2023	10,000,000 00	9,892,600.00	9,890,625.02	5.250	5 486	75 01/04/20
	S	ubtotal and Average	49,666,941.83		50,000,000.00	49,744,190.00	49,734,405.01		5.366	37
Local Agency In	vestment Funds	5								
SYS336	336	Local Agency Invstmt Fu	und		31,034,495,04	30,609,562.63	31,034,495.04	3.534	3,534	1
	s	ubtotal and Average	30,865,598.31		31,034,495.04	30,609,562.63	31,034,495.04		3.534	1
		Total and Average	187,333,424.80		176,363,738.11	171,378,582.30	175,641,690.21		3.219	39

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ORANGE COUNTY FIRE AUTHORITY Portfolio Management Portfolio Details - Cash October 20, 2023										
CUSIP	Investment #	lssuer	Average Balance	Purchase Date	Par Value	Market Value	Book Value		Days to Mat./Cail	
Money Mkt Mu	tual Funds/Cash									
SYS10033	10033	Revolving Fund		07/01/2023	20,000.00	20,000.00	20,000.00	0.000	1	
SYS4	4	Union Bank		07/01/2023	0.00	0.00	0.00	0.000	1	
SYS5	5	US Bancorp		07/01/2023	-96,563.66	-96,563.66	-96,563.66	0.000	1	
		Average Balance	0.00						0	
	Total Cas	h and Investments	187,333,424.80		176,287,174.45	171,302,018.64	175,565,126.55	3.219	39	



	FIRE						E COUNTY F Aging Re By Maturit As of Octobe	eport sy Date	HORITY			County Fire Authority Fire Authority Road Irvine, CA 92602 (714)573-6301
									Maturity Par Value	Percent of Portfolio	Current Book Value	Current Market Value
	Aging Interval:	0 days	(10/21/2023	-	10/21/2023)		7 Maturities	0 Payments	44,837,174.45	25.93%	44,837,174.45	44,412,242.04
	Aging Interval:	1 - 30 days	(10/22/2023	-	11/20/2023)		2 Maturities	0 Payments	31,000,000.00	18.07%	30,950,585.00	30,957,520.00
	Aging Interval:	31 - 60 days	(11/21/2023	-	12/20/2023)		0 Maturities	0 Payments	0.00	0.00%	0.00	0.00
	Aging Interval:	61 - 90 days	(12/21/2023	-	01/19/2024)		2 Maturities	0 Payments	19,000,000.00	10.97%	18,783,820.01	18,786,670.00
	Aging Interval:	91 - 120 days	(01/20/2024	•	02/18/2024)		0 Maturities	0 Payments	0.00	0.00%	0.00	0.00
Page	Aging Interval:	121 - 365 days	(02/19/2024	•	10/20/2024)		4 Maturities	0 Payments	43,435,000.00	24.43%	42,977,491.67	41,853,731.85
18	Aging Interval:	366 - 1095 days	(10/21/2024		10/20/2026)		4 Maturities	0 Payments	38,015,000.00	20.60%	38,016,055.42	35,291,854.75
	Aging Interval:	1096 days and after	(10/21/2026	•)		0 Maturities	0 Payments	0.00	0.00%	0.00	0.00
Ì						Total for	19 Investments	0 Payments		100.00	175,565,126.55	171,302,018.64

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Treasury & Financial Planning



Monthly Investment Report

NOTES TO PORTFOLIO MANAGEMENT REPORT

Note 1: Market value of the LAIF investment is calculated using a fair value factor provided by LAIF. The U.S. Bank Corporate Trust and Custody Department provides market values of the remaining investments.

Note 2: Book value reflects the cost or amortized cost before the GASB 31 accounting adjustment.

- Note 3: GASB 31 requires governmental entities to report investments at fair value in the financial statements and to reflect the corresponding unrealized gains/ (losses) as a component of investment income. The GASB 31 adjustment is recorded only at fiscal year-end. The adjustment for June 30, 2023 includes a decrease of \$612,970.63 to the LAIF investment and a decrease of \$4,899,612.02 to the remaining investments.
- Note 4: The Federated Treasury Obligations money market mutual fund functions as the Authority's sweep account. Funds are transferred to and from the sweep account to/from OCFA's checking account in order to maintain a target balance of \$1,000,000 in checking. Since this transfer occurs at the beginning of each banking day, the checking account sometimes reflects a negative balance at the close of the banking day. The negative closing balance is not considered an overdraft since funds are available in the money market mutual fund. The purpose of the sweep arrangement is to provide sufficient liquidity to cover outstanding checks yet allow that liquidity to be invested while payment of the outstanding checks is pending.

GLOSSARY

INVESTMENT TERMS

Basis Point. Measure used in quoting yields on bonds and notes. One basis point is .01% of yield.

Book Value. This value may be the original cost of acquisition of the security, or original cost adjusted by the amortization of a premium or accretion of a discount. The book value may differ significantly from the security's current value in the market.

Commercial Paper. Unsecured short-term promissory notes issued by corporations, with maturities ranging from 2 to 270 days; may be sold on a discount basis or may bear interest.

Coupon Rate. Interest rate, expressed as a percentage of par or face value, that issuer promises to pay over lifetime of debt security.

Discount. The amount by which a bond sells under its par (face) value.

Discount Securities. Securities that do not pay periodic interest. Investors earn the difference between the discount issue price and the full face value paid at maturity. Treasury bills, bankers' acceptances and most commercial paper are issued at a discount.

Effective Rate of Return. Rate of return on a security, based on its purchase price, coupon rate, maturity date, and the period between interest payments.

Federal Agency Securities. Securities issued by agencies such as the Federal National Mortgage Association and the Federal Farm Credit Bank. Though not general obligations of the US Treasury, such securities are sponsored by the government and therefore have high credit ratings. Some are issued on a discount basis and some are issued with coupons.

Federal Funds. Funds placed in Federal Reserve banks by depository intuitions in excess of current reserve requirements. These depository institutions may lend fed funds to each other overnight or on a longer basis. They may also transfer funds among each other on a same-day basis through the Federal Reserve banking system. Fed Funds are considered to be immediately available funds.

Fed Funds Rate. The interest rate charged by one institution lending federal funds to another.

Federal Open Market Committee. The branch of the Federal Reserve Board that determines the direction of monetary policy.

Local Agency Investment Fund (LAIF). A California State Treasury fund which local agencies may use to deposit funds for investment and for reinvestment with a maximum of \$75 million for any agency *(excluding bond funds, which have no maximum)*. It offers high liquidity because

deposits can be converted to cash in 24 hours and no interest is lost. Interest is paid quarterly and the State's administrative fee cannot to exceed 1/4 of a percent of the earnings.

Market value. The price at which the security is trading and could presumably be purchased or sold.

Maturity Date. The specified day on which the issuer of a debt security is obligated to repay the principal amount or face value of security.

Money Market Mutual Fund. Mutual funds that invest solely in money market instruments (short-term debt instruments, such as Treasury bills, commercial paper, bankers' acceptances, repurchase agreements and federal funds).

Par. Face value or principal value of a bond typically \$1,000 per bond.

Rate of Return. The amount of income received from an investment, expressed as a percentage. A *market rate of return* is the yield that an investor can expect to receive in the current interest-rate environment utilizing a buy-and-hold to maturity investment strategy.

Treasury Bills. Short-term U.S. government non-interest bearing debt securities with maturities of no longer than one year. The yields on these bills are monitored closely in the money markets for signs of interest rate trends.

Treasury Notes. Intermediate U.S. government debt securities with maturities of one to 10 years.

Treasury bonds. Long-term U.S. government debt securities with maturities of 10 years or longer.

Yield. Rate of return on a bond.

Yield-to-maturity. Rate of return on a bond taking into account the total annual interest payments, the purchase price, the redemption value and the amount of time remaining until maturity.

ECONOMIC TERMS

Conference Board Consumer Confidence Index. A survey that measures how optimistic or pessimistic consumers are with respect to the economy in the near future.

Consumer Price Index (CPI). A measure that examines the weighted average of prices of a basket of consumer goods and services, such as transportation, food and medical care. Changes in CPI are used to assess price changes associated with the cost of living.

Durable Goods Orders. An economic indicator released monthly that reflects new orders placed with domestic manufacturers for delivery of factory durable goods such as autos and appliances in the near term or future.

Gross Domestic Product. The monetary value of all the finished goods and services produced within a country's borders in a specific time period. It includes all of private and public consumption, government outlays, investments and exports less imports that occur within a defined territory.

Industrial Production. An economic indicator that is released monthly by the Federal Reserve Board. The indicator measures the amount of output from the manufacturing, mining, electric and gas industries.

ISM Institute for Supply Management (ISM) Manufacturing Index. A monthly index that monitors employment, production inventories, new orders and supplier deliveries.

ISM Non-manufacturing Index. An index based on surveys of non-manufacturing firms' purchasing and supply executives. It tracks economic data for the service sector.

Leading Economic Index. A monthly index used to predict the direction of the economy's movements in the months to come. The index is made up of 10 economic components, whose changes tend to precede changes in the overall economy.

National Federation of Independent Business Small Business Optimism Index. An index based on surveys of small business owners' plans and expectations regarding employment, capital, inventories, economic improvement, credit conditions, expansion, and earnings trends in the near term or future.

Producer Price Index. An index that measures the average change over time in the selling prices received by domestic producers for their output.

University of Michigan Consumer Sentiment Index. An index that measures the overall health of the economy as determined by consumer opinion. It takes into account an individual's feelings toward his or her own current financial health, the health of the economy in the short term and the prospects for longer term economic growth.



Orange County Fire Authority AGENDA STAFF REPORT

Executive Committee Meeting November 16, 2023 Agenda Item No. 2C Consent Calendar

First Quarter Financial Newsletter

Contact(s) for Further Information Robert Cortez, Assistant Chief Business Services Department	robertcortez@ocfa.org	714.573.6012
Tricia Jakubiak, Treasurer Treasury & Financial Planning	triciajakubiak@ocfa.org	714.573.6301
Stuart Lam, Budget Manager Treasury & Financial Planning	stuartlam@ocfa.org	714.573.6302

Summary

This routine agenda item is submitted to provide information regarding revenues and expenditures in the General Fund and the Capital Improvement Program Funds through the first quarter of FY 2023/24.

Prior Board/Committee Action

On November 8, 2023, the Budget and Finance Committee reviewed the proposed agenda item and directed staff to place the item on the Executive Committee agenda by a vote of 6-0 (Directors Lumbard, Patel, and Nguyen absent).

RECOMMENDED ACTION(S)

Receive and file the report.

Impact to Cities/County Not Applicable.

Fiscal Impact

Not Applicable.

Background

The Quarterly Financial Newsletter provides information about the General Fund's top five revenue sources as well as expenditures by department and by type. Revenues and expenditures for the Capital Improvement Program (CIP) funds are also included. Revenues and expenditures for the General and CIP Funds through the first quarter of the fiscal year are within budgetary estimates, except where noted in the attached newsletter.

Attachment(s)

First Quarter Financial Newsletter - July 2023 to September 2023

1st QuarterFinancialJuly 2023 to September 2023Newsletter

Summary

The Quarterly Financial Newsletter provides summary level information regarding the General Fund (GF) operating budget and Capital Improvement Program (CIP) budget to highlight revenue and expenditure trends and areas of note.

With the 1st Quarter (i.e. 25%) of the fiscal year completed, both General Fund actual revenues and actual expenditures are slightly higher than anticipated. As of the end of the quarter, the OCFA received 11.1% of budgeted revenues and expended 22.5% of appropriations.

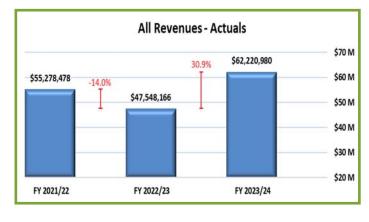
The OCFA expended 12.5% of the GF CIP, 0.1% of Fire Stations & Facilities, 0.9% of Comm. & Info. Systems, and 7.9% of the Fire Apparatus budgets. CIP expenditures to date have been minimal as many projects are still in the preliminary stages.

For additional info, see attached newsletter.



General Fund

REVENUES — General Fund revenues received as of the 1st quarter amounted to \$62.2



million, approximately 30.9% higher than the prior year. The increase is mostly due to increased Cash Contract City revenue receipts and funding related to the Quick Reaction Force program. In current fiscal year 2023/24, an additional monthly cash contract city payment for both Santa

Ana and Garden Grove was received before the close of the first quarter.

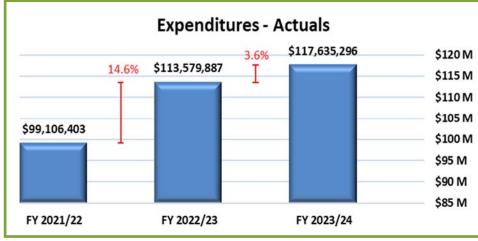
1st quarter property tax revenues are typically lower as reflected in the chart below. For the 1st quarter of fiscal year 2023/24, unsecured property tax is slightly lower by \$229K

and supplemental property tax is slightly lower by \$126K when compared to the prior year. These revenues represent 2.6% and 1.9% respectively of overall property tax revenue. Secured property tax represents over 95% of overall property tax revenue and receipts will begin in the 2nd quarter.



Based on data from the Auditor-Controller, OCFA projects secured property taxes will be \$6.2 million higher than originally anticipated.

EXPENDITURES — General Fund expenditures through the 1st quarter amounted to \$117.6 million and reflect

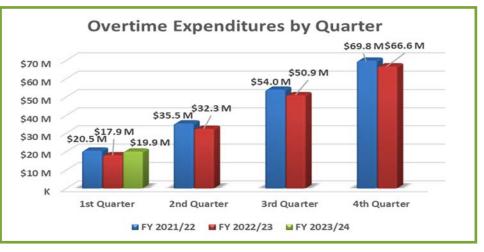


an increase of 3.6% when compared to the prior fiscal year. Initial budget estimates projected 1st quarter expenditures ending at \$112.8 million. Higher than anticipated backfill/ overtime expenditures were the main driver. Services and supplies and equipment expenditures were in line with budgetary estimates.

The following Overtime Expenditures by Quarter chart captures historical

cumulative overtime expenditures from fiscal year 2021/22 through the 1st quarter of fiscal year 2023/24. Actual overtime expenditures are \$2.0 million higher than last year. Overtime expenses increased this year over last primarily due to additional resources sent out of county for emergency incidents. Major incidents this fiscal year

include the Bonny, Happy Camp Complex, Rabbit, Smith River Complex, South Fork Complex, and SRF Lightning Complex fires. These emergency incident overtime expenditures are reimbursable. Overtime expenditures will continue to be monitored and a mid-year budget adjustment will be requested if necessary.



We hope you have found this summary information illustrative and useful. Additional detailed information is included in following Newsletter pages, including progress for each of the CIP funds. **Orange County Fire Authority**

First Quarter Financial Newsletter – July 2023 to September 2023

OVERVIEW

This report covers fiscal activities in the General Fund and CIP Funds through the first quarter of Fiscal Year 2023/24. Budget figures include all budget adjustments authorized by the Board through the first quarter.

GENERAL FUND

With 25% of the year completed, General Fund revenues are 11.1% of budget and expenditures are 22.5% as shown below:

				%
General Fund (excludes 12110)	YTD Actual	Budget	Variance in Dollars	Variance
Revenues	62,220,980	558,215,124	495,994,144	11.1%
Expenditures	117,635,296	522,601,296	404,966,000	22.5%

Top Five Revenues. The analysis presented below compares the five largest revenue categories received through the first quarter, as compared to the budgetary estimate for this point in the fiscal year. Categories in which the variance is greater than 10% or \$1 million, are discussed below the table.

			Variance: Actual	
	YTD Actual		to Budget in	%
Top Five Revenues	Receipts	Budget	Dollars	Variance
Property Taxes	4,393,030	4,705,281	(312,251)	-6.6%
Cash Contracts	47,241,330	41,187,832	6,053,498	14.7%
State Reimbursements	1,763,109	1,800,000	(36,891)	-2.0%
CRA Pass-through	11,123	10,437	686	6.6%
Community Risk Reduction Fees	1,568,145	1,758,639	(190,494)	-10.8%
Total	54,976,737	49,462,189	5,514,548	10%

- *Cash Contracts* Cash contract revenue was \$6.1 million higher than anticipated due to timing of payments. Scheduled payments from Santa Ana and Garden Grove anticipated to be received in the second quarter were received before the close of the first quarter.
- *Community Risk Reduction Fees* CRR Revenue was lower than anticipated due to a decrease in commercial projects submitted for plan review. This category of revenue will be monitored for a potential mid-year budget adjustment.

Expenditures. The analysis presented on the following page compares the actual expenditures through the first quarter, as compared to the budgetary estimate for this point in the fiscal year. Categories in which the variance is greater than 10% or \$1 million, are discussed below the table.

			Variance: Actual	
	YTD Actual		to Budget in	%
Expenditures by Department	Expenditures	Budget	Dollars	Variance
Business Services	1,700,383	1,876,003	(175,620)	-9.4%
Command & Emergency Planning	2,126,167	2,121,872	4,295	0.2%
Community Risk Reduction	2,775,235	2,951,051	(175,816)	-6.0%
Corporate Communications	782,097	758,269	23,828	3.1%
EMS & Training	3,346,451	3,398,865	(52,414)	-1.5%
Executive Management	1,871,554	1,724,893	146,661	8.5%
Human Resources	5,648,899	5,360,273	288,626	5.4%
Logistics	9,929,825	10,655,567	(725,742)	-6.8%
Non-Departmental	(11,105)	(10,660)	(445)	4.2%
Field Operations North	41,067,642	39,454,590	1,613,052	4.1%
Field Operations South	48,303,559	44,410,724	3,892,835	8.8%
Strategic Services	94,589	94,714	(125)	-0.1%
Total	117,635,296	112,796,161	4,839,135	4.1%

- **Operations North** This department is exceeding budget estimates for the first quarter primarily due to a high volume of backfill/overtime expenditures. Most of the budgetary variance is due to overtime costs incurred for emergency incidents which will be reimbursed. Major incidents in FY 2023/24 include the Bonny, Happy Camp Complex, Rabbit, Smith River Complex, South Fork Complex, and SRF Lightning Complex fires. Overtime expenditures will continue to be monitored and a mid-rear budget adjustment will be requested if necessary.
- **Operations South** This department is exceeding budget estimates for the first quarter primarily due to a high volume of backfill/overtime expenditures. Most of the budgetary variance is due to overtime costs incurred for emergency incidents which will be reimbursed. Major incidents in FY 2023/24 include the Bonny, Happy Camp Complex, Rabbit, Smith River Complex, South Fork Complex, and SRF Lightning Complex fires. Overtime expenditures will continue to be monitored and a mid-rear budget adjustment will be requested if necessary.

Expenditures by type are outlined below, with exception details following the table:

			Variance: Actual	
	YTD Actual		to Budget in	%
Expenditures by Type	Expenditures	Budget	Dollars	Variance
Salary and Employee Benefits	101,515,377	95,812,481	5,702,896	6.0%
Services and Supplies	15,953,886	16,803,930	(850,044)	-5.1%
Equipment	166,033	179,750	(13,717)	-7.6%
Total	117,635,296	112,796,161	4,839,135	4.1%

• Salary & Employee Benefits – This category is trending over budget estimates for the first quarter by approximately \$5.7 million or 6%. This is primarily due to a high volume of backfill/overtime expenditures. Most of the budgetary variance is due to overtime costs incurred for emergency incidents which will be reimbursed. Major incidents in FY 2023/24

include the Bonny, Happy Camp Complex, Rabbit, Smith River Complex, South Fork Complex, and SRF Lightning Complex fires. Overtime expenditures will continue to be monitored and a mid-year budget adjustment will be requested if necessary.

CIP FUNDS

Revenues and expenditures for the Capital Improvement Program funds are summarized below. Any variances are noted following the fund table:

General Fund CIP

Fund 12110	YTD Actual	Budget	Percent
Expenditures	2,083,010	16,677,529	12.5%

- This Fund receives transfers from the General Fund as its revenue source.
- Appropriations of \$16.7 million include funding for upgrades, routine maintenance and replacement of equipment such as: enterprise phone/public address system upgrade, inclusive facilities projects, fire station remodels and concrete/asphalt repair, fire station appliance, HVAC, generator and bay door refurbishment/replacement, FS 41 aircraft landing improvements, data network upgrades, fire shelters, body armor, exhaust fans, air monitors, suction units, remote rescue packs, telephone/alarm system upgrades, RFOTC secure vehicular access, station security fencing, replacement of PCs, laptops, tablets, printers, radios, and mobile data computers.
- Expenditures of approximately \$2.1 million are attributable to inclusive facilities, fire station remodels, FS 41 aircraft landing improvements, telephone/alarm system upgrades, appliances replacement, data network servers and upgrades, HVAC & generator replacement, enterprise phone/public address system upgrade, and replacement of PCs, tablets and printers, radios, mobile data computers.

Fire Stations and Facilities

Fund 123	YTD Actual	Budget	Percent
Revenue	338,386	781,243	43.3%
Expenditures	18,067	24,375,225	0.1%

- Revenues in this fund are attributable to interest earned through the first quarter and Cal Fire contract revenue of \$18K.
- Appropriations of \$24.4 million include funding for replacement of FS 10 and FS 25, remodel of FS 9, infrastructure security enhancements, RFOTC training grounds expansion and upgrade, and solar power facilities upgrades for RFOTC and various fire stations.
- Expenditures of approximately \$18K are primarily attributable to RFOTC training grounds expansion and upgrade.

Communications & Information Systems

Fund 124	YTD Actual	Budget	Percent
Revenue	80,224	101,026	79.4%
Expenditures	77,922	8,872,908	0.9%

- Revenues in this fund are attributable to interest earned through the first quarter.
- Appropriations of \$8.9 million include funding for: disaster recovery co-location facility, CRR automation/IFP replacement, EMS enterprise system development, enterprise audio video equipment upgrades, fuel management tracking system, 911 voice recording system, RFOTC data center fire suppression system upgrade, and public website content management system.
- Year to date expenditures of \$78K are attributable to CRR automation/IFP replacement, disaster recovery co-location facility, and EMS enterprise system development.

Fire Apparatus

Fund 133	YTD Actual	Budget	Percent
Revenue	1,001,521	4,635,580	21.6%
Expenditures	1,503,671	19,142,750	7.9%

- The Fund 133 revenue budget includes vehicle replacement program payments from cash contract cities and interest earned through the first quarter.
- Appropriations of \$19.1 million include vehicle outfitting, 2 helicopters, 9 engines, 1 dozer transport trailer, 4 superintendent vehicles, 3 technical rescue support vehicles, 2 paramedic squads, 5 full-size vehicles, 2 towing tugs and 36 support vehicles. Also included in this Fund is \$4.9M in debt service for the Helicopter Program.
- Expenditures through the first quarter of \$1,503,671 are primarily related to landing gear installation and training for the Helicopter Program in anticipation of the new helicopters, as well as miscellaneous outfitting expenses for fleet vehicles.

SUMMARY

For more information. This summary is based on detailed information from our financial system. If you would like more information or have any questions about the report, please contact Stuart Lam, Budget Manager at 714-573-6302, or Tricia Jakubiak, Treasurer at 714-573-6301.



Orange County Fire Authority AGENDA STAFF REPORT

Executive Committee Meeting November 16, 2023	Agenda Item No. 2D Consent Calendar	
First Quar	ter Purchasing Report	
Contact(s) for Further Information Robert Cortez, Assistant Chief Business Services Department	robertcortez@ocfa.org	714.573.6012
Sara Kennedy, Purchasing Division Manager	sarakennedy@ocfa.org	714.573.6641

Summary

This routine agenda item is submitted to provide information regarding purchases made within management authority during the fourth quarter of FY 2022/23. This item will be included in the Executive Committee agenda moving forward similar to other routine quarterly business reports.

Prior Board/Committee Action

On June 24, 2021, the Board of Directors approved the content format contained herein for future quarterly purchasing reports.

On November 8, 2023, the Budget and Finance Committee reviewed the proposed agenda item and directed staff to place the item on the Executive Committee agenda by a vote of 6-0 (Directors Lumbard, Patel, and Nguyen absent).

RECOMMENDED ACTION(S) Receive and file the report.

Impact to Cities/County Not Applicable.

Fiscal Impact

Not Applicable.

Background

Purchasing Ordinance No. 009 (Ordinance) and the Roles/Responsibilities/Authorities Matrix (Matrix) provides the Chief Procurement Officer (Purchasing Manager) with authority to enter into various types of agreements at varying amounts. This authority includes the procurement of items previously approved by the Board of Directors as part of the annual adoption of the budget provided that the contract results from a competitive solicitation. Furthermore, as per Section 1-20 Small Purchases provision of the Ordinance, any contract for the purchase of supplies, equipment, maintenance, and services not exceeding \$50,000 may be made by the Chief Procurement Officer in accordance with the small purchase procedures authorized in the Ordinance. For public works projects, the statutory threshold is established by the CA Public Contract Code at \$60,000.

The Quarterly Purchasing Report provides a list of all purchase orders and blanket orders entered into under the Purchasing Manager authority during the period of July 1, 2023, through September 30, 2023.

Attachment(s)

First Quarter Purchasing Report - July 1, 2023 to September 30, 2023

Attachment

Purchasing Report 1st Quarter - FY 2023/24

- This report reflects all POs/BOs issued within management authority, including those that may have been cancelled or replaced by another PO or BO. These records will show as duplications in the report, but are in fact replacements.
- Management authority includes the procurement of items previously approved by the Board of Directors as part of the annual adoption of the budget provided that the contract results from a competitive solicitation.
- Amount column reflects the procurement value. Actual expenditures made against the contract may be lower.
- Vendor Name column display of "error" or the phrase "do not use" appears when a vendor has since changed their name or corporation status.
- PO/BO amounts of \$0 or \$.01 are often issued as place holders to record the terms and conditions of no-cost transactions, or may appear when the POs/BO balance is reduced to zero.
- POs starting with the letter "Q" are issued as part of the fiscal year end process to roll forward encumbrances issued in a prior fiscal year for projects still in progress.

Date	PO/BO Number	Amount	Department	Vendor Name	Description	Formal Solicitation Number
7/1/2023	B01673-7	\$907	Logistics Department	ORACLE AMERICA, INC.	ORACLE DATABASE STANDARD EDITION LICENSING	
7/1/2023	B01559-9	\$10,000	Community Risk Reduction Department	COUNTY OF ORANGE	LANDFILL DISPOSAL FEES - DEFERRED PAYMENT	
7/1/2023	B02124-1	\$1,860	Logistics Department	NTT AMERICA SOLUTIONS, INC	INFORMACAST MASS NOTIFICATION SYSTEM SUPPORT	
7/1/2023	B02104-3	\$10,000	Operations Department - South	BOEING DISTRIBUTION INC.	HELICOPTER BATTERY POWER SUPPLY SERVICES	
7/1/2023	B01615-8	\$13,621	Logistics Department	GENCORE CANDEO LTD	GENWATCH 3 RADIO NETWORK SOFTWARE MAINTENANCE AND SUPPORT	
7/1/2023	B02500	\$8,100	Logistics Department	CONSOLE CLEANING SPECIALISTS INC	DEEP CLEANING DISPATCH CONSOLES IN ECC	
7/5/2023	B02269-2	\$22,248	Operations Department - South	FW AVIATION LLC	TRAINING TOWER LEASE - STATION 41	
7/5/2023	B01774-6	\$2,210	Logistics Department	SHI INTERNATIONAL CORP.	BLUEBEAM LICENSING, MAINTENANCE, AND SUPPORT	
7/5/2023	P0015498	\$2,450	Human Resources Department	DONNOE & ASSOCIATES, INC.	WRITTEN EXAM FOR HAND CREW FIREFIGHTER	
7/5/2023	P0015499	\$807	Logistics Department	WILLIAMS & MAHER INC	MERAKI WIFI INSTALLATION - FS22	
7/5/2023	P0015500	\$1,648	Logistics Department	WILLIAMS & MAHER INC	GPS REPEATER INSTALL - FS18	RO2202
7/6/2023	P0015501	\$1,548	Logistics Department	UNITED RENTALS (NORTH AMERICA), INC.	SCISSORLIFT RENTAL FOR IT INSTALLS	
7/11/2023	P0015503	\$2,301	EMS & Training Department	NEW HORIZONS COMPUTER LEARNING CENTER	INSTRUCTOR FOR MICROSOFT SOFTWARE TRAINING	
7/12/2023	B02291-1	\$30,000	Logistics Department	AT&T	AT&T FIRSTNET WIRELESS SERVICE	COOPERATIVE
7/14/2023	P0015510	\$1,802	Community Risk Reduction Department	NATIONAL FIRE PROTECTION ASSOC	NFPA HANDBOOKS	
7/14/2023	P0015506	\$27,513	Logistics Department	PRESIDIO HOLDINGS INC.	IPADS FOR FIRE PREVENTION	
7/14/2023	P0015505	\$49,824	Logistics Department	ALLSTAR FIRE EQUIPMENT	SCBA MASKS, VOICE AMPS, AND BRACKETS - FIREFIGHTER ACADEMIES	
7/14/2023	P0015507	\$1,650	Logistics Department	NICKEY PETROLEUM	MOTOR OIL AND ATF FOR STOCK	

Date	PO/BO Number	Amount	Department	Vendor Name	Description	Formal Solicitation Number
7/14/2023	P0015508	\$1,775	Logistics Department	BRIGHTVIEW LANDSCAPE SERVICES, INC.	TREE TRIMMING - FS43	
7/14/2023	P0015509	\$15,042	Logistics Department	ALLSTAR FIRE EQUIPMENT	BRACKETS AND MOUNTS FOR NEW APPARATUS	
7/17/2023	P0015511	\$8,100	Logistics Department	ROBERT STEWART ARCHITECTS	ARCHITECTUAL SERVICES - USAR WAREHOUSE	RO2584
7/18/2023	P0015512	\$3,780	Human Resources Department	DIRECTIONAL AD-VANTAGE HOLDINGS LLC	FIREFIGHTER TRAINEE RECRUITMENT ADVERTISING	
7/19/2023	B01703-7	\$6,957	Corporate Communications	MELTWATER NEWS US INC.	SUBSCRIPTION TO ONLINE MEDIA TRACKING SERVICES	
7/19/2023	B02109-3	\$26,000	EMS & Training Department	PEDIATRIC EMERGENCY STANDARDS INC	HANDTEVY PEDIATRIC MEDICATIN MANAGEMENT SOFTWARE	
7/20/2023	P0015514	\$23,070	Logistics Department	HARBOR POINTE A/C & CONTROLS	INSTALL BOILER & SUPPLY - RFOTC	
7/24/2023	B01840-5	\$10,000	Logistics Department	NORM'S REFRIGERATION & ICE EQUIPMENT	ICE MAKER & REFRIGERATION REPAIR AND MAINTENANCE	
7/24/2023	B01927-4	\$10,000	Logistics Department	CLEAN HARBORS	HAZARDOUS WASTED DISPOSAL SERVICES	
7/26/2023	P0015515	\$5,925	EMS & Training Department	FREEMOTION FITNESS	TREADMILL	
7/26/2023	E00267-5	\$576,397	Logistics Department	CRAYON SOFTWARE EXPERTS LLC	MICROSOFT ENTERPRISE LICENSING AGREEMENT	COOPERATIVE
7/26/2023	P0015516	\$18,250	Logistics Department	CERTAPRO PAINTERS OF ORANGE COUNTY	FIRE STATION EXTERIOR PAINTING FS2	
7/26/2023	P0015517	\$42,033	EMS & Training Department	HOME DEPOT	LUMBER - ACADEMY 58	
7/26/2023	P0015518	\$1,898	Logistics Department	WILLIAMS & MAHER INC	FS47 GPS REPEATER INSTALL	RO2552
7/26/2023	P0015519	\$3,621	EMS & Training Department	ALLSTAR FIRE EQUIPMENT	SCBA RIC PACK SUPPPLIES - ACADEMY 58	
7/26/2023	P0015520	\$5,359	Logistics Department	HARBOR POINTE A/C & CONTROLS	EVAPORATOR COIL FAN IN SERVER ROOM FS60	RO2356
7/27/2023	P0015521	\$89,424	Logistics Department	PRESIDIO HOLDINGS INC.	STORAGE UPGRADE/ BACKUP ENVIRONMENT	COOPERATIVE
7/28/2023	P0015525	\$13,435	Logistics Department	PRESIDIO HOLDINGS INC.	CISCO WIRELESS SITE SURVEY TOOL	COOPERATIVE
7/28/2023	P0015524	\$8,100	Logistics Department	CONSOLE CLEANING SPECIALISTS INC	DEEP CLEANING DISPATCH CONSOLES IN ECC	
7/28/2023	P0015522	\$6,102	Logistics Department	DELL MARKETING, L.P.	ECC ACADEMY SCREENS	COOPERATIVE
7/28/2023	P0015523	\$7,459	Logistics Department	HARBOR POINTE A/C & CONTROLS	HVAC UNIT REPLACEMENT FS22	RO2356
7/28/2023	P0015526	\$22,100	Logistics Department	SIGNATURE PAINTING, INC.	FIRE STATION EXTERIOR PAINTING FS15	
7/28/2023	P0015527	\$23,570	Logistics Department	INLAND FLOORING CONTRACTORS INC	FLOORING REPLACEMENT FS 54	
7/28/2023	P0015528	\$24,376	Logistics Department	INLAND FLOORING CONTRACTORS INC	FLOORING REPLACEMENT FS 58	

Date	PO/BO Number	Amount	Department	Vendor Name	Description	Formal Solicitation Number
7/31/2023	P0015531	\$1,051	Logistics Department	TEK TIME SYSTEMS, INC.	TIME STAMP FOR HR	
7/31/2023	B02503	\$10,000	Logistics Department	ATLAS COPCO COMPRESSORS LLC	AIR COMPRESSOR MAINTENANCE/ REPAIR FS33	
7/31/2023	P0015529	\$9,971	Logistics Department	PJ PRINTERS	2023 RADIO CHANNEL AND OPERATORS GUIDE	
7/31/2023	P0015530	\$19,978	Logistics Department	INSIDE EDGE COMMERCIAL INTERIOR SERVICES LLC	FLOORING REPLACEMENT FS 28	
8/1/2023	P0015555	\$6,500	Logistics Department	DAVID WHEELER PEST CONTROL	ON-CALL PEST CONTROL SERVICES	
8/1/2023	B01985-4	\$10,000	Logistics Department	TURNOUT MAINTENANCE COMPANY LLC	TURNOUT AND CLEANING REPAIR	
8/1/2023	B02338-1	\$10,000	Human Resources Department	CINTAS FIRST AID & SAFETY LOC #168	SERVICING OF FIRST AID KITS	
8/1/2023	B01872-4	\$5,000	Logistics Department	BESTWAY LAUNDRY SOLUTIONS	REPAIR AND MAINTENANCE - EXTRACTORS AND DRYERS	
8/1/2023	B02506	\$599	Logistics Department	RENEWAL TRACKER	RENEWAL TRACKER SUBSCRIPTION - ANNUALLY	
8/1/2023	B01991-4	\$100,000	Logistics Department	ACCO ENGINEERED SYSTEMS INC.	HVAC SYSTEM REPAIRS AND MAINTENANCE SERVICES	RO2356
8/1/2023	B01990-4	\$250,000	Logistics Department	HARBOR POINTE A/C & CONTROLS	HVAC MAINTENANCE AND REPAIR SERVICES	RO2356
8/1/2023	B01603-8	\$5,000	Logistics Department	A PLUS AWARDS BY DEWEY	ENGRAVING SERVICES AND ACCESSORIES	
8/1/2023	B01578-8	\$6,600	Logistics Department	ULTIMATE MAINTENANCE SERVICES	DATA CENTER CLEANING SERVICES	
8/1/2023	B02512	\$125,000	Logistics Department	HOME DEPOT	BUILDING SUPPLIES	COOPERATIVE
8/1/2023	B02106-3	\$10,000	Community Risk Reduction Department	UNITED RENTALS (NORTH AMERICA), INC.	AS-NEEDED WATER TENDER RENTAL (AUTOMATIC TRANSMISSION)	
8/1/2023	P0015532	\$1,992	Logistics Department	BRIGHTVIEW LANDSCAPE SERVICES, INC.	TREE TRIMMING - FS53	
8/1/2023	P0015533	\$8,611	Logistics Department	BRIGHTVIEW LANDSCAPE SERVICES, INC.	TRIMMING AND REMOVALS OF INTERIOR TREES - RFOTC	
8/1/2023	P0015534	\$11,139	EMS & Training Department	INTERSTATE CONEX LLC	SHIPPING CONTAINERS TO SECURE ACADEMY EQUIPMENT AND TRAINING PROPS	
8/1/2023	P0015535	\$1,648	Logistics Department	WILLIAMS & MAHER INC	INSTALL ANTENNA AND GPS REPEATER - FS18	
8/1/2023	P0015536	\$2,532	Logistics Department	WILLIAMS & MAHER INC	INSTALL DATA DROPS & RUN CAT6 CABLE - FS10	
8/1/2023	P0015537	\$689	Logistics Department	WILLIAMS & MAHER INC	RELOCATE PHONE - FS51	
8/1/2023	P0015538	\$2,843	Logistics Department	DIAMOND GLASS	REPLACE STOREFRONT DOOR - FS79	
8/2/2023	P0015540	\$16,056	Operations Department - South	COMMUNICATIONS-APPLIED TECHNOLOGY	ICRI SAR CRK RESPONSE KIT	
8/3/2023	B02215-2	\$9,588	Corporate Communications	ARCHIVESOCIAL	ARCHIVING SUBSCRIPTION FOR SOCIAL MEDIA ACCOUNTS	

Date	PO/BO Number	Amount	Department	Vendor Name	Description	Formal Solicitation Number
8/3/2023	P0015541	\$3,499	Command & Emergency Planning Div	SOUTHERN CALIFORNIA ERGONOMICS	RADIO/PHONE EQUIPMENT - ECC	
8/3/2023	P0015542	\$2,987	Logistics Department	WESTNET	WESTNET ALERTING SYSTEM LIGHTING ADDITION	COOPERATIVE
8/3/2023	P0015543	\$9,832	Logistics Department	BRIGHTVIEW LANDSCAPE SERVICES, INC.	ROOT AND STUMP GRIND OF AFFECTED AREAS FS42	
8/3/2023	P0015544	\$31,207	Logistics Department	DELL MARKETING, L.P.	DELL PCS AND MONITORS - IT INVENTORY	COOPERATIVE
8/4/2023	B02344-1	\$10,000	Logistics Department	VALLEY POWER SYSTEMS, INC.	RED DOT AIR CONDITIONING COMPRESSORS, MISC PARTS, AND TOOLS FOR AS-NEEDED PURCHASES	
8/7/2023	P0015545	\$4,296	Logistics Department	BRIGHT MARKET LLC	LICENSE FOR SOFTWARE TO GENERATE AUTOMATED PDF FILES FOR DSR EMAILS AND OTHER PROJECTS	
8/7/2023	P0015546	\$83,491	Logistics Department	DELL MARKETING, L.P.	AIRWATCH WORKSPACE LICENSES	COOPERATIVE
8/8/2023	P0015547	\$1,737	Logistics Department	SC COMMERCIAL, LLC DBA SC FUELS	BULK MOTOR OIL FOR STOCK	
8/9/2023	B02505	\$200,000	Operations Department - South	ASCENT AVIATION GROUP INC	JET FUEL FOR AIR OPS HELICOPTER PROGRAM AT FULLERTON AIRPORT	JA9649
8/9/2023	P0015548	\$8,441	Logistics Department	HARBOR POINTE A/C & CONTROLS	NEW HVAC UNIT INSTALL - FS28	RO2356
8/9/2023	P0015550	\$17,777	Operations Department - South	MOTOROLA SOLUTIONS INC.	APX 8500 MOBILE RADIO FEMA CACHE LIST # CA-0120.00	
8/9/2023	P0015551	\$675	Business Services Department	TEK TIME SYSTEMS, INC.	TIMESTAMP MACHINE PREVENTATIVE MAINTENANCE/SERVICE	
8/10/2023	B01764-5	\$6,360	Operations Department - South	GLOBALCOM SATELLITE COMMUNICATIONS	CA-TF5 SATELLITE PHONE AIRTIME SERVICE	
8/11/2023	P0015556	\$11,918	Logistics Department	GUARANTY CHEVROLET	REPLACEMENT ENGINE FOR BATTALION 9, UNIT 2185	
8/11/2023	P0015563	\$8,148	Executive Management	COLLINS FLAGS	GARRISON FLAGS - HONOR GUARD	
8/11/2023	P0015553	\$891	Logistics Department	WILLIAMS & MAHER INC	FS13 COMMUNICATIONS CABLING SERVICES	RO2552
8/11/2023	P0015554	\$687	Logistics Department	WILLIAMS & MAHER INC	FS44 COMMUNICATIONS CABLING SERVICES	RO2552
8/11/2023	P0015557	\$8,098	Logistics Department	PACIFIC PLUMBING COMPANY	TANKLESS WATER HEATER INSTALL	RO2501
8/11/2023	P0015558	\$3,581	Logistics Department	FIRE ETC	TURNOUT DETERGENT FOR PPE EXTRACTORS	
8/11/2023	P0015559	\$9,207	Logistics Department	PACIFIC PLUMBING COMPANY	TANKLESS WATER HEATER INSTALL	RO2501
8/11/2023	P0015560	\$1,236	Logistics Department	PACIFIC PLUMBING COMPANY	GAS LINE RELOCATION FS67	RO2501
8/11/2023	P0015561	\$1,830	Logistics Department	BRIGHTVIEW LANDSCAPE SERVICES, INC.	TREE TRIMMING AT FIRE STATION 55	
8/11/2023	P0015562	\$2,187	Logistics Department	SIGNATURE FLOORING, INC.	FLOORING REPLACEMENT AT RFOTC AREAS	
8/14/2023	P0015564	\$7,758	Operations Department - North	R.S. HUGHES COMPANY INC	DECONTAMINATION SHOWERS - HAZMAT 20 AND 79	

Date	PO/BO Number	Amount	Department	Vendor Name	Description	Formal Solicitation Number
8/14/2023	B02508	\$3,045	Community Risk Reduction Department	NATIONAL FIRE PROTECTION ASSOC	NFPA LINK ENTERPRISE SUBSCRIPTION	
8/15/2023	B02345-1	\$10,000	Logistics Department	NVB EQUIPMENT INC	RED DOT AIR CONDITIONING COMPRESSORS, MISC PARTS, AND TOOLS	
8/15/2023	B01861-5	\$1,385	Logistics Department	PEAK TECHNOLOGIES	ANNUAL MAINTENANCE FOR PRINTRONIX PRINTER	
8/15/2023	P0015565	\$1,166	Operations Department - South	AIR COMM SYSTEMS INC	RADIO REPAIR FOR AIR OPS	
8/15/2023	P0015566	\$1,899	Logistics Department	ALLSTAR FIRE EQUIPMENT	PRE SETS AND TIE STRAPS TO REPAIR STRUCTURE CHAIN	
8/16/2023	B02373-1	\$200,000	Logistics Department	C.I. SERVICES, INC.	ROOFING REPAIR AND MAINTENANCE	RO2553
8/16/2023	P0015569	\$4,232	Operations Department - South	AVIATION SPECIALTIES UNLIMITED, INC.	NVG PARTS FOR AIR OPS	
8/16/2023	P0015568	\$9,245	Logistics Department	ORANGE COAST PETROLEUM EQUIPMENT CO., INC	DEF TOTES FOR FIRE STATIONS	
8/16/2023	P0015570	\$1,400	Operations Department - South	LEADING EDGE AVIONICS INC	COMPASS CALIBRATION AND MAGNETIC CHECK	
8/16/2023	P0015571	\$7,105	Community Risk Reduction Department	SGD ENTERPRISES (DBA: FOUR SEASONS LANDSCAPING)	INVASIVE TREE PEST MITIGATION GRANT PROJECT TREE REMOVALS AND TREATMENTS	
8/17/2023	P0015574	\$9,997	Logistics Department	LINEGEAR FIRE & RESCUE	BRUSH SHIRTS FOR NEW HAND CREW FIREFIGHTERS	
8/17/2023	P0015572	\$106,195	Logistics Department	PB LOADER CORPORATION	PURCHASE OF ONE (1) 2024 ISUZU MAIL TRUCK	COOPERATIVE
8/17/2023	P0015573	\$23,556	Human Resources Department	BLANCHARD TRAINING & DEVELOPMENT, INC	TWO DAY SUPERVISORY AND LEADERSHIP TRAINING	
8/17/2023	P0015575	\$4,000	Operations Department - South	ELITE MOTORSPORTS, INC.	UTILITY TRAILER FOR HAND CREW	
8/21/2023	B02509	\$10,000	Operations Department - South	VCA ANIMAL HOSPITALS INC	ANNUAL VETERINARY EXAMS, TESTING, VACCINATIONS, AND MEDICATIONS FOR SEARCH K-9S	
8/23/2023	B02249-2	\$250,000	EMS & Training Department	LIFE ASSIST, INC.	NITRILE GLOVES ANSELL MICROFLEX LIFESTAR EC - LSE104	LK2505
8/23/2023	B02511	\$22,003	Logistics Department	VCLOUD TECH INC.	BARRACUDA MESSAGE ARCHIVER SOFTWARE	
8/23/2023	P015391	\$5,400	Logistics Department	WESTNET	WESTNET ALERTING SYSTEM UPGRADES FS29	
8/23/2023	P0015577	\$1,753	Logistics Department	WILLIAMS & MAHER INC	FS39 GPS REPEATER INSTALL	RO2552
8/23/2023	P0015578	\$9,992	Logistics Department	WILLIAMS & MAHER INC	CONDUIT AND RACK INSTALLATION - FS44	RO2552
8/24/2023	P0015580	\$4,848	Logistics Department	ATLAS SYSTEMS, INC.	BCM50 SPARES FOR IT STOCK	
8/24/2023	P0015581	\$1,965	Logistics Department	POWERWERX INC.	PIGTAIL ADAPTERS TO CHARGE DODGE RAMS	
8/24/2023	P0015579	\$10,422	Operations Department - South	AGI US ACQUISITION, INC	NVD INFINITY FOCUS SYSTEM FOR AIR OPS	
8/24/2023	B01777-6	\$40,000	Logistics Department	CITY OF WESTMINSTER - FINANCE DEPT	PURCHASE OF UNLEADED AND DIESEL FUEL FOR OCFA VEHICLE AT THE WESTMINSTER CITY YARD	

Date	PO/BO Number	Amount	Department	Vendor Name	Description	Formal Solicitation Number
8/25/2023	P0015584	\$528	Logistics Department	ALERT ALL CORP.	COLORING BOOK - RECRUITMENT EVENT	
8/25/2023	P0015583	\$4,768	Logistics Department	WILLIAMS & MAHER INC	TRAILER ELECTRICAL WORK - RFOTC	RO2552
8/25/2023	P0015585	\$7,994	Logistics Department	WILLIAMS & MAHER INC	GPS REPEATER INSTALLS	RO2552
8/25/2023	P0015586	\$1,689	Operations Department - South	KAWAK AVIATION TECHNOLOGIES INC.	PARTS FOR BELL 412 SNORKEL PUMP REBUILD	
8/25/2023	P0015587	\$15,197	Logistics Department	MELMAT INC	COMM FIELD RADIO KITS	
8/25/2023	P0015588	\$2,406	EMS & Training Department	CDW GOVERNMENT	EMS RFOTC MAIN OFFICE TV	
8/25/2023	P0015590	\$1,986	Logistics Department	PACIFIC PLUMBING COMPANY	WATER AND DRAIN LINES MODIFICATION AND TES	
8/25/2023	P0015592	\$865	Logistics Department	BRIGHTVIEW LANDSCAPE SERVICES, INC.	TREE TRIMMING AT FIRE STATION 16	
8/28/2023	P0015582	\$9,036	Operations Department - South	TRONAIR INC	TOWBAR FOR SIKORSKY S70	
8/28/2023	P0015593	\$7,673	EMS & Training Department	HENRY SCHEIN INC.	AMBU ADULT SPUR II BAD RESERVOIR, MEDIUM MASK, AND EXPIRATORY FILTER	
8/28/2023	P0015594	\$510	Logistics Department	BRIGHTVIEW LANDSCAPE SERVICES, INC.	TREE TRIMMING FS61	
8/29/2023	B02513	\$2,000	Logistics Department	EVOQUA WATER TECHNOLOGIES	WATER TANK RENTAL AND MAINTENANCE - FS54	
8/29/2023	P0015595	\$9,780	Logistics Department	BAILEY'S INC.	BULK CHAIN FOR STRUCTURE SAWS FOR SERVICE CENTER	
8/29/2023	P0015596	\$16,170	Logistics Department	TERRISGPS LTD	GPS REPEATER KITS - IT INVENTORY	
8/29/2023	P0015597	\$4,238	Logistics Department	FIRE APPARATUS SOLUTIONS	PARTS FOR RESTOCK	
8/30/2023	P0015552	\$15,998	Logistics Department	WESTNET	WESTNET ALERTING SYSTEM DORM ADDITIONS FS10	COOPERATIVE
8/30/2023	P0015589	\$5,194	Community Risk Reduction Department	COUNTY OF ORANGE/TREASURER-TAX COLLECTOR	SERVICE REQUEST FORMS - CRR	
8/30/2023	B01784-6	\$8,000	Human Resources Department	CITY OF IRVINE	SERGEANT AT ARMS SERVICES	
8/30/2023	P0015598	\$5,928	Logistics Department	NTH GENERATION COMPUTING, INC.	VMWARE LICENSES - CAD IN A BOX	
8/30/2023	P0015599	\$42,095	Community Risk Reduction Department	S&H TREE LANDSCAPING AND ARBORIST SERVICE LLC	TREE REMOVALS AND TREATMENTS AT LADERA RANCH - COX SPORTS PARK	LK2609
8/31/2023	P0015601	\$5,129	Logistics Department	ALLSTAR FIRE EQUIPMENT	SCBA PARTS - SERVICE CENTER STOCK	
8/31/2023	B02517	\$100,000	Logistics Department	BRIGHTWAY ONE	CARPET, RECLINERS, AND CHAIRS CLEANING SERVICES	LK2589A
9/1/2023	B02514	\$10,000	EMS & Training Department	WM CORPORATE SERVICES	WASTE DISPOSAL/TRASH BIN SERVICES	
9/1/2023	B02105-3	\$5,000	Community Risk Reduction Department	TIERRA VERDE INDUSTRIES	WASTE DISPOSAL / TIPPING FEES	

Date	PO/BO Number	Amount	Department	Vendor Name	Description	Formal Solicitation Number
9/1/2023	B02357-1	\$500,000	Logistics Department	AAA OIL, INC.	UNLEADED FUEL DELIVERY SERVICES	JA2558
9/1/2023	B02099-4	\$25,000	Business Services Department	QUADIENT FINANCE USA, INC.	U.S. POSTAGE BILLING ACCOUNT	
9/1/2023	B01751-6	\$3,000	Operations Department - North	CRON & ASSOCIATES TRANSCRIPTION, INC.	TRANSCRIPTION SERVICES FOR RECORDED AUDIO	
9/1/2023	B02374-1	\$150,000	Logistics Department	BEST CONTRACTING SERVICES, INC.	ROOFING REPAIR AND MAINTENANCE	RO2553
9/1/2023	B02523	\$50,000	Logistics Department	BROOKHURST DEVELOPMENT CORPORATION	REAL ESTATE ADVISORY SERVICES	
9/1/2023	B02128-3	\$37,000	Logistics Department	ALLSTAR FIRE EQUIPMENT	HAIX FIREHUNTER EXTREME BOOTS	SK2429
9/1/2023	B02053-4	\$9,500	Logistics Department	TANKVISIONS INC.	FUEL TANK MANAGEMENT & MONITORING SOLUTIONS	
9/1/2023	B02347-1	\$50,000	EMS & Training Department	TS GOVERNMENT SOLUTIONS	FITNESS EQUIPMENT MAINTENANCE AND REPAIR	RO2551
9/1/2023	B01528-9	\$20,000	Logistics Department	ALLSTAR FIRE EQUIPMENT	FIREFIGHTER TURNOUT BOOTS	
9/1/2023	B02356-1	\$1,500,000	Logistics Department	AAA OIL, INC.	DIESEL FUEL DELIVERY SERVICES	JA2558
9/1/2023	B02019-4	\$2,100	Logistics Department	BOX, INC.	CLOUD CONTENT MANAGEMENT & FILE SHARING SOFTWARE	
9/1/2023	B02516	\$75,000	Logistics Department	GUARANTY CHEVROLET	CHEVROLET VEHICLES: PARTS AND REPAIR SERVICES	JA2612
9/1/2023	B02515	\$75,000	Logistics Department	SELMAN CHEVROLET COMPANY	CHEVROLET VEHICLES: PARTS AND REPAIR SERVICES	JA2612
9/6/2023	B01812-5	\$1,700	Logistics Department	RESOURCE SOFTWARE INTERNATIONAL LTD.	SHADOW CMS AND SA 1000 ANNUAL MAINTENANCE	
9/6/2023	P0015603	\$8,436	Operations Department - South	JOHN GERRISH & ASSOCIATES LLC	4 DAY IATA WEBINAR COURSE FOR LOGISTICS PERSONNEL	
9/6/2023	P0015604	\$31,200	Logistics Department	LEWIS / SCHOEPLEIN ARCHITECTS	ARCHITECTURAL DESIGN SERVICES RFOTC ECC	RO2584
9/7/2023	B02290-2	\$103,283	Logistics Department	LN CURTIS & SONS	PERSONAL PROTECTIVE EQUIPMENT CLEANING	COOPERATIVE
9/7/2023	P0015606	\$27,968	EMS & Training Department	ISIMULATE	ISIMULATE TRAINING DEVICES FOR EMS	
9/7/2023	P0015605	\$89,537	Logistics Department	MALLORY SAFETY AND SUPPLY LLC	BALLISTIC PROTECTION	COOPERATIVE
9/8/2023	B02206-2	\$12,000	Logistics Department	LN CURTIS & SONS	BULLARD WILDLAND FIREFIGHTING HELMETS	
9/8/2023	P0015607	\$6,622	Logistics Department	WILLIAMS & MAHER INC	ELECTRICAL SERVICES FOR STATION ALERTING SYSTEM	RO2552
9/8/2023	P0015608	\$6,363	Logistics Department	DELL MARKETING, L.P.	COMPELLENT HARDWARE SUPPORT FOR IT	
9/11/2023	P0015609	\$2,324	EMS & Training Department	WILLIAMS & MAHER INC	ELECTRICAL SERVICES - EMS	RO2552
9/11/2023	P0015610	\$4,240	Logistics Department	WILLIAMS & MAHER INC	ELECTRICAL SERVICES - DATA CENTER	RO2552

Date	PO/BO Number	Amount	Department	Vendor Name	Description	Formal Solicitation Number
9/11/2023	P0015611	\$1,959	Logistics Department	DIAMOND GLASS	REPLACEMENT OF GLASS DOOR FS76	
9/11/2023	P0015612	\$2,375	Logistics Department	BRIGHTVIEW LANDSCAPE SERVICES, INC.	TREE REMOVAL AT OCFA FS65	
9/11/2023	P0015613	\$9,250	Logistics Department	HARBOR POINTE A/C & CONTROLS	HVAC UNIT REPLACEMENT RFOTC	RO2356
9/11/2023	P0015614	\$5,360	Operations Department - South	KOKATAT INC.	PPE FOR TRT MEMBERS WITH APPROPRIATE SWIFT WATER RESCUE GEAR.	
9/12/2023	B02256-2	\$14,010	Logistics Department	CDW GOVERNMENT	SOLARWINDS SOFTWARE LICENSING AND SUPPORT	
9/12/2023	P0015616	\$749	Community Risk Reduction Department	CARAVAN GLOBAL	REPLACEMENT CANOPY TOP AND BAG FOR EASY UP.	
9/12/2023	B02346-1	\$10,000	Logistics Department	CALIFORNIA AUTO REFRIGERATION	RED DOT AIR CONDITIONING COMPRESSORS, MISC PARTS, AND TOOLS	
9/12/2023	B01594-8	\$20,000	Human Resources Department	STATE OF CALIFORNIA	FINGERPRINT CARD PROCESSING	
9/12/2023	P0015615	\$170	Logistics Department	CORKY'S PEST CONTROL	PEST CONTROL SERVICE FS67	RO2613
9/13/2023	P0015617	\$16,458	EMS & Training Department	STRYKER SALES CORPORATION	AUTOMATIC CHEST COMPRESSION DEVICES (ADDITIONAL UNITS)	SK2315
9/13/2023	B02520	\$5,000	Business Services Department	SOUTHERN CALIFORNIA NEWS GROUP	AS-NEEDED PUBLIC WORKS PUBLICATIONS / NOTICES	
9/14/2023	P0015622	\$1,192	Logistics Department	NICKEY PETROLEUM	ENGINE OIL AND TRANSMISSION FLUID FOR FLEET STOCK	
9/14/2023	P0015618	\$330	Logistics Department	CORKY'S PEST CONTROL	PEST CONTROL SERVICE FS21	
9/14/2023	P0015619	\$170	Logistics Department	CORKY'S PEST CONTROL	PEST CONTROL SERVICE RFOTC ECC	
9/14/2023	P0015620	\$3,709	Logistics Department	DADANT & SONS, INC.	TULLE BEE VEILS FOR ACADEMIES / WILDLAND SEASON	
9/14/2023	P0015621	\$5,342	Logistics Department	MAKAI SOLUTIONS	VEHICLE LIFT REPAIR - BAY 2	
9/14/2023	P0015623	\$1,056	Operations Department - South	AIR COMM SYSTEMS INC	RADIO REPAIR	
9/14/2023	P0015624	\$508	Operations Department - South	KAWAK AVIATION TECHNOLOGIES INC.	OIL LEVEL SENSOR FOR BELL 412 HYDRAULIC TANK	
9/18/2023	B02120-3	\$11,340	Human Resources Department	SPEAKWRITE LLC	TRANSCRIPTION SERVICES FOR EMPLOYEE RELATIONS (ER) ON AS- NEEDED BASIS	
9/18/2023	P0015625	\$2,810	Logistics Department	TERRISGPS LTD	GPS REPEATER INVENTORY	
9/18/2023	P0015626	\$263	EMS & Training Department	FIREVENT LLC	TRAINING EQUIPEMNT FOR VENTILATION TRAILER	
9/18/2023	P0015627	\$57,900	Logistics Department	ITZEN ARCHITECTS	ARCHITECTURAL DESIGN SERVICES FIRE STATION 23	RO2584
9/18/2023	P0015628	\$6,616	Logistics Department	SC COMMERCIAL, LLC DBA SC FUELS	OIL FOR FLEET SHOP	
9/18/2023	P0015629	\$6,592	Logistics Department	WILLIAMS & MAHER INC	ELECTRICAL SERVICES FOR STATION ALERTING SYSTEM	

Date	PO/BO Number	Amount	Department	Vendor Name	Description	Formal Solicitation Number
9/18/2023	P0015631	\$1,496	Logistics Department	WILLIAMS & MAHER INC	ELECTRICAL SERVICES FS81	
9/19/2023	P0015633	\$4,666	Logistics Department	SOUTH COAST EMERGENCY VEHICLE SERVICE	PARTS FOR UNIT 5253	
9/19/2023	P0015635	\$1,072	Logistics Department	SOURCE GRAPHICS, INC.	INK FOR HP 6200 & 6800 PLOTTERS	
9/19/2023	P0015634	\$5,874	Logistics Department	SUTPHEN CORPORATION	REPLACEMENT PARTS - UNIT # 5067	
9/20/2023	P0015632	\$6,787	Command & Emergency Planning Div	DELL MARKETING, L.P.	TOUCHSCREEN FOR ECC	COOPERATIVE
9/20/2023	B01610-8	\$1,200	Community Risk Reduction Department	AMETEK BROOKFIELD	WARRANTY RENEWAL FOR MAX-4000 MOISTURE ANALYZER	
9/20/2023	B02134-3	\$100,000	Logistics Department	FLEET SERVICES	HEAVY DUTY BRAKE AND SUSPENSION SERVICES	COOPERATIVE
9/20/2023	B02521	\$185,000	EMS & Training Department	MACLIN, REGINALD	DUODOTE AUTO-INJECTOR	JA2631
9/20/2023	P0015637	\$1,167	Executive Management	TUSTIN AWARDS INC.	CAP LENGTH OF SERVICE COINS	
9/20/2023	P0015636	\$5,525	Logistics Department	TUFF SHED, INC.	SHED FOR FS13	
9/20/2023	P0015638	\$57,000	Logistics Department	DELANE ENGINEERING, INC	ENGINEERING SERVICES FIRE STATION 23	RO2584
9/20/2023	P015122	\$8,500	Logistics Department	RSSE STRUCTURAL ENGINEERS INC.	ENGINEERING SERVICES FOR TRAINING GROUNDS	RO2362
9/21/2023	P0015640	\$27,611	Logistics Department	GRAPHIC TECHNIQUES- WALTER SCOTT KENDALL	VEHICLE DECAL GRAPHICS FOR DODGE RAMS	
9/21/2023	B01698-7	\$10,000	Logistics Department	MUTUAL PROPANE	PROPANE GAS AT FIRE STATIONS	
9/21/2023	P0015648	\$10,015	Logistics Department	ALLSTAR FIRE EQUIPMENT	PARTS TO REPAIR SELF CONTAINED BREATHING APPARATUS	
9/21/2023	B02274-2	\$25,000	Logistics Department	SANTIAGO HILLS AUTO SPA INC	OFFSITE VEHICLE WASHING AND DETAILING SERVICES	LK2519
9/21/2023	B02135-3	\$10,000	Logistics Department	LU'S LIGHTHOUSE, INC.	MISC. LIGHTING PRODUCTS - LOCAL VENDOR FOR DAILY DELIVERIES	
9/21/2023	P0015644	\$42,453	Logistics Department	FIRE APPARATUS SOLUTIONS	MISC PARTS FOR FLEET STOCK	
9/21/2023	B01973-4	\$10,000	Logistics Department	BERNELL HYDRAULICS INC	HYDRAULIC CYLINDER REPAIR/REBUILD SERVICES	
9/21/2023	P0015639	\$2,405	Logistics Department	WESTERN FLOOR TESTING	FLOOR MOISTURE TESTING AT FS 65	
9/21/2023	B02132-3	\$30,000	Logistics Department	LN CURTIS & SONS	FIRECRAFT WILDLAND GLOVES	
9/21/2023	P0015630	\$52,892	EMS & Training Department	STRYKER SALES CORPORATION	AUTOMATIC CHEST COMPRESSION DEVICES AND SUPPLIES (AS- NEEDED)	SK2315
9/21/2023	P0015641	\$61,000	Logistics Department	DELANE ENGINEERING, INC	ENGINEERING SERVICES RFOTC A & B	RO2584
9/21/2023	P0015642	\$61,000	Logistics Department	GOSS ENGINEERING, INC	ENGINEERING SERVICES RFOTC A & B	RO2584

Date	PO/BO Number	Amount	Department	Vendor Name	Description	Formal Solicitation Number
9/21/2023	P0015643	\$8,250	Logistics Department	LEWIS / SCHOEPLEIN ARCHITECTS	ARCHITECTURAL DESIGN SERVICES FS22	RO2584
9/21/2023	P0015645	\$4,500	Logistics Department	PACIFIC PLUMBING COMPANY	GEOPHYSICAL SURVEY FS41	RO2501
9/21/2023	P0015646	\$4,305	Logistics Department	FOPCO	ANNUAL GENERATOR FUEL TANK SERVICE @ RFOTC	
9/22/2023	B02083-4	\$50,000	Executive Management	SUN BADGE CO.	BADGES, COLLAR BRASS AND ACCESSORIES	JC2428
9/22/2023	P0015649	\$10,000	Logistics Department	ROBERT STEWART ARCHITECTS	ARCHITECTUAL AND ELECTRICAL DESIGN GIS OFFICES	RO2584
9/22/2023	P0015650	\$2,478	Operations Department - South	LINEGEAR FIRE & RESCUE	FEMA US&R TASK FORCE LOGO POLOS FEMA CACHE #: LG- 0125.00	
9/22/2023	P0015657	\$1,085	Operations Department - South	QUINN COMPANY	PERFORM PRE TEST INSPECTION OF GENSET ON MQ 125 GENERATOR	
9/22/2023	P0015659	\$5,839	Logistics Department	WILLIAMS & MAHER INC	LIGHTING INSTALLATION - I.T. WAREHOUSE	
9/22/2023	P0015660	\$8,295	Logistics Department	WILLIAMS & MAHER INC	GPS REPEATER AND ANTENNA INSTALL FOR FS04, FS09, FS53, AND FS59	
9/22/2023	P0015661	\$4,505	Logistics Department	WILLIAMS & MAHER INC	APPARATUS BAY ALERT LIGHTS - FS10 & FS11	
9/25/2023	B02522	\$125,000	Logistics Department	CORKY'S PEST CONTROL	PEST CONTROL SERVICES	RO2613
9/26/2023	P0015664	\$912	Logistics Department	PACIFIC PLUMBING COMPANY	INSTALL NEW WATER LINES AT FS49	
9/26/2023	P0015665	\$9,778	Operations Department - South	DADCO INC	SHIPPING CONTAINERS - FEMA US&R FEMA CACHE ITEM # LI- 0109.10	
9/27/2023	B02524	\$10,000	Logistics Department	CALIFORNIA PPE RECON INC	TURNOUT REPAIR AND DECONTAMINATION	
9/27/2023	P0015663	\$4,381	Logistics Department	TALLEY COMMUNICATIONS	MULTI-BAND ANTENNAS FOR VEHICLE INSTALLS	
9/27/2023	P0015666	\$6,566	Logistics Department	WILLIAMS & MAHER INC	RESTORE APP BAY ALERT LIGHTS FOR WESTNET ALERTING UPGRADE - FS28, FS47, AND FS60	
9/27/2023	P0015667	\$2,250	Logistics Department	CONCEPT PAVING SOLUTIONS	ADA PARKING STALL STRIPING AND SIGNAGE - FS04	
9/27/2023	P0015668	\$3,916	Logistics Department	PRESIDIO HOLDINGS INC.	IPADS FOR TRAINING GROUNDS	
9/28/2023	B01622-7	\$45,000	Logistics Department	US FOODS, INC.	HOUSEWARES FOR FIRE STATIONS	
9/28/2023	P0015669	\$8,974	Logistics Department	DELL MARKETING, L.P.	PC / MONITOR	
9/28/2023	P0015670	\$347,087	Logistics Department	PRESIDIO HOLDINGS INC.	911 PRODUCTION HOST UPGRADE	RO2637
9/28/2023	P0015671	\$6,171	Logistics Department	INLAND FLOORING CONTRACTORS INC	FLOORING REPLACEMENT FS13	



Orange County Fire Authority AGENDA STAFF REPORT

Executive Committee Meeting November 16, 2023 Agenda Item No. 2E Consent Calendar

New Salary Range for Medical Director Classification

Contact(s) for Further Information Stephanie Holloman, Assistant Chief Human Resources Director	stephanieholloman@ocfa.org	714.573.6353
Sam Penrod, Human Resources Manager Human Resources Department	samuelpenrod@ocfa.org	714.573.6018
Rob Capobianco, Assistant Chief Emergency Medical Services & Training	robcapobianco@ocfa.org	714-573-6006

Summary

This agenda item is submitted for approval to establish a revised salary range for the Medical Director classification.

Prior Board/Committee Action

On November 7, 2023, the Human Resources Committee reviewed the proposed agenda item and directed staff to place the item on the Executive Committee agenda by a vote of 6-0 (Director Chun absent).

RECOMMENDED ACTION(S) Approve the new salary range for the Medical Director classification at \$140-\$160 per hour.

Impact to Cities/County

Not Applicable.

Fiscal Impact

The estimated fiscal impact in current FY 2023/2024 is anticipated to be fully covered by salary savings from vacant positions.

Increase Cost Funded by Structural Fire Fund:	\$0
Increase Cost Funded by Cash Contract Cities:	\$0

Background

The Orange County Fire Authority's (OCFA) most recent Medical Director separated from employment in August of this year. The Medical Director position is a single incumbent position with the responsibility to obtain and approve the dispensing of needed medications administered in the field by safety personnel. The position is also responsible for providing medical oversight and expertise to continuous quality improvement (CQI) programs by reviewing and analyzing EMS effectiveness, system trends, and needs in an effort to ensure EMS system excellence; developing and assisting in the formulation of policies and procedures; participating in call reviews with nurse educators, firefighter/paramedics, and firefighter/EMT's; assisting in problem solving in field clinical decision making; and is expected to have a prominent and significant presence within the Orange County and state of California Emergency Medical Services (EMS) communities.

The job specification requires that the Medical Director be a graduate of an American Medical Association certified school of medicine and have five (5) years of emergency medicine experience within a hospital or clinic setting, or the person must have completed an approved EMS Fellowship, which is extensive specialized training. The current rate OCFA salary range for the Medical Director classification is \$56.89-\$90.41 per hour or \$118,289.60 - \$188,052.80 per year.

Discussion

Recruitment and Retention

When the prior Medical Director separated from employment in April 2016, a national search was conducted, and OCFA was unable to reach an employment agreement with any of the top candidates, primarily because the salary range for the position was far below market based on the minimum requirements and duties of the position. The salary range was moderately adjusted upward in 2017, and the Authority was eventually able to hire a Medical Director approximately one year after the vacancy occurred. Similarly, when the most recent incumbent was hired, the Authority faced a challenging recruitment process to fill this critical position. During an exit survey with the incumbent, pay was identified as a reason for resigning from the position.

Staff surveyed eighteen (18) agencies to determine if a sufficient number of comparable matches could be found. San Jose Fire Department and Los Angeles County Fire Department were the only agencies that had the equivalent of the OCFA Medical Director on staff. The remaining agencies either do not have a comparable match or contract out the duties performed by the Medical Director classification at OCFA.

Providing for reporting structure, scope of supervisory responsibility, complexity of work, internal equity, and external competition, the proposed salary range for the Medical Director classification is as follows:

MEDICAL DIRECTOR CURRENT LEVELS/HOURLY RATE						
Code	Classification	Min Hourly Rate	Max Hourly Rate			
1540	Medical Direcotr	\$56.89	\$90.41			

MEDICAL DIRECTOR PROPOSED LEVELS/HOURLY RATE						
Code	Classification	Min Hourly Rate	Max Hourly Rate			
1540	Medical Director	\$140	\$160			

As the Medical Director classification is represented by the Orange County Fire Authority Management Association (OCFAMA), the recommended salary range has been reviewed with their representatives, and OCFAMA is supportive of the salary range adjustment.

Executive Committee approval is required to revise the salary range to the Master Position Control of the proposed Medical Director salary range.

Attachment

Salary survey

Medical Director Salary Data

Agency	Classification	Min/Hour	Max/Hour	Notes
Alameda County FD	No Match			Contracted
Contra Costa County FPD	No Match			Agency has a Medical Director, but the postion has a broader scope of responsibilities. Paid \$193 per hour.
Fresno FD	No Match			Fresno FD does not have a doctor on staff.
Kern County FD	No Match			Contracted
Long Beach FD	No Match			Contracted
LA City FD	No Match			Position being contracted. Prior class of Chief Physician no longer being used and had a broader scope of responsibilities.
LA County FD	Assistant Medical Director		\$293	Reports to lead Medical Director that has supervisory responsibilities.
Laguna Beach FD	No Match			Contracted Part-Time. Paid \$250 per hour.
Newport Beach FD	No Match			Contracted Part-Time. Paid \$250 per hour.
Oakland FD	No Match			Contracted
Oxnard FD	No Match			Contracted. Paid \$160 per hour.
Sacramento FD	No Match			Closest class is Emergency Medical Services Coordinator, but position does not require an MD or OD, only an RN certification
Sacramento Metropolitan Fire District	No Match			Part-time Physician works 22 hours per week at \$150 per hour.
San Bernardino FPD	No Match			Agency has a Public Health Medical Director, who handles public health clinics.
San Diego Fire-Rescue Department	No Match			Contract services through UC San Diego. Paid \$225 per hour.
San Francisco FD	No Match			Contracted. No equivalent position.
San Jose FD	Physician		\$124	
Ventura County FD	No Match			Contracted. Paid \$250 per hour.
OCFA	Medical Director*	\$57	\$90	

*Current salary range



Orange County Fire Authority AGENDA STAFF REPORT

Executive Committee Meeting November 16, 2023 Agenda Item No. 2F Consent Calendar

Award of Contract for 911 Digital Logging Recorder System RFP RO2549B

Contact(s) for Further Information Jim Ruane, Assistant Chief Logistics Department	jimruane@ocfa.org	714.573.6801
Joel Brodowski, IT Division Manager Logistics Department	joelbrodowski@ocfa.org	714.573.6421

Summary

This agenda item is submitted for approval to award a five-year agreement for a 911 Digital Logging Recorder System to NICE Systems, Inc.

Prior Board/Committee Action

None.

RECOMMENDED ACTION(S)

Approve and authorize the Purchasing Manager to enter into a Professional Services Agreement for a five-year term with NICE Systems, Inc. for a 911 Digital Logging Recorder System in an amount not to exceed \$480,159.22 for Contract Year One and up to \$55,000 annually for Contract Years Two through Five for maintenance and support.

Impact to Cities/County

Not applicable.

Fiscal Impact

Funding for this contract is included in the FY 23/24 IT Division Budget. Funding for future years will be provided for in future operating budgets.

Increase Cost Funded by Structural Fire Fund:	\$0
Increase Cost Funded by Cash Contract Cities:	\$0

Background

OCFA currently utilizes a 911 Voice and Radio Digital Logging Recorder System (Voice and Radio DLRS) to capture and archive 911 telephone and radio communications for compliance and quality assurance for over 130 channels and phone lines, and which integrates with the OCFA's 18 console Dispatch system (Motorola Astro 25 Series MCC7500), the 911 phone system (VESTA v7.8), administrative phone system, CentralSquare Enterprise v.21.1.2.11 CAD system, and the regional 800MHz radio network.

The OCFA's current 911 Voice and Radio DLRS is more than 10 years old. The updated solution proposes unified hardware / software Voice and Radio DLRS solution with recording, archiving, data management, and reporting capabilities. The proposed solution is also compliant and compatible with Next Generation 911 standards, and OCFA's above listed public safety systems and in-house analytical and reporting systems.

Request for Proposals (RFP) Process

On April 24, 2023, RFP RO2549B was issued and sent to 757 vendors to solicit proposals for a 911 Voice and Radio Digital Logging Recorder System. Two proposals were received by the May 25, 2023 due date.

Evaluation

An evaluation team consisting of four staff members (2 - ECC Manager, 1 - Nurse Educator, 1 - Sr. IT Analyst) evaluated the written proposals. Each proposal was evaluated based on the following weighted criteria as defined in the RFP: Method of Approach (35), Technical Abilities (20), Qualifications and Experience (20), and Pricing (25). After an evaluation of all written proposals, NICE Systems, Inc. was ranked the highest overall.

The evaluation team concluded that the NICE System proposal demonstrated the company's clear understanding of the industry, and more importantly, the specific needs of the OCFA. The company prepared a well thought out plan to transition the OCFA to their products, including the migration of data from OCFA's current VPI, with a specific and appropriate training plan. Additional advantages that set the solution proposed by NICE apart from the other offer included highly functional and intuitive reporting of complex incidents with advanced search functionality. NICE Systems has a large client base with over 30 years in the industry.

Scoring

Final evaluation scores resulted in NICE Systems, Inc. as the number one ranked vendor overall:

ORA	NGE COL	JNTY FIF	RE AUT	HORIT	Y			
RO2549B - 911 Voi	ce and Ra	adio Digit	al Loggi	ing Rec	ording \$	System		1
		GoSerco	o, Inc.		NI	CE Syst	tems, In	<mark>C.</mark>
Cost Proposal	\$211,809.71 \$419,580.00							
Evaluators	1	2	3	4	1	2	3	4
A. Method of Approach (20)	10	16	14	14	20	20	18	20
B. Technical Abilities (30)	15	15	21	9	30	30	30	30
C. Qualifications/Experience (25)	12.5	15	20	15	25	22.5	25	25
C. Proposed Cost (25)	25.00	25.00	25.00	25.00	12.62	12.62	12.62	12.62
Sum of Proposal Ratings	62.50	71.00	80.00	63.00	87.62	85.12	85.62	87.62
Ranking	2	2	2	2	1	1	1	1
Written Sum of Ranking	8				4			
Overall Rank:	2			1				

Best and Final Offer (BAFO)

In order to provide OCFA additional information regarding additional functionality, software features, and pricing consideration, a Best and Final Offer was requested from NICE Systems, Inc. NICE Systems, Inc. submitted their BAFO dated October 18, 2023 providing options for different hardware and software configurations, including an all-inclusive option in which NICE Systems would provide OCFA with a complete and fully maintained system for the duration of the contract.

OCFA staff reviewed the options provided and determined that the all-inclusive option would be in OCFA's best interest and meet all OCFA department needs.

Conclusion and Recommendation for Award

Based upon the evaluation results and the Best and Final Offer, staff is recommending contract award to NICE Systems, Inc. at an amount not to exceed \$480,159.22 for the first one-year term and up to \$55,000 annually for maintenance and support for years two through five:

Item Description	Total
Option One Total with VPI Integration*	\$469,398.94
Applicable Sales Tax	\$9,162.67
Shipping	\$1,598.31
Total Year One	\$480,159.22

*The amount included in the BAFO is \$181.06 higher due to the vendor's rounding error.

Attachment(s)

- 1. Request for Proposals RO2549B
- 2. Proposed Professional Services Agreement

Attachment 1



ORANGE COUNTY FIRE AUTHORITY

REQUEST FOR PROPOSAL 9-1-1 VOICE / RADIO DIGITAL LOGGING RECORDING SYSTEM

April 24, 2023

RFP Number: RO2549B

The Orange County Fire Authority (OCFA) is requesting proposals to establish a professional services agreement for the purchase of an industry proven 9-1-1 Voice and Radio Digital Logging Recorder System (DLRS) to replace and upgrade the OCFA's existing 9-1-1 DLRS as specified in this RFP.

Paper and electronic proposals will be accepted for this solicitation.

Paper proposals may be hand delivered or mailed to Orange County Fire Authority, Purchasing Department, 1 Fire Authority Road, Building C, Irvine, CA 92602 no later than the date and time specified. One (1) original hard copy, one (1) duplicate hard copy, and one (1) electronic copy in PDF or Word (on Digital Media), of the proposal shall be sent to the attention of the Purchasing Section, within said time limit, in a sealed envelope. The envelope should include the Offeror's Business Name, Request for Proposals Number, and the Due Date.

If you elect to submit your proposal electronically, no additional copies or digital media will be required. Electronic proposals must be submitted online through OCFA's electronic procurement system, PlanetBids, at:

http://www.planetbids.com/portal/portal.cfm?CompanyID=14773

Proposals will be received no later than **11:00 A.M.** Pacific Standard Time (PST) on **May 18, 2023 by 11:00 A.M.**

LATE SUBMITTALS WILL NOT BE ACCEPTED.

A non-mandatory pre-proposal meeting is scheduled on **Thursday, May 11, 2023 at 10:00 A.M.** at the Orange County Fire Authority Regional Operations and Training Center, 1 Fire Authority Road, Irvine, CA 92602.

Any questions concerning this Request for Proposals (RFP) can be submitted online via the Q&A module available through PlanetBids before **Thursday**, **May 11**, **2023 at 5:00 P.M.** OCFA will publish a response to all inquiries through the e-procurement system and/or may issue an addendum as a result.

Rothchild Ong | Assistant Purchasing Agent rothchildong@ocfa.org | (714) 573-6642

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SECTION I: PROPOSAL INFORMATION

1.1 DEFINITIONS

ALI: Automatic Location Identification
ANI: Automatic Number Identification
CAD: Computer Aided Dispatch, a CentralSquare Enterprise v21.1.2.11
CCCS: Countywide Coordinated Communications System, a P25 Phase 2 trunking radio system
DLRS: Digital Logging Recording System
DOC: Department Operations Center
DR: Disaster Recovery
ECC: Emergency Command Center
JPA: Joint Powers Authority
NG9-1-1: Next Generation 9-1-1
OCFA: Orange County Fire Authority
PSAP: Public Safety Answering Point
RFP: Request for Proposal

1.2 INTRODUCTION

OCFA is requesting proposals to establish a professional services agreement for the purchase of hardware and software solutions for a 9-1-1 Digital Logging Recorder System (DLRS) to replace and upgrade OCFA's existing 9-1-1 DLRS. The proposed replacement should meet or exceed the requirements outlined within the Scope of Work of this Request for Proposals.

1.3 AGENCY BACKGROUND

OCFA was formed on March 1, 1995, transitioning from the Orange County Fire Department to a Joint Powers Authority (JPA) as allowed by California State Government Code 6500 et seq. OCFA is an independent organizational entity similar to a special district. The service area includes twenty-three member cities, the unincorporated areas of Orange County, California, including State and Federal Responsibility areas. A twenty-five member Executive Board of Directors governs OCFA. This Board includes an elected official appointed to represent each of the twenty-three member cities and two representatives from the County Board of Supervisors. OCFA is managed by an appointed Fire Chief who reports to the Executive Board of Directors.

OCFA is the largest regional fire service organization in Orange County and one of the largest in California. OCFA serves the following jurisdictions responding to approximately 210,000 9-1-1 calls and 162,000 emergency incidents annually:

Aliso Viejo Buena Park Cypress Dana Point Garden Grove Irvine Laguna Hills Laguna Niguel Laguna Woods Lake Forest La Palma Los Alamitos Mission Viejo Rancho Santa Margarita San Clemente San Juan Capistrano Santa Ana Seal Beach Stanton Tustin Villa Park Westminster Yorba Linda County of Orange

1.4 ESTIMATED RFP SCHEDULE

Request for Proposal Issue Date Pre-Proposal Conference (non-mandatory) Deadline to submit questions through Online Q&A Proposal Due Date Evaluation of Proposals Vendor Interviews (If deemed necessary) Contract Award (tentative) April 24, 2023 May 11, 2023 at 10:00 A.M. May 11, 2023 at 5:00 P.M. May 18, 2023 by 11:00 A.M. May 2023 May 2023 June 2023 The tentative schedule of important dates is for general guidance only, to provide proposers an indication of OCFA's internal processes. Other than the Request for Proposal (RFP) Issue Date, the above dates and steps are subject to change without necessity of addendum.

1.5 TERM OF AGREEMENT

The term of any contract resulting from this RFP will be for an initial term of one-year for as-needed services. The agreement should reflect services and fees for the initial purchase and a one-year contract commencing upon the date of contract execution with the option of four (4) one-year renewal terms, subject to the "Time of Performance" and the "Termination" provisions of the OCFA's "Pro Forma" Maintenance Services Agreement (Exhibit 1). The contract is subject to the satisfactory negotiation of terms, including a price acceptable to both the Authority and the selected contractor.

The Agreement template is attached hereto as Exhibit K. The contract is subject to the satisfactory negotiation of terms, including a price acceptable to both OCFA and the selected Offeror

1.6 PRE-PROPOSAL CONFERENCE

A non-mandatory pre-proposal tele-conference is scheduled on **Thursday, May 11, 2023 at 10:00 A.M.** at the Orange County Fire Authority Regional Operations and Training Center: 1 Fire Authority Road, Irvine, CA 92602. This informational meeting will be held to allow for questions and clarifications concerning the Authority's RFP process and subsequent contract award. Offerors should be familiar with the proposal prior to attending the pre-proposal conference. If you will be attending this pre-proposal meeting in person or if you are interested in attending this meeting remotely through GoToMeeting, please contact Rothchild Ong via e-mail at: <u>rothchildong@ocfa.org</u> or by telephone at: (714) 573-6642 to reserve your spot. Please note that the call-in space is limited and will be provided on a first come first serve basis.

1.7 QUESTION SUBMITTAL

Please review the entire RFP package at your earliest opportunity and submit questions through the Q&A Tab on the Planet Bids vendor portal no later than **Thursday**, **May 11**, **2023 at 5:00 P.M.** Questions which are submitted prior to the pre-proposal conference will be addressed during the pre-proposal meeting.

1.8 ADDENDUM

Any information or instructions that result from the pre-proposal meeting will be documented in an addendum and sent to all prospective Proposers who have downloaded the bid package through Planet Bids. Any additions, deletions, changes, clarifications, or supplemental information regarding the RFP will be sent to all prospective Proposers prior to the date fixed for the receipt of proposals. All addenda so issued shall become part of the contract documents.

1.9 DUE DATE

Proposals will be received no later than **11:00 A.M. on May 18, 2023**. Late proposals will not be accepted.

1.10PROPOSAL SUBMITTAL

Paper Proposals

One (1) original hard copy (marked original), one (1) duplicate hard copy, and one (1) electronic copy in PDF or Word (on CD or DVD) of the proposal must be submitted in sealed envelope marked RFP – RFP Number and submitted to the following address (unless submitted electronically through PlanetBids):

Delivery Address:

Orange County Fire Authority Attn: Purchasing Section 1 Fire Authority Road Bldg. C Irvine, CA 92602

Electronic Proposals

If you elect to submit your proposal electronically, no additional copies or digital media will be required. Electronic proposals must be submitted online through OCFA's electronic procurement system, PlanetBids, at: <u>http://www.planetbids.com/portal/portal.cfm?CompanyID=14773</u>

Please note that the pricing page found in Exhibit J should be submitted separately in a sealed envelope so that the technical proposal can be evaluated without the consideration of cost.

1.11GENERAL INFORMATION

The successful proposal(s) will be one that demonstrates the ability to meet the requirements of the solicitation. Sealed proposals will be accepted up to the date and time stated herein. Proposals must be prepared in conformance with the instructions provided.

Only those firms with verifiable experience as it relates to the requirement of this solicitation will be considered during the evaluation process.

To be considered responsive, Offerors must respond to this solicitation in accordance with the requirements, specifications, commercial terms, and provisions as described and set forth herein. Proposals must embrace a concept that the successful Offeror will satisfy all of the objectives and service specifications outlined in this document.

Any Offeror who wishes his/her proposal(s) to be considered is responsible for making certain that the proposal is received in the Purchasing Office by the announced time. No oral, telegraphic, facsimile, or telephonic proposals or modifications will be considered unless specified. Proposals received after the scheduled submittal deadline will be returned unopened. Proposals must bear original signatures when the proposal is not submitted electronically. Please note that there will be no public opening of proposals. Proposal information shall not be made public until the contract is awarded. At that time the executed contract will become public information.

The Orange County Fire Authority reserves the right to negotiate with any Offeror(s) as necessary to serve the best interest of the Authority and negotiate the final contract(s) with the most responsive, responsible Offeror. OCFA reserves the right to waive, at its discretion, any irregularity or informality, which the OCFA deems correctable or otherwise not warranting rejection of the RFP. OCFA reserves the right to reject any and all proposals and to accept any proposal or portion thereof. No obligation, either expressed or implied, exists on the part of the OCFA to make an award or to pay any costs incurred in the preparation or submission of a proposal. All costs associated with the preparation or submission of proposals covered by this RFP, are solely the responsibility of the Offerors.

By submitting an offer, the Offeror acknowledges understanding of the rules as defined in this RFP. Compliance with all of the terms and conditions of the agreement is mandatory for companies providing services to OCFA.

The intent of the OCFA is to award a contract to the respondent that scores the highest in the RFP evaluation process. Please provide your response to all the information requested in this RFP so that the firm you represent can be assessed to the best advantage.

SECTION II: SCOPE OF WORK

2.1 PROJECT BACKGROUND

The Orange County Fire Authority is seeking to replace and upgrade the current 9-1-1 Voice and Radio Digital Logging Recorder System (Voice and Radio DLRS) that captures and archives 9-1-1 telephone and radio communications for compliance and quality assurance. The OCFA's current 9-1-1 Voice and Radio DLRS is more than 10 years old.

The DLRS records 9-1-1 voice and radio communications for over 130 plus channels and phone lines and integrates with the OCFA's Motorola Astro 25 Series MCC7500 Dispatch system with 18 consoles; and the VESTA v7.8 9-1-1 phone system; and the 800MHz radio CCCS; and the Nortel Meridian 1000 PBX administrative phone system; and the CentralSquare Enterprise v.21.1.2.11 CAD system.

The OCFA Emergency Command Center (ECC) Dispatch and Emergency Operations staff use the CentralSquare Enterprise CAD system to dispatch appropriate fire and medical resources to emergency incidents from 18 dispatch console positions. Integrated with the OCFA's CAD system is a Genesis GenWatch 3 emergency radio notification system, and Westnet SmartStation fire station alerting system that alerts 77 OCFA fire stations, 200+ emergency apparatus and vehicles, and Operations personnel deployed throughout the County.

2.2 PROJECT OBJECTIVES

The intent of this solicitation is to award a professional services agreement to the most qualified offeror of a unified hardware and software Voice and Radio DLRS solution that utilizes state of the art technology for recording, archiving, data management, and reporting capabilities. The proposed solution must be fully compliant with NG9-1-1 standards. It must feature a User Interface (UI) that is modern and easy to use and to train users in its operation. The Voice and Radio DLRS must be robust, reliable, and easily interface with the OCFA's public safety systems including CAD, 9-1-1 and Administrative phone systems, 800MHz and VHF radio, Motorola Dispatch system, and in-house analytical and reporting systems. The system must be robust with 24/7/365 up-time. It must be fully redundant so that there is no down-time due to routine maintenance, or single component failures.

2.3 MINIMUM QUALIFICATIONS

Offeror and Offeror's principal staff assigned to the account must possess seven (7) or more years' experience in providing software design and programing, as well as ongoing technical support for comparable systems. Minimum qualifications the firm(s) shall demonstrate are:

- Offeror and any subcontractors must be able to meet OCFA insurance requirements as provided.
 Offeror and any subcontractors must not be under suspension or debarment by any state or federal government agency.
- Offeror and any subcontractors must have knowledge of and experience integrating with CentralSquare Enterprise Computer Aided Dispatch (CAD) system.
- Resources and ability to provide ongoing system support, troubleshooting, and technical updates as needed to maintain the technical currency of the solution.

The Respondent must state specifically in the descriptive narrative how your firm meets the minimum qualifications specified above. Firm's proposal must be valid for not less than one-hundred eighty (180) days after the due date.

2.4 CONTRACTOR RESPONSIBILITIES

2.4.1 **PERFORMANCE REQUIREMENTS**

The selected firm will be responsible for the design, programming, implementation, project management, and provision of ongoing technical support as needed to meet the project objectives

and desired features as stated in subsection 2.2 Objectives and following sub-section 2.5.2 Requested Features.

<u>Standards for Deliverables:</u> The Consultant's design, specifications, drawings, and related documents shall meet the requirements and standards of the OCFA and represent industry standards for public agency enterprise applications.

<u>Project Management:</u> The Consultant will provide project management to insure fulfillment of this Scope within budget and schedule. The Consultant will be expected to provide continuous quality assurance and quality control of the project activities. The Consultant will be responsible to prepare the initial project schedule outlining all tasks, durations, and milestone dates, and provide all resources as required to keep the project on schedule and within budget.

<u>Implementation Requirements:</u> The successful offeror is expected to participate in the deployment of the DLRS hardware and software solution and provide materials, curricula, and training necessary to prepare OCFA technical (IT) and functional (end users) personnel to utilize the solution.

<u>Annual Contract</u>: OCFA may establish an annual contract for ongoing support services, system enhancements, new integrations, etc. The term of the contract, if issued, is anticipated to be for one year with up to four optional one-year renewal periods.

2.4.2 PERSONNEL

Contractor shall provide personnel that have been trained for performance of the specified services.

The Contractor shall ensure sufficient staffing levels to provide the services described herein.

2.4.3 SERVICE PROCEDURE

Contractor shall provide services based upon project objectives as provided herein.

2.5 DELIVERABLES

The system must be operational 24/7/365 for the OCFA's 9-1-1 Dispatcher Emergency Command Center (ECC) but must be scalable to support other fixed and mobile Co-location/Disaster Recovery 9-1-1 Dispatch facilities.

The vendor proposals shall also include conversion of and import of existing archive and data with the new DLRS, full implementation of the new system, as well as technical and end-user training and ongoing support and related technical services. All proposals must include a plan to make available to the OCFA all data on the DLRS, in a mutually agreed common data format, upon contract termination with the DLRS provider. All responses are to include listed length of warranties, after warranty support, onsite training, projected end of life hardware and software, installation, and all associated costs.

The Contractor shall include details in their proposal for the complete replacement of the existing 9-1-1 DLRS with one that interfaces and is compatible with the Orange County 800MHz Combined Coordinated Communication System (CCCS), a P25 Phase 2 trunking radio system. The system must be able to record trunked talk-group audio, P25 dispatch console audio, 9-1-1 and administrative telephone lines, and conventional radio channel audio.

The platform must provide a full 360-degree view of all communication. The system not only has to capture Voice, VoIP, RoIP, NG9-1-1 content, Email, Chat and screens but it also must allow for Quality Assessment, Reporting, and Auditing of all communications. Systems that employ a single approach providing only voice capture or only email capture will not be considered. The OCFA is not interested in managing multiple platforms to achieve our goal of NG9-1-1 recording and dispatch improvement.

2.5.1 REQUESTED FEATURES

The following draft of requested features provides preliminary information of the proposed solution for Digital Logging Recording System for 9-1-1 radio and voice communications. Creative alternative solutions are encouraged. The information below is intended to be incomplete and is expected to be modified by RFP responders.

The OCFA reserves the right to determine the best solution for the OCFA which may result in a system that provides alternatives to the requirements provided below. Submit additional system details in an attachment for any requirement that does not comply and include any additional costs that may be associated with a requirement.

2.5.1.1 <u>Minimum desired requirements to provide a Digital Logging Recording System for</u> <u>9-1-1 radio and voice communications:</u>

- **2.5.1.1.1 QUALITY and ENVIRONMENTAL RESPONSIBILITY**The 9-1-1 Voice and Radio DLRS solution provider shall have the ability to record multimedia communications through a unified application that is able to capture and consolidate audio, video, images, CAD and location data, allowing for one-stop user access for synchronized playback and incident reconstruction.
- **2.5.1.1.2** The 9-1-1 Voice and Radio DLRS solution provider shall use an integrated quality management system certified to ISO 9001 standard. Proof of certification shall be provided by the 9-1-1 Voice and Radio DLRS solution provider.
- **2.5.1.1.3** The 9-1-1 Voice and Radio DLRS solution provider shall demonstrate environmental responsibility certified to the ISO 14001 standard. Proof of certification shall be provided by the 9-1-1 Voice and Radio DLRS solution provider.
- **2.5.1.1.4** The 9-1-1 Voice and Radio DLRS solution provider shall have a policy of the use of hazardous substances products it manufactures (for instance, by compliance with the EU Restriction of Hazardous Substances RoHS directive).
- **2.5.1.1.5** The 9-1-1 Voice and Radio DLRS solution provider shall provide proof of having security policy certified to the ISO27001 standard.
- 2.5.1.1.6 INTELLIGENT DECISION MAKING SUPPORT, CENTRAL INTELLIGENCE COREThe proposed solution shall be specifically built for the support of strategic and tactical (intra-day) decision making with centralized views into operational performance focusing on incidents.
- **2.5.1.1.7** The proposed solution shall centralize and visualize all collected information to provide insights into operational performance including:
 - 1. Central view of all incident intelligence, including key performance indicators (KPIs)
 - 2. View of incident intelligence, including performance indicators and adherence to standards, for individual sites
- **2.5.1.1.8** Overall performance results with drill-down to root causes of bottlenecks and other shortcomings in order to drive improvement, all the way down to:
 - 1. View of KPIs for individual sites
 - 2. Views of KPIs for individual incidents and telecommunicators
 - 3. Playback of recordings of communications involved in specific incidents
 - 4. Quality Assurance evaluation results and status with same-screen access to underlying evaluations and recorded communications
- **2.5.1.1.9** Auto-generated alerts to notify appointed users of non-compliance, such as when:
 - 1. Time to dispatch exceeds the threshold for a given incident priority

- 2. Calls that fall below target answer time exceed set percentage
- **2.5.1.1.10** Provide screen images to document how your proposed solution calculates and centralizes access to all incident handling metrics, using the use of formulas that combine data from single or multiple phone, radio, text-to-911, and CAD systems
- **2.5.1.1.11** Show how your system consolidates metrics for all incidents to help OCFA monitor adherence to set performance targets. This shall include:
 - 1. Time to answer
 - 2. Time to enter incident into CAD
 - 3. Time to dispatch
 - 4. Time to on-site
 - 5. Hello to hello time from answer to on-site
 - 6. Geographic distribution of different incident types in interactive map to help monitor patterns
 - 7. QA evaluation scores
- **2.5.1.1.12** The solution shall provide graphical, interactive charts, reports, heat-maps, and other performance indicators and visualizations for analyzing operational, phone, radio, text-to-911, and CAD incident metrics for tactical decision-making, in near-real time.
- **2.5.1.1.13** The solution shall allow for organization of different types of metrics under different dashboard tabs in the web browser-based interface, to support rapid access to information shown from various perspectives.
- **2.5.1.1.14** Provide screen images to demonstrate how your solution supports monitoring all performance metrics by different groups and incident priorities, including:
 - 1. Views by different agencies served
 - 2. Views by different teams of telecommunicators
 - 3. Views by individual telecommunicators
 - 4. Subset of views by incident types and priorities, agencies served, etc.
- **2.5.1.1.15** Dashboards shall also provide recorded conversations for playback directly from the graphical report views to support root cause analysis. The list of recordings provided in a dashboard view shall be automatically adjusted to the chart views (for example, Incident type '0' for the past month for a call taker 'John Doe').
- **2.5.1.1.16** The solution shall be able to visualize performance and adherence to set metrics in a wallboard view to help improve performance. The wallboards should be configurable, and able to show site-specific details.
- **2.5.1.1.17** The solution shall allow the end-user to create new visualizations by drawing from the bank of metrics and other options.
- **2.5.1.1.18** The solution should not require the end-user to know SQL or any programming language in order to easily use the system.

GENERAL DESCRIPTION of AUDIO RECORDING

- **2.5.1.1.19** The recordings shall be retained for a minimum period of 1 year or another retention period that is configurable by the system administrator.
- **2.5.1.1.20** All system access actions like user administration, alarm management, and audit trail monitoring shall be performed with a web-deployed interface.
- **2.5.1.1.21** All system audio recordings must be archived as .wav files, which contain the audio for the call and the call meta-data in the .wav file 'info' section.
- **2.5.1.1.22** All system audio must be encrypted using A FIPS 140-3 compliant Block Cipher Algorithms.
- **2.5.1.1.23** The system shall apply a FIPS 140-3 complaint checksums which must be used on the archived audio to ensure no tampering.
- **2.5.1.1.24** The system user interface must graphically show if the audio files have passed its file integrity checksum.

- **2.5.1.1.25** The solution shall be capable of synchronizing to designated SNTP or NTP server(s).
- **2.5.1.1.26** The solution shall generate alarms based on specific system conditions via SNMP commands or via a dedicated system monitor/maintenance application.
- **2.5.1.1.27** The Solution system shall keep a full audit trail of all alarms and faults and provide a method of viewing the alarm history.
- **2.5.1.1.28** The solution shall keep a full audit trail of all user access and Voice and Radio DLRS maintenance functions with details of who accessed the system and when, with details of what was changed or accessed.

RECORDING INTERFACE

- **2.5.1.1.29** The solution shall support various recording methods (techniques) to facilitate recording from a wide variety of telephony/radio systems. Please provide a list of your currently supported integrations.
- **2.5.1.1.30** All components of the proposed 9-1-1 Voice and Radio DLRS solution must be certified and approved to integrate with the OCFA's VESTA 9-1-1 phone system to record voice communications and screen interactions.
- 2.5.1.1.31 The 9-1-1 Voice and Radio DLRS solution must capture ANI/ALI and agent ID.
- **2.5.1.1.32** The 9-1-1 Voice and Radio DLRS solution must capture the RapidDeploy Textto-911.
- **2.5.1.1.33** The system must capture 2-wire analog devices with the following options:
 - 1. Level or energy detection with manually adjustable threshold
 - 2. On/off hook detection (for telephony)
 - 3. Contact closure
- **2.5.1.1.34** The solution shall be able to capture and properly categorize communications by call takers who manage both voice and text communications.
- **2.5.1.1.35** All fields shall be discretely searchable via the standard replay client provided with the 9-1-1 Voice and Radio DLRS solution.

ARCHIVING

- **2.5.1.1.36** The 9-1-1 Voice and Radio DLRS solution shall archive calls by making a copy of the recorded media files and associated data to another medium. If an attempt to replay a call is made and the audio (or another media type) is not available on the recorder, the recorder shall automatically check the archive to locate the audio.
- **2.5.1.1.37** The 9-1-1 Voice and Radio DLRS solution shall allow archive rules to be created that specify the location of the archive and the recording content that shall be archived.
- **2.5.1.1.38** It shall be possible to define separate archiving rules for audio vs. text based communications.
- **2.5.1.1.39** The 9-1-1 Voice and Radio DLRS solution shall allow an archiving Selection rule to be specified that contains:
 - 1. The archive location to be used
 - a. All channels or a channel range
 - 2. Whether the call details (database fields) meet specified criteria
 - 3. Selection according to the user group the recording target belongs to
- **2.5.1.1.40** The 9-1-1 Voice and Radio DLRS solution shall allow an archiving Schedule rule to be specified that contains:
 - 1. Whether archiving occurs immediately or after a specified period of time
 - 2. Whether audio is deleted from the recorder immediately or after a specified period of time
 - 3. Whether call data is deleted from the recorder immediately or after a specified period of time

- **2.5.1.1.41** The 9-1-1 Voice and Radio DLRS solution shall allow an archiving Retention rule to be specified that contains:
 - 1. The duration the archive is to be kept before deletion (expiry date)
 - 2. The number of database backups to be kept
- **2.5.1.1.42** The 9-1-1 Voice and Radio DLRS solution shall allow two removable archive locations (RDX) to operate in Mirrored mode or Sequential mode as follows:
 - 1. Mirrored mode: Archive calls to both locations simultaneously; both locations contain the same calls.
 - 2. Sequential mode: Archive calls to the first location until this medium is full, then switch to the second location.
- **2.5.1.1.43** The 9-1-1 Voice and Radio DLRS solution shall display the percentage of disk space remaining on the archive medium.
- **2.5.1.1.44** The 9-1-1 Voice and Radio DLRS solution shall maintain information about removable archive media. The information stored for each piece of media shall contain:
 - 1. Date of first call and last call on medium
 - 2. Date of first and last backup (dates of archiving activity)
 - 3. Recorder location

HARDWARE

- **2.5.1.1.45** The 9-1-1 Voice and Radio DLRS solution shall be installed on one or more computer servers.
- **2.5.1.1.46** The 9-1-1 Voice and Radio DLRS solution shall be deployable on 64-bit Windows Operating Systems.
- **2.5.1.1.47** The 9-1-1 Voice and Radio DLRS solution and interface boards shall be approved for: CE; EN55022; EN55024; UL IEC60950, FCC part 68 and FCC part 15.
- **2.5.1.1.48** The 9-1-1 Voice and Radio DLRS solution audio channel cards shall be designed and developed by the 9-1-1 Voice and Radio DLRS solution provider and manufactured under the control of the supplier.

VIRTUALIZATION

- **2.5.1.1.49** The 9-1-1 Voice and Radio DLRS solution shall be capable of being virtualized.
- **2.5.1.1.50** The 9-1-1 Voice and Radio DLRS solution shall be capable of being virtualized as an All-in-one deployment OR as a Distributed deployment.

DEPLOYMENT

2.5.1.1.51 The 9-1-1 Voice and Radio DLRS solution shall be:

- 1. Scalable from a few channels to thousands of channels by various deployment options. This shall involve the deployment on one or multiple servers, with unified user access to all recordings from one interface.
- 2. Shall be capable of being installed on a single server for smaller applications (all-in-one deployment); below 200 recording channels
- 3. Shall be capable of being installed on two or more servers for larger applications (semi-distributed deployment);200 or above
- 4. The call data database shall be a non-proprietary relational database
- 5. Shall support installing the call data database on the same server as the recorder (all in one deployment).
- 6. Shall support installing the call data database on a management server shared between recorders.

RESILIENCE

- **2.5.1.1.52** The 9-1-1 Voice and Radio DLRS solution shall provide the following resiliency options:
 - 1. Hardware redundancy within the server chassis
 - 2. Total system redundancy (2N)
 - 3. Partial redundancy (N+1)
- **2.5.1.1.53** Each 9-1-1 Voice and Radio DLRS solution recording server chassis shall support:
- **2.5.1.1.54** An internal RAID1 or RAID5 hard disk configuration.
- **2.5.1.1.55** Each 9-1-1 Voice and Radio DLRS solution server chassis shall support hot swap redundant power supplies.
- **2.5.1.1.56** The 9-1-1 Voice and Radio DLRS solution shall support total independent redundancy comprising of two identical recording systems recording the same calls, working independently. The Search and Replay system shall allow replay from either recording system according to its availability and based on user preference.
- **2.5.1.1.57** The Search and Replay system shall suppress duplicate calls in search results when both recording systems are active.
- **2.5.1.1.58** The 9-1-1 Voice and Radio DLRS solution shall support individual subsystems to be duplicated for redundancy (for example the voice capture subsystem).
- **2.5.1.1.59** The 9-1-1 Voice and Radio DLRS solution shall support dynamic calls allocation to recording channels on operational recorders and calls load balancing of recorded calls between operational recorders.

SOFTWARE SCREEN RECORDING

- **2.5.1.1.60** The 9-1-1 Voice and Radio DLRS solution shall have the ability to record, store and replay computer screens.
- **2.5.1.1.61** It shall be possible to configure screen recording so that only the primary screen is captured.
- **2.5.1.1.62** The Software Screen recorder shall be able to record the screens 24x7 in 10minute increments when the workstation is logged in, in order to capture the context of call taker or dispatcher communications, before, during and after their incident handling.
- **2.5.1.1.63** Screen recordings shall be retained for 30 days, unless they are needed for extended storage as part of reconstructed incidents, for investigation, quality assurance review, or other purposes as determined by authorized users.
- **2.5.1.1.64** The screen recorder shall be software-based and not use any proprietary hardware devices.
- **2.5.1.1.65** It should be possible to store the screen recording locally and be played back centrally and excluded the screen content from the central repository.

RAPIDSOS INTEGRATION as the CENTRAL SYSTEM OF RECORD

- **2.5.1.1.66** The 9-1-1 Voice and Radio DLRS solution shall support the capture and storage of advanced location integration obtained from the RapidSOS Clearinghouse for cell phones.
- **2.5.1.1.67** The RapidSOS Clearinghouse contains close to real-time location information which is obtained from multiple sources, such as Apple and Android cell phones. The information is time sensitive and must be captured by the proposed solution during the RapidSOS data availably window.
- **2.5.1.1.68** The 9-1-1 Voice and Radio DLRS solution must connect directly to the RapidSOS Clearinghouse via end user supplied credentials.
- **2.5.1.1.69** The 9-1-1 Voice and Radio DLRS solution must not use a third party to provide RapidSOS data.

- **2.5.1.1.70** The 9-1-1 Voice and Radio DLRS solution must support the querying of RapidSOS data along with metadata collected from other connected systems, for precision search and retrieval of recorded communications and geographic context visualizations.
- **2.5.1.1.71** The 9-1-1 Voice and Radio DLRS solution must be able to visualize progressive movement of the caller on a geo-map, pinning evolving location coordinates along the path of the caller's movement. Provide a screen shot to show this visualization.

APPLICATIONS

- **2.5.1.1.72** The 9-1-1 Voice and Radio DLRS solution shall provide a system-wide multichannel Web-deployed search and replay application.
 - 1. Please provide an actual screenshot of user interface with this functionality, showing a timeline with synchronized calls, radio communications, as well as message-by-message progression of text-to-911 communications on the same timeline.
 - 2. The screen shot should also show visualization of CAD events and notations and location information on the same timeline.
- **2.5.1.1.73** The 9-1-1 Voice and Radio DLRS solution application shall support context sensitive online help, as well as standard user manuals and quick reference guides.
- **2.5.1.1.74** The 9-1-1 Voice and Radio DLRS solution search and replay application shall support the search and replay of all channels recorded simultaneously, as part of the multimedia recording solution.
- **2.5.1.1.75** The 9-1-1 Voice and Radio DLRS solution search and replay application shall support fully redundant parallel recording environment as follows:
 - 1. Automatically and transparently search both primary and back-up channels in parallel and by default hide duplicate recording from the user.
 - 2. Automatically and transparently replay corresponding recordings from the back up recording channel if/when they are not available from the primary channel.
 - 3. Have the ability to display and replay recordings from both the primary and back-up channel when required.

SEARCH

- **2.5.1.1.76** The 9-1-1 Voice and Radio DLRS solution search and replay application shall allow simple and quick search based on a custom choice of frequently used search parameters. The user shall be able to configure up to three default search parameters, in addition to Time/Date window, by which to narrow the search. Please provide an actual screenshot of user interface with this functionality.
- **2.5.1.1.77** The 9-1-1 Voice and Radio DLRS solution search and replay application shall:
 - 1. Support searches using ANI/ALI data (when available) as the search criteria
 - 2. Support searches using annotation data including text annotation, voice annotation and bookmarks as the search criteria. Searches by text annotations must be available by any part of the text content (keywords or phrases).
 - 3. Allow users to search on the following criteria, individually, in any combination (Boolean) and supporting wild cards:
 - a. Time & Date
 - b. Duration
 - c. Channel ID
 - d. Position or Alias
 - e. Extension Number

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- f. Condition Code (incoming or outgoing)
- g. Dialed Number (where available)
- h. Calling Number (where available)
- i. Annotation user specific notes
- j. ANI/ALI data (where available)
- k. Call Type (VOX or CDR)
- I. Direction of the call (where available)
- m. Mark ID (Determines archiving rule)
- n. PBX call ID (as known to the PBX, where available)
- o. Custom fields specific to an 'Integration'
- p. CAD incident number, type, priority, and other data from CAD system integration
- q. Recording Target (CLI)
- r. SMS Text Message Content (where available)

It must be possible to combine any number of search criteria elements into one search function to provide complex but efficient system-wide searching capability.

- **2.5.1.1.78** The 9-1-1 Voice and Radio DLRS solution shall integrate with CAD system databases to allow searching for calls by the following CAD system fields, where this information is available from the CAD system:
 - 1. CAD incident number
 - 2. Incident Type / Subtype
 - 3. Incident Priority
 - 4. Agency Name / Id
 - 5. Report / Case Number
 - 6. Call Taker
 - 7. Dispatcher
 - 8. Incident Location
- **2.5.1.1.79** When searching for calls, radio communications, and/or text-to-911 communications by CAD metadata, search results should include recorded communications associated with CAD incidents based on metadata matching, including both communications directly associated with the CAD, and related communications.
- **2.5.1.1.80** The 9-1-1 Voice and Radio DLRS solution search and replay application shall:
 - Be capable of displaying the date/times of significant events/updates within a CAD incident record on the incident timeline. Examples of these specific timepoints include a time phone when the first responders dispatched, en-route, on-scene, and clear.
 - a. All notes added by all call takers and dispatchers to the same incident should be also shown on the timeline, based on the time when these comments were posted
 - b. All these data points shall be visible on a timeline, overlayed on the synchronized replay of incident media, in order to assist with detailed post-incident reconstruction and investigation.
 - 2. Allow multimedia and multi-source searches from the single application without the need to switch between screens and databases for each media type or source. For example: recorded audio from both radio and telephony systems, as well as recorded screen video and text-to-911 communications, could be searched from a single query and results presented and synchronized on the single screen.

- 3. Support searching by any data fields associated with the recordings. This search functionality shall include both structured searches as well free expression searches to allow maximum flexibility to the user.
- 4. Allow access to calls to be restricted to those calls made since the user's last login. This setting shall be configurable by the administrator for each individual user.
- 5. Allow saving and editing of searches to be used by either all users (public searches) or by a specific user (private searches).
- 6. Be capable of displaying multimedia search results graphically arranged by time of recording to allow a full view of the incident picture – simplifying review of how each relevant phone, radio, or text communication and operator screen interaction impacted the incident response. Please provide an actual screenshot of user interface with this functionality.
- 7. Allow for the user to view the graphical display of search results grouped by any call data field.
- 8. Be capable of displaying multimedia search results in table format. Please provide an actual screenshot of user interface with this functionality.
- 9. Allow for the user to configure the table display to include any of the available fields in the database and to sort the table by any of its columns.
- 10. Be capable of searching for geo-located media and meta-data by defining a search zone on a GIS map panel via a simple mouse-click-and-drag method. Subsequent search results shall only include those elements with geo-location tags within the defined search zone.
- *11.* Support displaying time values from the recording systems, with zooms at resolutions down to 100th of a second (10ms).

SEARCH RESULTS MANAGEMENT

2.5.1.1.81 The 9-1-1 Voice and Radio DLRS solution search and replay application shall:

- 1. Allow the user to filter the search results based on user-configurable parameters. The filter could be activated to include or exclude recordings that match the filter criteria.
- 2. Allow the user to add selected items to a clipboard. This is to allow the user to assemble a group of recordings from one or multiple searches and get a better understanding of the incident. It shall be possible to switch between the clipboard view and the search results view.
- 3. Provide the capability to tag text annotations to various time points within selected recordings. The annotation field will be at least 4000 characters in length and allow 10 such entries per call.
- 4. Allow the user to search for recordings based on text within the annotation field. The text annotation field shall be stamped with a specific point of time so it can be related to a specific part of the recording. The annotation shall be marked with the date and time it was created and author the user who created it.
- 5. Provide the capability to add voice annotations to selected recordings.
- 6. Allow a minimum of 10 voice annotations per recording and be capable of graphically displaying the voice annotations tagged along the timeline of the recording.

The voice annotation field shall be stamped with a specific point of time so it can be related to a specific part of the recording and shall be marked with the date and time it was created and the author - user who created it. 7. Allow the user to set and graphically display flags (markers) within a recording.

The flag shall be stamped with a specific point of time so it can be related to a specific part of the recording. The associated annotation shall be marked with the date and time it was created and the author - user who created it.

- 8. Be able to save the audio from a search into a single stereo .wav, .wma, .mp4 or .mp3 file.
- 9. Be able to save part of the audio from a search into a single stereo .wav, .wma, .mp4 or .mp3 file.
- 10. Be able to select multiple parts of audio recordings which contain sensitive or private information for redaction. When replaying or saving audio recordings to .wav, .wma, .mp4 or .mp3 files, the audio marked in this way will be replaced with either silence or an audible tone, according to user configuration.
- 11. Allow exporting and saving the audio with both spoken date and time, with user configurable balance.
- 12. Allow exporting and saving the audio with IRIG time code enabled, with user configurable balance.
- 13. Allow exporting and saving the audio with Automatic Gain Control (AGC).
- 14. Be able to save video from a search into a single .avi file. Multiple video selections shall be saved as individual .avi files.
- 15. Enable the user to export and save multiple recordings in a chain for playback without silence between them, by utilizing sequential playback.
- 16. Able to save text conversations into a .pdf file.
- Provide the ability to save all (no limit outside of the workstation capabilities) recordings associated with a particular incident to a single named directory (a "Scenario"), recognizable by the search and replay application as a single entity.
- 18. Provide the ability to print the data associated with selected recordings in a table format. The user shall be able to configure which data fields will be included in the printout.
- **2.5.1.1.82** The 9-1-1 Voice and Radio DLRS solution should allow for both manual assembly of recordings into incident folders and automated, rules-based assembly such as "collect all recordings from ABC channels between specified time points and save them under XYZ incident name." This is to aid with assembly of recordings pertaining to extensive or complex incidents that may span hours or days.
- **2.5.1.1.83** The 9-1-1 Voice and Radio DLRS solution must be able to search for and redisplay the saved scenario along with associated data and provide the ability for authorized users to continue filtering or replaying recordings within the saved scenario, even without access to a recorder.

SEARCHES of TEXT-TO-911 MESSAGES

- **2.5.1.1.84** The 9-1-1 Voice and Radio DLRS solution search and replay application shall support searches for SMS text messages by meta-data and by text content within each message.
- **2.5.1.1.85** The 9-1-1 Voice and Radio DLRS solution search and replay application shall support display of SMS Text Messages synchronized alongside other multimedia resources such that the user gains an understanding of the relative times that SMS Text Messages and other multi-media resources were recorded.
- **2.5.1.1.86** The same, unified user interface shall provide both playback of voice conversations and a view of text-based communications in the same sequence and with any overlaps as they occurred.

REPLAY (AUDIO)

2.5.1.1.87 The 9-1-1 Voice and Radio DLRS solution search and replay application shall be:

- 1. Capable of replaying any of the multimedia channels time synchronized, allowing effective scenario and incident reconstruction.
- 2. Support block replay. This feature involves the selection of multiple recordings simply by drawing a frame around them.
- 3. Support looping of playback between two times set by markers.
- Support output of IRIG time code during replay. IRIG time code shall be synchronized to recording time.
 On playback from a standard PC, it shall be possible for the IRIG time code and the audio from the call to be played on separate speakers, e.g. the IRIG is
 - played on the left speaker and the audio on the right speaker.
- 5. Support spoken date and time during replay. Spoken date and time shall be synchronized to recording time.
 - a. On playback from a standard PC, it shall be possible for the spoken date and time and the audio from the call to be played on separate speakers e.g., the spoken time is played on the left speaker and the audio on the right speaker.
 - b. Spoken time/date intervals shall be configurable separately, e.g. spoken time every 30 seconds, and spoken date every 2 minutes.
 - c. Spoken date and time volume shall be controlled separately from the master audio volume control.
- 6. Support the ability to toggle Automatic Gain Control (AGC) on & off during replay.
- 7. Be able to replay the silence between recordings to fully recreate the original incident. The application shall allow the user the option to play back the recordings with silence between recordings played (silence reconstruction) or not (skip silence).
- 8. Support the playback of recordings in mixed mode, where the recordings are replayed as they occurred; or in sequential mode, where each recording is played back sequentially one at a time. This may aid the user in understanding individual recordings where multiple occur on different recorder channels simultaneously, relevant to the same incident
- 9. Support volume and balance control per audio channel.
 - a. It shall be possible to vary the speed of voice playback without pitch distortion, from 0.5x to 8x.
 - b. It shall be possible to define the skip forward/backward interval between 1 and 60 seconds.
- 10. Automatically detect tampering with any of the audio files prior to playback and graphically distinguish the recordings that have been tampered with, both in search results line items and on timeline display of the recordings.

REPLAY (VIDEO)

2.5.1.1.88 The 9-1-1 Voice and Radio DLRS solution search and replay application shall:

- 1. Support replay of video at native resolution, as well as scaled.
- 2. Support replay of video and other multimedia, e.g. audio.
- 3. Support zoom capability within the video replay.

REPLAY (GIS)

2.5.1.1.89 The 9-1-1 Voice and Radio DLRS solution search and replay application shall support display of GIS based data on a map.

- **2.5.1.1.90** The map shall support standard zoom/pan functionality, as well as display of scale information.
- **2.5.1.1.91** The map shall display event location icons for ANI/ALI, RapidSOS, CAD incident events, as well as audio recordings and text messages.
- **2.5.1.1.92** The map shall support the drawing of a zone to define a specific area within the map. Once defined events are searchable within the defined zone.
- **2.5.1.1.93** The map shall support multiple layers, taken from the following types:
 - 1. Local image (.JPG, .JPG2000, .TIF)
 - 2. Local ESRI® file (.SHP)
 - 3. ESRI ArcGIS® Server layer
 - 4. ESRI ArcIMS® Server layer
- **2.5.1.1.94** Time varying GIS data shall be playable, indicated by a moving marker on the map.
- **2.5.1.1.95** Non time-varying GIS data (e.g. ANI/ALI where available) will be indicated by a static marker on the map.
- **2.5.1.1.96** The features drawn onto the map shall support configurable color schemes.

REPLAY (SCREEN)

- **2.5.1.1.97** The 9-1-1 Voice and Radio DLRS solution search and replay application shall support replay of screen recordings at native resolution, as well as scaled.
- **2.5.1.1.98** The 9-1-1 Voice and Radio DLRS solution search and replay application shall support synchronized replay of a minimum of 12 screens in parallel.
- **2.5.1.1.99** It shall be possible to vary the speed of the Screen playback, from 0.25x to 8x.

REPLAY (EVENTS)

- **2.5.1.1.100** The 9-1-1 Voice and Radio DLRS solution search and replay application shall support display of Event information representing point-in-time occurrences, e.g. from a Public Safety Information Management (PSIM) system.
- **2.5.1.1.101** The 9-1-1 Voice and Radio DLRS solution search and replay application shall support display of any call data and attachments associated with each event.

MONITORING (AUDIO)

2.5.1.1.102 The 9-1-1 Voice and Radio DLRS solution monitoring application shall:

- 1. Contain a monitor application to allow live or almost live monitoring of audio conversation as it is being recorded.
- 2. Allow monitoring of channel activity status for all audio channels simultaneously.
- 3. Allow streaming a minimum of 10 audio channels simultaneously over the LAN in compressed format.
 - Please provide an actual screenshot of user interface with this functionality.
- 4. Be capable of recording on all channels during monitoring. The monitor operation shall not affect the recording performance in any way.
- **2.5.1.1.103** The 9-1-1 Voice and Radio DLRS solution table view shall include fields such as channel name, activity status and channel type. lease provide an actual screenshot of user interface with this functionality.
- **2.5.1.1.104** The 9-1-1 Voice and Radio DLRS solution shall provide a volume and balance control for each channel separately when monitoring more than one channel simultaneously.

INSTANT REPLAY

2.5.1.1.105 The 9-1-1 Voice and Radio DLRS solution shall contain an instant replay application to:

- 1. Allow replay of earlier parts of an audio conversation as it is being recorded, as well as replay of most recently recorded conversations. Please provide an actual screenshot of user interface with this functionality.
- Provide users the ability to replay an audio call from a remote PC workstation via the network. The Instant Replay application must be software-based, only utilizing the sound card of the PC and shall not require any additional hardware to be installed in the recorder or console of the Control Center. Solutions that require individual hardware-based Instant Replay devices will not be considered.
- 3. The 9-1-1 Voice and Radio DLRS solution instant replay application shall provide users the ability to replay a call from a remote PC workstation via the network with a single step action in both ways: single mouse-click and hot-key (predefined by the user).
- 4. Shall stream audio over the LAN to the client workstation to allow fast replay.
- 5. Have the ability to replay calls that are still in progress as well as calls that have been completed.
- 6. Be capable of recording on all channels during instant replay. The instant replay operation shall not affect the recording performance in any way.
- 7. Provide a replay interface with the following play controls (skip forward, skip backward, pause, stop, play, fast forward etc.).
- 8. Be capable of controlling the speed of replay. It shall be possible to change the rate of replay without pitch distortion to multiple settings between 0.5x and 2.0x to assist in clarification of the call.
- 9. Provide a replay interface with a graphical representation of the call and the current play position within the call.
- 10. Be configurable to enable access to a group of channels (consisting of up to 50 channels) for the replay of last message for each operator position.
- 11. Allow access to call information up to 24 hours in the past. This time back shall be configurable by the administrator for each individual user.
- 12. Allow access to calls to be restricted to those calls made since the user's last login. This setting shall be configurable by the administrator for each individual user.
- 13. Display a list of calls (if present) upon start up. This list shall be refreshed continuously to reflect the last messages. It shall be possible to pick any call within the list and start playing that call. In this way it will be possible for the operator to quickly select a call that may be older than the most recent (last) call on the selected channel.
- 14. Be configurable to display any additional call data information, when available.
- 15. Display ANI/ALI and RapidSOS information, where applicable.
- 16. Be a standard part of each DLRS provided by the Supplier. Suppliers that do not provide instant replay software as a standard configuration will not be considered.
- 17. Allow the user to create annotations on calls that becomes a part of the call record, available for access by other users via instant replay or search and playback interface.

INCIDENT INFORMATION MANAGEMENT

- **2.5.1.1.106** The 9-1-1 Voice and Radio DLRS solution shall:
 - 1. Contain an incident information management feature set for operational review, investigation, debriefing and distribution purposes.

Please provide an actual screenshot of user interface with this functionality.

- Support upload of incident related information into a named folder that contains all items related to the same incident. The information should include recordings captured by the RS system (audio, video, screen, text communications, GIS and events), CAD meta-data synchronized on the timeline along with recordings, as well as other related files – CCTV camera video, incident reports and other documents, digital photos, mobile phone video clips, etc.
- 3. Provide the ability to import standard format video and audio files exported from 3rd party recording solutions into incident folders, alongside and synchronized with natively captured communications.
- 4. Support the quarantine of incident information. This is to ensure sensitive case information is stored separately from other recordings, for extended amount of time.
- 5. Allow importing audio clips from 3rd party media as part of the collection of items for consolidated, centralized incident investigation.
- 6. Allow importing video clips from 3rd party media as part of the collection of items for consolidated, centralized incident investigation.
- 7. Allow imported 3rd party media to be positioned at relevant points of the incident timeline, together with other media.
- 8. Allow imported 3rd party media to be played synchronized with other media, reconstructing events as they occurred.
- 9. Allow 3rd party files to be downloaded and opened for viewing or playback via the application registered for their file type on the client PC.
- 10. The incident information management application shall support an authentication mechanism to ensure the integrity of the quarantined incident information including audio and video recordings as well as imported files such as: documents, photos, video clips, etc.
- 11. Provide retention management mechanism for each incident folder.
- 12. Allow users to create a custom folder and subfolder structure for intuitive organization of collections of incident information.
- 13. Apply a digital signature to each incident media item and folder and detect tampering with any of the incident items.
- 14. The incident management interface shall be:
 - a. Similar to the search and playback interface for representing the various types of incident information graphically and in a table.
 - b. Enable review of uploaded files (documents, photos, video clips, etc.).
 - c. Present the Incident folder storage usage. Also, an alert shall be generated by the DLRS system if the remaining space is smaller than defined (1-100% available space).
- 15. The 9-1-1 Voice and Radio DLRS solution incident information management shall enable review of audio, video, screen recordings and SMS Text Messages in one interface, without the need to switch to another application.
- 16. Support the organization of any incident related material according to the incident number and other user preferences and shall include an intuitive way to find information.
- 17. Allow association of different reference numbers with each incident, such as: CAD incident number, etc. to help users quickly locate the entire collection of incident recordings and other items related to the same incident.

- 18. Include incident metadata in exported incident files, to include location data (e.g. ANI/ALI), annotations, call data, radio data, video data, history, and incident properties.
- 19. Allow for incident search based on user-defined combination of saved metadata, to include wildcard searches when only partial information is known.
- 20. Be able to select multiple parts of audio recordings which contain sensitive or private information for redaction. When replaying or exporting audio recordings to .wav, .wma, .mp4 or .mp3 files, the audio marked in this way will be replaced with either silence or an audible tone, according to user configuration.
- 21. Ensure Read-only users will be unable to playback the original audio segments that have been redacted and saved in an incident folder. Users with edit permissions will be able to remove or reposition redactions within the audio recording.
- 22. Allow copying an incident material from one incident folder to another.
- 23. Support access management to incident information on per user or per group basis and for 'read', 'modify' and 'full' access levels.
- 24. Allow for setting custom access privileges separately for each incident (e.g. only allow access to supervisors and selected detectives to individual incident folders), or globally for all incidents.
- 25. Enable traceability of history of actions taken on any of the incident information items, including any distribution actions provided in audit report view for each incident folder.

DISTRIBUTION of INCIDENT INFORMATION

2.5.1.1.107 The 9-1-1 Voice and Radio DLRS solution shall:

- 1. Enable remote access to incident information for authorized users. This could be used by investigators, for example, in order to review evidentiary material in an organized, synchronized manner rather than replay it one recording at a time from a folder or removable media.
- 2. Support distribution of multimedia recordings as well as other incident files by email.
- 3. Provide the option to create a draft distribution folder where content can be added over a period of time whereby it can then be distributed and becomes a sealed distribution.

The distribution process shall support inclusion certification audio for both authentication and introduction purposes.

- 4. Provide a mechanism to distribute incident information in standardsbased formats.
- Allow for export of text based communications (text-to-911) into a document in CSV or PDF format that clearly shows time-stamped statements typed by each party, in sequence as they occurred. Exported text based communications should be formatted to include all captured metadata, such as mobile carrier, location data (e.g. ANI/ALI), time, duration, Agency ID and alias, call taker ID and more.
- 6. The distribution process and created incident folders shall support an authentication mechanism to ensure the integrity of the incident information when compared to the originals, for audio and video recordings as well as files such as: documents, photos, video clips, etc.
- **2.5.1.1.108** The 9-1-1 Voice and Radio DLRS solution incident management application shall:

- 1. Allow for exporting individual recordings as stand-alone files, or a group of recordings and other items exported as a collection in a single file.
- 2. Provide a mechanism to distribute encrypted, password protected sets of incident recordings and data with self-contained media player which will provide a synchronous playback and view of the distributed content.

QUALITY ASSURANCE EVALUATION

- **2.5.1.1.109** The 9-1-1 Voice and Radio DLRS solution shall contain an integrated quality management application for the purpose of evaluating call taker and dispatcher communications and their adherence to standards and protocols. Please provide an actual screenshot of the user interface that shows this functionality.
- **2.5.1.1.110** The 9-1-1 Voice and Radio DLRS solution quality management application shall:
 - 1. Provide a way for a user (e.g. supervisor) to score recordings of another user's communications (e.g. dispatcher / call taker) according to a predefined set of questions organized in a form.
 - 2. Provide a way of creating and editing quality evaluation forms. The forms shall support user definable questions, to be answered with a choice from user definable answers and associated scores per question/answer.
 - Contain all QA forms as defined by the latest APCO/NENA ANS standard for QM/QI. These predefined forms shall be adaptable to local requirements.

The QA evaluation forms shall allow for entering comments on question level as well as form level.

- 4. Provide the option to have "Not Applicable" answers, and conditional actions based on individual answers (e.g. skip section, skip form).
- 5. Provide a staged approach to assessments that includes arbitration. This means that once a supervisor or trainer finishes the initial evaluation, the dispatcher or call taker reviews & signs off on the evaluation to complete the process, unless a dispute is raised.
- 6. Allow any authorized user to make comments on the evaluation while it is in progress.
- 7. Present the status of the Evaluation folder storage usage. Also an alert shall be generated by the DLRS system if the available space is smaller than defined (1-100% available space).
- 8. Have a configurable retention period for completed evaluations, after which time recorded communications associated with any expired evaluations will be deleted.
- Allow authorized users to schedule automatic, rules-based selection of recordings for evaluation to assure objectivity and to maximize opportunities for review of coachable calls. The QA application shall support selection of recordings by a combination of call and CAD metadata.
 - a. It shall be possible to schedule different number of recordings for evaluation of different types of incidents to increase assessment and training focus on specific types such as Priority One incidents.
 - b. The automated call selection schedules shall be able to select all Priority One incidents, a specific percentage of other specific incident types, and a random percentage selected from all recorded communications.
- 10. Allow evaluation of audio, video and screen recordings individually, or in combination to allow for instances where call audio is segmented into

multiple recordings and additionally to assess the entire incident from a citizen perspective.

- 11. Initiate e-mail notifications to QA staff when recordings have been automatically selected for evaluation and to call takers when evaluations of their performance are ready for their review.
- **2.5.1.1.111** The 9-1-1 Voice and Radio DLRS solution shall have the capability to generate reports on the evaluations to generate status and trend information on individual and team quality ratings.

REPORTING

- **2.5.1.1.12** The solution shall contain a reporting application for the purposes of providing reports on system recording statistics.
- **2.5.1.1.113** Please provide an actual screenshot of user interface that shows this functionality.
- **2.5.1.1.114** The 9-1-1 Voice and Radio DLRS solution shall provide a wide variety of templates to support fast creation of customized reports directly by authorized users.
- 2.5.1.1.115 The 9-1-1 Voice and Radio DLRS solution reporting application shall:
 - 1. Allow new report templates to be added to the system.
 - 2. Allow the user to customize reports by selecting and defining ranges of criteria such as time frame and recorded channels.
 - 3. Allow the reports to be presented in graphical formats (e.g. Bar chart, Pie chart, Line chart) as well as tabular formats.
 - 4. Allow the user to display a custom choice of reports on a dashboard screen for at-glance view, up to 6 at a time.
 - 5. Allow reports to be shared between users (public reports) or kept private.
 - 6. Allow reports to be saved, emailed, or printed.
 - 7. Provide the ability to click-through (drill down) from dashboard metrics to specific operator evaluations

AUDIT

- 2.5.1.1.116 The 9-1-1 Voice and Radio DLRS solution shall:
 - 1. Keep a full audit trail of all application access and security functions with details of who accessed the DLRS and when, with details of what were changed or accessed.
 - 2. Be configurable for triggering alarms in response to specific system conditions or events.
 - Keep a full audit trail of all alarms and faults and provide a method of viewing the alarm history.
 Access to the 9-1-1 Voice and Radio DLRS solution audit application shall be controlled by user profile that grants specific privileges.
 - 4. The 9-1-1 Voice and Radio DLRS solution audit application shall allow the user to search within the audit history according to time and other criteria.

SECURITY

- **2.5.1.1.17** The 9-1-1 Voice and Radio DLRS solution shall support a configurable security to include the creation of unique user profiles (security accounts) allowing users to access only specified channels with specified functionality. For example, call takers may be limited to viewing and playing their own calls only, without the ability to export them.
- **2.5.1.1.118** The 9-1-1 Voice and Radio DLRS solution shall support a configurable security methodology that prevents unauthorized users from replaying media.

2.5.1.1.119 The 9-1-1 Voice and Radio DLRS solution shall support the following configurable organizational security options for user access:

- 1. Minimum username length
- 2. Minimum/Maximum password age
- 3. New password at login
- 4. Minimum password length
- 5. Strict password checking
- 6. Forbidden password list
- 7. Deactivate after idle period
- 8. Deactivate after failed logins
- 9. Auto-reactivate
- 10. Last login information
- 11. Second password
- 12. Auto logout
- 13. Login security message
- 14. Per user workstation restrictions
- **2.5.1.1.120** The 9-1-1 Voice and Radio DLRS solution shall:
 - 1. Allow the definition of individual user accounts to override the organizational settings.
 - 2. Support authenticating users with Active Directory.
 - 3. Support single sign on for Active Directory users.
 - 4. Allow the system to be shared by multiple organizations while maintaining isolation of recordings and data between the organizations. Users in these different organizations are not to be aware of the existence of other organizations sharing the same system. This is also known as Agency Partitioning or Multiple Tenancy.
 - 5. Support both standard and secure Lightweight Directory Access Protocol; LDAP and LDAPS
 - 6. Support a minimum version 1.2 of Transport Layer Security (TLS).

ADMINISTRATION

- **2.5.1.1.121** The 9-1-1 Voice and Radio DLRS solution shall allow the DLRS applications to be administered from a central location.
- **2.5.1.1.122** The 9-1-1 Voice and Radio DLRS solution shall allow the system administrator to:
 - 1. Manage the day to day operation of the applications from a central point.
 - 2. Alow the system administrator to centrally manage the user profiles.
- **2.5.1.1.123** The 9-1-1 Voice and Radio DLRS solution configuration application(s) shall:
 - 1. Allow the system/user administrator to import users from CSV file.
 - 2. Allow the system/user administrator to import users from Active Directory integration.
 - 3. Allow the system administrator to back up the system databases both by ad-hoc command and by setting up automatic backup schedules.

CENTRAL REPOSITORY

2.5.1.1.124 The CR must:

- 1. Accept transaction data in its locally captured format.
- 2. Store the transaction data from each capture platform and cannot combine the data from two redundant capture platforms into a single data set.
- 3. Support the ability to confirm transactions have been copied to the CR.

- 4. Have a repository that is a generally available product at the time of proposal, in order to minimize implementation risk.
- 5. Have a local Client shall run on the local platform and not requiring a separate server.
- 6. Must be deployed in such a way that it avoids a single point of failure at the local site.
- 7. Support raising errors via SNMP at both the local and central systems.
- 8. Maintain the chain of custody by verifying the audio has not been altered before being stored in the central archive.
- 9. Be capable of dealing with significant volume from multiple sources and dealing with data in multiple formats and dynamically changing load from multiple sources.
- 10. Provide a robust and resilient service with adequate optional back-up to the cloud capabilities.
- 11. Provide a high level of information security given the sensitive and confidential nature of any stored data.
- 12. Briefly describe the CR technology infrastructure including OS, hardware type, DBMS, application/webserver technology.
- 13. Describe any technological or architecture considerations in connection with your approach that would prevent these requirements from being met.
- 14. How will this platform be scaled if additional capacity is required?
- 15. Describe how the internal technology architecture is arranged to facilitate functional requirements evolution. What types of changes are anticipated and how has the system been architected to simplify these kinds of changes?
- 16. It is desired that the CR system support a "legacy load" capability for the existing VPI loggers.

SYSTEM STATUS / ALARM REPORTING

2.5.1.1.125 The 9-1-1 Voice and Radio DLRS solution shall:

- 1. Provide detailed device monitoring to track, visualize and rapidly alert to specific events, based on rules that categorize event types by severity.
- 2. Accept SNMP traps from all the solution components, as well as thirdparty devices such as UPS, NTP clocks and servers.
- 3. Be accessed by users via a web-based application.
- 4. Actively poll all devices based on a user-defined time period and, after a user-defined number of failures, trigger a critical alarm.
- 5. Monitor any servers, CPU, Memory, and Storage, in addition to external devices. This information shall be visualized.
- 6. Have a solution-connected monitoring workstation that shall sound an audible alarm and trigger a desktop pop-up within 2 seconds of the critical alarm being raised.
- 7. Have alarms that must be displayed on the server screen and connected to workstations simultaneously.
- 8. Support Email notifications assuring those appropriate users are notified about specific alarm types based on severity and other criteria.
- 9. Support the visualization of the system components in a hierarchal device tree.
- 10. Support active alarm being displayed with its date, time, severity (word label and color-coding), source (device), and a description in plain English.

- 11. Must display the number of critical, major and minor alarms and status notification events is in the graphical interface for rapid status assessment.
- 12. Support users selecting one or multiple active alarms in the graphical interface, acknowledge, silence or clear them, and add a note describing reasons such as specific actions taken.
- 13. Support storing all cleared alarms in the system's history for statistical reporting.
- 14. Support four levels of severity with default labels set as Critical, Major, Minor and Status or Informational Event. These labels and corresponding icons, color-coding, and a sound notification can be customized for each, according to end-user requirements.
- 15. Allow users to set the period after which an acknowledged but not cleared alarm is raised again, and a period after which a silenced alarm is raised again if the alarm condition persists.
- 16. Have an audit log and automatically collects data on acknowledged and silenced alarms, including date, time, user, action taken, and reason.
- 17. Allow authorized users to search and filter past events that are retained in the system database, ranging anywhere from past minutes to past months, whether this pertains to Alarm Management Audit related to user actions, or Alarms and Informational Events related to devices, such as SNMP traps or the history of memory or CPU utilization.
- 18. Be able to provide detailed device and user activity monitoring to track, visualize and rapidly alert to specific events, based on predefined rules that categorize event types by severity and other criteria.

ARCHITECTURE

- **2.5.1.1.126** The 9-1-1 Voice and Radio DLRS solution client applications shall:
 - 1. support redundancy:
 - a. Such that users can continue to access recordings in the event of a server failure.
 - b. Support database resilience.
 - 2. To support geographic separation via suitable WAN connections.
 - 3. Support automatic failover of the client in the event of server failure.
 - 4. Support firewalls between the client / server applications, including NAT configurations.
 - 5. Ssupport IPv6 connection to the server.
- **2.5.1.1.127** The 9-1-1 Voice and Radio DLRS solution shall be capable of being virtualized as an All-in-one server deployment OR as a Distributed deployment.
- **2.5.1.1.128** The 9-1-1 Voice and Radio DLRS solution shall:
 - 1. Support Active Directory and single sign-on.
 - 2. Provide redundancy in the data center.
 - 3. Be able to show the current state of the data center and remote systems.
 - 4. Provide notification of elements that might lead to service degradations or outages.
 - 5. Support storage redundancy for centralized archiving.
 - 6. Be capable of authenticating any distribution it creates.
- **2.5.1.1.129** To document its solution, the proposer must supply enterprise diagrams in the following 2 formats:
 - I. Visio
 - II. PDF

- 1. Showing physical components and logical data flow (e.g. replication, connectivity to external interfaces, archive/external storage).
- 2. Showing laboratory solution, to include physical components and logical data flow.
- 3. Showing replay solution/topology, to include planned physical components and logical data flow.
- 4. Showing external integrations (e.g. CAD system), to include planned physical components and logical data flow.
- 5. Showing audio archive, to include planned physical components and logical data flow.
- 6. That show the legacy VPI audio and metadata location, physical components and logical data flow.

MANAGEMENT and **SUPPORT**

- **2.5.1.1.130** The 9-1-1 Voice and Radio DLRS solution shall be capable of being maintained remotely, including diagnostics and issue resolution via secure remote connection.
- **2.5.1.1.131** Access to the 9-1-1 Voice and Radio DLRS solution via the remote control software shall be account name and password protected.
- **2.5.1.1.132** It shall be possible to monitor the status and alarms of the DLRS from a single PC Workstation.
- **2.5.1.1.133** The 9-1-1 Voice and Radio DLRS solution shall support sending alarm events as SNMP traps.

INFORMATION ASSURANCE

- **2.5.1.1.134** The 9-1-1 Voice and Radio DLRS solution supplier has an internally known IA roadmap of continuous improvement based on the current Department of Defense STIG assessments.
- **2.5.1.1.135** The 9-1-1 Voice and Radio DLRS solution shall support a configurable security methodology which prevents unauthorized users from replaying media.
- **2.5.1.1.136** The 9-1-1 Voice and Radio DLRS solution provider shall provide a written operating system hardening policy.
- **2.5.1.1.137** The 9-1-1 Voice and Radio DLRS solution and interface boards shall be approved for: CE; EN55022; EN55024; UL IEC60950, FCC part 68 and FCC part 15.
- **2.5.1.1.138** The 9-1-1 Voice and Radio DLRS solution shall be RoHS and RoHS-2 compliant.
- **2.5.1.1.139** The 9-1-1 Voice and Radio DLRS solution shall support current published National Emergency Number Association (NENA) standards and be committed to long-term support of said standards.
- **2.5.1.1.140** The vendor shall demonstrate involvement in National Emergency Number Association (NENA) Industry Collaboration Events (ICE)

2.5.2 SUPPORT SERVICES

The selected firm will be responsible for providing standard priority support during OCFA RFOTC business hours with a maximum response time of four hours.

Priority Definition	Response Time After Notification*	Target Resolution Time
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Orange County Fire Authority

Emergency	 DLRS is non-functional and backup is not working; or, Entire organization is affected; or, Security violation 	15 Minutes	2 hours
Critical	•DLRS has impaired performance and multiple users are directly affected	1 hour	4 hours

* Notification to be by voice, email, and/or text messaging

2.6 DUE DATES/SCHEDULES/TIMELINES

The OCFA anticipates a project implementation time frame of 6 months after contract award for a total project duration of 6 months.

2.7 REPORTS AND MEETINGS

2.7.1 REPORTS

As requested by OCFA, the Supplier will provide reports detailing the order history during the contract term.

2.7.2 ON-SITE MEETINGS

Meetings between the Contractor and OCFA will occur in the best interest of the OCFA as needed. During these meetings, the services provided will be discussed to ensure the services provided meet the agreed upon requirements. Meetings will be coordinated and scheduled by OCFA.

SECTION III: GENERAL INSTRUCTIONS TO OFFERORS

3.1 ACCEPTANCE PERIOD

Unless otherwise specified herein, proposals are firm for a period of one hundred eighty (180) days.

3.2 AMENDMENT OF REQUEST FOR PROPOSAL

The Offeror shall acknowledge receipt of a Request for Proposal Amendment by signing and returning the document by the specified due date and time. Amendments (addendums) may be obtained from the OCFA website at: <u>www.ocfa.org</u>. It is the Offeror's responsibility to obtain a copy of any amendment relevant to this solicitation. Any interested Offerors without Internet access may obtain a copy of this solicitation by calling (714) 573-6640, or a copy may be picked up during regular business hours. OCFA takes no responsibility for informing recipients of changes to the original solicitation document. Failure to submit signed amendments with the proposal response may be grounds for deeming submittal non-responsive.

3.3 RESERVATION OF RIGHTS

Notwithstanding any other provision of the Request for Proposal, OCFA reserves the right to:

- Conduct pre-award discussion or pre-award negotiations with any or all responsive responsible proposals; or
- Request that the Offeror furnish additional information; or
- Accept or reject any or all proposals, or portions thereof; or
- Issue multiple awards, if it is in the best interest of the agency; or
- Limit and/or determine the actual contract services to be included in the contract; or
- Reissue the Request for Proposal.

The OCFA reserves the unilateral right to modify or amend this RFP in writing at any time for any reason the OCFA determines to be in its best interest. The OCFA also reserves the right to cancel or reissue the RFP at its sole discretion. OCFA reserves the right to accept or reject any or all proposals and the right to waive minor irregularities in any proposal. Waiver of one irregularity does not constitute waiver of any other irregularities.

3.4 AWARD SELECTION PROCESS

A response to this Request for Proposal is an offer to contract with OCFA based upon the scope of work contained in OCFA's Request for Proposal and the terms and conditions set forth in the Professional Services Agreement template, attached hereto as Exhibit J. Award will be made to the Offeror(s) submitting the most advantageous proposal(s) after consideration of all Evaluation Criteria set forth in this solicitation. An Evaluation Committee will be established by the OCFA. The Committee will evaluate all proposals received in accordance with the Evaluation Criteria. OCFA reserves the right to establish weight factors that will be applied to the criteria depending upon order of importance. The award will be made in the best interests of OCFA after all factors have been evaluated.

Selection of qualified Offerors will be based on the following: quality and completeness of submitted proposal; understanding of project objectives; project approach; price proposal; support and services; qualifications and experience with similar types of efforts; and references. Additional questions may be asked of Offerors and demonstrations may be conducted. Offerors will be notified of any additional required information or demonstrations after the written proposals have been evaluated. The recommendation will be made to the OCFA Board of Directors Executive Committee if required. Once the contract(s) are approved, the Offeror(s) selected will enter into contract with the OCFA.

3.5 CAMPAIGN CONTRIBUTIONS DISCLOSURE

In conformance with the statutory requirements of the State of California Government Code Section 84308, part of the Political Reform Act and Title 2, California Code of Regulations 18438 through 18438.8,

regarding campaign contributions to members of appointed Boards of Directors, Offeror is required to complete the Party and Participant Disclosure Forms provided in Appendix F of this RFP and submit as part of the proposal, if applicable. Offeror is required to submit only one copy of the completed form(s) as part of its proposal. This/these form(s) should be included in the original proposal. The Offeror and subcontractors must complete the form entitled "Party Disclosure Form". Lobbyists or agents representing the Offeror in this procurement must complete the form entitled "Participant Disclosure Form". Reporting of campaign contributions is a requirement from the proposed submittal date up and until the OCFA Board of Directors takes action.

3.6 CANCELLATION OF SOLICITATION

The OCFA may cancel this solicitation at any time.

3.7 CERTIFICATION

By signature on the Offer/Price Page, Certification of Submittal page, solicitation Amendment(s), or cover letter accompanying the submittal documents, Offeror certifies:

- The submission of the offer did not involve collusion or other anti-competitive practices.
- The Offeror shall not discriminate against any employee or applicant for employment in violation of Federal or State law.
- The Offeror has not given, offered to give, nor intends to give at any time hereafter, any economic opportunity, future employment, gift, loan, gratuity, special discount, trip, favor, meal or service to a public servant in connection with the submitted offer.
- The Offeror hereby certifies that the individual signing the submittal is an authorized agent for the Offeror and has the authority to legally bind the Offeror to the Contract.
- The Offeror hereby certifies, its principal and their named subcontractors are not debarred, suspended or otherwise excluded by the United States Government.

3.8 CONFIDENTIAL INFORMATION

All responses to this RFP become the property of OCFA and will be kept confidential until such time as recommendation for award of a contract has been announced. Thereafter, proposals are subject to public inspection and disclosure under the California Public Records Act. If a respondent believes that any portion of its proposal is exempt from public disclosure, such portion may be marked "confidential." OCFA will use reasonable means to ensure that such confidential information is safeguarded but will not be held liable for inadvertent disclosure of such materials, data and information. Proposals marked "confidential" in their entirety will not be honored and OCFA will not deny public disclosure of all or any portion of proposals so marked. By submitting information with portions marked "confidential", the respondent represents it has a good faith belief that such material is exempt from disclosure under the California Public Records Act and agrees to reimburse OCFA for, and to indemnify, defend and hold harmless OCFA, its officers, fiduciaries, employees and agents from and against: (a) any and all claims, damages, losses, liabilities, suits, judgments, fines, penalties, costs and expenses including, without limitation, attorneys' fees, expenses and court costs of any nature whatsoever (collectively, "Claims") arising from or relating to OCFA's non-disclosure of any such designated portions of a proposal if disclosure is deemed required by law or court order. Additionally, OCFA may request that the bidder/respondent directly defend any action for disclosure of any information marked confidential.

3.9 COMPLIANCE WITH LAWS

All proposals shall comply with current federal, state, and other laws relative thereto. In addition, the selected/contracted firm and its representatives are expected to comply with all federal and state employment laws and the Harassment, Discrimination and Retaliation Standard Operating Procedure of the OCFA.

3.10 DEBARMENT / SUSPENSION POLICY

In order to prohibit the procurement of any goods or services ultimately funded by Federal awards from debarred, suspended or otherwise excluded parties, each Offeror will be screened at the time of RFP

response to ensure respondent, its principal and their named subcontractors are not debarred, suspended or otherwise excluded by the United States Government in compliance with the requirements of 7 Code of Federal Regulations (CFR) 3016.35, 28 CFR 66.35, 29 CFR 97.35, 34 CFR 80.35, 45 CFR 92.35 and Executive Order 12549.

OCFA will verify respondent, its principal and their named subcontractors are not on the Federal debarred, suspended or otherwise excluded list of vendors located at <u>www.sam.gov</u>.

3.11 DISCUSSIONS

The OCFA reserves the right to conduct discussions with Offerors for the purpose of eliminating minor irregularities, informalities, or apparent clerical mistakes in the proposal in order to clarify an offer and assure full understanding of, and responsiveness to, solicitation requirements.

3.12 DISQUALIFICATION OF OFFEROR(S)

If there is reason to believe that collusion exists among the Offerors, OCFA may refuse to consider proposals from participants in such collusion. No person, firm, or corporation under the same or different name, shall make, file, or be interested in more than one proposal for the same work unless alternate proposals are called for. A person, firm, or corporation who has submitted a sub-proposal to an Offeror, or who has quoted prices on materials to an Offeror, is not thereby disqualified from submitting a sub-proposal or quoting prices to other Offerors. Reasonable grounds for believing that any Offeror is interested in more than one Proposal for the same work will cause the rejection of all Proposals for the work in which a Firm is interested. If there is reason to believe that collusion exists among the Firms, OCFA may refuse to consider Proposals from participants in such collusion. Firms shall submit as part of their Proposal documents the completed Non-Collusion Affidavit provided herein.

3.13 DISPUTES RELATING TO PROPOSAL PROCESS AND AWARD

In the event a dispute regarding this solicitation arises, the party wishing resolution of the dispute must submit a request to the Purchasing Manager in writing. The request must include information regarding the legal and factual grounds of the dispute, the form of relief requested, and be brought forth in accordance with OCFA's <u>Purchasing Ordinance</u>, <u>Article IX. Legal and Contractual Remedies</u>, which can be found on OCFA's website.

Requests to resolve a dispute concerning improprieties in the proposal process prior to the solicitation due date, must be submitted not less than five (5) working days before the solicitation due date. Should a dispute arise regarding this solicitation's Recommendation for Award or Denial of Award, the request for resolution must submitted in writing within seven (7) days after the party bringing the dispute knows or should have known the facts hereto; however in no event later than seven (7) days after issuance of the Intent to Award.

3.14 EXPERIENCE AND COMPETENCY

The successful Offeror(s) shall be skilled and regularly engaged in the general class or type of work called for under the contract. The successful Offeror(s) shall also have <u>no less than ten (10) years'</u> <u>experience in the magnitude and character of the work proposal</u>. Each Offeror shall provide information about experience with the proposal. To determine the degree of responsibility to be credited to the Offeror, OCFA will weigh any evidence that the Offeror has performed satisfactorily other contracts of like nature, magnitude, and comparable difficulty and comparable rates of progress. In selecting the most responsive and responsible Offeror(s), consideration will be given not only to the financial standing, but also to the general competency of the Offeror for the performance of the work specified in the contract documents.

3.15 FAMILIARIZATION OF SCOPE OF WORK

Before submitting a proposal, each Offeror shall familiarize themselves with the scope of work, laws, regulations and other factors affecting contract performance. The Offeror shall be responsible for fully

understanding the requirements of the subsequent Contract and otherwise satisfy themselves as to the expense and difficulties accompanying the fulfillment of contract requirements. The submission of a proposal will constitute a representation of compliance by the Offeror. There will be no subsequent financial adjustment, other than that provided by the subsequent Contract, for lack of such familiarization.

3.16 INDEMNIFICATION

Offeror shall protect and indemnify the OCFA, the Board of Directors, and all of its or their officers, agents and servants against any claim or liability arising from or based on Offeror's violation of any existing or future state, federal, and local laws, ordinances, regulations, orders or decrees pertaining to Offeror's submittal.

3.17 INQUIRIES

Any question related to the Request for Proposal shall be directed to Assistant Purchasing Agent, Sara Kennedy. Questions and comments regarding this solicitation must be submitted via PlanetBids, no later than the stated Q&A deadline. The inquirer's company name, address, phone and fax number, and contact person must be included with the questions or comments. Any correspondence related to a solicitation should refer to the appropriate Request for Proposal number, page and paragraph number. Oral interpretations or clarifications will be without legal effect. Only questions answered by a formal written amendment to the Request for Proposal will be binding. Answers will be released via addendum through PlanetBids and notification will be sent to prospective bidders who have downloaded the bid documents.

3.18 LATE PROPOSALS

Late proposals will be rejected and not opened.

3.19 NEGOTIATIONS

Exclusive or concurrent negotiations may be conducted with responsible Offeror(s) for the purpose of altering or otherwise changing the conditions, terms and price of the proposed contract unless prohibited. Offerors shall be accorded fair and equal treatment in conducting negotiations and there shall be no disclosure of any information derived from proposals submitted by competing Offerors. Exclusive or concurrent negotiations shall not constitute a contract award nor shall it confer any property rights to the successful Offeror. In the event the OCFA deems that negotiations are not progressing, OCFA may formally terminate these negotiations and may enter into subsequent concurrent or exclusive negotiations with the next most qualified firm(s).

3.20 OBJECTIONS

Any objections as to the structure, content or distribution of this RFP must be submitted in writing to Purchasing Manager less than five (5) working days before the RFP due date. Objections must be as specific as possible, and identify the RFP section number and title, as well as a description and rationale for the objection.

3.21 OFFER AND ACCEPTANCE PERIOD

In order to allow for an adequate evaluation, OCFA requires an offer in response to this solicitation to be valid and irrevocable for one hundred and eighty (180) days after the proposal due date and time.

3.22 PRE-PROPOSAL CONFERENCE

If scheduled, the date and time of a Pre-Proposal conference is indicated on the cover page of this document. Written minutes and/or notes will not be available, therefore attendance is encouraged. If an Offeror is unable to attend the Pre-Proposal Conference, questions may be submitted in writing. Offerors are encouraged to submit written questions, via electronic mail or facsimile, at least five days prior to the Request for Proposal due date to the Purchasing Manager. The purpose of this conference will be to clarify the contents of this Request for Proposal in order to prevent any misunderstanding. Any doubt as to the requirements of this Request for Proposal or any apparent omission or discrepancy should be

presented to OCFA at this meeting. OCFA will then determine the appropriate action necessary, if any, and may issue a written amendment to the Request for Proposal. Oral statements or instructions will not constitute an amendment to this Request for Proposal.

3.23 PREPARATION OF PROPOSAL

- All proposals shall incorporate the forms provided in this Request for Proposal package. It is permissible to copy these forms as required. Facsimiles or electronic mail proposals shall not be considered.
- The Proposal form and any solicitation amendments must be signed and returned with the proposal. The forms submitted shall be signed by a person authorized to submit an offer. An authorized signature on the Proposal form, Proposal Amendment(s), or cover letter accompanying the proposal documents shall constitute an irrevocable offer to provide services specified herein. Offeror shall submit any additional requested documentation, signifying intent to be bound by the terms of the agreement.
- The authorized person signing the proposal shall initial erasure, interlineations or other modifications on the proposal.
- Periods of time, stated as a days, shall be in calendar days.
- It is the responsibility of all Offerors to examine the entire Request for Proposal package and seek clarification of any requirement that may not be clear and to check all responses for accuracy before submitting a proposal. Negligence in preparing a proposal confers no right of withdrawal after due date and time.
- OCFA shall not reimburse the cost of developing, presenting, submitting or providing any response to this solicitation.
- Offeror must list any subcontractors to be utilized in the performance of the services specified herein. For each subcontractor, details on respective qualifications must be included.

3.24 PROPOSAL OPENING AND RESULTS

Please note that there will be no public opening of proposals. The list of firms participating in the solicitation will be available when the recommendation for award(s) is made to the Executive Committee.

3.25 PUBLIC RECORD

All proposals submitted in response to this Request for Proposal shall become the property of OCFA and shall become a matter of public record available for review subsequent to the award notification.

3.26 WHERE TO SUBMIT PROPOSALS

In order to be considered, the Offeror must complete and submit its proposal to OCFA Purchasing Office at the location indicated, prior to or at the exact date and time indicated on the Notice of Request for Proposal page. The Offeror's proposal shall be submitted in a sealed envelope. The words "SEALED PROPOSAL" with the REQUEST FOR PROPOSAL TITLE, REQUEST FOR PROPOSAL NUMBER, PROPOSAL DUE DATE AND TIME and OFFEROR'S NAME AND ADDRESS shall be written on the envelope.

3.27 WITHDRAWAL OF PROPOSAL

At any time prior to the specified solicitation due date and time, an Offeror may formally withdraw the proposal by a written letter, facsimile or electronic mail from the Offeror or a designated representative. Telephonic or oral withdrawals shall not be considered.

SECTION IV: EVALUATION OF PROPOSALS AND NEGOTIATIONS

4.1 EVALUATION PROCESS

All proposals will be reviewed by an evaluation committee comprised of OCFA staff for compliance with the scope of work. Offerors should respond to all requirements in the order in which they are presented. Proposals which appear to be compliant will be evaluated in accordance with the process outlined in the following sections. Proposals must fully address the evaluation factors, contain references and data to verify qualifications and experience that address the firm's ability to provide services as outlined in the scope of work.

4.2 PHASE ONE EVALUATION CRITERIA: PAPER PROPOSAL

4.2.1 METHOD OF APPROACH (MAXIMUM POINTS 20):

This criterion assesses how well the Offeror responds to and demonstrates an understanding of the services requested as described in the project objective. It assesses how well the proposed service approach meets the required specifications and objectives. Factors such as the following will be considered:

4.2.2 TECHNICAL ABILITIES (MAXIMUM POINTS 30)

This criterion evaluates the Offeror's demonstrated ability to meet the technical requirements of the solicitation and the services requested. Factors such as the following will be considered:

- Completeness of the proposal
- Proposed equipment/software to be used in providing the required services
- Methods, techniques and training used in providing the required services
- Value-added services offered or included

4.2.3 QUALIFICATIONS & EXPERIENCE (MAXIMUM POINTS 25)

This criterion assesses the demonstrated qualifications and experience of the Offeror in providing the requested services. Factors such as the following will be considered:

- Years in business
- List of current clients
- Company history
- Experience of personnel

4.2.4 PROPOSED COST (MAXIMUM POINTS 25)

This score will be based upon the information provided in response to Exhibit J. The lowest price proposal will not necessarily be selected, and technical requirements will be weighed more heavily than costs to ensure that OCFA procures the best value versus the lowest price. The total estimated cost will be calculated for each proposal using the following formula:

Total Cost of Lowest Responsive Offer

This Proposer's Total Cost

X 25 = Awarded Points

Because this proposal is negotiable, all pricing data will remain confidential until after award is made.

4.3 PHASE TWO EVALUATION CRITERIA: INTERVIEW & REFERENCES

OCFA reserves the right to conduct interviews and reference checks with some or all of the Offerors during the evaluation process. The score achieved from Phase Two will be combined with the scoring from Phase One for a total. OCFA may determine that interviews and reference checks are not necessary. In the event interviews and reference checks are conducted, the following criteria and points will be used for the evaluation of Phase Two:

4.3.1 INTERVIEW / REFERENCES (MAXIMUM 50 POINTS)

This may reflect the quality of the presentation along with additional information or insight gained into the Offeror's Method of Approach, Technical Abilities, and/or Qualifications & Experience. References provided in Exhibit I may be contacted to assist in the evaluation process. **OCFA reserves the right to re-evaluate the written proposal in light of any additional information provided in the interview.**

OCFA shall not reimburse the Offeror for the costs associated with the interview process. The Offeror's key project team members will be invited to attend. The Offeror should be prepared to discuss at the interview specific experience providing services similar to those described in the RFP, project approach, estimated work effort, available resources, and other pertinent factors which distinguish your firm from others.

4.4 ADDITIONAL INFORMATION ABOUT THE EVALUATION PROCESS

4.4.1 SHORTLIST

OCFA reserves the right to shortlist the Offerors on all of the stated criteria. OCFA may determine that short listing is not necessary.

4.4.2 ADDITIONAL INVESTIGATIONS

OCFA reserves the right to make such additional investigations as it deems necessary to establish the competence and financial stability of any Offeror submitting a proposal.

4.4.3 PRIOR EXPERIENCE

Previous experiences with the proposer may be taken into consideration when evaluating qualifications and experience.

4.4.4 OVERALL EVALUATION OF THE PROPOSAL RESPONSE

The overall completeness, accuracy and quality of the proposal may be taken into consideration when evaluating the qualifications and experience.

4.4.5 POST-PROPOSAL DISCUSSIONS WITH OFFERORS

OCFA reserves the right to conduct post-proposal discussions with any Offeror(s).

4.5 NEGOTIATIONS

Because this proposal is negotiable, all pricing data will remain confidential until after award is made. OCFA may request a best and final offer from the top-ranking firms for further evaluation and consideration. The Offeror with the best ranking after negotiations will be recommended for award of the contract.

4.6 NOTICE OF INTENT TO AWARD/EXECUTION OF CONTRACT

Following the interview and final contract negotiations, a notification of OCFA's intent to award contract ("Notice of Intent to Award") will be sent to the successful Offeror(s). No more than ten (10) days following receipt of the Notice of Intent to Award, the successful Offeror(s) shall submit the following items to the Purchasing & Materials Manager or designee:

• Two (2) hard copy originals of the Professional Services Agreement (PSA), in a form approved by OCFA General Counsel, signed by an individual(s) duly authorized to bind the Offeror.

In case of failure of the Offeror(s) to execute and return the required documents within the time allowed, the OCFA may, at its option, consider that the Offeror(s) has/have abandoned the contract. Following the Board of Director's acceptance and approval of the evaluation Committee's recommendation for award of contract, OCFA shall return one fully executed copy of the MA to Offeror(s).

SECTION V: PROPOSAL REQUIREMENTS

To achieve a uniform review process and obtain the maximum degree of comparability, it is required that the proposals be organized in the manner specified below. All Offerors are expected to provide detailed answers to the following points. The answers provided will be relevant in the evaluation process of the proposal. Additional information, if provided, should be separately identified in the proposal.

Proposal Response Format:

Offerors shall submit a written proposal that presents the Offeror's qualifications and understanding of the services to be provided and the work to be performed. Offerors are asked to address each evaluation criterion and to be specific in presenting their qualifications. Your proposal should provide all the information considered pertinent to your qualifications for this project. Proposals shall include, at a minimum, the following:

- **1.** Letter of Transmittal (*Exhibit A*)
- 2. Certification of Proposal (Exhibit B)
- 3. Offeror's Information (Exhibit C)
- 4. IRS Form W-9 (Exhibit D)
- 5. Party Participant and Agent Disclosure Forms (Exhibit E)
- 6. Method of Approach (Exhibit F)
- 7. Technical Abilities (Exhibit G)
- 8. Qualifications & Experience (Exhibit H)
- 9. References (Exhibit I)
- **10. Pricing Page** (Exhibit J)

EXHIBIT A: LETTER OF TRANSMITTAL

Letter of Transmittal: The Letter of Transmittal shall be addressed to Sara Kennedy, Purchasing Manager, OCFA Purchasing Department, and should, at a minimum, contain the following:

- a. Identification of Proposer, including name, address, and telephone number.
- b. A **<u>brief</u>** summary of the Offeror's understanding of the objectives outlined in the scope of work with a commitment to provide the equipment and services in accordance with its proposal and the terms and conditions of any contract, which may be awarded pursuant to this RFP.
- c. A brief statement describing how your firm meets the minimum qualifications outlined in Section 2.3.
- d. A statement to the effect that the proposal shall remain valid for not less than one hundred and eighty (180) days from the date proposals are due.
- e. The Letter of Transmittal should be provided on the firm's letterhead and must be signed by an individual authorized to bind the Offeror.

EXHIBIT B: CERTIFICATION OF PROPOSAL

In responding to RFP RO2549B – 9-1-1 Voice/ Radio Digital Logging Recording System, the undersigned Offeror(s) agrees to provide services to OCFA per the specifications. Offeror further agrees to the terms and conditions specified herein, the following terms and conditions that are a part of this proposal, and the resulting Professional Services Agreement. If there are any exceptions to or deviations from the terms of the Professional Services Agreement (Exhibit K), they must be stated in an attachment included with the offer. Where Offeror wishes to propose alternatives to the Authority's contractual requirements, these should be thoroughly explained. While exceptions will be considered, OCFA reserves the right to determine that an offer is non-responsive based upon any exceptions taken. OCFA's governing body reserves the right to deny any material exceptions to the contract. If no contractual exceptions are noted. Offeror will be deemed to have accepted the form of the contract requirements set forth in Appendix Four.

- A. The Offeror hereby certifies that the individual signing the submittal is an authorized agent for the Offeror and has the authority to legally bind the Offeror to the Contract. Signature below verifies that the Offeror has read, understands, and agrees to the conditions contained herein and on all of the attachments and agenda.
- B. The submission of the offer did not involve collusion or other anti-competitive practices.
- C. The Offeror has not given, offered to give, nor intends to give at any time hereafter, any economic opportunity, future employment, gift, loan, gratuity, special discount, trip, favor, meal or service to a public servant in connection with the submitted offer.
- D. The Offeror has submitted the Party, Participant (Agent) Disclosure Form if applicable.
- E. The Offeror shall not discriminate against any employee or applicant for employment in violation of Federal or State law.
- F. The Offeror complies fully with the Federal Debarment Certification regarding debarment suspension, ineligibility and voluntary exclusion.

Independent Price Determination:

I certify that this offer is made without prior understanding, arrangement, agreement, or connection with any corporation, firm or person submitting an offer for the same services, and is in all respects fair and without collusion or fraud. I certify that I have not entered into any arrangement or agreement with any Orange County Fire Authority public officer. I understand collusive bidding is a violation of State and Federal law and can result in fines, prison sentences, and civil damage awards. I agree to abide by all conditions of this offer and certify that I am authorized to sign this agreement for the Offeror.

To the Orange County Fire Authority:

The Undersigned hereby offers and shall furnish the services in compliance with all terms, scope of work, conditions, specifications, and amendments in the Request for Proposal which is incorporated by reference as fully set forth herein. The representations herein are made under penalty of perjury.

NAME OF FIRM:			
ADDRESS:			
CITY:	STATE:	ZIP CODE:	
PRINTED NAME:	TIT	LE:	
SIGNATURE OF PERSON AUTHORIZED TO SIGN:		DATE:	
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EXHIBIT C: OFFEROR'S INFORMATION

Please complete and/or provide all requested information. If the proposal is submitted by a corporation, please provide an additional attachment that states the names of the officers who can sign an agreement on behalf of the corporation and whether more than one officer must sign. If the proposal if by a partnership or a joint venture, state the names and addresses of all general partners and joint venture parties. If the respondent is a sole proprietorship or another entity that does business under a fictitious name, the proposal shall be in the real name of the respondent with a designation following showing "DBA (the fictitious name)," provided however, that no fictitious name shall be used unless there is a current registration with the Orange County Recorder.

The undersigned, as respondent, declares that all documents regarding this proposal have been examined and accepted and that, if awarded, will enter into a contract with the Orange County Fire Authority.

FIRM'S LEGAL NAME:			
FIRM PARENT OR OWNERSHIP:			
ADDRESS:			
FIRM TELEPHONE #:	FIRM FAX #:		
FIRM'S TAX I.D. NUMBER:	INCORPORATED: YES INCORPORATED		
LEGAL FORM OF COMPANY: (partner	ship, corporation, joint venture):		
LENGTH OF TIME YOUR FIRM HAS B	EEN IN BUSINESS:		
LENGTH OF TIME AT CURRENT LOC	ATION:		
NUMBER OF EMPLOYEES:	NUMBER OF CURRENT CLIENTS:		
Management person responsible for a service required for this Request for t	direct contact with the Orange County Fire Authority and Proposal (RFP).		
NAME:			
TELEPHONE #:	ELEPHONE #: E-MAIL:		
Person responsible for the day-to-day	y servicing of the account.		
NAME:	TITLE:		
	E-MAIL:		

Form

(Rev. December 2014)

Department of the Treasury Internal Revenue Service

EXHIBIT D: IRS FORM W9

Request for Taxpayer Identification Number and Certification

Give Form to the requester. Do not send to the IRS.

	1 Name (as shown on your income tax return). Name is required on this line; do not leave this line blank.			
ge 2.	2 Business name/disregarded entity name, if different from above			
Print or type See Specific Instructions on page	3 Check appropriate box for federal tax classification; check only one of the following seven boxes: ☐ Individual/sole proprietor or ☐ C Corporation S Corporation Partnership ☐ Individual/sole proprietor or ☐ C Corporation S Corporation Partnership Trust/estate single-member LLC ☐ Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=partnership) ▶		Exemptions (codes apply only to certain entities, not individuals; see instructions on page 3): Exempt payee code (if any) Exemption from FATCA reporting code (if any) (Applies to accounts maintained outside the U.S.) and address (optional)	
See Sp	6 City, state, and ZIP code			
	7 List account number(s) here (optional)			
Par	rt I Taxpayer Identification Number (TIN)			
Enter	your TIN in the appropriate box. The TIN provided must match the name given on line 1 to avo	id Social se	curity number	
backu reside	up withholding. For individuals, this is generally your social security number (SSN). However, for ent alien, sole proprietor, or disregarded entity, see the Part I instructions on page 3. For other es, it is your employer identification number (EIN). If you do not have a number, see <i>How to get</i>	ra		
TIN o	n page 3.	or		
Note	If the account is in more than one name, see the instructions for line 1 and the chart on page 4	for Employe	r identification number	
	lines on whose number to enter.		-	
Par	t II Certification			
Unde	r penalties of perjury, I certify that:			
1 Th	a number shown on this form is my correct taxpayer identification number (or I am waiting for a	a number to be is	bre (em of beuze	

- 2. I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and
- 3. I am a U.S. citizen or other U.S. person (defined below); and
- 4. The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions on page 3.

Sign	Signature of	
Here	U.S. person >	

General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

Future developments. Information about developments affecting Form W-9 (such as legislation enacted after we release it) is at www.irs.gov/fw9.

Purpose of Form

An individual or entity (Form W-9 requester) who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) which may be your social security number (SSN), individual taxpayer identification number (ITIN), adoption taxpayer identification number (ATIN), or employer identification number (EIN), to report on an information return the amount paid to you, or other amount reportable on an information return. Examples of information returns include, but are not limited to, the following:

- · Form 1099-INT (interest earned or paid)
- · Form 1099-DIV (dividends, including those from stocks or mutual funds)

· Form 1099-MISC (various types of income, prizes, awards, or gross proceeds) · Form 1099-B (stock or mutual fund sales and certain other transactions by

- brokers) · Form 1099-S (proceeds from real estate transactions)
- · Form 1099-K (merchant card and third party network transactions)

- · Form 1098 (home mortgage interest), 1098-E (student loan interest), 1098-T (tuition)
- · Form 1099-C (canceled debt)
- · Form 1099-A (acquisition or abandonment of secured property)

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN.

- If you do not return Form W-9 to the requester with a TIN, you might be subject to backup withholding. See What is backup withholding? on page 2.
- By signing the filled-out form, you:

Date >

1. Certify that the TIN you are giving is correct (or you are waiting for a number to be issued),

2. Certify that you are not subject to backup withholding, or

3. Claim exemption from backup withholding if you are a U.S. exempt payee. If applicable, you are also certifying that as a U.S. person, your allocable share of any partnership income from a U.S. trade or business is not subject to the withholding tax on foreign partners' share of effectively connected income, and

4. Certify that FATCA code(s) entered on this form (if any) indicating that you are exempt from the FATCA reporting, is correct. See What is FATCA reporting? on page 2 for further information.

Cat. No. 10231X

EXHIBIT E: PARTY AND PARTICIPANT DISCLOSURE FORMS

Campaign Contributions Disclosure: In conformance with the statutory requirements of the State of California Government Code Section 84308, part of the Political Reform Act and Title 2, California Code of Regulations 18438 through 18438.8, regarding campaign contributions to members of appointed Boards of Directors, Offeror is required to complete the attached Party and Participant Disclosure Forms and submit as part of the proposal, **if applicable**.

Offeror is required to submit only one copy of the completed form(s) as part of its proposal. This/these form(s) should be included in the original RFP. The Offeror and subcontractors must complete the form entitled "Party Disclosure Form". Lobbyists or agents representing the Offeror in this procurement must complete the form entitled "Participant Disclosure Form". Reporting of campaign contributions is a requirement from the proposed submittal date up and until the OCFA Board of Directors takes action.

ORANGE COUNTY FIRE AUTHORITY BOARD OF DIRECTORS

Vacant, Chair City of La Palma

Ross Chun, Director City of Aliso Viejo

Anne Hertz-Mallari, Director City of Cypress

> John O'Neill, Director City of Garden Grove

Vacant, Director City of Laguna Hills

Noel Hatch, Director City of Laguna Woods

Shelley Hasselbrink, Director City of Los Alamitos

Carol Gamble, Director City of Rancho Santa Margarita

Troy Bourne, Director City of San Juan Capistrano

Joe Kalmick, Director City of Seal Beach

Vince Rossini, Director City of Villa Park

Eugene Hernandez, Director City of Yorba Linda Vacant, Vice Chair City of Irvine

Vacant, Director City of Buena Park

Vacant, Director City of Dana Point

David John Shawver, Director City of Stanton

> Sandy Rains, Director City of Laguna Niguel

Mark Tettemer, Director City of Lake Forest

> Vacant, Director City of Mission Viejo

Vacant, Director City of San Clemente

Jessie Lopez, Director City of Santa Ana

Austin Lumbard, Director City of Tustin

> Vacant, Director City of Westminster

Donald Wagner, Director County of Orange

Lisa Bartlett, Director County of Orange

PARTY DISCLOSURE

The attached <u>Party Disclosure Form</u> must be completed and submitted by the Offeror and subcontractors with the proposal by all firms subject to the campaign contribution disclosure requirements stated in Section VI this solicitation. It is anticipated that a recommendation for award of this contract will be presented to the Board of Directors of OCFA for approval. (Please see next page for definitions of these terms.)

IMPORTANT NOTICE

Basic Provisions of Government Code Section 84308

- A. If you are an applicant for, or the subject of, any contract award, you are prohibited from making a campaign contribution of more than \$250 to any board member or his or her alternate. This prohibition begins on the date the solicitation is initiated, and the prohibition ends three months after a final decision is rendered by the Board of Directors. In addition, no board member or alternate may solicit or accept a campaign contribution of more than \$250 from you during this period.
- B. These prohibitions also apply to your agents, and, if you are a closely held corporation, to your majority shareholder as well. These prohibitions also apply to your subcontractor(s), joint venturer(s), and partner(s) in this proceeding. Also included are parent companies and subsidiary companies directed and controlled by you, and political action committees directed and controlled by you.
- C. You must file the attached disclosure form and disclose whether you or your agent(s) have in the aggregate contributed more than \$250 to any board member or his or her alternate during the 12-month period preceding the contract award.
- D. If you or your agent have in the aggregate contributed more than \$250 to any individual board member or his/or her alternate during the 12 months preceding the decision on the contract award or proceeding, that board member or alternate must disqualify himself or herself from the decision. However, disqualification is not required if the board member or alternate returns the campaign contribution within 30 days from the time the director knows, or should have known, about both the contribution and the fact that you are a party in the proceeding. The Party Disclosure Form should be completed and filed with your proposal, or with the first written document you file or submit after the proceeding commences.
 - A proceeding involving "a license, permit, or other entitlement for use" includes all business, professional, trade and land use licenses and permits, and all other entitlements¹ for use, including all entitlements for land use, all contracts² (other than competitively bid, labor or personal employment contracts), and all franchises.
 - 2. Your "agent" is someone who represents you in connection with a proceeding involving a license, permit or other entitlement for use. If an individual acting as an agent is also acting in his or her capacity as an employee or member of a law, architectural, engineering, consulting firm, or similar business entity, both the business entity and the individual are "agents."
 - 3. To determine whether a campaign contribution of more than \$250 has been made by you, campaign contributions made by you within the preceding 12 months must be aggregated with those made by your agent within the preceding 12 months or the period of the agency, whichever is shorter. Contributions made by your majority shareholder (if a closely held corporation), your subcontractor(s), your joint venturer(s), and your partner(s) in this proceeding must also be included as part of the aggregated.

This notice summarizes the major requirements of Government Code Section 84308 of the Political Reform Act and 2 Cal. Adm. Code Sections 18438-18438.8 as it relates to contract awards.

¹ Entitlement for the purposes of this form refers to contract award. ² All Contracts for the purposes of this form refer to the contract award of this specific solicitation.

Orange County Fire Authority RFP No. RO25	549B
PARTY DISCLOSURE FORM	
Party's Name:	
Party's Address:	
Party's Telephone:	
Solicitation Title and Number:	
Based on the party disclosure information provided, are you or your firm subject to party disclosure	s?
No \Box If no, check the box and sign below. Yes \Box If yes, check the box, sign below and complete t form.	:he
Date:	
Signature of Party and/or Agent	
To be completed only if campaign contributions have been made in the preceding twelv months. Attach additional copies if needed.	e (12)
Board Member(s) to whom you and/or your agent made campaign contributions and dates of contribution(s) in the preceding 12 months:	
Name of Member:	
Name of Contributor (if other than Party):	
Date(s):	
Amount(s):	
Name of Member:	
Name of Contributor (if other than Party):	
Date(s):	
Amount(s):	
Name of Member:	
Name of Contributor (if other than Party):	
Date(s):	
Amount(s):	

PARTICIPANT (AGENT) DISCLOSURE

The <u>Participant Disclosure Form</u> must be completed by lobbyists or agents representing the Offeror in this procurement. It is anticipated that a recommendation for award of this contract will be presented to the Board of Directors of OCFA for approval.

IMPORTANT NOTICE

Basic Provisions of Government Code Section 84308

- A. If you are a participant in a proceeding involving any contract award, you are prohibited from making a campaign contribution of more than \$250 to any board member or his or her alternate. This prohibition begins on the date you begin to actively support or oppose an application for contract award pending before OCFA or any of its affiliated agencies, and continues until three months after a final decision is rendered on the application or proceeding by the Board of Directors. No board member or alternate may solicit or accept a campaign contribution of more than \$250 from you and/or your agency during this period if the board member or alternate knows or has reason to know that you are a participant.
- B. The attached disclosure form must be filed if you or your agent has contributed more than \$250 to any board member or alternate for OCFA or any of its affiliated agencies during the 12-month period preceding the beginning of your active support or opposition (The disclosure form will assist the board members in complying with the law).
- C. If you or your agent have made a contribution of more than \$250 to any board member or alternate during the 12 months preceding the decision in the proceeding, that board member or alternate must disqualify himself or herself from the decision. However, disqualification is not required if the member or alternate returns the campaign contribution within 30 days from the time the director knows, or should have known, about both the contribution and the fact that you are a participant in the proceeding

The Participant Disclosure Form should be completed and filed with the proposal submitted by a party, or should be completed and filed the first time that you lobby in person, testify in person before, or otherwise directly act to influence the vote of the board members of OCFA or any of its affiliated agencies.

- 1. An individual or entity is a "participant" in a proceeding involving an application for a license, permit or other entitlement for use if:
 - a. The individual or entity is not an actual party to the proceeding, but does have a significant financial interest in the Authority's or one of its affiliated agencies' decisions in the proceeding; <u>AND</u>
 - b. The individual or entity, directly or through an agent, does any of the following:
 - i. Communicates directly, either in person or in writing, with a board member or alternate of OCFA or any of its affiliated agencies for the purpose of influencing the member's vote on the proposal;
 - ii. Communicates with an employee of OCFA or any of its affiliated agencies for the purpose of influencing a member's vote on the proposal; or
 - iii. Testifies or makes an oral statement before the Board of Directors of OCFA or any of its affiliated agencies.
- 2. A proceeding involving "a license, permit, or other entitlement for use" includes all business, professional, trade and land use licenses and permits, and all other entitlements for use, including all entitlements for land use; all contracts (other than competitively bid, labor, or personal employment contracts) and all franchises.
- 3. Your "agent" is someone who represents you in connection with a proceeding for this proposed involving a contract award. If an agent acting as an employee or member of a law, architectural, engineering, or consulting firm, or a similar business entity or corporation, both the business entity or corporation and the individual are agents.
- 4. To determine whether a campaign contribution of more than \$250 has been made by a participant or his or her agent, contributions made by the participant within the preceding 12 months shall be aggregated with those made by the agent within the preceding 12 months or the period of the agency, whichever is shorter. Campaign contributions made to different members or alternates are not aggregated.

This notice summarizes the major requirements of Government Code Section 84308 and 2 Cal. Adm. Code Sections 18438-18438.8

Orange County Fire Authority	RFP No. RO2549B
PARTICIPANT (AGENT) DISCLOSURE FORM	
Prime's Firm Name:	
Party's Name:	
Party's Address:	
Party's Telephone:	
Solicitation Title and Number:	
Based on the participant disclosure information provided, are you or your firm subje disclosures?	ct to participant
No \square If no, check the box and sign below. Yes \square If yes, check the box, sign below form.	<i>i</i> and complete the
Date: Signature of Party and	los Agont
Signature of Party and	/or Agent
To be completed only if campaign contributions have been made in the pl months. Attach additional copies if needed.	receding twelve (12)
Board Member(s) to whom you and/or your agent made campaign contributions and contribution(s) in the preceding 12 months:	dates of
Name of Member:	
Name of Contributor (if other than Party):	
Date(s):	
Amount(s):	
Name of Member:	
Name of Contributor (if other than Party):	
Date(s):	
Amount(s):	
Name of Member:	
Name of Contributor (if other than Party):	
Date(s):	
Amount(s):	

EXHIBIT F: METHOD OF APPROACH

Offerors shall provide a detailed narrative that describes how the respondent intends to provide the requested services set forth in the Scope of Work. Information provided will be used to evaluate **Criterion 4.2.1. Method of Approach** and should address, at a minimum, the following:

- 1. Describe in detail your firm's proposed work plan and implementation of the OCFA DLRS as described. Include a description of the equipment and processes to be used.
- 2. How will your firm ensure that implementation as scheduled will be completed based on the deadlines provided?
- 3. Is your facility(s) centrally located, easily accessible, within or near the OCFA service area?
- 4. How will onsite staff, shift leads, supervisors, management and OCFA staff communicate?
- 5. What policies and procedures are in place to ensure the quality of work requested in the Scope of Services is provided? How is the quality of work measured? Describe the corrective action procedure that will be utilized should performance issues arise.
- 6. What risks has your firm identified in the services to be provided? How does your firm plan to mitigate these risks?

EXHIBIT G: TECHNICAL ABILITIES

The purpose of this section is to obtain information regarding the qualifications and relevant experience of the Offeror. The responses provided will be used to evaluate **Criterion 4.2.2 Technical Abilities**. Provide a narrative that addresses, at a minimum, the following:

- 1. Describe the firm's experience providing DLRS solutions services.
- 2. Complete the table provided as *Exhibit G-2*.
- 3. Provide a description of the entire size of its install base, including the number of implementations, in North America and worldwide to demonstrate proven experience.
- 4. Provide proof of a completed and fully operational integration with VPI Capture recording system, to provide access to the recordings captured by VPI as well as those captured by the new solution via one unified interface.
 - a. Include a customer contact with the description of how this integration is currently used.
- 5. Provide proof of a completed and fully operational integration with RapidSOS, where firm is the RapidSOS Central System of Record.
- 6. What additional, or value-added, services does your firm offer?
 - a. Add additional proofs to validate experience, including:
 - i. Awards and acknowledgements from independent parties
 - ii. Customer case studies

EXHIBIT H: QUALIFICATIONS & EXPERIENCE

The purpose of this section is to obtain information regarding the qualifications and relevant experience of the Offeror. The responses provided will be used to evaluate **Criterion 4.2.3 Qualifications & Experience**. Provide a detailed narrative that addresses, at a minimum, the following:

- 1. Provide a general overview of your company and submit a brief history of your firm. Describe your firm's ownership structure, organization structure, core principals. Include the number of years your firm has been in the business of providing DLRS Solutions.
 - a. Provide proof of financial stability and revenue growth by providing last three years of audited financial statements. The Requestor may respect confidentiality in case the supplier is not publicly traded.
- 2. Describe your firm's qualifications to provide the service specified in this RFP. Include any professional affiliations, accreditations, patents, and certifications as applicable. Qualifications will be measured by training and experience, with particular reference to work experience in the provision of DLRS Solutions.
- 3. Provide a brief biography of individual members of the firm who will be assigned to this account. Include the qualifications and experience of the primary contacts. Include the management personnel assigned to this project and their relevant experience and qualifications in providing services of a similar nature. Will management or supervisory personnel be dedicated only to OCFA or will they be responsible for other accounts as well?
- 4. Provide a management hierarchy and organization chart for all the personnel that will be involved in providing the requested services. Include contacts for customer service, billing, and senior management.
- 5. What is the proposed amount of full-time and part-time staff that will be used to provide the requested services?
- 6. Is your firm planning to subcontract portions of the work? If yes, indicate the name of the subcontractor(s) and the portion of the work that will be subcontracted in each case.
- 7. Provide the resume(s) of all person(s) who will be assigned to provide services as requested under this RFP. Resumes shall note all previous experience, years of experience, academic background, professional credentials, certifications, licenses, and any published material as it relates to this RFP.
- 8. Is your company, either presently or in the past, been involved in any litigation, bankruptcy, or reorganization for any reason? If so, please provide dates and resolution.
- 9. Has your organization ever failed to complete any work awarded to it?
- 10. Why should OCFA select your firm? What sets your organization apart from other Offerors?
- 11. Please provide a list of current clients.

EXHIBIT I: REFERENCES

Describe fully at least five (5) contracts performed by your firm that demonstrate your ability to provide the services included with the scope of the specifications. At least three (3) references should be for projects needing 200 phone/radio channels recorded. Attach additional pages if needed. OCFA reserves the right to contact each of the references listed for additional information regarding their experience with your company.

Customer Agency Name	
Contact Individual & Title	
E-mail/Telephone number	
Date of Project & Description of services provided including contract amount	
Customer Agency Name	
Contact Individual & Title	
E-mail/Telephone number	
Date of Project & Description of services provided including contract amount	
Customer Agency Name	
Contact Individual & Title	
E-mail/Telephone number	
Date of Project & Description of services provided including contract amount	
Customer Agency Name	
Contact Individual & Title	
E-mail/Telephone number	
Date of Project & Description of services provided including contract amount	
Customer Agency Name	
Contact Individual & Title	
E-mail/Telephone number	
Date of Project & Description of services provided including contract amount	

EXHIBIT J: PRICING PAGE

PROPOSAL COSTS - The fee information is relevant to a determination of whether the fee is fair and reasonable in light of the services to be provided. This section shall include the proposed costs to provide the services as described in your proposal. Provision of this information assist the Agency in determining the Offeror's understanding of the project and provides staff with tools to negotiate the cost.

Proposed costs must be inclusive of all costs and expenses associated with providing the services, including, but not limited to, all consultant fees, preparation of deliverables, printing, and any other incidental costs. Please note that the OCFA Board of Directors does not allow for travel time to be billed at the hourly rates. Provide estimated travel expenses (if needed) on a per trip basis. OCFA will determine if in-person meetings are required and the number to be included based upon the requested service level review.

Please provide your proposal costs sheet and rates with Exhibit J - Pricing Page in a separate sealed envelope or upload as the separate "Cost File" in the online bidding system.

Include a detailed estimated fee proposal that is itemized by task components. The fee proposal should include all anticipated reimbursable expenses as a separate line item, the rates of the people who would perform the work (please identify tasks to be performed by sub-consultants as applicable), and a standard hourly rate schedule.

Provide a description of the key assumptions used to calculate the project fee. If appropriate, identify cost saving strategies as well.

FEE SCHEDULE: Provide Pricing Below				
Development and Implementation Costs				
Description of Services	Hours	Hourly Rate	Total Cost	
Phase I – Project Planning: Initial meetings with OCFA Staff to define the design and delivery requirements. Produce final approved project plan and timeline. Include cost to meet with OCFA project team.				
Phase II – Design/Implementation: Design/ customize solution, adapt system to OCFA needs, develop user interfaces, and implements system. Convert and migrate existing data to new environment.				
Phase III – Testing/Training: Supply training materials and/or expertise to be delivered to users (<i>Provide details</i>)				
Other – Travel, lodging, meals, incidentals, etc				

Annual Costs			
Description of Services	Unit Cost	Qty	Extended Total
Annual licensing/			
Maintenance/ Support Cost			
- Please describe annual			
licensing and maintenance/			
support costs			
- Provide additional			
documentation as needed			
Total Estimated Project Cost:			

Provide details of what is included in the total cost listed above. <u>Travel and incidentals should be included</u> in the total cost.

Provide what factors will be considered for pricing in subsequent contract years. (i.e. Consumer Price Index).

<u>Term of Offer</u>: It is understood and agreed that this offer may not be withdrawn for a period of **one hundred eighty days** (180) from the Proposal Submittal Deadline, and at no time in case of successful Offeror.

1. Any additional information you would like OCFA to consider.

EXHIBIT K: SAMPLE PROFESSIONAL SERVICES AGREEMENT

ORANGE COUNTY FIRE AUTHORITY PROFESSIONAL SERVICES AGREEMENT

THIS AGREEMENT FOR PROFESSIONAL SERVICES ("Agreement") is made and entered into this _____ day of _____, 2019, by and between the Orange County Fire Authority, a public agency, hereinafter referred to as "OCFA", and ______, a Corporation/Partnership/Sole Proprietorship, hereinafter referred to as "Firm". OCFA and Firm are sometimes individually referred to herein as a "Party" and collectively as the "Parties".

RECITALS

WHEREAS, OCFA requires the services of a qualified firm to provide dispatch equipment upgrades as requested, hereinafter referred to as "Project"; and

WHEREAS, Firm has submitted to OCFA a proposal dated _____, 2019, a copy of which is attached hereto as Exhibit "A" and is incorporated herein by this reference ("Proposal"); and

WHEREAS, based on its experience and reputation, Firm is qualified to provide the necessary services for the Project and desires to provide such services; and

WHEREAS, OCFA desires to retain the services of Firm for the Project.

NOW, THEREFORE, in consideration of the promises and mutual agreements contained herein, OCFA agrees to employ and does hereby employ Firm and Firm agrees to provide professional services as follows:

AGREEMENT

1. PROFESSIONAL SERVICES

1.1 <u>Scope of Services</u>

In compliance with all terms and conditions of this Agreement, Firm shall provide those services specified in Firm's Proposal attached hereto as Exhibit "A." The Scope of Services includes by reference and by addendum: (1) OCFA's Request for Proposal, RFP _____, dated _____, 2019 ("RFP"), (2) Firm's Proposal, as modified by Firm's Best and Final Offer dated _____, 2019, and (3) any amendments, addendums, change orders, or modifications mutually agreed upon by the parties hereto ("Services" or "Work"). Firm warrants that all Services shall be performed in a competent, professional and satisfactory manner in accordance with all standards prevalent in the same profession in the State of California. Firm represents and warrants that it and all employees, subconsultants and subcontractors providing any Services pursuant to this Agreement shall have a sufficient skill and experience to perform the Services. All

Services shall be completed to the reasonable satisfaction of the OCFA. In the event of any inconsistency between the terms contained in the Firm's Proposal, OCFA's RFP and/or the terms set forth in the main body of this Agreement, the terms set forth in the main body of this Agreement, in that order.

1.2 <u>Compliance with Law</u>

All Services rendered hereunder shall be provided in accordance with all laws, ordinances, resolutions, statutes, rules, and regulations of OCFA and any federal, state or local governmental agency of competent jurisdiction.

1.3 Licenses and Permits

Firm shall obtain at its sole cost and expense such licenses, permits and approvals as may be required by law for the performance of the Services required by this Agreement.

1.4 Familiarity with Work

By executing this Agreement, Firm warrants that Firm (a) has thoroughly investigated and considered the Work to be performed, (b) has investigated the site of the Work and become fully acquainted with the conditions there existing, (c) has carefully considered how the Work should be performed, and (d) fully understands the facilities, difficulties and restrictions attending performance of the Work under this Agreement. Should the Firm discover any latent or unknown conditions materially differing from those inherent in the Work or as represented by OCFA, Firm shall immediately inform OCFA of such fact and shall not proceed with any Work except at Firm's risk until written instructions are received from the Contract Officer.

1.5 Care of Work

Firm shall adopt and follow reasonable procedures and methods during the term of the Agreement to prevent loss or damage to materials, papers or other components of the work, and shall be responsible for all such damage until acceptance of the work by OCFA, except such loss or damages as may be caused by OCFA's own negligence.

1.6 Additional Services

Firm shall perform services in addition to those specified in the Proposal when directed to do so in writing by the Contract Officer, provided that Firm shall not be required to perform any additional services without compensation. Any additional compensation not exceeding ten percent (10%) of the original Agreement sum must be approved in writing by the Contract Officer. Any greater increase must be approved in writing by the Purchasing Manager.

2. <u>TIME FOR COMPLETION</u>

The time for completion of the Services to be performed by Firm is an essential condition of this Agreement. Firm shall prosecute regularly and diligently the work of this Agreement according to the schedules set forth in Firm's proposal. Firm shall not be accountable for delays in the progress of its work caused by any condition beyond its control and without the fault or negligence of Firm. Delays shall not entitle Firm to any additional compensation regardless of the party responsible for the delay.

3. <u>COMPENSATION OF FIRM</u>

3.1 <u>Compensation of Firm</u>

For the Services rendered pursuant to this Agreement, Firm shall be compensated and reimbursed, in accordance with the Firm's Best and Final Offer dated ______, 2019 set forth in Exhibit "A," in an amount not to exceed \$______. Firm guarantee's that if within a one-year period after the appointment, the Fire Chief, resigns or is dismissed for cause, Firm will perform an additional recruitment at the cost of expenses only to perform the additional recruitment.

3.2 <u>Method of Payment</u>

In any month in which Firm wishes to receive payment, Firm shall no later than the first working day of such month, submit to OCFA in the form approved by OCFA's Director of Finance, an invoice for Services rendered prior to the date of the invoice. OCFA shall pay Firm for all expenses stated thereon which are approved by OCFA consistent with this Agreement, within thirty (30) days of receipt of Firm's invoice.

3.3 Changes

In the event any change or changes in the work is requested by OCFA, the parties hereto shall execute an addendum to this Agreement, setting forth with particularity all terms of such addendum, including, but not limited to, any additional fees. Addenda may be entered into:

A. To provide for revisions or modifications to documents or other work product or work when documents or other work product or work is required by the enactment or revision of law subsequent to the preparation of any documents, other work product or work;

B. To provide for additional services not included in this Agreement or not customarily furnished in accordance with generally accepted practice in Firm's profession.

3.4 Appropriations

This Agreement is subject to and contingent upon funds being appropriated therefore by the OCFA Board of Directors for each fiscal year covered by the Agreement. If such appropriations are not made, this Agreement shall automatically terminate without penalty to OCFA.

4. PERFORMANCE SCHEDULE

4.1 <u>Time of Essence</u>

Time is of the essence in the performance of this Agreement.

4.2 <u>Schedule of Performance</u>

All Services rendered pursuant to this Agreement shall be performed within the time periods prescribed in Firm's Proposal, attached hereto as Exhibit "A". The extension of any time period specified in Exhibit "A" must be approved in writing by the Contract Officer.

4.3 Force Majeure

The time for performance of Services to be rendered pursuant to this Agreement may be extended because of any delays due to unforeseeable causes beyond the control and without the fault or negligence of the Firm, including, but not restricted to, acts of God or of a public enemy, acts of the government, fires, earthquakes, floods, epidemic, quarantine restrictions, riots, strikes, freight embargoes, and unusually severe weather if the Firm shall within ten (10) days of the commencement of such condition notify the Contract Officer who shall thereupon ascertain the facts and the extent of any necessary delay, and extend the time for performing the Services for the period of the enforced delay when and if in the Contract Officer's judgment such delay is justified, and the Contract Officer's determination shall be final and conclusive upon the parties to this Agreement.

4.4 <u>Term</u>

This agreement shall continue in full force and effect until satisfactory completion of the Services, unless earlier terminated in accordance with Sections 8.5 or 8.6 of this Agreement but not exceeding 240 days from the date hereof, unless extended by mutual written agreement of the parties.

5. <u>COORDINATION OF WORK</u>

5.1 <u>Representative of Firm</u>

The following principal of the Firm is hereby designated as being the principal and representative of Firm authorized to act in its behalf with respect to the work specified herein and make all decisions in connection therewith:

It is expressly understood that the experience, knowledge, capability and reputation of the foregoing principal is a substantial inducement for OCFA to enter into this Agreement. Therefore, the foregoing principal shall be responsible during the term of this Agreement for directing all activities of Firm and devoting sufficient time to personally supervise the Services hereunder. The foregoing principal may not be changed by Firm without the express written approval of OCFA.

5.2 <u>Contract Officer</u>

The Contract Officer shall be designated in writing by OCFA. It shall be the Firm's responsibility to keep the Contract Officer fully informed of the progress of the performance of the Services and Firm shall refer any decisions that must be made by OCFA to the Contract Officer. Unless otherwise specified herein, any approval of OCFA required hereunder shall mean the approval of the Contract Officer.

5.3 **Prohibition Against Subcontracting or Assignment**

5.3.1 No Subcontracting Without Prior Approval. The experience, knowledge, capability and reputation of Firm, its principals and employees, and the Firm Representative were a substantial inducement for OCFA to enter into this Agreement. Therefore, Firm shall not contract with any other entity to perform in whole or in part the Services required hereunder without the express written approval of OCFA.

5.3.2 Provisions in the Event Subcontractor(s) Are Authorized. If Firm is authorized to subcontract any part of the Services as provided in Section 5.3.1, Firm shall be responsible to OCFA for the acts and omissions of its subcontractor(s) and subconsultant(s) in the same manner as it is for persons directly employed. For purposes of this Agreement, all persons engaged in the performance of Services will be considered employees of Firm. OCFA will deal directly with and will make all payments to Firm. Nothing contained in this Agreement shall create any contractual relationships between any subcontractor and OCFA. Firm shall ensure that all subcontractor insurance requirements set forth in Section 6 below (including its subsections) are complied with prior to commencement of Services by each subcontractor.

> **5.3.2.1 Withholding Payment for Non-Authorized Subcontractors**. OCFA shall have the right to withhold payment from Firm for Services performed by any subcontractor or subconsultant performing

Services but not authorized in writing by OCFA, or regarding which the insurance or other requirements under this Agreement have not been satisfied.

5.3.3 Assignments. Neither this Agreement nor any interest herein may be assigned, transferred, conveyed, hypothecated, or encumbered voluntarily or by operation of law, whether for the benefit of creditors or otherwise, without the prior written approval of OCFA. Transfers restricted hereunder shall include the transfer to any person or group of persons acting in concert of more than twenty five percent (25%) of the present ownership and/or control of Firm, taking all transfers into account on a cumulative basis. In the event of any such unapproved transfer, including any bankruptcy proceeding, this Agreement shall be void. No approved transfer shall release Firm or any surety of Firm from any liability hereunder without the express written consent of OCFA.

5.4 Independent Contractor

5.4.1 The legal relationship between the Parties is that of an independent contractor, and nothing herein shall be deemed to make Contractor, or any of its personnel, an OCFA employee. During the performance of this Agreement, Firm and its officers, employees, and agents shall act in an independent capacity and shall not act as OCFA officers or employees. Firm will determine the means, methods and details of performing the Services subject to the requirements of this Agreement. The personnel performing the Services under this Agreement on behalf of Firm shall at all times be under Firm's exclusive direction and control. Neither OCFA nor any of its officials, officers, employees, agents or volunteers shall have control over the conduct of Firm or any of its officers, employees, or agents, except as set forth in this Agreement. Firm, its officers, employees or agents, shall not maintain a permanent office or fixed business location at OCFA's offices. OCFA shall have no voice in the selection, discharge, supervision, or control of Firm's officers, employees, representatives or agents or in fixing their number, compensation, or hours of service. Firm shall pay all wages, salaries, and other amounts due its employees in connection with the performance of Services under this Agreement and shall be responsible for all reports and obligations respecting them, including but not limited to social security income tax withholding, unemployment compensation, workers' compensation, and other similar matters. OCFA shall not in any way or for any purpose be deemed to be a partner of Firm in its business or otherwise a joint venturer or a member of any joint enterprise with Firm.

5.4.2 Firm shall not incur or have the power to incur any debt, obligation, or liability against OCFA, or bind OCFA in any manner.

5.4.3 No OCFA benefits shall be available to Firm, its officers, employees, or agents, in connection with the performance of any Work or Services under this Agreement. Except for professional fees paid to Firm as provided for in this Agreement, OCFA shall not pay salaries, wages, or other compensation to Firm for the performance of any Work or Services under this Agreement. OCFA shall not be liable for compensation or indemnification to Firm, its officers, employees, or agents, for injury or

sickness arising out of performing any Work or Services hereunder. If for any reason any court or governmental agency determines that the OCFA has financial obligations, other than pursuant to Section 2 herein, of any nature relating to salary, taxes, or benefits of Firm's officers, employees, representatives, agents, or subconsultants or subcontractors, Firm shall defend, indemnify, and hold harmless OCFA from and against all such financial obligations.

5.6 Employee Retirement System Eligibility Indemnification

5.6.1 In the event that Firm or any employee, agent, or subcontractor of Firm providing any Work or Services under this Agreement claims or is determined by a court of competent jurisdiction to be eligible for enrollment in an employee retirement system as an employee of the OCFA, Firm shall indemnify, defend, and hold harmless OCFA against: (1) all such claim(s) and determination(s); (2) for the payment of any employee and/or employees, agents or subcontractors; and (3) the payment of any penalties and interest on such contributions which would otherwise be the responsibility of the OCFA.

5.6.2 Notwithstanding any other agency, state or federal policy, rule, regulation, law or ordinance to the contrary, Contractor and any of its employees, agents, and subcontractors providing any Work or Services under this Agreement shall not qualify for or become entitled to, and hereby agree to waive any claims to, any compensation, benefit, or any incident of employment by OCFA, including but not limited to eligibility to enroll in PERS as an employee of OCFA and entitlement to any contribution to be paid by OCFA for employer contribution and/or employee contributions for PERS benefits.

6. INSURANCE AND INDEMNIFICATION

6.1 <u>Compliance with Insurance Requirements</u>. Firm shall obtain, maintain, and keep in full force and effect during the term of this Agreement, at its sole cost and expense, and in a form and content satisfactory to OCFA, all insurance required under this section. Firm shall not commence any Services under this Agreement unless and until it has provided evidence satisfactory to OCFA that it has secured all insurance required under this section. If Firm's existing insurance policies do not meet the insurance requirements set forth herein, Firm agrees to amend, supplement or endorse the policies to meet all requirements herein.

6.2 <u>Types of Insurance Required</u>. Without limiting the indemnity provisions set forth in this Agreement, Firm shall obtain and maintain in full force and effect during the term of this Agreement, including any extension thereof, the following policies of insurance:

6.2.1 Professional Liability/Errors and Omissions Insurance ("PLI"). Firm shall obtain and maintain PLI insurance applicable to each licensed

profession practiced by Firm. Firm shall maintain PLI insurance with per-claim and aggregate limits no lower than one million dollars (\$1,000,000.00) each occurrence and two million dollars (\$2,000,000.00) aggregate. Covered professional services shall specifically include all Services to be performed under the Agreement and the policy shall be endorsed to delete any exclusions that may exclude coverage for claims within the minimum PLI Limits for the Services to be performed under this Agreement.

6.2.1.1 The PLI policy shall be endorsed to delete any Contractual Liability Exclusion. The PLI shall include contractual liability coverage applicable to this Agreement. The policy must "pay on behalf of" the insured, and include a provision establishing the insurer's duty to defend the insured.

6.2.1.2 If the PLI policy of insurance is written on a "claims-made" basis, the policy shall be continued in full force and effect at all times during the term of this Agreement, and for a period of three (3) years from the date of the completion of all Services provided hereunder (the "PLI Coverage Period"). If any PLI policy is replaced, cancelled, non-renewed, discontinued, or otherwise terminated, or if the limits of a PLI policy are reduced or the available coverage depleted below the required minimum coverage amounts for any reason during the PLI Coverage Period, Firm shall immediately obtain replacement PLI coverage meeting the requirements of this Section 6.2.1. Such replacement coverage shall satisfy all requirements herein, and shall include coverage for the prior acts or omissions of Firm during the time period during which any Services were performed. The coverage shall be evidenced by either a new policy evidencing no gap in coverage, or by obtaining separate extended "tail" coverage with the present or new carrier or other insurance arrangements providing for complete coverage, either of which shall be subject to the written approval by the OCFA.

6.2.1.3 If the PLI policy is written on an "occurrence" basis, the policy shall be continued in full force and effect during the term of this Agreement, or until completion of the Services provided for in this Agreement, whichever is later. In the event of termination of the PLI policy during this period, new coverage shall immediately be obtained, and written evidence of the policy shall be immediately provided to OCFA, to ensure PLI coverage during the entire course of performing the Services.

6.2.1.4 Firm shall not perform any Services at any time during which required types or amounts of PLI insurance are not in effect, and OCFA shall have no obligation to pay Firm for Services performed while required PLI insurance is not in effect.

6.2.2 Commercial General Liability Insurance. Firm shall obtain and maintain, in full force and effect throughout the term of this Agreement, Insurance Services Office (ISO) Form CG 00 01 covering CGL on an "occurrence" basis, including products and completed operations, property damage, bodily injury and personal & advertising injury with limits no less than one million dollars (\$1,000,000.00) per occurrence. If a general aggregate limit applies, either the general aggregate limit shall apply separately to this project/location (ISO CG 25 03 or 25 04) or the general aggregate limit shall be twice the required occurrence limit. CGL insurance shall be provided on an occurrence-based coverage form; a "claims made" CGL policy is not acceptable. Firm shall maintain CGL insurance with per-claim, aggregate and products and operations completed limits no lower than the minimum CGL coverage limits set forth above. Defense costs shall be paid in addition to the limits. The policy shall contain no endorsements or provisions limiting coverage for any of the following: (1) contractual liability; (2) cross liability exclusion for claims or suits by one insured against another; or (3) any other exclusion contrary to this Agreement.

6.2.3 Automobile Liability Insurance. Firm shall obtain and maintain, in full force and effect throughout the term of this Agreement, a policy of Automobile liability insurance written on a per occurrence basis with limits of at least one million dollars (\$1,000,000.00) combined limit for each occurrence covering bodily injury, disease and property damage. Defense costs shall be paid in addition to the policy limits. The policy shall specifically include coverage for owned, non-owned, leased, and hired automobiles, and be endorsed to eliminate any exclusion applicable to any of them.

6.2.4 Workers' Compensation Insurance. Firm shall obtain and maintain, in full force and effect throughout the term of this Agreement, a policy of Workers' Compensation Insurance in at least the minimum statutory amounts, and in compliance with all other statutory requirements applicable in the State of California. Firm hereby waives on its own behalf, and shall obtain an endorsement from its workers' compensation insurer waiving on the insurance company's behalf, all rights of subrogation against the OCFA, its board members, officials, officers, employees, agents and volunteers.

6.2.4.1 If subconsultants or subcontractors are used, Firm shall require each of its subconsultants and subcontractors, if any, to waive all rights of subrogation, and to obtain endorsements from the subconsultants'/subcontractors' workers' compensation insurers waiving all rights of subrogation, against the OCFA, its board members, officials, officers, employees, agents and volunteers.

6.2.4.2 Firm and each of its subconsultants and subcontractors shall also maintain, in full force and effect throughout the term of this Agreement, Employer's Liability Insurance with limits of at least one million dollars (\$1,000,000.00) per injury or illness.

6.3 <u>Acceptability of Insurers</u>. Each insurance policy required by this section shall be issued by a licensed company authorized to transact business by the Department of Insurance for the State of California with a current rating of A-:VII or better (if an admitted carrier), or a current rating of A:X or better (if offered by a non-admitted insurer listed on the State of California List of Approved Surplus Line Insurers (LASLI)), by the latest edition of A.M. Best's Key Rating Guide, except that the OCFA will accept workers' compensation insurance from the State Compensation Fund. In the event the OCFA determines that the Services to be performed under this Agreement creates an increased or decreased risk of loss to the OCFA, the Firm agrees that the minimum limits

of the insurance policies may be changed accordingly upon receipt of written notice from the OCFA.

6.3.1 Firm shall immediately replace any insurer whose A.M. Best rating drops below the levels specified herein with an insurer that meets the minimum requirements herein.

6.4 <u>Specific Insurance Provisions and Endorsements</u>. Required insurance policies shall not be in compliance if they include any limiting provision or endorsement that has not been submitted to the OCFA for written approval. Required insurance policies shall contain the following provisions, or Firm shall provide endorsements on forms approved by the OCFA to add the following provisions to the insurance policies:

6.4.1 CGL and Auto Liability Endorsements. The policy or policies of insurance required by this Agreement for CGL and Automobile Liability Insurance shall be endorsed as follows:

6.4.1.1 Additional Insured: The OCFA, its board members, officials, officers, employees, agents and volunteers, shall be additional insureds; and

6.4.1.1.1 Additional Insured Endorsements:

Additional insured endorsements shall not (1) be restricted to "ongoing operations", (2) exclude "contractual liability", (3) restrict coverage to "sole" liability of Firm, (4) contain any other exclusions contrary to the Agreement; or (5) contain special limitations on the scope of protection afforded to additional insureds.

6.4.1.2 Primary, Non-Contributing. Each CGL and Auto Liability insurance policy shall be endorsed to be primary and any other insurance, deductible, or self-insurance maintained by the OCFA, its board members, officials, officers, employees, agents or volunteers, shall not contribute with the primary insurance.

6.4.2 Notice of Cancellation: Each policy of any type shall be endorsed to provide that coverage shall not be suspended, voided, cancelled, or modified, or reduced in coverage or in limits, except after thirty (30) days prior written notice has been provided to the OCFA. Notwithstanding the foregoing, if coverage is to be suspended, voided, or cancelled because of Firm's failure to pay the insurance premium, the notice provided by the insurer to OCFA shall be by not less than ten (10) days prior written notice. (A statement that notice will be provided "in accordance with the policy terms" or words to that effect is inadequate to meet the requirements of this Section).

6.4.2.1 Pre-Payment of Policy Premium. If for any reason an insurer declines to issue an endorsement certifying that it will notify OCFA in accordance with section 6.4.2, Firm shall either obtain insurance from another insurer

who will provide the required notice endorsement or shall provide evidence satisfactory to OCFA that the entire policy premium for the full term of that policy has been pre-paid such that the risk of non-payment of premiums during the term of the policy has been eliminated.

6.4.3 ACORD Forms Will Not Be Accepted in Lieu of Endorsements. By executing this Agreement, Firm certifies that it has – prior to execution of this Agreement - confirmed that its insurance company will issue each of the endorsements required by this Agreement. Firm also certifies that it understands that "ACORD" Certificate of Liability Insurance forms will not be accepted in lieu of required endorsements.

6.5 <u>Deductibles and Self-Insured Retentions</u>. Any deductible or selfinsured retention must be approved in writing by the OCFA in advance. The decision whether to approve or withhold approval of a deductible or self-insured retention shall be made by the OCFA in the OCFA's sole and absolute discretion. (Firm may request preapproval from OCFA of a deductible or self-insured retention prior to submitting Firm's Proposal).

6.6 <u>Waiver of Subrogation</u>. All policies of Commercial General Liability and Automobile Liability Insurance shall contain or be endorsed to waive subrogation against the OCFA, its officials, officers, employees, agents and volunteers, or shall specifically allow Firm or others providing insurance evidence in compliance with the requirements set forth in this section to waive their right to recovery prior to a loss. Firm hereby agrees to waive its own right of subrogation against the OCFA, its officials, officers, employees, agents and volunteers.

6.6.1 Waivers of Subrogation: Subconsultants and Subcontractors. If OCFA approves the use of subconsultants or subcontractors for the performance of any portion of the Services, then Firm shall obtain from each subconsultant and subcontractor, and make available to OCFA upon request, written express waivers by each subconsultant and subcontractor of the right of subrogation against the OCFA, its officials, officers, employees, agents and volunteers, and policy endorsements of each of its subconsultants' and subcontractors' insurance policies waiving any rights of subrogation against the OCFA, its officials, agents and volunteers insurer. All such waivers and endorsements shall be obtained prior to commencement of any Services by each subconsultant or subcontractor.

6.7 <u>Evidence of Coverage</u>. Concurrently with the execution of the Agreement, Firm shall deliver certificates of insurance together with original endorsements affecting each of the insurance policies required to be maintained by Firm by this Section 5. Firm shall promptly furnish, at OCFA's request, copies of actual policies including all declaration pages, endorsements, exclusions and any other policy documents OCFA requires to verify coverage.

6.7.1 Required insurance policies shall not be in compliance if they include any limiting provision or endorsement that has not been submitted to the OCFA for written approval.

6.7.2 Authorized Signatures. The certificates of insurance and original endorsements for each insurance policy shall be signed by a person authorized by that insurer to bind coverage on its behalf.

6.7.3 Renewal/Replacement Policies. At least fifteen (15) days prior to the expiration of any policy required by this Agreement, evidence of insurance showing that such insurance coverage has been renewed or extended shall be filed with the OCFA. If such coverage is cancelled or reduced and not replaced immediately so as to avoid a lapse in the required coverage, Firm shall, within ten (10) days after receipt of written notice of such cancellation or reduction of coverage, file with the OCFA evidence of insurance showing that the required insurance has been reinstated or has been provided through another insurance company or companies meeting all requirements of this Agreement.

6.8 Requirements Not Limiting. Requirement of specific coverage or minimum limits contained in this section are not intended as a limitation on coverage, limits, or other requirements, or a waiver of any coverage normally provided by any insurance. The insurance obligations under this Agreement shall be: (1) all the insurance coverage and/or limits carried by or available to Firm; or (2) the minimum insurance coverage requirements and/or limits shown in this Agreement; whichever is greater. Any insurance proceeds in excess of or broader than the minimum required coverage and/or minimum required limits, which are applicable to a given loss, shall be available to the OCFA. No representation is made that the minimum insurance requirements of this Agreement are sufficient to cover the obligations of Firm under this Agreement. Nothing in this section shall be construed as limiting in any way the indemnification provision contained in this Agreement, or the extent to which Firm may be held responsible for losses of any type or amount.

6.9 Enforcement of Agreement (Non-Estoppel). Firm acknowledges and agrees that actual or alleged failure on the part of the OCFA to inform Firm of any non-compliance with any of the insurance requirements set forth in this Agreement imposes no additional obligation on the OCFA nor does it waive any rights hereunder.

6.10 Insurance for Subconsultants. If OCFA approves the use of subconsultants or subcontractors for the performance of any portion of the Services, then Firm shall be responsible for causing each approved subconsultant and subcontractor to procure and maintain insurance in the same types and amounts required for Firm, and in full compliance with the insurance requirements set forth in this Agreement, except as otherwise authorized in writing by the Contract Manager.

6.10.1 Delivery of Evidence of Subcontractor Insurance. Upon request of OCFA, Firm shall deliver to OCFA all certificates of insurance and

endorsements required from subcontractors and subconsultants. (Note: Firm's duty to obtain all required insurance for subcontractors and subconsultants required under this Agreement applies whether or not OCFA requests delivery of evidence of such coverage.)

6.11 Other Insurance Requirements. The following terms and conditions shall apply to the insurance policies required of Firm and its subconsultants and subcontractors, if any, pursuant to this Agreement:

6.11.1 Firm shall provide immediate written notice to OCFA if (1) any of the insurance policies required herein are terminated, cancelled, suspended, or non-renewed (2) the limits of any of the insurance coverages required herein are reduced; (3) any required insurance coverage is reduced below the required minimum limits through claims or otherwise, or (4) the deductible or self-insured retention is increased.

6.11.2 All insurance coverage and limits required under this Agreement are intended to apply to each insured, including additional insureds, against whom a claim is made or suit is brought to the full extent of the policies. Nothing contained in this Agreement or any other agreement relating to the OCFA or its operations shall limit the application of such insurance coverage.

6.11.3 None of the insurance coverages required herein will be in compliance with the requirements of this section if they include any limiting endorsement which substantially impairs the coverages set forth herein (e.g., elimination of contractual liability or reduction of discovery period), unless the endorsement has first been submitted to the OCFA and approved in writing.

6.11.4 Certificates of insurance will not be accepted in lieu of required endorsements, and submittal of certificates without required endorsements may delay the Project. It is Firm's obligation to ensure timely compliance with all insurance submittal requirements as provided herein and Firm agrees to reimburse OCFA for any losses resulting from its failure, or its subconsultants' or subcontractors' failure, to timely comply with the requirements of this Agreement.

6.11.5 Firm agrees to ensure that subconsultants and subcontractors, if any, and any other parties involved with the Project who are brought onto or involved in the Project by Firm, provide the same minimum insurance coverage required of Firm. Firm agrees to monitor and review all such coverage and assumes all responsibility for ensuring that such coverage is provided in conformity with the requirements of this section. Firm agrees that upon request, all agreements with, and evidence of insurance from, subconsultants and subcontractors and others engaged in performing any Services will be submitted to the OCFA for review.

6.11.6 Firm agrees to provide immediate written notice to OCFA of any claim, demand or loss arising out of the Services performed under this Agreement and for any other claim, demand or loss which may reduce the insurance available to an amount less than required by this Agreement.

6.12 Indemnification.

To the fullest extent permitted by law, Firm shall defend (at Firm's sole cost and expense with legal counsel reasonably acceptable to OCFA), indemnify and hold the OCFA, its board members, officials, officers, employees, agents and volunteers, free and harmless from any and all claims, demands, orders, causes of action, costs, expenses, liabilities, losses, penalties, judgments, arbitration awards, settlements, damages or injuries of any kind, in law or in equity, including but not limited to property or persons, including wrongful death, (collectively "Claims") in any manner arising out of, pertaining to, related to, or incident to any alleged acts, errors or omissions, or willful misconduct of Firm, its officers, directors, employees, subconsultants, subcontractors, agents or invitees in connection with performance under this Agreement, or in any manner arising out of, pertaining to, related to, or incident to an alleged breach of this Agreement, including without limitation the payment of all consequential damages, expert witness fees and attorneys' fees and other related costs and expenses.

Notwithstanding the foregoing, and only to the extent that the Services performed by Firm are subject to California Civil Code Section 2782.8, the above indemnity shall be limited, to the extent required by Civil Code Section 2782.8, to claims that arise out of, pertain to, or relate to the negligence, recklessness, or willful misconduct of the Firm.

Under no circumstances shall the insurance requirements and limits set forth in this Agreement be construed to limit Firm's indemnification obligation or other liability hereunder. Notwithstanding the foregoing, such obligation to defend, hold harmless and indemnify the OCFA, its board members officials, officers, employees, agents and volunteers, shall not apply to the extent that such Claims are caused by the sole negligence or willful misconduct of that indemnified party.

7. <u>RECORDS AND REPORTS</u>

7.1 <u>Reports</u>

Firm shall periodically prepare and submit to the Contract Officer such reports concerning the performance of the Services required by this Agreement as the Contract Officer shall require.

7.2 <u>Records</u>

Firm shall keep such books and records as shall be necessary to properly perform the Services required by this Agreement and enable the Contract Officer to evaluate the performance of such Services. <u>Except as provided in Section 7.5</u>, the Contract Officer shall have full and free access to such books and records at all reasonable times, including the right to inspect, copy, audit and make records and transcripts from such records.

7.3 Ownership of Documents

Except as provided in Section 7.5, all drawings, specifications, reports, records, documents and other materials prepared by Firm in the performance of this Agreement shall be the property of OCFA and shall be delivered to OCFA upon request of the Contract Officer or upon the termination of this Agreement, and Firm shall have no claim for further employment or additional compensation as a result of the exercise by OCFA of its full rights or ownership of the documents and materials hereunder. Firm may retain copies of such documents for its own use. Firm shall have an unrestricted right to use the concepts embodied therein.

7.4 <u>Release of Documents</u>

All drawings, specifications, reports, records, documents and other materials prepared by Firm in the performance of Services under this Agreement shall not be released publicly without the prior written approval of the Contract Officer.

7.5 Confidential Materials

Notwithstanding anything to the contrary in this Agreement, the Firm shall be the sole owner of Firm's work papers and of any other documents, data or information which are required to be maintained confidential from OCFA by one or more rules of professional conduct governing the Firm's profession(s) (collectively, the "Confidential Materials"). Neither the OCFA nor the Contract Officer shall have access to the Confidential Materials except as may otherwise be required by order issued by a court of competent jurisdiction.

8. ENFORCEMENT OF AGREEMENT

8.1 California Law

This Agreement shall be construed and interpreted both as to validity and to performance of the parties in accordance with the laws of the State of California. Legal actions concerning any dispute, claim or matter arising out of or in relation to this Agreement shall be instituted in the Superior Court of the County of Orange, State of California, or any other appropriate court in such county, and Firm covenants and agrees to submit to the personal jurisdiction of such court in the event of such action.

8.2 <u>Waiver</u>

No delay or omission in the exercise of any right or remedy of a nondefaulting party on any default shall impair such right or remedy or be construed as a waiver. No consent or approval of OCFA shall be deemed to waiver or render unnecessary OCFA's consent to or approval of any subsequent act of Firm. Any waiver by either party of any default must be in writing and shall not be a waiver of any other default concerning the same or any other provision of this Agreement.

8.3 **<u>Rights and Remedies are Cumulative</u>**

Except with respect to rights and remedies expressly declared to be exclusive in this Agreement, the rights and remedies of the parties are cumulative and the exercise by either party of one or more of such rights or remedies shall not preclude the exercise by it, at the same or different times, of any other rights or remedies for the same default or any other default by the other party.

8.4 Legal Action

In addition to any other rights or remedies, either party may take legal action, in law or in equity, to cure, correct or remedy any default, to recover damages for any default, to compel specific performance of this Agreement, to obtain injunctive relief, a declaratory judgment, or any other remedy consistent with the purposes of this Agreement.

8.5 <u>Termination Prior to Expiration of Term</u>

OCFA reserves the right to terminate this Agreement at any time, with or without cause, upon thirty (30) days written notice to Firm, except that where termination is due to the fault of the Firm and constitutes an immediate danger to health, safety and general welfare, the period of notice shall be such shorter time as may be appropriate. Upon receipt of the notice of termination, Firm shall immediately cease all Services hereunder except such as may be specifically approved by the Contract Officer. Firm shall be entitled to compensation for all Services rendered prior to receipt of the notice of termination and for any Services authorized by the Contract Officer thereafter.

Firm may terminate this Agreement, with or without cause, upon thirty (30) days written notice to OCFA.

8.6 <u>Termination for Default of Firm</u>

If termination is due to the failure of the Firm to fulfill its obligations under this Agreement, OCFA may take over the work and prosecute the same to completion by contract or otherwise, and the Firm shall be liable to the extent that the total cost for completion of the Services required hereunder exceeds the compensation herein stipulated, provided that OCFA shall use reasonable efforts to mitigate damages, and OCFA may withhold any payments to the Firm for the purpose of set-off or partial payment of the amounts owed to OCFA.

8.7 <u>Attorneys' Fees</u>

If either party commences an action against the other party arising out of or in connection with this Agreement or its subject matter, the prevailing party shall be entitled to recover reasonable attorneys' fees and costs of suit from the losing party.

9. OCFA OFFICERS AND EMPLOYEES; NON-DISCRIMINATION

9.1 Non-Liability of OCFA Officers and Employees

No officer or employee of OCFA shall be personally liable to the Firm, or any successor-in-interest, in the event of any default or breach by OCFA or for any amount which may become due to the Firm or its successor, or for breach of any obligation of the terms of this Agreement.

9.2 Covenant Against Discrimination

Firm covenants that, by and for itself, its heirs, executors, assigns, and all persons claiming under or through them, that there shall be no discrimination or segregation in the performance of or in connection with this Agreement regarding any person or group of persons on account of race, color, creed, religion, sex, marital status, national origin, or ancestry. Firm shall take affirmative action to insure that applicants and employees are treated without regard to their race, color, creed, religion, sex, marital status, national origin, or ancestry.

10. MISCELLANEOUS PROVISIONS

10.1 <u>Confidentiality</u>

Information obtained by Firm in the performance of this Agreement shall be treated as strictly confidential and shall not be used by Firm for any purpose other than the performance of this Agreement without the written consent of OCFA.

10.2 <u>Notice</u>

Any notice, demand, request, consent, approval, or communication either party desires or is required to give to the other party or any other person shall be in writing and either served personally or sent by pre-paid, first-class mail to the address set forth below. Either party may change its address by notifying the other party of the change of address in writing. Notice shall be deemed communicated forty-eight (48) hours from the time of mailing if mailed as provided in this Section.

Orange County Fire Authority Attention: Sara Kennedy 1 Fire Authority Road Irvine, CA 92602

WITH COPY TO:

David E. Kendig, General Counsel Woodruff, Spradlin & Smart 555 Anton Blvd. Suite 1200 Costa Mesa, CA 92626

To Firm:

[Name]	
Attention:	
[Address]	

10.2 Integrated Agreement

This Agreement contains all of the agreements of the parties and cannot be amended or modified except by written agreement.

10.3 <u>Amendment</u>

This Agreement may be amended at any time by the mutual consent of the parties by an instrument in writing.

10.4 <u>Severability</u>

In the event that any one or more of the phrases, sentences, clauses, paragraphs, or sections contained in this Agreement shall be declared invalid or unenforceable by valid judgment or decree of a court of competent jurisdiction, such invalidity or unenforceability shall not affect any of the remaining phrases, sentences, clauses, paragraphs, or sections of this Agreement, which shall be interpreted to carry out the intent of the parties hereunder.

10.5 <u>Corporate Authority</u>

The persons executing this Agreement on behalf of the parties hereto warrant that they are duly authorized to execute this Agreement on behalf of said parties and that by so executing this Agreement the parties hereto are formally bound to the provisions of this Agreement.

[Signatures on Following Page]

IN WITNESS WHEREOF, the parties have executed this Agreement as of the dates stated below.

	"OCFA"	
	ORANGE COUNTY FIRE AUTHORITY	
Date:	Ву:	
	Sara Kennedy, CPPB Purchasing Division Manager	
APPROVED AS TO FORM.	ATTEST:	
By:		
By: DAVID E. KENDIG GENERAL COUNSEL	Maria D. Huizar Clerk of the Board	
Date:		
	"FIRM"	
	FIRM NAME	
Date:	By:	
	[Name] [Title]	
Date:	Ву:	
	[Name] [Title]	

ORANGE COUNTY FIRE AUTHORITY PROFESSIONAL SERVICES AGREEMENT

THIS AGREEMENT FOR PROFESSIONAL SERVICES ("Agreement") is made and entered into this 16th day of November, 2023, by and between the Orange County Fire Authority, a public agency, hereinafter referred to as "OCFA", and NICE Systems, Inc., a Corporation, hereinafter referred to as "Firm". OCFA and Firm are sometimes individually referred to herein as a "Party" and collectively as the "Parties".

RECITALS

WHEREAS, OCFA requires the services of a qualified firm to provide 911 Voice/ Digital Logging Recording Systems as requested, hereinafter referred to as "Project"; and

WHEREAS, Firm has submitted to OCFA a proposal dated May 18, 2023, a copy of which is attached hereto as Exhibit "A" and is incorporated herein by this reference ("Proposal"); and

WHEREAS, based on its experience and reputation, Firm is qualified to provide the necessary services for the Project and desires to provide such services; and

WHEREAS, OCFA desires to retain the services of Firm for the Project.

NOW, THEREFORE, in consideration of the promises and mutual agreements contained herein, OCFA agrees to employ and does hereby employ Firm and Firm agrees to provide professional services as follows:

AGREEMENT

1. PROFESSIONAL SERVICES

1.1 <u>Scope of Services</u>

In compliance with all terms and conditions of this Agreement, Firm shall provide those services specified and identified as "Option 1" in Firm's Proposal attached hereto as Exhibit "A." The Scope of Services includes by reference and by addendum: (1) OCFA's Request for Proposal, RFP RO2549B, dated April 24, 2023 ("RFP"), (2) Firm's Proposal, as modified by Firm's Best and Final Offer dated October 18, 2023, and (3) any amendments, addendums, change orders, or modifications mutually agreed upon by the parties hereto ("Services" or "Work"). Firm warrants that all Services shall be performed in a competent, professional and satisfactory manner in accordance with all standards prevalent in the same profession in the State of California. Firm represents and warrants that it and all employees, subconsultants and subcontractors providing any Services pursuant to this Agreement shall have a sufficient skill and experience to perform the Services. All Services shall be completed to the reasonable satisfaction of the OCFA. In

the event of any inconsistency between the terms contained in the Firm's Proposal, OCFA's RFP and/or the terms set forth in the main body of this Agreement, the terms set forth in the main body of this Agreement and then the RFP shall govern, in that order.

1.2 <u>Compliance with Law</u>

All Services rendered hereunder shall be provided in accordance with all laws, ordinances, resolutions, statutes, rules, and regulations of OCFA and any federal, state or local governmental agency of competent jurisdiction.

1.3 Licenses and Permits

Firm shall obtain at its sole cost and expense such licenses, permits and approvals as may be required by law for the performance of the Services required by this Agreement.

1.4 Familiarity with Work

By executing this Agreement, Firm warrants that Firm (a) has thoroughly investigated and considered the Work to be performed, (b) has investigated the site of the Work and become fully acquainted with the conditions there existing, (c) has carefully considered how the Work should be performed, and (d) fully understands the facilities, difficulties and restrictions attending performance of the Work under this Agreement. Should the Firm discover any latent or unknown conditions materially differing from those inherent in the Work or as represented by OCFA, Firm shall immediately inform OCFA of such fact and shall not proceed with any Work except at Firm's risk until written instructions are received from the Contract Officer.

1.5 Care of Work

Firm shall adopt and follow reasonable procedures and methods during the term of the Agreement to prevent loss or damage to materials, papers or other components of the work, and shall be responsible for all such damage until acceptance of the work by OCFA, except such loss or damages as may be caused by OCFA's own negligence.

1.6 Additional Services

Firm shall perform services in addition to those specified in the Proposal when directed to do so in writing by the Contract Officer, provided that Firm shall not be required to perform any additional services without compensation. Any additional compensation not exceeding ten percent (10%) of the original Agreement sum must be approved in writing by the Contract Officer. Any greater increase must be approved in writing by the Purchasing Manager.

2. <u>TIME FOR COMPLETION</u>

The time for completion of the Services to be performed by Firm is an essential condition of this Agreement. Firm shall prosecute regularly and diligently the work of this Agreement according to the schedules set forth in Firm's proposal. Firm shall not be accountable for delays in the progress of its work caused by any condition beyond its control and without the fault or negligence of Firm. Delays shall not entitle Firm to any additional compensation regardless of the party responsible for the delay.

3. <u>COMPENSATION OF FIRM</u>

3.1 <u>Compensation of Firm</u>

For the Services rendered pursuant to this Agreement, Firm shall be compensated and reimbursed, in accordance with the Firm's Best and Final Offer dated October 18, 2023 as set forth in Exhibit "A," in an amount not to exceed Four Hundred Eighty Thousand, One Hundred Fifty-Nine Dollars and Twenty-Two Cents (\$480,159.22). Notwithstanding any provisions to the contrary, OCFA shall pay Firm only for services rendered deemed to be necessary by Firm and approved by OCFA. These services shall be identified with particularity in writing and executed by both Firm and OCFA prior to payment.

Included within the compensation are all of firm's ordinary office and overhead expenses, its agent's and employee's compensation, meetings with OCFA representatives, and incidental costs to perform the stipulated services.

3.2 <u>Method of Payment</u>

In any month in which Firm wishes to receive payment, Firm shall no later than the first working day of such month, submit to OCFA in the form approved by OCFA's Director of Finance, an invoice for Services rendered prior to the date of the invoice. OCFA shall pay Firm for all expenses stated thereon which are approved by OCFA consistent with this Agreement, within thirty (30) days of receipt of Firm's invoice.

3.3 Changes

In the event any change or changes in the work is requested by OCFA, the parties hereto shall execute an addendum to this Agreement, setting forth with particularity all terms of such addendum, including, but not limited to, any additional fees. Addenda may be entered into:

A. To provide for revisions or modifications to documents or other work product or work when documents or other work product or work is required by the enactment or revision of law subsequent to the preparation of any documents, other work product or work; B. To provide for additional services not included in this Agreement or not customarily furnished in accordance with generally accepted practice in Firm's profession.

3.4 Appropriations

This Agreement is subject to and contingent upon funds being appropriated therefore by the OCFA Board of Directors for each fiscal year covered by the Agreement. If such appropriations are not made, this Agreement shall automatically terminate without penalty to OCFA.

4. <u>PERFORMANCE SCHEDULE</u>

4.1 <u>Time of Essence</u>

Time is of the essence in the performance of this Agreement.

4.2 Schedule of Performance

All Services rendered pursuant to this Agreement shall be performed within the time periods prescribed in Firm's Proposal, attached hereto as Exhibit "A". The extension of any time period specified in Exhibit "A" must be approved in writing by the Contract Officer.

4.3 Force Majeure

The time for performance of Services to be rendered pursuant to this Agreement may be extended because of any delays due to unforeseeable causes beyond the control and without the fault or negligence of the Firm, including, but not restricted to, acts of God or of a public enemy, acts of the government, fires, earthquakes, floods, epidemic, quarantine restrictions, riots, strikes, freight embargoes, and unusually severe weather if the Firm shall within ten (10) days of the commencement of such condition notify the Contract Officer who shall thereupon ascertain the facts and the extent of any necessary delay, and extend the time for performing the Services for the period of the enforced delay when and if in the Contract Officer's judgment such delay is justified, and the Contract Officer's determination shall be final and conclusive upon the parties to this Agreement.

4.4 <u>Term</u>

Unless earlier terminated in accordance with Sections 8.5 or 8.6 of this Agreement, this Agreement shall commence upon the Effective Date, and shall continue in full force and effect for an initial one-year term ("Initial Term") ending on November 30, 2024. Thereafter, at the sole option of the OCFA, the Agreement may be extended for up to four additional one-year renewal terms.

5. <u>COORDINATION OF WORK</u>

5.1 <u>Representative of Firm</u>

The following principal of the Firm is hereby designated as being the principal and representative of Firm authorized to act in its behalf with respect to the work specified herein and make all decisions in connection therewith: John Rennie, General Manager

It is expressly understood that the experience, knowledge, capability and reputation of the foregoing principal is a substantial inducement for OCFA to enter into this Agreement. Therefore, the foregoing principal shall be responsible during the term of this Agreement for directing all activities of Firm and devoting sufficient time to personally supervise the Services hereunder. The foregoing principal may not be changed by Firm without the express written approval of OCFA.

5.2 <u>Contract Officer</u>

The Contract Officer shall be designated in writing by OCFA. It shall be the Firm's responsibility to keep the Contract Officer fully informed of the progress of the performance of the Services and Firm shall refer any decisions that must be made by OCFA to the Contract Officer. Unless otherwise specified herein, any approval of OCFA required hereunder shall mean the approval of the Contract Officer.

5.3 **Prohibition Against Subcontracting or Assignment**

5.3.1 No Subcontracting Without Prior Approval. The experience, knowledge, capability and reputation of Firm, its principals and employees, and the Firm Representative were a substantial inducement for OCFA to enter into this Agreement. Therefore, Firm shall not contract with any other entity to perform in whole or in part the Services required hereunder without the express written approval of OCFA.

5.3.2 Provisions in the Event Subcontractor(s) Are Authorized. If Firm is authorized to subcontract any part of the Services as provided in Section 5.3.1, Firm shall be responsible to OCFA for the acts and omissions of its subcontractor(s) and subconsultant(s) in the same manner as it is for persons directly employed. For purposes of this Agreement, all persons engaged in the performance of Services will be considered employees of Firm. OCFA will deal directly with and will make all payments to Firm. Nothing contained in this Agreement shall create any contractual relationships between any subcontractor and OCFA. Firm shall ensure that all subcontractor insurance requirements set forth in Section 6 below (including its subsections) are complied with prior to commencement of Services by each subcontractor.

5.3.2.1 Withholding Payment for Non-Authorized Subcontractors. OCFA shall have the right to withhold payment from Firm

for Services performed by any subcontractor or subconsultant performing Services but not authorized in writing by OCFA, or regarding which the insurance or other requirements under this Agreement have not been satisfied.

5.3.3 Assignments. Neither this Agreement nor any interest herein may be assigned, transferred, conveyed, hypothecated, or encumbered voluntarily or by operation of law, whether for the benefit of creditors or otherwise, without the prior written approval of OCFA. Transfers restricted hereunder shall include the transfer to any person or group of persons acting in concert of more than twenty five percent (25%) of the present ownership and/or control of Firm, taking all transfers into account on a cumulative basis. In the event of any such unapproved transfer, including any bankruptcy proceeding, this Agreement shall be void. No approved transfer shall release Firm or any surety of Firm from any liability hereunder without the express written consent of OCFA.

5.4 Independent Contractor

5.4.1 The legal relationship between the Parties is that of an independent contractor, and nothing herein shall be deemed to make Contractor, or any of its personnel, an OCFA employee. During the performance of this Agreement, Firm and its officers, employees, and agents shall act in an independent capacity and shall not act as OCFA officers or employees. Firm will determine the means, methods and details of performing the Services subject to the requirements of this Agreement. The personnel performing the Services under this Agreement on behalf of Firm shall at all times be under Firm's exclusive direction and control. Neither OCFA nor any of its officials, officers, employees, agents or volunteers shall have control over the conduct of Firm or any of its officers, employees, or agents, except as set forth in this Agreement. Firm, its officers, employees or agents, shall not maintain a permanent office or fixed business location at OCFA's offices. OCFA shall have no voice in the selection, discharge, supervision, or control of Firm's officers, employees, representatives or agents or in fixing their number, compensation, or hours of service. Firm shall pay all wages, salaries, and other amounts due its employees in connection with the performance of Services under this Agreement and shall be responsible for all reports and obligations respecting them, including but not limited to social security income tax withholding, unemployment compensation, workers' compensation, and other similar matters. OCFA shall not in any way or for any purpose be deemed to be a partner of Firm in its business or otherwise a joint venturer or a member of any joint enterprise with Firm.

5.4.2 Firm shall not incur or have the power to incur any debt, obligation, or liability against OCFA, or bind OCFA in any manner.

5.4.3 No OCFA benefits shall be available to Firm, its officers, employees, or agents, in connection with the performance of any Work or Services under this Agreement. Except for professional fees paid to Firm as provided for in this Agreement, OCFA shall not pay salaries, wages, or other compensation to Firm for the performance of any Work or Services under this Agreement. OCFA shall not be liable for

compensation or indemnification to Firm, its officers, employees, or agents, for injury or sickness arising out of performing any Work or Services hereunder. If for any reason any court or governmental agency determines that the OCFA has financial obligations, other than pursuant to Section 2 herein, of any nature relating to salary, taxes, or benefits of Firm's officers, employees, representatives, agents, or subconsultants or subcontractors, Firm shall defend, indemnify, and hold harmless OCFA from and against all such financial obligations.

5.6 Employee Retirement System Eligibility Indemnification

5.6.1 In the event that Firm or any employee, agent, or subcontractor of Firm providing any Work or Services under this Agreement claims or is determined by a court of competent jurisdiction to be eligible for enrollment in an employee retirement system as an employee of the OCFA, Firm shall indemnify, defend, and hold harmless OCFA against: (1) all such claim(s) and determination(s); (2) for the payment of any employee and/or employeer contributions for employee retirement system benefits on behalf of Firm or its employees, agents or subcontractors; and (3) the payment of any penalties and interest on such contributions which would otherwise be the responsibility of the OCFA.

5.6.2 Notwithstanding any other agency, state or federal policy, rule, regulation, law or ordinance to the contrary, Contractor and any of its employees, agents, and subcontractors providing any Work or Services under this Agreement shall not qualify for or become entitled to, and hereby agree to waive any claims to, any compensation, benefit, or any incident of employment by OCFA, including but not limited to eligibility to enroll in PERS as an employee of OCFA and entitlement to any contribution to be paid by OCFA for employer contribution and/or employee contributions for PERS benefits.

6. INSURANCE AND INDEMNIFICATION

6.1 <u>Compliance with Insurance Requirements</u>. Firm shall obtain, maintain, and keep in full force and effect during the term of this Agreement, at its sole cost and expense, and in a form and content satisfactory to OCFA, all insurance required under this section. Firm shall not commence any Services under this Agreement unless and until it has provided evidence satisfactory to OCFA that it has secured all insurance required under this section. If Firm's existing insurance policies do not meet the insurance requirements set forth herein, Firm agrees to amend, supplement or endorse the policies to meet all requirements herein.

6.2 <u>Types of Insurance Required</u>. Without limiting the indemnity provisions set forth in this Agreement, Firm shall obtain and maintain in full force and effect during the term of this Agreement, including any extension thereof, the following policies of insurance:

6.2.1 Professional Liability/Errors and Omissions Insurance ("PLI"). Firm shall obtain and maintain PLI insurance applicable to each licensed profession practiced by Firm. Firm shall maintain PLI insurance with per-claim and aggregate limits no lower than one million dollars (\$1,000,000.00) each occurrence and two million dollars (\$2,000,000.00) aggregate. Covered professional services shall specifically include all Services to be performed under the Agreement and the policy shall be endorsed to delete any exclusions that may exclude coverage for claims within the minimum PLI Limits for the Services to be performed under this Agreement.

6.2.1.1 The PLI policy shall be endorsed to delete any Contractual Liability Exclusion. The PLI shall include contractual liability coverage applicable to this Agreement. The policy must "pay on behalf of" the insured, and include a provision establishing the insurer's duty to defend the insured.

6.2.1.2 If the PLI policy of insurance is written on a "claims-made" basis, the policy shall be continued in full force and effect at all times during the term of this Agreement, and for a period of three (3) years from the date of the completion of all Services provided hereunder (the "PLI Coverage Period"). If any PLI policy is replaced, cancelled, non-renewed, discontinued, or otherwise terminated, or if the limits of a PLI policy are reduced or the available coverage depleted below the required minimum coverage amounts for any reason during the PLI Coverage Period, Firm shall immediately obtain replacement PLI coverage meeting the requirements of this Section 6.2.1. Such replacement coverage shall satisfy all requirements herein, and shall include coverage for the prior acts or omissions of Firm during the time period during which any Services were performed. The coverage shall be evidenced by either a new policy evidencing no gap in coverage, or by obtaining separate extended "tail" coverage with the present or new carrier or other insurance arrangements providing for complete coverage, either of which shall be subject to the written approval by the OCFA.

6.2.1.3 If the PLI policy is written on an "occurrence" basis, the policy shall be continued in full force and effect during the term of this Agreement, or until completion of the Services provided for in this Agreement, whichever is later. In the event of termination of the PLI policy during this period, new coverage shall immediately be obtained, and written evidence of the policy shall be immediately provided to OCFA, to ensure PLI coverage during the entire course of performing the Services.

6.2.1.4 Firm shall not perform any Services at any time during which required types or amounts of PLI insurance are not in effect, and OCFA shall have no obligation to pay Firm for Services performed while required PLI insurance is not in effect.

6.2.2 Commercial General Liability Insurance. Firm shall obtain and maintain, in full force and effect throughout the term of this Agreement, Insurance Services Office (ISO) Form CG 00 01 covering CGL on an "occurrence" basis, including products and completed operations, property damage, bodily injury and personal & advertising injury with limits no less than one million dollars (\$1,000,000.00) per

occurrence. If a general aggregate limit applies, either the general aggregate limit shall apply separately to this project/location (ISO CG 25 03 or 25 04) or the general aggregate limit shall be twice the required occurrence limit. CGL insurance shall be provided on an occurrence-based coverage form; a "claims made" CGL policy is not acceptable. Firm shall maintain CGL insurance with per-claim, aggregate and products and operations completed limits no lower than the minimum CGL coverage limits set forth above. Defense costs shall be paid in addition to the limits. The policy shall contain no endorsements or provisions limiting coverage for any of the following: (1) contractual liability; (2) cross liability exclusion for claims or suits by one insured against another; or (3) any other exclusion contrary to this Agreement.

6.2.3 Automobile Liability Insurance. Firm shall obtain and maintain, in full force and effect throughout the term of this Agreement, a policy of Automobile liability insurance written on a per occurrence basis with limits of at least one million dollars (\$1,000,000.00) combined limit for each occurrence covering bodily injury, disease and property damage. Defense costs shall be paid in addition to the policy limits. The policy shall specifically include coverage for owned, non-owned, leased, and hired automobiles, and be endorsed to eliminate any exclusion applicable to any of them.

6.2.4 Workers' Compensation Insurance. Firm shall obtain and maintain, in full force and effect throughout the term of this Agreement, a policy of Workers' Compensation Insurance in at least the minimum statutory amounts, and in compliance with all other statutory requirements applicable in the State of California. Firm hereby waives on its own behalf, and shall obtain an endorsement from its workers' compensation insurer waiving on the insurance company's behalf, all rights of subrogation against the OCFA, its board members, officials, officers, employees, agents and volunteers.

6.2.4.1 If subconsultants or subcontractors are used, Firm shall require each of its subconsultants and subcontractors, if any, to waive all rights of subrogation, and to obtain endorsements from the subconsultants'/subcontractors' workers' compensation insurers waiving all rights of subrogation, against the OCFA, its board members, officials, officers, employees, agents and volunteers.

6.2.4.2 Firm and each of its subconsultants and subcontractors shall also maintain, in full force and effect throughout the term of this Agreement, Employer's Liability Insurance with limits of at least one million dollars (\$1,000,000.00) per injury or illness.

6.3 <u>Acceptability of Insurers</u>. Each insurance policy required by this section shall be issued by a licensed company authorized to transact business by the Department of Insurance for the State of California with a current rating of A-:VII or better (if an admitted carrier), or a current rating of A:X or better (if offered by a non-admitted insurer listed on the State of California List of Approved Surplus Line Insurers (LASLI)), by the latest edition of A.M. Best's Key Rating Guide, except that the OCFA will accept workers' compensation insurance from the State Compensation Fund. In the event the

OCFA determines that the Services to be performed under this Agreement creates an increased or decreased risk of loss to the OCFA, the Firm agrees that the minimum limits of the insurance policies may be changed accordingly upon receipt of written notice from the OCFA.

6.3.1 Firm shall immediately replace any insurer whose A.M. Best rating drops below the levels specified herein with an insurer that meets the minimum requirements herein.

6.4 <u>Specific Insurance Provisions and Endorsements</u>. Required insurance policies shall not be in compliance if they include any limiting provision or endorsement that has not been submitted to the OCFA for written approval. Required insurance policies shall contain the following provisions, or Firm shall provide endorsements on forms approved by the OCFA to add the following provisions to the insurance policies:

6.4.1 CGL and Auto Liability Endorsements. The policy or policies of insurance required by this Agreement for CGL and Automobile Liability Insurance shall be endorsed as follows:

6.4.1.1 Additional Insured: The OCFA, its board members, officials, officers, employees, agents and volunteers, shall be additional insureds; and

6.4.1.1.1 Additional Insured Endorsements:

Additional insured endorsements shall not (1) be restricted to "ongoing operations", (2) exclude "contractual liability", (3) restrict coverage to "sole" liability of Firm, (4) contain any other exclusions contrary to the Agreement; or (5) contain special limitations on the scope of protection afforded to additional insureds.

6.4.1.2 Primary, Non-Contributing. Each CGL and Auto Liability insurance policy shall be endorsed to be primary and any other insurance, deductible, or self-insurance maintained by the OCFA, its board members, officials, officers, employees, agents or volunteers, shall not contribute with the primary insurance.

6.4.2 Notice of Cancellation: Each policy of any type shall be endorsed to provide that coverage shall not be suspended, voided, cancelled, or modified, or reduced in coverage or in limits, except after thirty (30) days prior written notice has been provided to the OCFA. Notwithstanding the foregoing, if coverage is to be suspended, voided, or cancelled because of Firm's failure to pay the insurance premium, the notice provided by the insurer to OCFA shall be by not less than ten (10) days prior written notice. (A statement that notice will be provided "in accordance with the policy terms" or words to that effect is inadequate to meet the requirements of this Section).

6.4.2.1 Pre-Payment of Policy Premium. If for any reason an insurer declines to issue an endorsement certifying that it will notify OCFA in accordance with section 6.4.2, Firm shall either obtain insurance from another insurer who will provide the required notice endorsement or shall provide evidence satisfactory to OCFA that the entire policy premium for the full term of that policy has been pre-paid such that the risk of non-payment of premiums during the term of the policy has been eliminated.

6.4.3 ACORD Forms Will Not Be Accepted in Lieu of Endorsements. By executing this Agreement, Firm certifies that it has – prior to execution of this Agreement - confirmed that its insurance company will issue each of the endorsements required by this Agreement. Firm also certifies that it understands that "ACORD" Certificate of Liability Insurance forms will not be accepted in lieu of required endorsements.

6.5 <u>Deductibles and Self-Insured Retentions</u>. Any deductible or selfinsured retention must be approved in writing by the OCFA in advance. The decision whether to approve or withhold approval of a deductible or self-insured retention shall be made by the OCFA in the OCFA's sole and absolute discretion. (Firm may request preapproval from OCFA of a deductible or self-insured retention prior to submitting Firm's Proposal).

6.6 <u>Waiver of Subrogation</u>. All policies of Commercial General Liability and Automobile Liability Insurance shall contain or be endorsed to waive subrogation against the OCFA, its officials, officers, employees, agents and volunteers, or shall specifically allow Firm or others providing insurance evidence in compliance with the requirements set forth in this section to waive their right to recovery prior to a loss. Firm hereby agrees to waive its own right of subrogation against the OCFA, its officials, officers, employees, agents and volunteers.

6.6.1 Waivers of Subrogation: Subconsultants and Subcontractors. If OCFA approves the use of subconsultants or subcontractors for the performance of any portion of the Services, then Firm shall obtain from each subconsultant and subcontractor, and make available to OCFA upon request, written express waivers by each subconsultant and subcontractor of the right of subrogation against the OCFA, its officials, officers, employees, agents and volunteers, and policy endorsements of each of its subconsultants' and subcontractors' insurance policies waiving any rights of subrogation against the OCFA, its officials, officers, employees, agents and volunteers, employees, agents and volunteers insurer. All such waivers and endorsements shall be obtained prior to commencement of any Services by each subconsultant or subcontractor.

6.7 <u>Evidence of Coverage</u>. Concurrently with the execution of the Agreement, Firm shall deliver certificates of insurance together with original endorsements affecting each of the insurance policies required to be maintained by Firm by this Section 5. Firm shall promptly furnish, at OCFA's request, copies of actual policies

including all declaration pages, endorsements, exclusions and any other policy documents OCFA requires to verify coverage.

6.7.1 Required insurance policies shall not be in compliance if they include any limiting provision or endorsement that has not been submitted to the OCFA for written approval.

6.7.2 Authorized Signatures. The certificates of insurance and original endorsements for each insurance policy shall be signed by a person authorized by that insurer to bind coverage on its behalf.

6.7.3 Renewal/Replacement Policies. At least fifteen (15) days prior to the expiration of any policy required by this Agreement, evidence of insurance showing that such insurance coverage has been renewed or extended shall be filed with the OCFA. If such coverage is cancelled or reduced and not replaced immediately so as to avoid a lapse in the required coverage, Firm shall, within ten (10) days after receipt of written notice of such cancellation or reduction of coverage, file with the OCFA evidence of insurance showing that the required insurance has been reinstated or has been provided through another insurance company or companies meeting all requirements of this Agreement.

6.8 Requirements Not Limiting. Requirement of specific coverage or minimum limits contained in this section are not intended as a limitation on coverage, limits, or other requirements, or a waiver of any coverage normally provided by any insurance. The insurance obligations under this Agreement shall be: (1) all the insurance coverage and/or limits carried by or available to Firm; or (2) the minimum insurance coverage requirements and/or limits shown in this Agreement; whichever is greater. Any insurance proceeds in excess of or broader than the minimum required coverage and/or minimum required limits, which are applicable to a given loss, shall be available to the OCFA. No representation is made that the minimum insurance requirements of this Agreement are sufficient to cover the obligations of Firm under this Agreement. Nothing in this section shall be construed as limiting in any way the indemnification provision contained in this Agreement, or the extent to which Firm may be held responsible for losses of any type or amount.

6.9 Enforcement of Agreement (Non-Estoppel). Firm acknowledges and agrees that actual or alleged failure on the part of the OCFA to inform Firm of any non-compliance with any of the insurance requirements set forth in this Agreement imposes no additional obligation on the OCFA nor does it waive any rights hereunder.

6.10 Insurance for Subconsultants. If OCFA approves the use of subconsultants or subcontractors for the performance of any portion of the Services, then Firm shall be responsible for causing each approved subconsultant and subcontractor to procure and maintain insurance in the same types and amounts required for Firm, and in full compliance with the insurance requirements set forth in this Agreement, except as otherwise authorized in writing by the Contract Manager.

6.10.1 Delivery of Evidence of Subcontractor Insurance. Upon request of OCFA, Firm shall deliver to OCFA all certificates of insurance and endorsements required from subcontractors and subconsultants. (Note: Firm's duty to obtain all required insurance for subcontractors and subconsultants required under this Agreement applies whether or not OCFA requests delivery of evidence of such coverage.)

6.11 Other Insurance Requirements. The following terms and conditions shall apply to the insurance policies required of Firm and its subconsultants and subcontractors, if any, pursuant to this Agreement:

6.11.1 Firm shall provide immediate written notice to OCFA if (1) any of the insurance policies required herein are terminated, cancelled, suspended, or non-renewed (2) the limits of any of the insurance coverages required herein are reduced; (3) any required insurance coverage is reduced below the required minimum limits through claims or otherwise, or (4) the deductible or self-insured retention is increased.

6.11.2 All insurance coverage and limits required under this Agreement are intended to apply to each insured, including additional insureds, against whom a claim is made or suit is brought to the full extent of the policies. Nothing contained in this Agreement or any other agreement relating to the OCFA or its operations shall limit the application of such insurance coverage.

6.11.3 None of the insurance coverages required herein will be in compliance with the requirements of this section if they include any limiting endorsement which substantially impairs the coverages set forth herein (e.g., elimination of contractual liability or reduction of discovery period), unless the endorsement has first been submitted to the OCFA and approved in writing.

6.11.4 Certificates of insurance will not be accepted in lieu of required endorsements, and submittal of certificates without required endorsements may delay the Project. It is Firm's obligation to ensure timely compliance with all insurance submittal requirements as provided herein and Firm agrees to reimburse OCFA for any losses resulting from its failure, or its subconsultants' or subcontractors' failure, to timely comply with the requirements of this Agreement.

6.11.5 Firm agrees to ensure that subconsultants and subcontractors, if any, and any other parties involved with the Project who are brought onto or involved in the Project by Firm, provide the same minimum insurance coverage required of Firm. Firm agrees to monitor and review all such coverage and assumes all responsibility for ensuring that such coverage is provided in conformity with the requirements of this section. Firm agrees that upon request, all agreements with, and evidence of insurance from, subconsultants and subcontractors and others engaged in performing any Services will be submitted to the OCFA for review.

6.11.6 Firm agrees to provide immediate written notice to OCFA of any claim, demand or loss arising out of the Services performed under this Agreement and for any other claim, demand or loss which may reduce the insurance available to an amount less than required by this Agreement.

6.12 Indemnification.

To the fullest extent permitted by law, Firm shall defend (at Firm's sole cost and expense with legal counsel reasonably acceptable to OCFA), indemnify and hold the OCFA, its board members, officials, officers, employees, agents and volunteers, free and harmless from any and all claims, demands, orders, causes of action, costs, expenses, liabilities, losses, penalties, judgments, arbitration awards, settlements, damages or injuries of any kind, in law or in equity, including but not limited to property or persons, including wrongful death, (collectively "Claims") in any manner arising out of, pertaining to, related to, or incident to any alleged acts, errors or omissions, or willful misconduct of Firm, its officers, directors, employees, subconsultants, subcontractors, agents or invitees in connection with performance under this Agreement, or in any manner arising out of, pertaining to, related to, or incident to an alleged breach of this Agreement, including without limitation the payment of all consequential damages, expert witness fees and attorneys' fees and other related costs and expenses.

Notwithstanding the foregoing, and only to the extent that the Services performed by Firm are subject to California Civil Code Section 2782.8, the above indemnity shall be limited, to the extent required by Civil Code Section 2782.8, to claims that arise out of, pertain to, or relate to the negligence, recklessness, or willful misconduct of the Firm.

Under no circumstances shall the insurance requirements and limits set forth in this Agreement be construed to limit Firm's indemnification obligation or other liability hereunder. Notwithstanding the foregoing, such obligation to defend, hold harmless and indemnify the OCFA, its board members officials, officers, employees, agents and volunteers, shall not apply to the extent that such Claims are caused by the sole negligence or willful misconduct of that indemnified party.

7. <u>RECORDS AND REPORTS</u>

7.1 <u>Reports</u>

Firm shall periodically prepare and submit to the Contract Officer such reports concerning the performance of the Services required by this Agreement as the Contract Officer shall require.

7.2 <u>Records</u>

Firm shall keep such books and records as shall be necessary to properly perform the Services required by this Agreement and enable the Contract Officer to

evaluate the performance of such Services. <u>Except as provided in Section 7.5</u>, the Contract Officer shall have full and free access to such books and records at all reasonable times, including the right to inspect, copy, audit and make records and transcripts from such records.

7.3 <u>Ownership of Documents</u>

Except as provided in Section 7.5, all drawings, specifications, reports, records, documents and other materials prepared by Firm in the performance of this Agreement shall be the property of OCFA and shall be delivered to OCFA upon request of the Contract Officer or upon the termination of this Agreement, and Firm shall have no claim for further employment or additional compensation as a result of the exercise by OCFA of its full rights or ownership of the documents and materials hereunder. Firm may retain copies of such documents for its own use. Firm shall have an unrestricted right to use the concepts embodied therein.

7.4 <u>Release of Documents</u>

All drawings, specifications, reports, records, documents and other materials prepared by Firm in the performance of Services under this Agreement shall not be released publicly without the prior written approval of the Contract Officer.

7.5 Confidential Materials

Notwithstanding anything to the contrary in this Agreement, the Firm shall be the sole owner of Firm's work papers and of any other documents, data or information which are required to be maintained confidential from OCFA by one or more rules of professional conduct governing the Firm's profession(s) (collectively, the "Confidential Materials"). Neither the OCFA nor the Contract Officer shall have access to the Confidential Materials except as may otherwise be required by order issued by a court of competent jurisdiction.

8. ENFORCEMENT OF AGREEMENT

8.1 <u>California Law</u>

This Agreement shall be construed and interpreted both as to validity and to performance of the parties in accordance with the laws of the State of California. Legal actions concerning any dispute, claim or matter arising out of or in relation to this Agreement shall be instituted in the Superior Court of the County of Orange, State of California, or any other appropriate court in such county, and Firm covenants and agrees to submit to the personal jurisdiction of such court in the event of such action.

8.2 <u>Waiver</u>

No delay or omission in the exercise of any right or remedy of a nondefaulting party on any default shall impair such right or remedy or be construed as a waiver. No consent or approval of OCFA shall be deemed to waiver or render unnecessary OCFA's consent to or approval of any subsequent act of Firm. Any waiver by either party of any default must be in writing and shall not be a waiver of any other default concerning the same or any other provision of this Agreement.

8.3 **<u>Rights and Remedies are Cumulative</u>**

Except with respect to rights and remedies expressly declared to be exclusive in this Agreement, the rights and remedies of the parties are cumulative and the exercise by either party of one or more of such rights or remedies shall not preclude the exercise by it, at the same or different times, of any other rights or remedies for the same default or any other default by the other party.

8.4 Legal Action

In addition to any other rights or remedies, either party may take legal action, in law or in equity, to cure, correct or remedy any default, to recover damages for any default, to compel specific performance of this Agreement, to obtain injunctive relief, a declaratory judgment, or any other remedy consistent with the purposes of this Agreement.

8.5 <u>Termination Prior to Expiration of Term</u>

OCFA reserves the right to terminate this Agreement at any time, with or without cause, upon thirty (30) days written notice to Firm, except that where termination is due to the fault of the Firm and constitutes an immediate danger to health, safety and general welfare, the period of notice shall be such shorter time as may be appropriate. Upon receipt of the notice of termination, Firm shall immediately cease all Services hereunder except such as may be specifically approved by the Contract Officer. Firm shall be entitled to compensation for all Services rendered prior to receipt of the notice of termination and for any Services authorized by the Contract Officer thereafter.

Firm may terminate this Agreement, with or without cause, upon thirty (30) days written notice to OCFA.

8.6 <u>Termination for Default of Firm</u>

If termination is due to the failure of the Firm to fulfill its obligations under this Agreement, OCFA may take over the work and prosecute the same to completion by contract or otherwise, and the Firm shall be liable to the extent that the total cost for completion of the Services required hereunder exceeds the compensation herein stipulated, provided that OCFA shall use reasonable efforts to mitigate damages, and OCFA may withhold any payments to the Firm for the purpose of set-off or partial payment of the amounts owed to OCFA.

8.7 <u>Attorneys' Fees</u>

If either party commences an action against the other party arising out of or in connection with this Agreement or its subject matter, the prevailing party shall be entitled to recover reasonable attorneys' fees and costs of suit from the losing party.

9. OCFA OFFICERS AND EMPLOYEES; NON-DISCRIMINATION

9.1 <u>Non-Liability of OCFA Officers and Employees</u>

No officer or employee of OCFA shall be personally liable to the Firm, or any successor-in-interest, in the event of any default or breach by OCFA or for any amount which may become due to the Firm or its successor, or for breach of any obligation of the terms of this Agreement.

9.2 Covenant Against Discrimination

Firm covenants that, by and for itself, its heirs, executors, assigns, and all persons claiming under or through them, that there shall be no discrimination or segregation in the performance of or in connection with this Agreement regarding any person or group of persons on account of race, color, creed, religion, sex, marital status, national origin, or ancestry. Firm shall take affirmative action to insure that applicants and employees are treated without regard to their race, color, creed, religion, sex, marital status, national origin, or ancestry.

10. MISCELLANEOUS PROVISIONS

10.1 Confidentiality

Information obtained by Firm in the performance of this Agreement shall be treated as strictly confidential and shall not be used by Firm for any purpose other than the performance of this Agreement without the written consent of OCFA.

10.2 <u>Notice</u>

Any notice, demand, request, consent, approval, or communication either party desires or is required to give to the other party or any other person shall be in writing and either served personally or sent by pre-paid, first-class mail to the address set forth below. Either party may change its address by notifying the other party of the change of address in writing. Notice shall be deemed communicated forty-eight (48) hours from the time of mailing if mailed as provided in this Section.

Orange County Fire Authority Attention: Sara Kennedy 1 Fire Authority Road WITH COPY TO: David E. Kendig, General Counsel Woodruff & Smart Irvine, CA 92602

555 Anton Blvd. Suite 1200 Costa Mesa, CA 92626

To Firm:

NICE Systems, Inc. Attention: John Rennie 221 River St Hoboken, NJ 07030

10.2 Integrated Agreement

This Agreement contains all of the agreements of the parties and cannot be amended or modified except by written agreement.

10.3 <u>Amendment</u>

This Agreement may be amended at any time by the mutual consent of the parties by an instrument in writing.

10.4 <u>Severability</u>

In the event that any one or more of the phrases, sentences, clauses, paragraphs, or sections contained in this Agreement shall be declared invalid or unenforceable by valid judgment or decree of a court of competent jurisdiction, such invalidity or unenforceability shall not affect any of the remaining phrases, sentences, clauses, paragraphs, or sections of this Agreement, which shall be interpreted to carry out the intent of the parties hereunder.

10.5 Corporate Authority

The persons executing this Agreement on behalf of the parties hereto warrant that they are duly authorized to execute this Agreement on behalf of said parties and that by so executing this Agreement the parties hereto are formally bound to the provisions of this Agreement.

[Signatures on Following Page]

IN WITNESS WHEREOF, the parties have executed this Agreement as of the dates stated below.

"OCFA"

ATTEST:

ORANGE COUNTY FIRE AUTHORITY

Date:_____ E

Date:

By:_____

Sara Kennedy, CPPB Purchasing Division Manager

APPROVED AS TO FORM.

By: msd\\ DAVID E. KENDIG GENERAL COUNSEL

Maria D. Huizar Clerk of the Board

"FIRM"

NICE SYSTEMS, INC.

Date:	Ву:

John Rennie General Manager

Date:_____ By:____

Jeff Visger Account Executive EXHIBIT "A"

NICE

TRUTH DEPENDS ON IT

Orange County Fire Authority

Request for Proposal

9-1-1 Voice / Radio Digital Logging Recording System RFP Number: R02549A

May 25, 2023, 11:00 AM Pacific

NICE Inform Solution Proposal

PRESENTED TO:

Orange County Fire Authority

Attn: Rothchild Ong Assistant Purchasing Agent rothchildong@ocfa.org 714-573-6642 1 Fire Authority Road, Bldg. C Irvine, CA 92602

SUBMITTED BY:

NICE Systems, Inc.

Jeff Visger Account Executive jeff.visger@nice.com 801-715-5552 221 River Street Hoboken, NJ 07030

ORANGE COUNTY FIRE AUTHORITY PROFESSIONAL SERVICES AGREEMENT

THIS AGREEMENT FOR PROFESSIONAL SERVICES ("Agreement") is made and entered into this 16th day of November, 2023, by and between the Orange County Fire Authority, a public agency, hereinafter referred to as "OCFA", and NICE Systems, Inc., a Corporation, hereinafter referred to as "Firm". OCFA and Firm are sometimes individually referred to herein as a "Party" and collectively as the "Parties".

RECITALS

WHEREAS, OCFA requires the services of a qualified firm to provide 911 Voice/ Digital Logging Recording Systems as requested, hereinafter referred to as "Project"; and

WHEREAS, Firm has submitted to OCFA a proposal dated May 18, 2023, a copy of which is attached hereto as Exhibit "A" and is incorporated herein by this reference ("Proposal"); and

WHEREAS, based on its experience and reputation, Firm is qualified to provide the necessary services for the Project and desires to provide such services; and

WHEREAS, OCFA desires to retain the services of Firm for the Project.

NOW, THEREFORE, in consideration of the promises and mutual agreements contained herein, OCFA agrees to employ and does hereby employ Firm and Firm agrees to provide professional services as follows:

AGREEMENT

1. PROFESSIONAL SERVICES

1.1 <u>Scope of Services</u>

In compliance with all terms and conditions of this Agreement, Firm shall provide those services specified and identified as "Option 1" in Firm's Proposal attached hereto as Exhibit "A." The Scope of Services includes by reference and by addendum: (1) OCFA's Request for Proposal, RFP RO2549B, dated April 24, 2023 ("RFP"), (2) Firm's Proposal, as modified by Firm's Best and Final Offer dated October 18, 2023, and (3) any amendments, addendums, change orders, or modifications mutually agreed upon by the parties hereto ("Services" or "Work"). Firm warrants that all Services shall be performed in a competent, professional and satisfactory manner in accordance with all standards prevalent in the same profession in the State of California. Firm represents and warrants that it and all employees, subconsultants and subcontractors providing any Services pursuant to this Agreement shall have a sufficient skill and experience to perform the Services. All Services shall be completed to the reasonable satisfaction of the OCFA. In

the event of any inconsistency between the terms contained in the Firm's Proposal, OCFA's RFP and/or the terms set forth in the main body of this Agreement, the terms set forth in the main body of this Agreement and then the RFP shall govern, in that order.

1.2 <u>Compliance with Law</u>

All Services rendered hereunder shall be provided in accordance with all laws, ordinances, resolutions, statutes, rules, and regulations of OCFA and any federal, state or local governmental agency of competent jurisdiction.

1.3 Licenses and Permits

Firm shall obtain at its sole cost and expense such licenses, permits and approvals as may be required by law for the performance of the Services required by this Agreement.

1.4 Familiarity with Work

By executing this Agreement, Firm warrants that Firm (a) has thoroughly investigated and considered the Work to be performed, (b) has investigated the site of the Work and become fully acquainted with the conditions there existing, (c) has carefully considered how the Work should be performed, and (d) fully understands the facilities, difficulties and restrictions attending performance of the Work under this Agreement. Should the Firm discover any latent or unknown conditions materially differing from those inherent in the Work or as represented by OCFA, Firm shall immediately inform OCFA of such fact and shall not proceed with any Work except at Firm's risk until written instructions are received from the Contract Officer.

1.5 Care of Work

Firm shall adopt and follow reasonable procedures and methods during the term of the Agreement to prevent loss or damage to materials, papers or other components of the work, and shall be responsible for all such damage until acceptance of the work by OCFA, except such loss or damages as may be caused by OCFA's own negligence.

1.6 Additional Services

Firm shall perform services in addition to those specified in the Proposal when directed to do so in writing by the Contract Officer, provided that Firm shall not be required to perform any additional services without compensation. Any additional compensation not exceeding ten percent (10%) of the original Agreement sum must be approved in writing by the Contract Officer. Any greater increase must be approved in writing by the Purchasing Manager.

2. <u>TIME FOR COMPLETION</u>

The time for completion of the Services to be performed by Firm is an essential condition of this Agreement. Firm shall prosecute regularly and diligently the work of this Agreement according to the schedules set forth in Firm's proposal. Firm shall not be accountable for delays in the progress of its work caused by any condition beyond its control and without the fault or negligence of Firm. Delays shall not entitle Firm to any additional compensation regardless of the party responsible for the delay.

3. <u>COMPENSATION OF FIRM</u>

3.1 <u>Compensation of Firm</u>

For the Services rendered pursuant to this Agreement, Firm shall be compensated and reimbursed, in accordance with the Firm's Best and Final Offer dated October 18, 2023 as set forth in Exhibit "A," in an amount not to exceed Four Hundred Eighty Thousand, One Hundred Fifty-Nine Dollars and Twenty-Two Cents (\$480,159.22). Notwithstanding any provisions to the contrary, OCFA shall pay Firm only for services rendered deemed to be necessary by Firm and approved by OCFA. These services shall be identified with particularity in writing and executed by both Firm and OCFA prior to payment.

Included within the compensation are all of firm's ordinary office and overhead expenses, its agent's and employee's compensation, meetings with OCFA representatives, and incidental costs to perform the stipulated services.

3.2 <u>Method of Payment</u>

In any month in which Firm wishes to receive payment, Firm shall no later than the first working day of such month, submit to OCFA in the form approved by OCFA's Director of Finance, an invoice for Services rendered prior to the date of the invoice. OCFA shall pay Firm for all expenses stated thereon which are approved by OCFA consistent with this Agreement, within thirty (30) days of receipt of Firm's invoice.

3.3 Changes

In the event any change or changes in the work is requested by OCFA, the parties hereto shall execute an addendum to this Agreement, setting forth with particularity all terms of such addendum, including, but not limited to, any additional fees. Addenda may be entered into:

A. To provide for revisions or modifications to documents or other work product or work when documents or other work product or work is required by the enactment or revision of law subsequent to the preparation of any documents, other work product or work; B. To provide for additional services not included in this Agreement or not customarily furnished in accordance with generally accepted practice in Firm's profession.

3.4 Appropriations

This Agreement is subject to and contingent upon funds being appropriated therefore by the OCFA Board of Directors for each fiscal year covered by the Agreement. If such appropriations are not made, this Agreement shall automatically terminate without penalty to OCFA.

4. <u>PERFORMANCE SCHEDULE</u>

4.1 <u>Time of Essence</u>

Time is of the essence in the performance of this Agreement.

4.2 Schedule of Performance

All Services rendered pursuant to this Agreement shall be performed within the time periods prescribed in Firm's Proposal, attached hereto as Exhibit "A". The extension of any time period specified in Exhibit "A" must be approved in writing by the Contract Officer.

4.3 Force Majeure

The time for performance of Services to be rendered pursuant to this Agreement may be extended because of any delays due to unforeseeable causes beyond the control and without the fault or negligence of the Firm, including, but not restricted to, acts of God or of a public enemy, acts of the government, fires, earthquakes, floods, epidemic, quarantine restrictions, riots, strikes, freight embargoes, and unusually severe weather if the Firm shall within ten (10) days of the commencement of such condition notify the Contract Officer who shall thereupon ascertain the facts and the extent of any necessary delay, and extend the time for performing the Services for the period of the enforced delay when and if in the Contract Officer's judgment such delay is justified, and the Contract Officer's determination shall be final and conclusive upon the parties to this Agreement.

4.4 <u>Term</u>

Unless earlier terminated in accordance with Sections 8.5 or 8.6 of this Agreement, this Agreement shall commence upon the Effective Date, and shall continue in full force and effect for an initial one-year term ("Initial Term") ending on November 30, 2024. Thereafter, at the sole option of the OCFA, the Agreement may be extended for up to four additional one-year renewal terms.

5. <u>COORDINATION OF WORK</u>

5.1 <u>Representative of Firm</u>

The following principal of the Firm is hereby designated as being the principal and representative of Firm authorized to act in its behalf with respect to the work specified herein and make all decisions in connection therewith: John Rennie, General Manager

It is expressly understood that the experience, knowledge, capability and reputation of the foregoing principal is a substantial inducement for OCFA to enter into this Agreement. Therefore, the foregoing principal shall be responsible during the term of this Agreement for directing all activities of Firm and devoting sufficient time to personally supervise the Services hereunder. The foregoing principal may not be changed by Firm without the express written approval of OCFA.

5.2 <u>Contract Officer</u>

The Contract Officer shall be designated in writing by OCFA. It shall be the Firm's responsibility to keep the Contract Officer fully informed of the progress of the performance of the Services and Firm shall refer any decisions that must be made by OCFA to the Contract Officer. Unless otherwise specified herein, any approval of OCFA required hereunder shall mean the approval of the Contract Officer.

5.3 **Prohibition Against Subcontracting or Assignment**

5.3.1 No Subcontracting Without Prior Approval. The experience, knowledge, capability and reputation of Firm, its principals and employees, and the Firm Representative were a substantial inducement for OCFA to enter into this Agreement. Therefore, Firm shall not contract with any other entity to perform in whole or in part the Services required hereunder without the express written approval of OCFA.

5.3.2 Provisions in the Event Subcontractor(s) Are Authorized. If Firm is authorized to subcontract any part of the Services as provided in Section 5.3.1, Firm shall be responsible to OCFA for the acts and omissions of its subcontractor(s) and subconsultant(s) in the same manner as it is for persons directly employed. For purposes of this Agreement, all persons engaged in the performance of Services will be considered employees of Firm. OCFA will deal directly with and will make all payments to Firm. Nothing contained in this Agreement shall create any contractual relationships between any subcontractor and OCFA. Firm shall ensure that all subcontractor insurance requirements set forth in Section 6 below (including its subsections) are complied with prior to commencement of Services by each subcontractor.

5.3.2.1 Withholding Payment for Non-Authorized Subcontractors. OCFA shall have the right to withhold payment from Firm

for Services performed by any subcontractor or subconsultant performing Services but not authorized in writing by OCFA, or regarding which the insurance or other requirements under this Agreement have not been satisfied.

5.3.3 Assignments. Neither this Agreement nor any interest herein may be assigned, transferred, conveyed, hypothecated, or encumbered voluntarily or by operation of law, whether for the benefit of creditors or otherwise, without the prior written approval of OCFA. Transfers restricted hereunder shall include the transfer to any person or group of persons acting in concert of more than twenty five percent (25%) of the present ownership and/or control of Firm, taking all transfers into account on a cumulative basis. In the event of any such unapproved transfer, including any bankruptcy proceeding, this Agreement shall be void. No approved transfer shall release Firm or any surety of Firm from any liability hereunder without the express written consent of OCFA.

5.4 Independent Contractor

5.4.1 The legal relationship between the Parties is that of an independent contractor, and nothing herein shall be deemed to make Contractor, or any of its personnel, an OCFA employee. During the performance of this Agreement, Firm and its officers, employees, and agents shall act in an independent capacity and shall not act as OCFA officers or employees. Firm will determine the means, methods and details of performing the Services subject to the requirements of this Agreement. The personnel performing the Services under this Agreement on behalf of Firm shall at all times be under Firm's exclusive direction and control. Neither OCFA nor any of its officials, officers, employees, agents or volunteers shall have control over the conduct of Firm or any of its officers, employees, or agents, except as set forth in this Agreement. Firm, its officers, employees or agents, shall not maintain a permanent office or fixed business location at OCFA's offices. OCFA shall have no voice in the selection, discharge, supervision, or control of Firm's officers, employees, representatives or agents or in fixing their number, compensation, or hours of service. Firm shall pay all wages, salaries, and other amounts due its employees in connection with the performance of Services under this Agreement and shall be responsible for all reports and obligations respecting them, including but not limited to social security income tax withholding, unemployment compensation, workers' compensation, and other similar matters. OCFA shall not in any way or for any purpose be deemed to be a partner of Firm in its business or otherwise a joint venturer or a member of any joint enterprise with Firm.

5.4.2 Firm shall not incur or have the power to incur any debt, obligation, or liability against OCFA, or bind OCFA in any manner.

5.4.3 No OCFA benefits shall be available to Firm, its officers, employees, or agents, in connection with the performance of any Work or Services under this Agreement. Except for professional fees paid to Firm as provided for in this Agreement, OCFA shall not pay salaries, wages, or other compensation to Firm for the performance of any Work or Services under this Agreement. OCFA shall not be liable for

compensation or indemnification to Firm, its officers, employees, or agents, for injury or sickness arising out of performing any Work or Services hereunder. If for any reason any court or governmental agency determines that the OCFA has financial obligations, other than pursuant to Section 2 herein, of any nature relating to salary, taxes, or benefits of Firm's officers, employees, representatives, agents, or subconsultants or subcontractors, Firm shall defend, indemnify, and hold harmless OCFA from and against all such financial obligations.

5.6 Employee Retirement System Eligibility Indemnification

5.6.1 In the event that Firm or any employee, agent, or subcontractor of Firm providing any Work or Services under this Agreement claims or is determined by a court of competent jurisdiction to be eligible for enrollment in an employee retirement system as an employee of the OCFA, Firm shall indemnify, defend, and hold harmless OCFA against: (1) all such claim(s) and determination(s); (2) for the payment of any employee and/or employeer contributions for employee retirement system benefits on behalf of Firm or its employees, agents or subcontractors; and (3) the payment of any penalties and interest on such contributions which would otherwise be the responsibility of the OCFA.

5.6.2 Notwithstanding any other agency, state or federal policy, rule, regulation, law or ordinance to the contrary, Contractor and any of its employees, agents, and subcontractors providing any Work or Services under this Agreement shall not qualify for or become entitled to, and hereby agree to waive any claims to, any compensation, benefit, or any incident of employment by OCFA, including but not limited to eligibility to enroll in PERS as an employee of OCFA and entitlement to any contribution to be paid by OCFA for employer contribution and/or employee contributions for PERS benefits.

6. INSURANCE AND INDEMNIFICATION

6.1 <u>Compliance with Insurance Requirements</u>. Firm shall obtain, maintain, and keep in full force and effect during the term of this Agreement, at its sole cost and expense, and in a form and content satisfactory to OCFA, all insurance required under this section. Firm shall not commence any Services under this Agreement unless and until it has provided evidence satisfactory to OCFA that it has secured all insurance required under this section. If Firm's existing insurance policies do not meet the insurance requirements set forth herein, Firm agrees to amend, supplement or endorse the policies to meet all requirements herein.

6.2 <u>Types of Insurance Required</u>. Without limiting the indemnity provisions set forth in this Agreement, Firm shall obtain and maintain in full force and effect during the term of this Agreement, including any extension thereof, the following policies of insurance:

6.2.1 Professional Liability/Errors and Omissions Insurance ("PLI"). Firm shall obtain and maintain PLI insurance applicable to each licensed profession practiced by Firm. Firm shall maintain PLI insurance with per-claim and aggregate limits no lower than one million dollars (\$1,000,000.00) each occurrence and two million dollars (\$2,000,000.00) aggregate. Covered professional services shall specifically include all Services to be performed under the Agreement and the policy shall be endorsed to delete any exclusions that may exclude coverage for claims within the minimum PLI Limits for the Services to be performed under this Agreement.

6.2.1.1 The PLI policy shall be endorsed to delete any Contractual Liability Exclusion. The PLI shall include contractual liability coverage applicable to this Agreement. The policy must "pay on behalf of" the insured, and include a provision establishing the insurer's duty to defend the insured.

6.2.1.2 If the PLI policy of insurance is written on a "claims-made" basis, the policy shall be continued in full force and effect at all times during the term of this Agreement, and for a period of three (3) years from the date of the completion of all Services provided hereunder (the "PLI Coverage Period"). If any PLI policy is replaced, cancelled, non-renewed, discontinued, or otherwise terminated, or if the limits of a PLI policy are reduced or the available coverage depleted below the required minimum coverage amounts for any reason during the PLI Coverage Period, Firm shall immediately obtain replacement PLI coverage meeting the requirements of this Section 6.2.1. Such replacement coverage shall satisfy all requirements herein, and shall include coverage for the prior acts or omissions of Firm during the time period during which any Services were performed. The coverage shall be evidenced by either a new policy evidencing no gap in coverage, or by obtaining separate extended "tail" coverage with the present or new carrier or other insurance arrangements providing for complete coverage, either of which shall be subject to the written approval by the OCFA.

6.2.1.3 If the PLI policy is written on an "occurrence" basis, the policy shall be continued in full force and effect during the term of this Agreement, or until completion of the Services provided for in this Agreement, whichever is later. In the event of termination of the PLI policy during this period, new coverage shall immediately be obtained, and written evidence of the policy shall be immediately provided to OCFA, to ensure PLI coverage during the entire course of performing the Services.

6.2.1.4 Firm shall not perform any Services at any time during which required types or amounts of PLI insurance are not in effect, and OCFA shall have no obligation to pay Firm for Services performed while required PLI insurance is not in effect.

6.2.2 Commercial General Liability Insurance. Firm shall obtain and maintain, in full force and effect throughout the term of this Agreement, Insurance Services Office (ISO) Form CG 00 01 covering CGL on an "occurrence" basis, including products and completed operations, property damage, bodily injury and personal & advertising injury with limits no less than one million dollars (\$1,000,000.00) per

occurrence. If a general aggregate limit applies, either the general aggregate limit shall apply separately to this project/location (ISO CG 25 03 or 25 04) or the general aggregate limit shall be twice the required occurrence limit. CGL insurance shall be provided on an occurrence-based coverage form; a "claims made" CGL policy is not acceptable. Firm shall maintain CGL insurance with per-claim, aggregate and products and operations completed limits no lower than the minimum CGL coverage limits set forth above. Defense costs shall be paid in addition to the limits. The policy shall contain no endorsements or provisions limiting coverage for any of the following: (1) contractual liability; (2) cross liability exclusion for claims or suits by one insured against another; or (3) any other exclusion contrary to this Agreement.

6.2.3 Automobile Liability Insurance. Firm shall obtain and maintain, in full force and effect throughout the term of this Agreement, a policy of Automobile liability insurance written on a per occurrence basis with limits of at least one million dollars (\$1,000,000.00) combined limit for each occurrence covering bodily injury, disease and property damage. Defense costs shall be paid in addition to the policy limits. The policy shall specifically include coverage for owned, non-owned, leased, and hired automobiles, and be endorsed to eliminate any exclusion applicable to any of them.

6.2.4 Workers' Compensation Insurance. Firm shall obtain and maintain, in full force and effect throughout the term of this Agreement, a policy of Workers' Compensation Insurance in at least the minimum statutory amounts, and in compliance with all other statutory requirements applicable in the State of California. Firm hereby waives on its own behalf, and shall obtain an endorsement from its workers' compensation insurer waiving on the insurance company's behalf, all rights of subrogation against the OCFA, its board members, officials, officers, employees, agents and volunteers.

6.2.4.1 If subconsultants or subcontractors are used, Firm shall require each of its subconsultants and subcontractors, if any, to waive all rights of subrogation, and to obtain endorsements from the subconsultants'/subcontractors' workers' compensation insurers waiving all rights of subrogation, against the OCFA, its board members, officials, officers, employees, agents and volunteers.

6.2.4.2 Firm and each of its subconsultants and subcontractors shall also maintain, in full force and effect throughout the term of this Agreement, Employer's Liability Insurance with limits of at least one million dollars (\$1,000,000.00) per injury or illness.

6.3 <u>Acceptability of Insurers</u>. Each insurance policy required by this section shall be issued by a licensed company authorized to transact business by the Department of Insurance for the State of California with a current rating of A-:VII or better (if an admitted carrier), or a current rating of A:X or better (if offered by a non-admitted insurer listed on the State of California List of Approved Surplus Line Insurers (LASLI)), by the latest edition of A.M. Best's Key Rating Guide, except that the OCFA will accept workers' compensation insurance from the State Compensation Fund. In the event the

OCFA determines that the Services to be performed under this Agreement creates an increased or decreased risk of loss to the OCFA, the Firm agrees that the minimum limits of the insurance policies may be changed accordingly upon receipt of written notice from the OCFA.

6.3.1 Firm shall immediately replace any insurer whose A.M. Best rating drops below the levels specified herein with an insurer that meets the minimum requirements herein.

6.4 <u>Specific Insurance Provisions and Endorsements</u>. Required insurance policies shall not be in compliance if they include any limiting provision or endorsement that has not been submitted to the OCFA for written approval. Required insurance policies shall contain the following provisions, or Firm shall provide endorsements on forms approved by the OCFA to add the following provisions to the insurance policies:

6.4.1 CGL and Auto Liability Endorsements. The policy or policies of insurance required by this Agreement for CGL and Automobile Liability Insurance shall be endorsed as follows:

6.4.1.1 Additional Insured: The OCFA, its board members, officials, officers, employees, agents and volunteers, shall be additional insureds; and

6.4.1.1.1 Additional Insured Endorsements:

Additional insured endorsements shall not (1) be restricted to "ongoing operations", (2) exclude "contractual liability", (3) restrict coverage to "sole" liability of Firm, (4) contain any other exclusions contrary to the Agreement; or (5) contain special limitations on the scope of protection afforded to additional insureds.

6.4.1.2 Primary, Non-Contributing. Each CGL and Auto Liability insurance policy shall be endorsed to be primary and any other insurance, deductible, or self-insurance maintained by the OCFA, its board members, officials, officers, employees, agents or volunteers, shall not contribute with the primary insurance.

6.4.2 Notice of Cancellation: Each policy of any type shall be endorsed to provide that coverage shall not be suspended, voided, cancelled, or modified, or reduced in coverage or in limits, except after thirty (30) days prior written notice has been provided to the OCFA. Notwithstanding the foregoing, if coverage is to be suspended, voided, or cancelled because of Firm's failure to pay the insurance premium, the notice provided by the insurer to OCFA shall be by not less than ten (10) days prior written notice. (A statement that notice will be provided "in accordance with the policy terms" or words to that effect is inadequate to meet the requirements of this Section).

6.4.2.1 Pre-Payment of Policy Premium. If for any reason an insurer declines to issue an endorsement certifying that it will notify OCFA in accordance with section 6.4.2, Firm shall either obtain insurance from another insurer who will provide the required notice endorsement or shall provide evidence satisfactory to OCFA that the entire policy premium for the full term of that policy has been pre-paid such that the risk of non-payment of premiums during the term of the policy has been eliminated.

6.4.3 ACORD Forms Will Not Be Accepted in Lieu of Endorsements. By executing this Agreement, Firm certifies that it has – prior to execution of this Agreement - confirmed that its insurance company will issue each of the endorsements required by this Agreement. Firm also certifies that it understands that "ACORD" Certificate of Liability Insurance forms will not be accepted in lieu of required endorsements.

6.5 <u>Deductibles and Self-Insured Retentions</u>. Any deductible or selfinsured retention must be approved in writing by the OCFA in advance. The decision whether to approve or withhold approval of a deductible or self-insured retention shall be made by the OCFA in the OCFA's sole and absolute discretion. (Firm may request preapproval from OCFA of a deductible or self-insured retention prior to submitting Firm's Proposal).

6.6 <u>Waiver of Subrogation</u>. All policies of Commercial General Liability and Automobile Liability Insurance shall contain or be endorsed to waive subrogation against the OCFA, its officials, officers, employees, agents and volunteers, or shall specifically allow Firm or others providing insurance evidence in compliance with the requirements set forth in this section to waive their right to recovery prior to a loss. Firm hereby agrees to waive its own right of subrogation against the OCFA, its officials, officers, employees, agents and volunteers.

6.6.1 Waivers of Subrogation: Subconsultants and Subcontractors. If OCFA approves the use of subconsultants or subcontractors for the performance of any portion of the Services, then Firm shall obtain from each subconsultant and subcontractor, and make available to OCFA upon request, written express waivers by each subconsultant and subcontractor of the right of subrogation against the OCFA, its officials, officers, employees, agents and volunteers, and policy endorsements of each of its subconsultants' and subcontractors' insurance policies waiving any rights of subrogation against the OCFA, its officials, officers, employees, agents and volunteers, employees, agents and volunteers insurer. All such waivers and endorsements shall be obtained prior to commencement of any Services by each subconsultant or subcontractor.

6.7 <u>Evidence of Coverage</u>. Concurrently with the execution of the Agreement, Firm shall deliver certificates of insurance together with original endorsements affecting each of the insurance policies required to be maintained by Firm by this Section 5. Firm shall promptly furnish, at OCFA's request, copies of actual policies

including all declaration pages, endorsements, exclusions and any other policy documents OCFA requires to verify coverage.

6.7.1 Required insurance policies shall not be in compliance if they include any limiting provision or endorsement that has not been submitted to the OCFA for written approval.

6.7.2 Authorized Signatures. The certificates of insurance and original endorsements for each insurance policy shall be signed by a person authorized by that insurer to bind coverage on its behalf.

6.7.3 Renewal/Replacement Policies. At least fifteen (15) days prior to the expiration of any policy required by this Agreement, evidence of insurance showing that such insurance coverage has been renewed or extended shall be filed with the OCFA. If such coverage is cancelled or reduced and not replaced immediately so as to avoid a lapse in the required coverage, Firm shall, within ten (10) days after receipt of written notice of such cancellation or reduction of coverage, file with the OCFA evidence of insurance showing that the required insurance has been reinstated or has been provided through another insurance company or companies meeting all requirements of this Agreement.

6.8 Requirements Not Limiting. Requirement of specific coverage or minimum limits contained in this section are not intended as a limitation on coverage, limits, or other requirements, or a waiver of any coverage normally provided by any insurance. The insurance obligations under this Agreement shall be: (1) all the insurance coverage and/or limits carried by or available to Firm; or (2) the minimum insurance coverage requirements and/or limits shown in this Agreement; whichever is greater. Any insurance proceeds in excess of or broader than the minimum required coverage and/or minimum required limits, which are applicable to a given loss, shall be available to the OCFA. No representation is made that the minimum insurance requirements of this Agreement are sufficient to cover the obligations of Firm under this Agreement. Nothing in this section shall be construed as limiting in any way the indemnification provision contained in this Agreement, or the extent to which Firm may be held responsible for losses of any type or amount.

6.9 Enforcement of Agreement (Non-Estoppel). Firm acknowledges and agrees that actual or alleged failure on the part of the OCFA to inform Firm of any non-compliance with any of the insurance requirements set forth in this Agreement imposes no additional obligation on the OCFA nor does it waive any rights hereunder.

6.10 Insurance for Subconsultants. If OCFA approves the use of subconsultants or subcontractors for the performance of any portion of the Services, then Firm shall be responsible for causing each approved subconsultant and subcontractor to procure and maintain insurance in the same types and amounts required for Firm, and in full compliance with the insurance requirements set forth in this Agreement, except as otherwise authorized in writing by the Contract Manager.

6.10.1 Delivery of Evidence of Subcontractor Insurance. Upon request of OCFA, Firm shall deliver to OCFA all certificates of insurance and endorsements required from subcontractors and subconsultants. (Note: Firm's duty to obtain all required insurance for subcontractors and subconsultants required under this Agreement applies whether or not OCFA requests delivery of evidence of such coverage.)

6.11 Other Insurance Requirements. The following terms and conditions shall apply to the insurance policies required of Firm and its subconsultants and subcontractors, if any, pursuant to this Agreement:

6.11.1 Firm shall provide immediate written notice to OCFA if (1) any of the insurance policies required herein are terminated, cancelled, suspended, or non-renewed (2) the limits of any of the insurance coverages required herein are reduced; (3) any required insurance coverage is reduced below the required minimum limits through claims or otherwise, or (4) the deductible or self-insured retention is increased.

6.11.2 All insurance coverage and limits required under this Agreement are intended to apply to each insured, including additional insureds, against whom a claim is made or suit is brought to the full extent of the policies. Nothing contained in this Agreement or any other agreement relating to the OCFA or its operations shall limit the application of such insurance coverage.

6.11.3 None of the insurance coverages required herein will be in compliance with the requirements of this section if they include any limiting endorsement which substantially impairs the coverages set forth herein (e.g., elimination of contractual liability or reduction of discovery period), unless the endorsement has first been submitted to the OCFA and approved in writing.

6.11.4 Certificates of insurance will not be accepted in lieu of required endorsements, and submittal of certificates without required endorsements may delay the Project. It is Firm's obligation to ensure timely compliance with all insurance submittal requirements as provided herein and Firm agrees to reimburse OCFA for any losses resulting from its failure, or its subconsultants' or subcontractors' failure, to timely comply with the requirements of this Agreement.

6.11.5 Firm agrees to ensure that subconsultants and subcontractors, if any, and any other parties involved with the Project who are brought onto or involved in the Project by Firm, provide the same minimum insurance coverage required of Firm. Firm agrees to monitor and review all such coverage and assumes all responsibility for ensuring that such coverage is provided in conformity with the requirements of this section. Firm agrees that upon request, all agreements with, and evidence of insurance from, subconsultants and subcontractors and others engaged in performing any Services will be submitted to the OCFA for review.

6.11.6 Firm agrees to provide immediate written notice to OCFA of any claim, demand or loss arising out of the Services performed under this Agreement and for any other claim, demand or loss which may reduce the insurance available to an amount less than required by this Agreement.

6.12 Indemnification.

To the fullest extent permitted by law, Firm shall defend (at Firm's sole cost and expense with legal counsel reasonably acceptable to OCFA), indemnify and hold the OCFA, its board members, officials, officers, employees, agents and volunteers, free and harmless from any and all claims, demands, orders, causes of action, costs, expenses, liabilities, losses, penalties, judgments, arbitration awards, settlements, damages or injuries of any kind, in law or in equity, including but not limited to property or persons, including wrongful death, (collectively "Claims") in any manner arising out of, pertaining to, related to, or incident to any alleged acts, errors or omissions, or willful misconduct of Firm, its officers, directors, employees, subconsultants, subcontractors, agents or invitees in connection with performance under this Agreement, or in any manner arising out of, pertaining to, related to, or incident to an alleged breach of this Agreement, including without limitation the payment of all consequential damages, expert witness fees and attorneys' fees and other related costs and expenses.

Notwithstanding the foregoing, and only to the extent that the Services performed by Firm are subject to California Civil Code Section 2782.8, the above indemnity shall be limited, to the extent required by Civil Code Section 2782.8, to claims that arise out of, pertain to, or relate to the negligence, recklessness, or willful misconduct of the Firm.

Under no circumstances shall the insurance requirements and limits set forth in this Agreement be construed to limit Firm's indemnification obligation or other liability hereunder. Notwithstanding the foregoing, such obligation to defend, hold harmless and indemnify the OCFA, its board members officials, officers, employees, agents and volunteers, shall not apply to the extent that such Claims are caused by the sole negligence or willful misconduct of that indemnified party.

7. <u>RECORDS AND REPORTS</u>

7.1 <u>Reports</u>

Firm shall periodically prepare and submit to the Contract Officer such reports concerning the performance of the Services required by this Agreement as the Contract Officer shall require.

7.2 <u>Records</u>

Firm shall keep such books and records as shall be necessary to properly perform the Services required by this Agreement and enable the Contract Officer to

evaluate the performance of such Services. <u>Except as provided in Section 7.5</u>, the Contract Officer shall have full and free access to such books and records at all reasonable times, including the right to inspect, copy, audit and make records and transcripts from such records.

7.3 <u>Ownership of Documents</u>

Except as provided in Section 7.5, all drawings, specifications, reports, records, documents and other materials prepared by Firm in the performance of this Agreement shall be the property of OCFA and shall be delivered to OCFA upon request of the Contract Officer or upon the termination of this Agreement, and Firm shall have no claim for further employment or additional compensation as a result of the exercise by OCFA of its full rights or ownership of the documents and materials hereunder. Firm may retain copies of such documents for its own use. Firm shall have an unrestricted right to use the concepts embodied therein.

7.4 <u>Release of Documents</u>

All drawings, specifications, reports, records, documents and other materials prepared by Firm in the performance of Services under this Agreement shall not be released publicly without the prior written approval of the Contract Officer.

7.5 Confidential Materials

Notwithstanding anything to the contrary in this Agreement, the Firm shall be the sole owner of Firm's work papers and of any other documents, data or information which are required to be maintained confidential from OCFA by one or more rules of professional conduct governing the Firm's profession(s) (collectively, the "Confidential Materials"). Neither the OCFA nor the Contract Officer shall have access to the Confidential Materials except as may otherwise be required by order issued by a court of competent jurisdiction.

8. ENFORCEMENT OF AGREEMENT

8.1 <u>California Law</u>

This Agreement shall be construed and interpreted both as to validity and to performance of the parties in accordance with the laws of the State of California. Legal actions concerning any dispute, claim or matter arising out of or in relation to this Agreement shall be instituted in the Superior Court of the County of Orange, State of California, or any other appropriate court in such county, and Firm covenants and agrees to submit to the personal jurisdiction of such court in the event of such action.

8.2 <u>Waiver</u>

No delay or omission in the exercise of any right or remedy of a nondefaulting party on any default shall impair such right or remedy or be construed as a waiver. No consent or approval of OCFA shall be deemed to waiver or render unnecessary OCFA's consent to or approval of any subsequent act of Firm. Any waiver by either party of any default must be in writing and shall not be a waiver of any other default concerning the same or any other provision of this Agreement.

8.3 **<u>Rights and Remedies are Cumulative</u>**

Except with respect to rights and remedies expressly declared to be exclusive in this Agreement, the rights and remedies of the parties are cumulative and the exercise by either party of one or more of such rights or remedies shall not preclude the exercise by it, at the same or different times, of any other rights or remedies for the same default or any other default by the other party.

8.4 Legal Action

In addition to any other rights or remedies, either party may take legal action, in law or in equity, to cure, correct or remedy any default, to recover damages for any default, to compel specific performance of this Agreement, to obtain injunctive relief, a declaratory judgment, or any other remedy consistent with the purposes of this Agreement.

8.5 <u>Termination Prior to Expiration of Term</u>

OCFA reserves the right to terminate this Agreement at any time, with or without cause, upon thirty (30) days written notice to Firm, except that where termination is due to the fault of the Firm and constitutes an immediate danger to health, safety and general welfare, the period of notice shall be such shorter time as may be appropriate. Upon receipt of the notice of termination, Firm shall immediately cease all Services hereunder except such as may be specifically approved by the Contract Officer. Firm shall be entitled to compensation for all Services rendered prior to receipt of the notice of termination and for any Services authorized by the Contract Officer thereafter.

Firm may terminate this Agreement, with or without cause, upon thirty (30) days written notice to OCFA.

8.6 <u>Termination for Default of Firm</u>

If termination is due to the failure of the Firm to fulfill its obligations under this Agreement, OCFA may take over the work and prosecute the same to completion by contract or otherwise, and the Firm shall be liable to the extent that the total cost for completion of the Services required hereunder exceeds the compensation herein stipulated, provided that OCFA shall use reasonable efforts to mitigate damages, and OCFA may withhold any payments to the Firm for the purpose of set-off or partial payment of the amounts owed to OCFA.

8.7 <u>Attorneys' Fees</u>

If either party commences an action against the other party arising out of or in connection with this Agreement or its subject matter, the prevailing party shall be entitled to recover reasonable attorneys' fees and costs of suit from the losing party.

9. OCFA OFFICERS AND EMPLOYEES; NON-DISCRIMINATION

9.1 <u>Non-Liability of OCFA Officers and Employees</u>

No officer or employee of OCFA shall be personally liable to the Firm, or any successor-in-interest, in the event of any default or breach by OCFA or for any amount which may become due to the Firm or its successor, or for breach of any obligation of the terms of this Agreement.

9.2 Covenant Against Discrimination

Firm covenants that, by and for itself, its heirs, executors, assigns, and all persons claiming under or through them, that there shall be no discrimination or segregation in the performance of or in connection with this Agreement regarding any person or group of persons on account of race, color, creed, religion, sex, marital status, national origin, or ancestry. Firm shall take affirmative action to insure that applicants and employees are treated without regard to their race, color, creed, religion, sex, marital status, national origin, or ancestry.

10. MISCELLANEOUS PROVISIONS

10.1 Confidentiality

Information obtained by Firm in the performance of this Agreement shall be treated as strictly confidential and shall not be used by Firm for any purpose other than the performance of this Agreement without the written consent of OCFA.

10.2 <u>Notice</u>

Any notice, demand, request, consent, approval, or communication either party desires or is required to give to the other party or any other person shall be in writing and either served personally or sent by pre-paid, first-class mail to the address set forth below. Either party may change its address by notifying the other party of the change of address in writing. Notice shall be deemed communicated forty-eight (48) hours from the time of mailing if mailed as provided in this Section.

Orange County Fire Authority Attention: Sara Kennedy 1 Fire Authority Road WITH COPY TO: David E. Kendig, General Counsel Woodruff & Smart Irvine, CA 92602

555 Anton Blvd. Suite 1200 Costa Mesa, CA 92626

To Firm:

NICE Systems, Inc. Attention: John Rennie 221 River St Hoboken, NJ 07030

10.2 Integrated Agreement

This Agreement contains all of the agreements of the parties and cannot be amended or modified except by written agreement.

10.3 <u>Amendment</u>

This Agreement may be amended at any time by the mutual consent of the parties by an instrument in writing.

10.4 <u>Severability</u>

In the event that any one or more of the phrases, sentences, clauses, paragraphs, or sections contained in this Agreement shall be declared invalid or unenforceable by valid judgment or decree of a court of competent jurisdiction, such invalidity or unenforceability shall not affect any of the remaining phrases, sentences, clauses, paragraphs, or sections of this Agreement, which shall be interpreted to carry out the intent of the parties hereunder.

10.5 Corporate Authority

The persons executing this Agreement on behalf of the parties hereto warrant that they are duly authorized to execute this Agreement on behalf of said parties and that by so executing this Agreement the parties hereto are formally bound to the provisions of this Agreement.

[Signatures on Following Page]

IN WITNESS WHEREOF, the parties have executed this Agreement as of the dates stated below.

"OCFA"

ATTEST:

ORANGE COUNTY FIRE AUTHORITY

Date:_____ E

Date:

By:_____

Sara Kennedy, CPPB Purchasing Division Manager

APPROVED AS TO FORM.

By: msd\\ DAVID E. KENDIG GENERAL COUNSEL

Maria D. Huizar Clerk of the Board

"FIRM"

NICE SYSTEMS, INC.

Date:	Ву:

John Rennie General Manager

Date:_____ By:____

Jeff Visger Account Executive EXHIBIT "A"

NICE

TRUTH DEPENDS ON IT

Orange County Fire Authority

Request for Proposal

9-1-1 Voice / Radio Digital Logging Recording System RFP Number: R02549A

May 25, 2023, 11:00 AM Pacific

NICE Inform Solution Proposal

PRESENTED TO:

Orange County Fire Authority

Attn: Rothchild Ong Assistant Purchasing Agent rothchildong@ocfa.org 714-573-6642 1 Fire Authority Road, Bldg. C Irvine, CA 92602

SUBMITTED BY:

NICE Systems, Inc.

Jeff Visger Account Executive jeff.visger@nice.com 801-715-5552 221 River Street Hoboken, NJ 07030



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ENCLOSURES

NICE

1. Letter of Transmittal (Exhibit A)

May 18, 2023, 11:00 AM Pacific

Sarah Kennedy Purchasing Manager OCFA Purchasing Department 1 Fire Authority Irvine, CA 92602 714-573-6000

RFP Number: R02549A 9-1-1 Voice/Radio Digital Logging Recording System

Dear Ms. Kennedy,

NICE Systems, Inc (NICE) is pleased to submit the following proposal in response to the RFP Number: R02549A 9-1-1 Voice/Radio Digital Logging Recording System. We are confident our offer addresses all pertinent technical and operational requirements. NICE intends to serve as the sole and primary vendor on the engagement to deliver a comprehensive 9-1-1 Voice/Radio Digital Logging Recording System that will meet and exceed the objectives set forth in Section II: Scope of Work, 2.2 Project Objectives as stated below:

- NICE's Inform solution is fully compliant with NG9-1-1 standards and features a User Interface (UI) that is modern and easy to use and to train users in its operation.
- NICE's Voice and Radio DLRS is robust, reliable, and it easily interfaces with OCFA's public safety systems that includes CAD, 9-1-1, administrative phone systems, 800MHz and VHF radio, and Motorola's Dispatch system.
- NICE Inform solution is robust and configured for 24/7/365 up-time with redundancy.

NICE will meet or exceed the minimum qualifications outlined in Section 2.3 of this RFP which specifically include:

- Ability to meet all OCFA insurance requirements
- Certification that NICE is not under suspension or debarment by any state or federal government agency
- Demonstrated technical ability through 30+ years of experience. Our expertise includes the proven integration with CentralSquare Enterprise Computer Aided Dispatch (CAD) system and other systems specified in this solicitation.
- Resources and ability to serve and support OCFA through NICE's Solution Delivery Services Team comprised of accredited implementation experts leveraging their in-depth knowledge of NICE's technology and proven implementation processes to integrate with systems in OCFA's environment (including CAD, RapidSOS, and other integrations).

Together, these qualifications and additional competitive differentiators discussed in our RFP response offer NICE Systems' value proposition that provide OCFA with a compelling case to select NICE as your provider of Voice and Radio DLRS.



We are confident you will find this proposal addresses all pertinent technical, operational, and formatting requirements and will meet OCFA's objectives for many years to come. NICE will also bear the responsibility of all work, as defined in the resulting, agreed upon contract. We look forward to discussing our proposal with you in detail.

Your primary contact for the matters of this proposal has more than 20+ years of experience in the public safety and technology/software sector and is listed below:

Jeff Visger

Account Executive jeff.visger@nice.com 801-715-5552

The undersigned is authorized to sign and bind the proposer to any resulting contract. On behalf of NICE Systems, Inc., the undersigned is John Rennie, the General Manager of NICE Public Safety & Justice. He certifies the responses to the RFP questions and specifications are true and accurate, and that our offer will remain valid for 180 days after the date shown on this response.

John Rennie General Manager NICE Public Safety & Justice



Executive Summary

NICE is pleased to provide the following proposal that is responsive and compliant with all requirements set forth in the Orange County Fire Authority's RFP Number: R02549A to replace and upgrade the existing 9-1-1 Voice/Radio Digital Logging Recording System. Our response also includes a description of NICE's recommended solution, leading industry experience, strategic integration approach, and a summary of OCFA's investment. All these elements together differentiate our organization and create the value proposition that makes a very compelling case to engage NICE as your solution and service provider.

NICE solutions are proven reliable at over 3,000 public safety communication centers. NICE expertise and dedication to innovation in managing incident information spans over 30 years across many regions of the world. We have gleaned a tremendous amount of knowledge and expertise in solutions and services for Public Safety Agencies and as a result are uniquely positioned to meet and anticipate OCFA's current and future needs. Our leadership and capabilities with implementing and servicing advanced solutions related to 9-1-1 Voice/Radio Digital Logging Recording Systems, exceptional service, and quality client care translates to long term value and a quality experience for OCFA and its constituents.

Dedicated to Public Safety Innovation and Leadership

We have a long-term product roadmap backed by the industry's largest team of R&D professionals dedicated solely to public safety. NICE maintains its pace-setting innovation with extensive re-investment of profits into R&D, while combining organic growth with strategic acquisitions.

Demonstrated Stability

NICE is a solid partner that will bring value for many years to come. NICE also enjoys the financial stability you can have confidence in and is demonstrated by NICE's steady, healthy revenue growth, year after year.

Unmatched Capabilities

Industry's largest, award-winning team of NICE-certified implementation and support engineers, dozens of regional support partners in the NICE support ecosystem, and unified service and support.

Most Experienced Support Team in the Industry

NICE stands ready to help you keep your agency operating at peak efficiency. **Supporting more than 25,000 deployments worldwide**, our engineers leverage the highest number of experience hours, coupled with the most certifications and training in the industry.

Proven Solution - NICE Inform

NICE Inform is a multimedia incident data management solution which captures, organizes, and manages recorded audio content as well as other media types for the purpose of investigation, quality assurance and operational review.

Inherent to all organizations are independent silos of structured and unstructured data. In its native form, this data can only provide a certain level of useful information to a user. However, once these data silos are combined, time synchronized in relation to specific events and then organized for investigation and review, new levels of insight can be gained.



NICE Inform delivers intelligent incident and event data management by linking together disparate silos of data. It's powerful yet easy to use user interface can combine data from multiple sources to provide improved situational and post event analysis.

NICE Inform can capture, integrate and synchronize media and data from digital, analog, and VoIP calls, as well as conventional, P25 radio transmissions, text–to-911, video, images, console screens, location information from multiple sources, and CAD data. It provides public safety agencies with unmatched flexibility to capture, share and collaborate on local and multi-jurisdictional communications.



NICE Inform Elite Captures and Synchronizes Multimedia Communications

NICE Inform also leverages the power of integration with OCFA's CAD system throughout the solution, including precision searches, incident reconstruction, intelligent quality assurance, comprehensive performance reporting, and more. Utilizing CAD analytics and automation, NICE Inform has been proven to cut back the incident reconstruction time by at least 50%.

NICE Inform Reconstruction Interface

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Intelligent Incident and Event Data Management with NICE Inform

NICE Inform captures, manages, and analyzes information from multimedia sources and provides a complete, unified, chronological history of communications and incidents to enable streamlining of investigations, information sharing and evidence delivery. In addition to traditional means of communications, IP-based and wireless communication technologies, both voice and video, can be managed in a synchronized manner with the NICE Inform solution.

Utilizing NICE Inform, the process of reconstruction, investigation and information-sharing is more comprehensive and efficient. There is a single interface for users to manage the information of the incident including search and retrieval or analysis or automatically reconstructed incident, transfer to an incident folder, enriching the incident folder with additional information available post incident, and securely sharing this information with others while maintaining a comprehensive chain of custody.

Examples of NICE Inform Solution Key Benefits:

- **Consolidated Information** There is a single interface for the user to retrieve information from multiple systems even if they reside across disparate geographic locations. The information is synchronized and organized in a chronological manner allowing complete and authenticated incident reconstruction
- Multimedia Management Incident information can be retrieved from multiple sources, regardless of its type and format of the source system. These systems include telephony, radio, workstation screen recordings, photos and video clips taken by mobile phones or other mobile devices, text messages and documents and any other information in digital format.
- Secure Quarantine of Sensitive Incident Information A dedicated incident folder can be created for each incident. Access to incident folders is controlled so that only authenticated users who have been assigned appropriate privileges can view or modify incident folders or transfer information between them. All access to incident folders is tracked. This provides a secure repository for long term storage of consolidated incident information with comprehensive audit logs.
- Improved Interoperability Easy and secure information-sharing within an agency and between other agencies and organizations. NICE Inform is a web-deployed application, so any authorized user with the right level of privileges may access the incident folder assigned for them. For example, an investigator can access a specific incident folder, review information and playback synchronized voice and video while viewing incident events as they occurred along the timeline of an incident. The investigator may also add additional information they find relevant or that might have been produced during their investigation. An example of this would be an incident report.
- Authentication of incident information Once centralized in the incident folder, any item as well as the collection of all the items may be authenticated. NICE Inform applies a digital signature and detects tampering with any of the items in any incident folder.
- **Traceability of Actions** Every action taken within NICE Inform system is recorded and available for review.
- Maximizes Efficiency and Minimizes Errors Within the Incident Reconstruction, Investigation, and Information Distribution - Processes providing a highly intuitive method of organizing disparate information sources. This is further enhanced by the CAD Incident analytics functionality, which has been shown to deliver a 50% improvement in the time taken to process media requests.
- **Minimizes Training and Maintenance Efforts and Costs** providing a single interface in lieu of individual interfaces for each information source.
- Improves Professionalism and Levels of Service within the Emergency Communications Center and reduced liability to prosecution through an automated, intelligent Quality Assurance process, driven by CAD Incident Analytics



NICE Inform is Designed for Uninterrupted, 24/7/365 Service

NICE Inform has been specifically designed for uninterrupted, 24/7/365 service, with the use of resilient, industrial grade hardware offering multiple degrees of redundancy, up to a completely redundant solution where all hardware and software components are at least duplicated.

NICE offers high-value options for redundancy and resiliency of both, hardware and software components of the recording solution. Various configurations can be supported to accommodate OCFA's specific needs.

Parallel recording redundancy (2N) offers the most secure data protection. Redundant recording servers can be dispersed across sites, enabling 9-1-1 centers to achieve geographic redundancy, to facilitate recovery of data in the event of a disaster. 2N configuration provides a combination of redundant recording interfaces and redundant recording server nodes. With 2N configuration, two NICE Recording systems work completely independently, recording identical calls in parallel. This achieves five 9's reliability that is impossible to reach with hot standby (N+1) systems where the switching mechanism would be a point of failure.

Sole Provider with VPI Migration Expertise

In 2016, NICE acquired the assets of VPI and its VPI Capture recorders that store critical evidence contained in recorded calls and data at OCFA. As part of the NICE Inform Program, NICE offers to migrate existing VPI audio and metadata from the current VPI technology onto new hardware. This migration can make this historical information accessible along with newly captured audio and metadata from the proposed NICE Inform systems, all via one interface. NICE can also manage rules-based retention of both VPI and NICE recordings and metadata for long term storage and playback. Once the existing VPI data is migrated to the new solution, the existing VPI logger solution may be decommissioned and/or disposed of, at OCFA's discretion.

Having acquired the company VPI, NICE now holds all patents, source code, intellectual property and expertise relevant to VPI products and is the only authorized vendor able to use this specialist knowledge to access the recordings/evidence contained on the VPI recording systems via another recording platform, while maintaining the integrity of all data.

NICE is currently the sole support provider for both VPI Capture and NICE Inform, offering the deep expert knowledge of a solution manufacturer even with end-of-life products from VPI.

As such, NICE guarantees the quality of transferred communications and data, making it accessible along with newly recorded communications and data, in the new interface. Full installation of the solution, testing and handover are normal part of the turnkey package offered by NICE.

QualityAssurance and Performance Measurement

As for system warranty, NICE normally provides 1 year full-scope warranty, followed by extended support which can be purchased either in annual increments or in multi-year batches.

The proposed solution utilizes industry-standard, industrial grade hardware from HP and will offer replacement components (of equal or better value and performance) for at least 5 years. This also aligns with projected end of life of the proposed software solution.

The NICE Inform Recorder multimedia logging solution includes interfaces (hardware and software) to support a broad spectrum of public safety solutions Including PBX and call handling (both TDM telco and VoIP), CAD systems, radio systems (conventional and P25), and SMS sources.

NICE Inform has been designed for a full 360-degree approach from collecting all communications and data for liability and evidentiary purposes, to utilizing this information for proactive performance monitoring with root cause analysis, Quality Evaluation, and improvement workflows. This process is then followed by monitoring improvements in Key Performance Indicators.



In other words, NICE helps you understand **what happened** during an incident and reconstruct what people said or heard. We can capture your telecommunicators' workstation screens to tell you what they did and what information they had access to at the time of the incident to understand why they made the decisions they did.

Because our capture solutions sit between the call taking, CAD and radio system, we also capture the metadata of the incident so that we can also reveal **how it happened**.

With this information collected continuously, we tell you **what is happening NOW** in your emergency communications center. Instead of simply relying only on the 'number of calls' and 'speed to answer' metrics at the end of a week or month, we show you your current number of calls, speed of answer, time to enter, time to dispatch, time to on-scene by agency, priority and incident type, and many other important indicators that describe what is happening in your center.

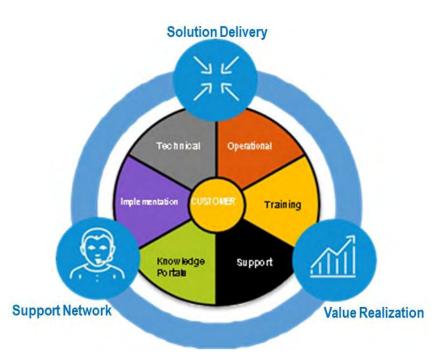
Finally, with this new insight into what's happening in your emergency communications center, we can also tell you **what's performing or not**. We connect the performance metrics to the underlying incidents, conversations and actions, so you can drill into and evaluate an incident that did or didn't perform as you expected and understand why. Now you can reliably diagnose whether the root of the problem was a shortcoming in coaching, protocol or technology that impacted the handling of the incident. With that information, you can make correct decisions about changes that impact the performance of your entire emergency communication center.

This also directly supports the vision of improved emergency communications, as defined in NG911 documentation.

Service and Support

When you invest in NICE technology, you can rely on NICE to stand behind it, ensuring it continues to function as promised long after it is deployed. Expert NICE engineers and maintenance specialists are on call for NICE Support customers, addressing any hardware or software issue that may arise.

As a global organization, NICE can provide quality support virtually anywhere a NICE solution is deployed, either through our own support organization or through authorized partners around the world. **Over 95%**



of all support cases are resolved remotely.

Average case resolution via remote support requires only half the time or less when compared to on-site service.



NICE provides complete support to our customers including remote telephone and diagnostic support, case and escalation management, onsite technical support, data recovery services, and service packs. Because our business is Public Safety, we understand that minutes matter. For this reason, our response begins with prompt remote diagnostics through to system restoration.

In Conclusion

At NICE, we understand the mission-critical environment of OCFA. We bring focused innovation and ability to perform for organizations similar to OCFA, in a manner that is unmatched by any other supplier.

Our solution will deliver considerable benefits to OCFA beyond the requirements of the RFP, enabling OCFA to increase employee retention and reduce turnover, while providing tools for getting more done with fewer resources needed, driven by valuable analytics, in addition to meeting all mandatory recording requirements.



2. Certification of Proposal (Exhibit B)

In responding to RFP RO2549A – 9-1-1 Voice/ Radio Digital Logging Recording System, the undersigned Offeror(s) agrees to provide services to OCFA per the specifications. Offeror further agrees to the terms and conditions specified herein, the following terms and conditions that are a part of this proposal, and the resulting Professional Services Agreement. *If there are any exceptions to or deviations from the terms of the Professional Services Agreement (Exhibit K), they must be stated in an attachment included with the offer.* Where Offeror wishes to propose alternatives to the Authority's contractual requirements, these should be thoroughly explained. While exceptions will be considered, OCFA's governing body reserves the right to deny any material exceptions to the contract. If no contractual exceptions are noted, Offeror will be deemed to have accepted the form of the contract requirements set forth in Appendix Four.

- A. The Offeror hereby certifies that the individual signing the submittal is an authorized agent for the Offeror and has the authority to legally bind the Offeror to the Contract. Signature below verifies that the Offeror has read, understands, and agrees to the conditions contained herein and on all of the attachments and agenda.
- B. The submission of the offer did not involve collusion or other anti-competitive practices.
- C. The Offeror has not given, offered to give, nor intends to give at any time hereafter, any economic opportunity, future employment, gift, loan, gratuity, special discount, trip, favor, meal or service to a public servant in connection with the submitted offer.
- D. The Offeror has submitted the Party, Participant (Agent) Disclosure Form if applicable.
- E. The Offeror shall not discriminate against any employee or applicant for employment in violation of Federal or State law.
- F. The Offeror complies fully with the Federal Debarment Certification regarding debarment suspension, ineligibility and voluntary exclusion.

Independent Price Determination:

I certify that this offer is made without prior understanding, arrangement, agreement, or connection with any corporation, firm or person submitting an offer for the same services, and is in all respects fair and without collusion or fraud. I certify that I have not entered into any arrangement or agreement with any Orange County Fire Authority public officer. I understand collusive bidding is a violation of State and Federal law and can result in fines, prison sentences, and civil damage awards. I agree to abide by all conditions of this offer and certify that I am authorized to sign this agreement for the Offeror.

To the Orange County Fire Authority:

The Undersigned hereby offers and shall furnish the services in compliance with all terms, scope of work, conditions, specifications, and amendments in the Request for Proposal which is incorporated by reference as fully set forth herein. The representations herein are made under penalty of perjury.

NAME OF FIRM:	NICE Systems, Inc.			
ADDRESS: 221	River Street			
CITY: Hoboken		STATE: NJ	ZIP CODE : <u>07030</u>	
PRINTED NAME:	John Rennie	тт	TLE: General Manager	
SIGNATURE OF P AUTHORIZED TO		<i>\$</i> /6	DATE: February	<u>27, 202</u> 3



3. Offeror's Information (Exhibit C)

Please complete and/or provide all requested information. If the proposal is submitted by a corporation, please provide an additional attachment that states the names of the officers who can sign an agreement on behalf of the corporation and whether more than one officer must sign. If the proposal if by a partnership or a joint venture, state the names and addresses of all general partners and joint venture parties. If the respondent is a sole proprietorship or another entity that does business under a fictitious name, the proposal shall be in the real name of the respondent with a designation following showing "DBA (the fictitious name)," provided however, that no fictitious name shall be used unless there is a current registration with the Orange County Recorder.

The undersigned, as respondent, declares that all documents regarding this proposal have been examined and accepted and that, if awarded, will enter into a contract with the Orange County Fire Authority.

FIRM'S LEGAL NAME: NICE Systems, Inc.					
FIRM PARENT OR OWNERSHIP: NICE Ltd.					
ADDRESS: 221 River Street, Hoboken, NJ 07030					
FIRM TELEPHONE #: 551-256-5000	FIRM FAX #: NA				
FIRM'S TAX I.D. NUMBER: 77-0250126					
LEGAL FORM OF COMPANY: (partnership, corporation,	, joint venture): Corporation				
LENGTH OF TIME YOUR FIRM HAS BEEN IN BUSINE	ss: 30 years +				
	9 1986				
NUMBER OF EMPLOYEES: 6,800 NUM	BER OF CURRENT CLIENTS: 3.000				
Management person responsible for direct contact with the Orange County Fire Authority and service required for this Request for Proposal (RFP).					
NAME: John Rennie	TITLE: General Manager				
TELEPHONE #:	E-MAIL: john.rennie@nice.com				
Person responsible for the day-to-day servicing of the account.					
NAME: Jeff Visger	TITLE: Account Executive				
TELEPHONE #: 801-715-5552	E-MAIL: jeff.visger@nice.com				



4. IRS Form W-9 (Exhibit D)

orm W Rev. Octob Department	of the Treasury	Request for Identification Number ► Go to www.irs.gov/FormW9 for ins	er and Certific		Give Form to the requester. Do not send to the IRS.
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1.	ce Systems Inc		01010100000000000		
	Business name/disre				
3 Check appropriate box for federal tax classification of the person who following seven boxes.					4 Exemptions (codes apply only to certain entities, not individuals; see instructions on page 3):
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Specific Instructions on page					Exemption from FATCA reporting code (if any)
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ds 5		reet, and apt, or suite no.) See instructions.		Requester's name a	and address (optional)
8 22	1 River Street,	10th Floor			
6	City, state, and ZIP	code			
	oboken, NJ 070				
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Part II Part II nder pe The nu I am nu Service no ion I am a The FA	To Give the Reque Certifica enalties of perjury, mber shown on th ot subject to back e (IRS) that I am si ger subject to bac U.S. citizen or off ATCA code(s) ente	I certify that: his form is my correct taxpayer identification num up withholding because: (a) I am exempt from ba buject to backup withholding as a result of a failu kup withholding; and her U.S. person (defined below); and red on this form (if any) indicating that I am exem	iber (or I am waiting for a ckup withholding, or (b) re to report all interest of pt from FATCA reporting	number to be is: I have not been r dividends, or (c)	notified by the Internal Revenue) the IRS has notified me that I (
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lere	U.S. person >	David Hawrylyk	D	ate► 1-01-2	2023
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Purpose of Form		 Form 1099-S (proceeds from real estate transactions) 			
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Cat. No. 10231X

Form W-9 (Rev. 10-2018)



5. Party Participant and Agent Disclosure Forms (Exhibit E)

Campaign Contributions Disclosure: In conformance with the statutory requirements of the State of California Government Code Section 84308, part of the Political Reform Act and Title 2, California Code of Regulations 18438 through 18438.8, regarding campaign contributions to members of appointed Boards of Directors, Offeror is required to complete the attached Party and Participant Disclosure Forms and submit as part of the proposal, **if applicable**.

Offeror is required to submit only one copy of the completed form(s) as part of its proposal. This/these form(s) should be included in the original RFP. The Offeror and subcontractors must complete the form entitled "Party Disclosure Form". Lobbyists or agents representing the Offeror in this procurement must complete the form entitled "Participant Disclosure Form". Reporting of campaign contributions is a requirement from the proposed submittal date up and until the OCFA Board of Directors takes action.

ORANGE COUNTY FIRE AUTHORITY BOARD OF DIRECTORS

Vacant, Chair City of La Palma

Ross Chun, Director City of Aliso Viejo

Anne Hertz-Mallari, Director City of Cypress

> John O'Neill, Director City of Garden Grove

Vacant, Director City of Laguna Hills

Noel Hatch, Director City of Laguna Woods

Shelley Hasselbrink, Director City of Los Alamitos Carol Gamble, Director

City of Rancho Santa Margarita

Troy Bourne, Director City of San Juan Capistrano

Joe Kalmick, Director City of Seal Beach

Vince Rossini, Director City of Villa Park

Eugene Hernandez, Director City of Yorba Linda Vacant, Vice Chair City of Irvine Vacant, Director City of Buena Park Vacant, Director

City of Dana Point David John Shawver, Director

> City of Stanton Sandy Rains, Director City of Laguna Niguel

Mark Tettemer, Director City of Lake Forest

> Vacant, Director City of Mission Viejo Vacant, Director

City of San Clemente

Jessie Lopez, Director City of Santa Ana

Austin Lumbard, Director City of Tustin

Vacant, Director City of Westminster

Donald Wagner, Director County of Orange

Lisa Bartlett, Director County of Orange

PARTY DISCLOSURE

The attached <u>Party Disclosure Form</u> must be completed and submitted by the Offeror and subcontractors with the proposal by all firms subject to the campaign contribution disclosure requirements stated in Section VI this solicitation. It is anticipated that a recommendation for award of this contract will be presented to the Board of Directors of OCFA for approval. (Please see next page for definitions of these terms.)

Basic Provisions of Government Code Section 84308

- A. If you are an applicant for, or the subject of, any contract award, you are prohibited from making a campaign contribution of more than \$250 to any board member or his or her alternate. This prohibition begins on the date the solicitation is initiated, and the prohibition ends three months after a final decision is rendered by the Board of Directors. In addition, no board member or alternate may solicit or accept a campaign contribution of more than \$250 from you during this period.
- B. These prohibitions also apply to your agents, and, if you are a closely held corporation, to your majority shareholder as well. These prohibitions also apply to your subcontractor(s), joint venturer(s), and partner(s) in this proceeding. Also included are parent companies and subsidiary companies directed and controlled by you, and political action committees directed and controlled by you.
- C. You must file the attached disclosure form and disclose whether you or your agent(s) have in the aggregate contributed more than \$250 to any board member or his or her alternate during the 12-month period preceding the contract award.
- D. If you or your agent have in the aggregate contributed more than \$250 to any individual board member or his/or her alternate during the 12 months preceding the decision on the contract award or proceeding, that board member or alternate must disqualify himself or herself from the decision. However, disqualification is not required if the board member or alternate returns the campaign contribution within 30 days from the time the director knows, or should have known, about both the contribution and the fact that you are a party in the proceeding. The Party Disclosure Form should be completed and filed with your proposal, or with the first written document you file or submit after the proceeding commences.
 - A proceeding involving "a license, permit, or other entitlement for use" includes all business, professional, trade and land use licenses and permits, and all other entitlements¹ for use, including all entitlements for land use, all contracts² (other than competitively bid, labor or personal employment contracts), and all franchises.
 - 2. Your "agent" is someone who represents you in connection with a proceeding involving a license, permit or other entitlement for use. If an individual acting as an agent is also acting in his or her capacity as an employee or member of a law, architectural, engineering, consulting firm, or similar business entity, both the business entity and the individual are "agents."
 - 3. To determine whether a campaign contribution of more than \$250 has been made by you, campaign contributions made by you within the preceding 12 months must be aggregated with those made by your agent within the preceding 12 months or the period of the agency, whichever is shorter. Contributions made by your majority shareholder (if a closely held corporation), your subcontractor(s), your joint venturer(s), and your partner(s) in this proceeding must also be included as part of the aggregation. Campaign contributions made to different directors or their alternates are not aggregated.

This notice summarizes the major requirements of Government Code Section 84308 of the Political Reform Act and 2 Cal. Adm. Code Sections 18438-18438.8 as it relates to contract awards.

¹ Entitlement for the purposes of this form refers to contract award. ² All Contracts for the purposes of this form refer to the contract award of this specific solicitation.



	PARTY DISCLOSURE FORM			
Party's Name:	NICE Systems, Inc.			
Party's Address:	221 River Street			
	Hoboken, NJ 07030			
Party's Telephone:	551-256-5000			
Solicitation Title and	d Number: 911 Voice / Digital Logging Recording System / RFP Number: RO2549A			
Based on the party	disclosure information provided, are you or your firm subject to party disclosures?			
	he box and sign below. Yes 🗌 If yes, check the box, sign below and complete the			
form. Date: February 2	7, 2023 44			
	Signature of Party and/or Agent			
	only if campaign contributions have been made in the preceding twelve (12) Iditional copies if needed.			
	o whom you and/or your agent made campaign contributions and dates of e preceding 12 months:			
Name of Member:	NA			
Name of Contribut	or (if other than Party):			
Date(s):				
Amount(s):				
Name of Member:				
Name of Member:				
Date(s):				
Amount(s):				
Amound 97.				
Name of Member:				
Name of Contribut	or (if other than Party):			
Date(s):				



PARTICIPANT (AGENT) DISCLOSURE

The <u>Participant Disclosure Form</u> must be completed by lobbyists or agents representing the Offeror in this procurement. It is anticipated that a recommendation for award of this contract will be presented to the Board of Directors of OCFA for approval.

IMPORTANT NOTICE

Basic Provisions of Government Code Section 84308

- A. If you are a participant in a proceeding involving any contract award, you are prohibited from making a campaign contribution of more than \$250 to any board member or his or her alternate. This prohibition begins on the date you begin to actively support or oppose an application for contract award pending before OCFA or any of its affiliated agencies, and continues until three months after a final decision is rendered on the application or proceeding by the Board of Directors. No board member or alternate may solicit or accept a campaign contribution of more than \$250 from you and/or your agency during this period if the board member or alternate knows or has reason to know that you are a participant.
- B. The attached disclosure form must be filed if you or your agent has contributed more than \$250 to any board member or alternate for OCFA or any of its affiliated agencies during the 12-month period preceding the beginning of your active support or opposition (The disclosure form will assist the board members in complying with the law).
- C. If you or your agent have made a contribution of more than \$250 to any board member or alternate during the 12 months preceding the decision in the proceeding, that board member or alternate must disqualify himself or herself from the decision. However, disqualification is not required if the member or alternate returns the campaign contribution within 30 days from the time the director knows, or should have known, about both the contribution and the fact that you are a participant in the proceeding

The Participant Disclosure Form should be completed and filed with the proposal submitted by a party, or should be completed and filed the first time that you lobby in person, testify in person before, or otherwise directly act to influence the vote of the board members of OCFA or any of its affiliated agencies.

- 1. An individual or entity is a "participant" in a proceeding involving an application for a license, permit or other entitlement for use if:
 - a. The individual or entity is not an actual party to the proceeding, but does have a significant financial interest in the Authority's or one of its affiliated agencies' decisions in the proceeding; <u>AND</u>
 - b. The individual or entity, directly or through an agent, does any of the following:
 - i. Communicates directly, either in person or in writing, with a board member or alternate of OCFA or any of its affiliated agencies for the purpose of influencing the member's vote on the proposal;
 - ii. Communicates with an employee of OCFA or any of its affiliated agencies for the purpose of influencing a member's vote on the proposal; or
 - iii. Testifies or makes an oral statement before the Board of Directors of OCFA or any of its affiliated agencies.
- 2. A proceeding involving "a license, permit, or other entitlement for use" includes all business, professional, trade and land use licenses and permits, and all other entitlements for use, including all entitlements for land use; all contracts (other than competitively bid, labor, or personal employment contracts) and all franchises.
- 3. Your "agent" is someone who represents you in connection with a proceeding for this proposed involving a contract award. If an agent acting as an employee or member of a law, architectural, engineering, or consulting firm, or a similar business entity or corporation, both the business entity or corporation and the individual are agents.
- 4. To determine whether a campaign contribution of more than \$250 has been made by a participant or his or her agent, contributions made by the participant within the preceding 12 months shall be aggregated with those made by the agent within the preceding 12 months or the period of the agency, whichever is shorter. Campaign contributions made to different members or alternates are not aggregated.

This notice summarizes the major requirements of Government Code Section 84308 and 2 Cal. Adm. Code Sections 18438-18438.8



PARTICIPANT (AGENT) DISCLOSURE FORM

Prime's Firm Name	e: NICE Systems, Inc.				
Party's Name:	221 River Street				
Party's Address:	Hoboken, NJ 07030				
-					
Party's Telephone:	551-256-5000				
	d Number:911 Voice / Digital Logging Recording System / RFP Number: RO2549A				
	cipant disclosure information provided, are you or your firm subject to participant				
disclosures?	sipant disclosure information provided, are you or your intri subject to participant				
No 🗶 If no, check form.	the box and sign below. Yes 🗌 If yes, check the box, sign below and complete the				
	27, 2023 44				
	Signature of Party and/or Agent				
	only if campaign contributions have been made in the preceding twelve (12) dditional copies if needed.				
	o whom you and/or your agent made campaign contributions and dates of ne preceding 12 months:				
Name of Member:	NA				
Name of Contribu	tor (if other than Party):				
Date(s):					
Amount(s):					
Name of Member:					
Name of Contributor (if other than Party):					
Date(s):					
Amount(s):					
Name of Member:					
Name of Contribu	tor (if other than Party):				
Date(s):					
Amount(s):					



6. Method of Approach (Exhibit F)

Offerors shall provide a detailed narrative that describes how the respondent intends to provide the requested services set forth in the Scope of Work. Information provided will be used to evaluate Criterion

4.2.1. Method of Approach and should address, at a minimum, the following:

1. Describe in detail your firm's proposed work plan and implementation of the OCFA DLRS as described. Include a description of the equipment and processes to be used.

COMPLY

NICE is able to replace the existing VPI recording infrastructure and to migrate the existing VPI legacy recordings and metadata into the new logger environment, providing seamless, integrated access to historical recordings from both platforms and across the replacement boundary.

In order to satisfy OCFA's requirement for data migration from their existing VPI loggers, NICE would provide all needed services to convert and migrate the VPI DATABASE files from the existing recorders into VMs on the CEN NIR servers. Chain-of-custody issues and concerns preclude NICE personnel from converting or migrating the MEDIA files from the existing servers to the new, but NICE can provide support, instructions, and customized scripting, to automate the media conversion and transfer processes as much as possible.

Inform matrix channels will allow retrieving recordings from another NICE Inform system, such as a regional radio system recording solution (e.g., LARICS or Orange County Sheriff) to support interagency cooperation and interoperability.

The proposal includes services to integrate the NICE Inform application suite and NICE Inform Intelligence center with OCFA's Central Square Enterprise (formerly TriTech Inform) CAD v21.1.2.14. The proposed solution will provide a more robust and complete incident search and reconstruction capability.

The proposal includes integration with RapidSOS enhanced location data warehouse for capture and long-term retention of RapidSOS' short-lived enhanced location information.

The proposal includes integration with OCFA's Text-to-911/SMS provider (not provided in the RFP nor Addendum 1), if NICE has integration support for OCFA's provider. Otherwise, Text-to-911 may only be captured if the PC screen used for Text-to-911 is being recorded.

The proposal further includes the NICE Inform Elite R10 application suite, including:

- NICE Inform Reconstruction for searching, filtering, and gathering recording media and metadata into a timeline and saving as a scenario
- NICE Inform Evidence Compliance Pack, which includes Organizer (for adding external files to a scenario and packaging them for distribution outside the Inform system) and Media Player (which allows users outside the Inform system to view and playback scenario media in an Inform-like timeline interface).
- NICE Inform Reporter which provides a library of pre-built, but customizable, reports for summarizing Inform activity and performance as well as ad hoc reporting capabilities.
- NICE Inform Monitor which allows authorized Inform users to monitor recordings in-progress.
- NICE Inform Verify which allows agents to access and playback recordings of their most recent calls from their agent PC.
- NICE Inform Evaluator which allows call center management to automate the process of selecting and assessing caller-agent interactions for the purposes of measuring and improving individual agent and call center-wide performance.



- Assessments can be automatically assigned to appropriate evaluators and assessment completion can be tracked for timely fulfillment.
- The proposal also includes NICE Inform Health Manager (NIHM), the NICE SNMP-based system monitoring solution.

Per the RFP requirements, the proposal includes the following server hardware:

- Two (2) HP DL360 Gen10 NIR IP radio logger servers (one primary and one redundant) running Windows Server 2016 and both recording sixty (60) talk groups via thirty (30) simultaneous talk paths from Motorola's MCC7500 P25 AIS. These servers will be installed on OCFA's radio network infrastructure (RNI).
- One (1) HP DL360 Gen10 logger backup server (LBS) running Windows Server 2016 OS and shared between both IP radio NIR servers. Two (2) additional 6TB HDD will be added in a second RAID1 array for highly fault tolerant and expanded archiving and backup storage. This server will be installed on the RNI.
- Two (2) HP ML350 Gen10 NIR logger servers (one primary and one redundant) running Windows Server 2019 and both recording one hundred twenty (120) channels each (sixty-four (64) 2-wire analog sources; eighteen (18) VESTA consoles via passive SIP recording; twenty (20) Avaya 2-wire digital phones; and eighteen (18) unallocated channels for growth). Each server will be equipped with three (3) 24-channel 2-wire analog audio interface cards, one (1) 48-wire digital interface to support the Avaya 2-wire digital phones, and two (2) 6TB HDD in a second RAID1 array for additional local media storage (until archived). These servers will be installed on the customer enterprise network (CEN).
- Two (2) HP DL380 Gen10 NICE Inform application suite servers (one primary and one resilient) running Windows Server 2019 and MS SQL Server 2019 licensed for four (4) server CALs (shared with other servers, below) and ten (10) user/device CALs. The resilient Inform server will also host the NICE Inform Health Manager (NIHM see below) services. These servers will be installed on the CEN
- One (1) HP DL380 Gen10 NICE Inform Intelligence Center server running Windows Server 2019 and MS SQL Server 2019. This server will be augmented with an additional 32GB RAM to improve performance on large and complex analytics tasks. This server will be installed on the CEN.
- Two (2) HP DL380 Gen10 NICE Inform Central Archiving (CA) servers running Windows Server 2019 and MS SQL Server 2019. These servers will receive media and database backups from the two CEN NIR servers (and, optionally, from the two RNI NIR servers, as well) to provide search, playback, and incident reconstruction capability even if both (CEN or RNI) NIR servers are offline, per the RFP requirements. These servers will each be augmented with four (4) additional 6TB HDD to be combined in an 18TB RAID5 array. These servers will be installed on the CEN.
- One (1) DL360 Gen10 NICE Inform Screen Recorder satellite server running Windows Server 2019 and recording screens for eighteen (18) CAD workstations (2x 1920x1080 monitors per PC) and eighteen (18) VESTA call handling workstations (1x 1920x1080 monitors per PC). The screen satellite will be augmented with an additional two (2) 6TB HDD in a second RAID1 array for the required thirty (30) days screen recording retention. This server will be installed on the CEN.
- In addition to the one hundred twenty (120) telephony channels and the thirty (30) radio channels, the NICE Inform server will also be licensed for an additional twenty (20) (primary and redundant) NICE

This proposal includes NICE-provided services to ensure a successful deployment and transition to operational status. Services include on-site installation, configuration, and validation as well as remote Project Management to ensure a smooth implementation and onsite training services.



Proposed training includes:

- One 2-day NICE Inform training class for up to six (6) students.
- One half-day (4 hrs) NICE Inform Health Manager class for up to six (6) students
- One full day (8 hrs) NICE Inform Evaluator class for up to six (6) students.

The proposal presumes that, prior to the date of installation, the customer will have configured and tested the necessary network packet replication (Cisco SPAN port(s) or equivalent) to facilitate recording of the VESTA positions via VoIP as well as high-speed remote connectivity (VPN, screen sharing) into the OCFA logger network to facilitate remote support of the onsite deployment and configuration of the proposed solution. Requirements and documentation to be provided during project kickoff call.

The proposal further presumes that, prior to installation of the proposed solution, the customer has acquired, deployed, installed, and configured any needed Avaya licensing and functionality on the PBX needed to enable integration with the NICE loggers for recording the Avaya digital phones.

Detailed requirements will be provided upon contract award.

2. How will your firm ensure that implementation as scheduled will be completed based on the deadlines provided?

NICE Professional Services team employs a proven methodology to translate the customer vision into a working solution. This sets NICE apart from other Service Providers. NICE Professional Services handles all stages of solution implementation, from initial design and configuration to final handover to trained customer users and administrators.

NICE Solution Delivery Services team offers the surest, most efficient way to fully integrate NICE capabilities into your operations and deliver maximum solution benefits to your organization.

NICE Solution Delivery Services team uses a proven delivery approach that spans configuration and project management tailored to NICE's applications, the customer's operations, and overall customer needs. NICE implementation experts have in-depth knowledge of NICE's technology and proven implementation processes. They intimately understand the NICE offering, the customer's environment, and the way NICE solutions interact with other systems, **ensuring that the implementation is on time and on budget.**

The NICE Project Management team oversees implementation and takes full responsibility for all NICE-related activities - from inception and planning to the final hand over to the customer. NICE Professional Services team has established a comprehensive standard methodology for implementing both new and migration projects. These standards define the approved methodology, tools and processes for quality project implementation to ensure the delivery of projects at single or multiple sites.

- Deploying in Public Safety is unlike any other solution delivery it has to be fast, accurate and unobtrusive
- Your solution delivery team needs to understand the requirements and constraints of Public Safety's mission-critical environment
- The NICE Public Safety Project Management team member has hundreds of successful deployments under their belt, to ensure your solution is delivered according to your expectations
- For larger, longer-term projects, NICE maintains an experienced team of Public Safety Program Managers to oversee and lead these multi-year programs
- NICE is trusted by the largest Police Departments in the world



A Project Manager (PM) serves as a single focal point coordinating each key implementation phase, ensuring that best practices are used throughout large-scale projects. NICE Project Managers work with the customer's team to:

- Define and document all requirements concerning NICE solutions in a statement of work and project plan
- Manage the NICE resources and activity that the implementation requires
- Control the scope of the project
- Identify any potential risks and take action to mitigate them
- Provide regular project reports about NICE-related elements
- Ensure that the project is completed on schedule, according to the approved budget and at the planned quality level
- Manage the installation, configuration and testing of the NICE solution
- Coordinate the training needs of the customer's end users
- Hand over a working solution to the customer's staff and the support organization

NICE's seasoned Project Managers follow the principles and best practices established by the Project Management Institute (PMI), which NICE modifies to suit the unique requirements of NICE solution delivery and the relevant agency environment. To deliver a quality implementation, NICE Project Management uses a five-step delivery approach that has been refined over scores of projects.



Initiation

After the customer places the order, a NICE Project Manager (PM) accepts the statement of work and schedules a kick-off meeting with all parties involved. They review the customer's requirements, key dates, and touch points with the customer.

Planning

The NICE PM prepares a project plan detailing the schedule, resources and any necessary preparation. NICE also verifies the proposed solution and design to ensure it is aligned with the customer requirements. The NICE PM creates and outlines site preparation documents to capture the needs and information prior to the installation.

Execution

NICE performs all necessary hardware and software installation, then oversees exhaustive testing by NICE engineers using established installation test procedures and documenting all details and status. In addition, NICE trains the customer's trainers and/or users as agreed.

Control and Monitor

To get the project underway, the NICE PM oversees the delivery of all NICE services and activity involved, while delivering regular project progress reports. NICE also matches its progress with the original plan to demonstrate how the project is performing relative to the established process reviews and metrics.



Closure

The customer and the NICE PM review the entire project to confirm that it is complete and implemented as agreed. A detailed site report documenting precisely how the customer's system was installed and configured is provided to the customer. The NICE PM then hands the project over to the customer's staff and the NICE support team, who will take over the day-to-day interaction with users and administrators.

The NICE PM, along with the customer PM, will prepare the actual work plan, during the Solution Planning phase of the project. The timeframe for transition/production will be estimated together with the customer.

3. Is your facility(s) centrally located, easily accessible, within or near the OCFA service area?

NICE has multiple offices nation-wide, including a location in San Francisco and another in San Diego, California.

4. How will onsite staff, shift leads, supervisors, management and OCFA staff communicate?

Communications plan will be developed and agreed to by all parties at the onset of the project. This will be one of the responsibilities of the project managers assigned by both NICE and OCFA.

Communication Plan for all Key Stakeholders related to the Planning and Delivery of the NICE Project Plan consists of the following:

- Names of all Stakeholders
- Phone Numbers
- Titles
- Communication Flows
- Responsibilities
- Work Structures
- Escalation Points
- 5. What policies and procedures are in place to ensure the quality of work requested in the Scope of Services is provided? How is the quality of work measured? Describe the corrective action procedure that will be utilized should performance issues arise.

NICE performs all necessary hardware and software installation, then oversees exhaustive testing by NICE engineers using established installation test procedures and documenting all details and status. NICE will correct any identified issues before concluding the implementation and releasing the solution into production.

NICE uses a standard Test Plan on each solution after each install or upgrade. The Test Plan is designed to cover all aspects of functionality with regards to the recording solution and associated applications, and the operation of the solution under normal conditions (in this case, per OCFA's SOW). It does not cover destructive testing.

Each Solution's Test Plan comprises a multi-step process that includes both the hardware and the software. Test Plans (ATP's) will be carried out on each:



NICE Inform

NICE Inform Recorder includes the testing and assurance of quality for all NICE Inform applications, the NICE Intelligence Center, and the NICE Health Manager.

Selected examples of these test plan items have been provided in the illustrations below to illustrate the exhaustive testing enabling the measurement of performance quality and the associated actions that will arise as a result.

NICE Inform Recorder

All search, playback, and other functionality is tested via the NICE Inform Application. A NICE Inform "ATP will be run separately from the testing of the Recorder.

The objectives of these tests are to demonstrate the following:

- Recorder power up
- Account Login
- Correct recording of all audio circuits to the recorder channel/s
- Correct Display of Call Meta data information in search results
- Archive to media
- SNMP Alerts
- And other applicable items

All tests begin with the equipment powered off and will be conducted as a Pass/Fail state. All Software will be confirmed to be installed and functioning properly.

Action Expected Result Pass / Fail					
		Pass / Fail			
	NICE Inform Reconstruction application starts and is now available for search and replay.	Pass / Fail			
Search for Calls across all channels for a suitable time_period	Confirm NICE Reconstruction returns a list of search results	Pass / Fail			
	Selected calls are replayed and that the Audio quality is intelligible.	Pass / Fail			

From the Server User interface

From NICE Inform, a search will be conducted to confirm the Server is recording and recordings can be retrieved and played

C1. Confirm Software Installation			
Action	Expected Result	Pass / Fail	
Confirm NICE Inform Recorder (NIR) installed	Programs and features confirm NIR installed	Pass / Fail	
Confirm latest NIR Update Pack installed (where applicable)	Programs and features confirm NIR UPX installed.	Pass / Fail	

C2. NR Core Server software start-up and login				
Action	Expected Result	Pass / Fail		
Login to the NICE Inform Recorder Core server	Normal Server start-up sequence is observed and login as administrator allows access to server desktop	Pass / Fail		
Open Monitor Application	All Connected channels turn green	Pass / Fail / NA		
Start NICE Inform Recorder Web GUI Browser using the desktop shortcut	Log On Screen Appears	Pass / Fail		
Confirm Logon with Service account	Login ok & All GUI configuration Tabs available	Pass / Fail		
Open System Installation\Settings per recorder	Confirm Core Server and Satellites can be seen, and Server	Pass / Fail		
	overview information is correct as per installation configuration.			
Open User Administration tab	coreapi	Pass / Fail		
Confirm the following user account has been created:				
Open System Status \General Info	Confirm all Parrot card are listed and that all license data field information is correct as per site licenses.	Pass / Fail		
Open System Status \Recorder Status	Check Recorder status information & confirm 'Recorder is running 'True' and that the other status information has been updated as per the current recorder status.	Pass / Fail		
Open System Status\Alarm Status	Confirm that there are no unattended Alarms	Pass / Fail		

NICE Systems, Inc.



Ring an extension internally and then do a call pick-up from a recorded extension	One call recorded	Pass / Fail
Ring a recorded extension internally and then do a call pick-up from a <u>non-recorded</u> extension	No Call Recorded	Pass / Fail
Make an inbound call to an extension and then do a call pick-up from a recorded extension	One call recorded	Pass / Fail
Make an inbound call to a recorded extension and then do a call pick-up from a <u>non recorded</u> extension	No Call Recorded	Pass / Fail
Conference – Make an incoming call to an extension and then conference an additional two extensions	8 calls recorded in total for each element	Pass / Fail
Conference – Make an outbound call and then conference an additional two extensions	8 calls recorded in total for each element	Pass / Fail
Park – Make an internal call from extn A to extn B. B answers and parks the call. C un-parks the call. After un-park A and C are connected	2 calls recorded in total for each element	Pass / Fail
Park – Make an incoming call to extn A and park the call. Extn B un-parks the call. After un-park inbound call and extn B are connected	2 calls recorded in total for each element	Pass / Fail
Park – Make an outgoing call from Extn A and park the call. Extn B un-parks the call. After un- park outbound call and Extn B are connected	2 calls recorded in total for each element	Pass / Fail
Demonstrate calls are recorded from any IP phone where a user is hot desking	Calls are recorded when a user is hot desking	Pass / Fail

The next steps will be to test the extensions

Verify that archiving is functioning correctly

Demonstrate that the archiving has been set-up	Calls can be seen to be archived correctly	Pass / Fail /NA
Demonstrate calls can be deleted automatically from HDD / NAS / SAN / EMC after a test retention period	Confirm called deleted from remote storage	Pass / Fail /NA

Check that an evaluation form has been defined and set to Active (see Inform Template Designer)	At least one evaluation form is Active.
From Inform Reconstruction, select a recording and select Evaluate.	The Evaluate Recordings wizard will start
Follow the wizard, choosing new evaluation, giving a name and description, treating as an ad- hoc evaluation, with no additional users to access and select an evaluation form from the list.	The new evaluation will appear in the Evaluations list
Confirm the new evaluation has status "Created" and that the other details correspond with the entered information	Evaluation status is "Created"

Test NICE Inform Evaluator (Quality Assurance)

Test NICE Intelligence Center

#	Description	Expected Results	Result
	Elasticsearch and Kibana		
1	Check that the Elasticsearch software is installed.	Elasticsearch is installed and the service is running.	
2	Check that the Kibana software is installed.	Kibana is installed and the service is running.	
3	Check that Kibana allows secure connection via HTTPS.	The Status of Kibana and the plugins are all green.	
	Go to https:// <fqdn>:5601/status and log in using valid credentials.</fqdn>		
	NICE Investigate Data Source Gateway		
4	Check that the NICE Investigate Data Source Gateway software is installed.	The NICE Investigate Data Source Gateway is installed and the service is running.	
5	Check that the all the telephony and radio providers are configured within the NICE Investigate Data Source Gateway.	All providers listed in the Site Preparation Guide have been setup.	
6	Check that the all the CAD providers are configured within the NICE Investigate Data Source Gateway.	All providers listed in the Site Preparation Guide have been setup.	
7	Check that telephony, radio and incident records are retrieved. Using the PrpSerializer found in the Tools subfolder of	There are chunks covering up to the current time (there will be a small gap between the latest block and "now" caused by DSG polling for new data on a schedule)	
	the NICE Investigate Data Source Gateway installation location, open the PRP file for each telephony, radio and CAD provider.	Blocks are marked as "IsForward", completed successfully and have a document count.	
	The PRP files can typically be found in C:\ProgramData\NICE Systems\Investigate DSG		



6. What risks has your firm identified in the services to be provided? How does your firm plan to mitigate these risks?

NICE's Risk Management process includes conducting risk management planning, identification, analysis, response planning, response implementation, and monitoring risk on a Project. During Project Kick-off risk concerns will be discussed. Additional Meetings can be scheduled separate to Risk issues. Items to be discussed:

- Site Preparation by the Customer (this tends to be among leading areas of risk)
- OCFA Site Security Concerns
- Special Site Requirements

Project Stakeholders need to be identified early and must be reviewed throughout the OCFA Project Lifecycle as they change. General practice will include Identifying all Stakeholders and ensuring their engagement. Regular interactions during the project mitigate risk. Agile methods use aggressive transparency which expose misalignment, dependency or other issues. Stakeholders to be identified include:

- OCFA Project Manager
- OCFA Information Technology Personnel
- Site Contacts
- Other OCFA Organizational resources
- Install resources



7. Technical Abilities (Exhibit G)

The purpose of this section is to obtain information regarding the qualifications and relevant experience of the Offeror. The responses provided will be used to evaluate Criterion 4.2.2 Technical Abilities. Provide a narrative that addresses, at a minimum, the following:

1. Describe the firm's experience providing DLRS solutions services.

NICE solutions are Proven and Purpose-Built for Public Safety from the Ground Up.

NICE is reliable and in use at over 3,000 public safety communication centers. Many of the largest, most sophisticated communications centers in the world use NICE including the New York City Police Department, the Federal Aviation Administration, Los Angeles County Sheriff and many others. **Our success stems from our solid foundation and our ability to help our customers automate manual processes and take a proactive approach to performance improvement, in a manner that helps improve staff morale and reduce turnover.**

NICE Inform has been designed for a **full 360-degree approach**, from collecting all communications and data for liability and evidentiary purposes to utilizing this information for proactive performance monitoring with root cause analysis, Quality Evaluation, and Performance Improvement workflows. **This process is continuous, by enabling monitoring of Key Performance Indicators.**

In other words, NICE helps you quickly understand **what happened** during an incident and reconstruct what people said or heard. We can, optionally, capture your telecommunicators' workstation screens to tell you what they did and what information they had access to at the time of the incident to understand why they made the decisions they did.

Because our capture solutions sit between the call taking, CAD and radio system, and can also collect information from other systems such as RapidSOS and Rapid Deploy, we also capture the metadata of the incident so that we can reveal **how it happened**.

With this information collected continuously, we tell you what is happening NOW in any your 24 communications centers. Instead of simply relying only on the 'number of calls' and 'speed of answer' metrics at the end of the week or month, we show you your current number of calls, speed of answer, time to enter, time to dispatch, time to on-scene by agency, priority and incident type, and many other important indicators that describe what is happening in your centers.

Finally, with this new insight into what's happening in the OCFA, we can also tell you what's performing or not. We connect the performance metrics to the underlying incidents, conversations and actions, so you can drill into and evaluate an incident that did or didn't perform as you expected and understand why. Now you can reliably diagnose whether the root of the problem was a shortcoming in coaching, protocol or technology that impacted the handling of the incident. With that information, you can make correct decisions about changes that impact the performance of your entire emergency communication center.

This also directly supports the vision of improved emergency communications, as defined in NG911 documentation.



Superior NG911 Recording and Comprehensive Evidence Collection

While our solutions records multiple communication platforms (radio, telephone, text, screens (optionally), etc.) access to all this information is consolidated out of the box.

It's all one interface, one point of administration, and one rules engine. NICE's modular, NG911 compliant design approach is specifically designed for both the compliance management and PSAP performance improvement – this is a major differentiator that sets apart NICE Inform as the most future-conscious solution. The effort to move from the initial design features to the most advanced Next Generation 9-1-1 functionality is a fraction of what it entails to take the same journey with another vendor.

NICE is uniquely on the forefront of NG9-1-1 innovation. For over 30 years, we have focused purely on mission-critical Public Safety solutions – all day, every day. Our long-term product roadmap is backed by the logging and recording industry's largest team of R&D professionals dedicated solely to public safety.

Maintaining its pace-setting public safety solution innovation, NICE has played a major role in NENA's planning and standards definition for NG9-1-1 and deployment of NENA i3 compliant solutions. Our NG911 expertise was thoroughly assessed against all other vendors in the industry by New York Police Department (NYPD). NICE was subsequently selected by NYPD as the most suitable vendor for their NG911 transformation.

NICE Inform provides public safety agencies with unmatched flexibility to capture, share and collaborate on local and multi-site communications

can capture, import, and integrate media and data from digital, analog, and VoIP calls, as well as conventional, P25 radio transmissions, text–to-911, imported video and images, console screens, location information systems, and CAD data.

NICE Inform also delivers intelligent incident data management by linking together disparate data silos such as recorded telephony, radio, 3rd party static and mobile video, workstation screens, GIS, and other types of multimedia information. Its powerful yet easy-to-use interface can combine data from multiple systems to provide improved situational and post event analysis.





Moreover, NICE Inform is the only certified recording solution that can connect to current VPI recorders, and any new NICE Inform recorders in a single system.

Having acquired the company VPI, NICE now holds all patents, source code, intellectual property and expertise relevant to VPI products and is the only authorized vendor able to use this specialist knowledge to access the recordings/evidence contained on the VPI recording systems via another recording platform, while maintaining the integrity of all data.

NICE is currently the sole support provider for both VPI Capture and NICE Inform, offering the deep expert knowledge of a solution manufacturer even with end-of-life products from VPI.

As such, NICE guarantees the quality of transferred communications and data, making it accessible along with newly recorded communications and data, in the new interface. NICE's services include this transfer along with all applicable onsite training and technical services. Full installation of the solution, testing and handover are normal part of the turnkey package offered by NICE.

OCFA will gain continuity of evidence through transition to the new system. NICE will migrate existing recording media and data into the new recording platform. This removes the risk from aging hardware and manual, audio-only retrieval from legacy systems. OCFA will be able to fully reconstruct historical incidents in a timely and defensible manner.

2. Complete the table provided as Exhibit G-2.

COMPLETED AND ATTACHED

Exhibit G-2 Spreadsheet has been completed in the spreadsheet table provided by OCFA and is included and submitted with our response as a separate Excel file, as instructed in the Proposal Formatting and Submittal Requirements of this OCFA RFP, along with our responses for your review.

3. Provide a description of the entire size of its install base, including the number of implementations, in North America and worldwide to demonstrate proven experience.

With the customer base larger than any other competing vendor (we provide the proposed solution for reliable recording and performance improvement at over 3,000 agency sites world-wide, with majority of them residing in the US), we are trusted and recognized as the leader and most trusted advisor in emergency response, incident intelligence, and digital evidence management. Given the large number of customers, listing the entire customer base here is neither practical, nor permissible due to numerous NDA agreements in place.

NICE Public Safety Solutions' Large Deployment Examples





17 of the Top 20 City Metros in US & Canada Trust NICE Solutions



 Provide a proof of a completed and fully operational integration with VPI Capture recording system, to provide access to the recordings captured by VPI as well as those captured by the new solution - via one unified interface.

NICE has multiple customers who utilize NICE for one-stop access to both new recordings captured by NICE inform as well as older recordings from VPI Capture, utilizing the integration we recommend for OCFA as well. Using NICE Inform interface, agencies can search for and retrieve VPI recordings just like those recorded by NICE, and use them in incident reconstruction, quality assurance, etc.as if they were originally captured by NICE.

In addition to our references provided under Exhibit I, two of which acquired NICE with the same integration, we are also offering another reference below. OCFA is welcome to reach out to St. Lucie and verify this functionality.

a. Include a customer contact with the description of how this integration is currently used.
 St. Lucie County
 Craig Montgomery, KK4CID Information Systems Coordinator
 Department of Public Safety"
 Ph: 772-462-8213 | Cell: 772-579-0430
 15305 West Midway Road. Fort Pierce 34945

5. Provide proof of a completed and fully operational integration with RapidSOS, where firm is the RapidSOS Central System of Record.

NICE is a RapidSOS partner for providing a single, central system of record for the combined data from both systems. See the press release announcing this partnership <u>HERE</u>.

To describe this solution, NICE and RapidSOS jointly published an ebook and a brochure discussing this subject:



A copy of the ebook is enclosed.



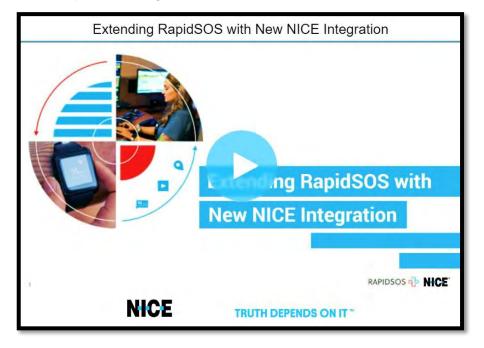
	NIAP.
	NICE
	Solution Overview
	Improving Efficiency and Insight into 911 Operations and Incidents
driven incide operations a	I RapidSOS solution empowers emergency communication centers (ECCS) with rapid, data- nt reconstruction and intelligence dashboards to boost efficiency and insight into 911 id incidents. It increases the value of life-saving data from RapidSOS from 350M+ connected , and profiles to ECCs, to support 150M+ emergencies annually.
How NICE	Helps
emergency r extends Rapi single system	bidSOS are transforming incident reconstruction and analytics by integrating RapidSOSs seponse data platform with NICE's incident reconstruction and intelligence platform. This dSOS enhanced emergency information beyond real-time incident handling - to provide a of record of all incident information within NICE Inform. for evidentiary purposes and for improvement.
connects to from other so	OS presents location and additional information to ECCs during an emergency. NICE Inform he RapidSOS Platform to securely store this data in the same structure as ANI/ALI collected jurces, serving as an ECC's data repository for extended storage, making it available for nstruction requests and quality assurance reviews.
	stem of Record for All Incident Data Enhances Incident
Reconstru	
text-to-911 in data, and lev emergency c	t solution, ECCs can now access critical data from the RapidSOS Platform for 91 calls and the NICE recording system along with radio, screen recording, and other critical incident erage it to search, reconstruct and evaluate incidents. ECCs can visually search for captured alls on a map based on their accurate location, wiwe comprehensive incident timelines, and movement of 911 callers, while simultaneously listening to calls.

A copy of the joint brochure is enclosed



This combined solution has been also presented in a joint webinar by representatives from NICE as well as from RapidSOS. The recording of this webinar can be accessed below the graphic illustrating the title of **NICE RapidSOS Integration Webinar**:

NICE RapidSOS Integration



https://share.vidyard.com/watch/acrCeBHfG6RgyoBnTJEaPC?

Examples of customers who use NICE's integration with RapidSOS in this manner:

- Washington DC Unified Communications Center
- Prince William County, VA
- Valley Comm, WA

6. What additional, or value-added, services does your firm offer?

Our proposed solution is unmatched in the marketplace in at least the following distinct ways:

Sophisticated Digital Transformation Integration Capabilities

Deep integration to your call handling, CAD, radio and QA systems powers automated workflows that speed up numerous manual, tedious and time-consuming processes. Without modern tools, evidence requests from District Attorneys, FOIA requests from the public, high visibility incident reconstructions and quality assurance all require significant time and resources that keep you from coaching, training and enhancing staff morale. Rapidly and accurately reconstructed incidents are also very helpful for onboarding new hires as they can gain confidence by viewing and listening to properly handled incidents by agency and priority type.

Poorly handled calls and incidents are valuable as well, as they offer opportunities for instruction on real-world lessons learned.

Our approach to insightful, not superficial, integrations frees up your management and specialist personnel to spend more time on staff development and much less time wading through audio recordings and CAD incident data.



Root Cause Analysis Drill Down Reports and Multimedia Incident Reconstruction

There are many reporting tools that can show you general trends without any insight into what is causing anomalies. In contrast, we provide easy-to-explore views into underlying data, with drill-throughs all the way down to recorded communications relevant to your specific chart views.

Organizations select NICE because of our ability to help you drill down from metrics and charts in a performance dashboard to a completely reconstructed incident in a matter of clicks. This gives OCFA the power of understanding performance of your emergency response staff in real time with little effort. Once a problem is spotted, NICE empowers you to drill down to its root cause and helps to drive timely, accurate decisions and high-value interactions between your leadership team and your staff members. Improved skills, morale and performance invariably result, all of which helps staff retention, driving down turnover. You no longer rely on after-thefact reports that are far too removed from coachable opportunities and so don't help you improve. With NICE, you will be able to see issues as they happen and have the right insights to fix them.

At NICE, we understand the mission-critical environment of OCFA. We bring focused innovation and ability to perform for organizations as complex and demanding as OCFA, unmatched by any other supplier.

Our solution will deliver considerable benefits to OCFA beyond the requirements of the RFP, enabling OCFA to increase employee retention and reduce turnover, driven by valuable analytics, in addition to meeting all mandatory recording requirements.

a. Add additional proofs to validate experience, including:

i. Awards and acknowledgements from independent parties



NICE Named Winner in 'ASTORS' Awards for Sixth Consecutive Year

Sponsored by American Security Today, the 'ASTORS' Awards recognize outstanding product development achievements and exciting new technologies that support law enforcement agencies, first responders and other government entities in their mission to keep cities and communities safe and secure. NICE E-Request received a platinum award in the Best 911 Center Solution category, and NICE Investigate was named the platinum award recipient in the Best Investigation Solution category.

https://info.nice.com/rs/338-EJP-31/images/NICE 2021 AST Awards Press Release 1-27-2022.pdf





NICE Wins 'ASTORS' Awards for Best Investigation and 911 Incident Solutions

NICE took home top honors in the Best Investigation Solution category for NICE Investigate. NICE Investigate is a comprehensive, scalable, CJIS-compliant, cloud-based, end-to-end solution that transforms how law enforcement and justice agencies manage investigations and digital evidence. NICE Inform was also recognized this year for its ability to help emergency communication centers (ECCs) improve incident response.

https://info.nice.com/rs/338-EJP-



NICE Receives Frost & Sullivan's Customer Value Leadership Award for Innovation in Evidence Management

NICE has been awarded Frost & Sullivan's 2020 North America Customer Value Leadership Award in public safety for innovations in cloud-based investigation and evidence management solutions. The award specifically cited NICE Investigate and NICE Inform, which have digitally transformed public safety agencies around the world, including emergency communications centers, police departments, and criminal justice systems, to help them streamline operations and build safer communities.

431/images/NICE Receives 2020 Frost and Sullivan Award Press Release 12-2-2020.pdf



ii. Customer case studies NICE offers the following case studies for your consideration:

Sacramento Regional Fire/EMS Boosts Emergency Response and Cross-Agency Collaboration with NICE Inform https://www.nicepublicsafety.com/resources/sacramento-regional-fire-ems

NICE Inform Helps Las Vegas Metro Police Boost Efficiency by 25% https://www.nicepublicsafety.com/resources/las-vegas-metropolitan-police

Monterey County Realizes 75% Productivity Improvement with NICE Inform https://www.nicepublicsafety.com/resources/monterey-county

Henrico County 911 Achieves High Performance with Reliable Call Recording and Consistent Quality Assurance and Training https://www.nicepublicsafety.com/resources/henrico-county

Next Gen 911 Trailblazer BVCOG Adopts NICE Inform for Text-to-911 Recording https://www.nicepublicsafety.com/resources/bvcog

NICE Helps Largest Sheriff's Office in Texas Cut Audio Reproduction Turnaround Times by 50% https://www.nicepublicsafety.com/resources/harris-county

Fully Redundant Solution Gives City of Phoenix Police Peace of Mind https://www.nicepublicsafety.com/resources/phoenix-police-department



8. Qualifications & Experience (Exhibit H)

The purpose of this section is to obtain information regarding the qualifications and relevant experience of the Offeror. The responses provided will be used to evaluate Criterion 4.2.3 Qualifications & Experience. Provide a detailed narrative that addresses, at a minimum, the following:

1. Provide a general overview of your company and submit a brief history of your firm. Describe your firm's ownership structure, organization structure, core principals. Include the number of years your firm has been in the business of providing DLRS Solutions.

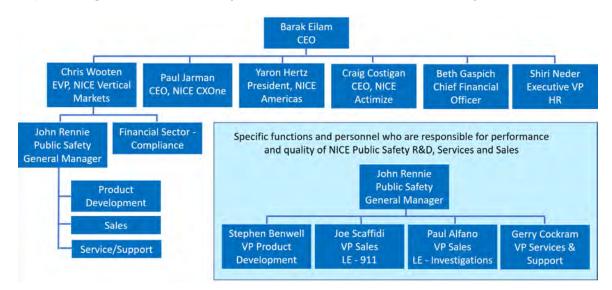
As a global organization with the history of success over 30+ years, NICE (NASDAQ: NICE) is the leading provider of a portfolio of public safety and commercial organizations solutions and value- added services, powered by advanced intelligence and analytics – from telephony, radio and video, to other data sources. With this said, NICE's roots are in public safety software solutions, and this remains a major focus of NICE's organizational strategy.

NICE's solutions enable organizations to operate in an insightful and proactive manner, and help users take the right action at the right time to improve operational performance and ensure public safety. Besides its 3,000+ public safety customers, NICE has over 24,000 customers overall in more than 150 countries, including nearly 90 of the Fortune 100 companies.

Details on NICE's global leadership team (core principals) can be found here: <u>https://www.nice.com/company/global-leadership</u>

For our public safety solutions, the executive leader is Chris Wooten: https://www.nice.com/company/global-leadership/chris-wooten

Simplified Organizational Hierarchy with Relevance to NICE Public Safety





NICE in Public Safety

NICE Public Safety division is fully focused on solving the challenges and addressing the needs related to emergency communications, optionally also extending to the support of criminal investigations. NICE's solutions enable organizations to operate in an insightful and proactive manner and take immediate action to improve operational performance and ensure public safety.

- Thorough 30+ years of implementing and supporting **more than 3,000 public safety systems worldwide**, we have gleaned a tremendous amount of knowledge in regards to solutions and services for Public Safety Agencies, including 17 of the 20 largest emergency communication centers in the US and Canada.
- We have a **long-term product roadmap backed by the industry's largest team of R&D professionals** dedicated solely to public safety. NICE maintains its pace-setting innovation with extensive re-investment of profits into R&D, while combining organic growth with strategic acquisitions.
- We're in it with you for the long haul. NICE is a solid partner with financial stability you can rely on. This is demonstrated by **NICE's steady, healthy revenue growth year after year**
- Unmatched support capabilities Industry's largest, award-winning team of NICE-certified implementation and support engineers, dozens of regional support partners in the NICE support ecosystem, and unified service and support.
- Seamless transition from VPI recording With NICE as a vendor, your users will experience a continuous, uninterrupted coverage during the transition from VPI systems to NICE. Since NICE currently owns VPI's Intellectual Property (having acquired VPI), it has developed a capability to reliably import VPI recordings for access alongside newly captured recordings via one seamless interface. This capability is unique to NICE.
- In short, we are well qualified and positioned to earn your satisfaction and long-term trust..

As an example of NICE's solutions adopted to improve PSAP performance, we invite you to read the following press release announcing how the City of Detroit 911 selected NICE solutions for its 911 center transformation.

businesswire com/news/home/20220106005050/en/City-of-Detroit-911-to-Implement-NICE-Inform-Elite-to-Improve-Service-to-Citizens-and-Communities

City of Detroit 911 to Implement NICE Inform Elite to Improve Service to Citizens and Communities

911 communications center for largest city in Michigan aims to improve productivity, staff performance and satisfaction, and elevate 911 service with assistance from NICE technology

January 06, 2022, 06:30 AM Eastern Standard Time

HOBOKEN, N.J.--(BUSINESS WIRE)--NICE (Nasdaq: NICE) today announced that the City of Detroit (Michigan) 911 communications center will be deploying NICE Inform Elite to digitally transform processes around tracking performance metrics, performing quality assurance reviews, and reconstructing incidents. Through this transformation, the 911 center expects to improve productivity, enhance staff performance and satisfaction and provide better service to citizens and communities. Detroit is the largest city in the state of Michigan and the 27th most populous U.S. city with over 639,000 residents.



NICE Inform Elite features **Intelligence Center** dashboards with dozens of real-time metrics that offer instant visibility into what's happening in the 911 center, and why. Metrics can be viewed on an overall 911 center level, or by individual telecommunicator, the agency served (police, fire, EMS) or incident priority or type. The solution automatically consolidates data from various 911 center systems into meaningful metrics which are presented on intuitive dashboards. Managers can drill through metrics to the underlying 911 incident recordings for context.

Art Thompson, Chief Information Officer, City of Detroit, said, "With over a million 911 calls received annually, our call volume is on par with the top 10 US cities. Citizens call us during their most vulnerable moments. We want to do everything we can to take 911 to the next level. NICE's performance metric capabilities are going to help us hold ourselves accountable. We're also looking to NICE's solutions to help us better self-reflect and support our front-line telecommunicators, so they can be successful in their careers. We plan to use the dashboards to better understand the types of calls telecommunicators are taking, and their impact, so we can further enhance staff performance and satisfaction and the level of service we provide to citizens."

Chris Wooten, Executive Vice President, NICE, said, "As a single system of record that sits at the center of the 911 data ecosystem, our NICE Inform Elite solution brings all incident-related data together from multiple systems to give 911 centers a single view of the truth and automate incident reconstructions and Quality Assurance. We give 911 managers the operational intelligence and free up the time they need to provide targeted training and coaching to telecommunicators, improve incident response and keep communities safer."

The Detroit 911 center, which currently partners with an outside agency to randomly quality check calls, will also use NICE technology to take a more proactive approach to 911 Quality Assurance (QA). When metrics reveal calls where telecommunicators need additional assistance, managers will be able to assign these calls for QA review directly through the dashboard. Additionally, the center will focus more heavily on reviewing medical calls, thanks to NICE Inform Elite's ability to use computer-aided dispatch (CAD) incident data to automatically pull specific types of high priority calls for quality assurance review.

When a full review of incidents is necessary, NICE Inform Elite can also streamline incident reconstruction. The solution automatically pulls 911, dispatch and first responder radio communications and associated CAD incident data into a timeline view, so managers are able to synchronously replay incidents exactly as they happened.

"We run pretty lean for a 911 center," Thompson added. "Anywhere we can improve processes by having technology assist and cut down on man hours is monumental. With our current technology, we have to go into multiple systems to retrieve recordings and understand what happened. By migrating to NICE, we'll be able to capture everything in one system for a complete picture, which will significantly cut down on time spent investigating incidents and help us answer questions faster. NICE Inform Elite checks all the boxes for us."

To learn more about NICE Inform Elite:

- Visit the NICE website by <u>clicking here</u>.
- Email <u>PSInfo@NICE.com</u> for more information.

About NICE Public Safety

With over 3,000 customers and 30 years' experience, NICE delivers end-to-end digital transformation, improved collaboration, efficiency and cost-savings to all types of public safety and criminal justice agencies, from emergency communications centers and police departments to prosecutors and courts. Our Evidencentral platform (which includes NICE Inform, NICE Investigate, NICE Justice and E-Request) features an ecosystem of integrated technologies that bring data together to improve incident response, accelerate investigations, streamline evidence sharing and disclosure, and keep communities and citizens safer.

NICE Systems, Inc.



About the Detroit 911 Center

Staffed by 30 highly trained licensed Public Safety Emergency Medical Technicians and Medical First Responders, the Detroit 911 Center operates 24 hours a day, 365 days of the year, serving 639,000 city residents within a 143 square mile area, and responding to over a million police, fire and emergency medical calls from the public annually. Detroit is the largest city in the midwestern state of Michigan and the 27th most populous U.S. state. More info

at https://detroitmi.gov/departments/detroit-fire-department/communications

a. Provide proof of financial stability and revenue growth by providing last three years of audited financial statements. The Requestor may respect confidentiality in case the supplier is not publicly traded.

NICE is Publicly Traded. Our financial statements are available in the 20-F disclosure (also enclosed as an attachment to this RFP response):

NICE 2021 20-F-2022-04-05-13-12

 Describe your firm's qualifications to provide the service specified in this RFP. Include any professional affiliations, accreditations, patents, and certifications as applicable. Qualifications will be measured by training and experience, with particular reference to work experience in the provision of DLRS Solutions.

NICE is uniquely on the forefront of NG9-1-1 innovation, having dedicated its entire division NICE Public Safety and its highly experienced and specialized team exclusively to this focus. For over 30 years, we have focused purely on mission-critical Public Safety solutions – all day, every day. Our long-term product roadmap is backed by the logging and recording industry's largest team of R&D professionals dedicated solely to public safety.

Maintaining its pace-setting public safety solution innovation, NICE has played an important role in NENA's planning and standards definition for NG9-1-1 and deployment of NENA i3 compliant solutions.

NICE is an active member of NENA's Next Generation Partner Program and i3 Architecture Working Group, extensively involved in defining multimedia recording standards and interfaces and participating in interoperability testing. NICE has successfully participated in all Industry Collaboration Events where transitional elements of the NG9-1-1 network (ESInet), location information, multi-phase, interoperability of call, event, and data logging were tested, relevant to call and data logging and recording. NICE is also actively piloting solutions with industry partners and PSAPs as part of the ESWG Canada NG911 initiative.

NICE has deployed millions of channels of VoIP recording and hundreds of thousands of channels of IP-based radio logging. NICE currently holds more than 150 registered patents with an additional 88 patents pending for these technologies, as well as technologies specifically associated with NG9- 1-1. Due to our deep domain expertise, NICE was a founding member of the original committee for the Internet Engineering Task Force (IETF) SIPREC standard referred to in NENA's i3 standard for NG911 recording. This working group was chartered to define a SIP- based protocol for controlling a session (media) recorder, which is a critical requirement in many public safety and NG911 environments.

Moreover, NICE Inform is the only certified recording solution that can connect to current VPI recorders, and any new NICE Inform recorders in a single system.



As for specific project team, NICE typically assigns personnel to projects upon contract award, not prior to it, so confirming specific resumes for this team is currently not feasible.

The team members will be responsible for the OCFA project, alongside other, similar projects, typically within the same geographic area.

To be compliant with this requirement, however, and to demonstrate typical background knowledge and experience of our services team members, we are enclosing resumes for:

- Rudy Gallegos Responsible for Project Management
- **Bill Roche** Responsible for Solution Design
- Ileska Giuffrida Responsible for the Delivery of Training
- 3. Provide a management hierarchy and organization chart for all the personnel that will be involved in providing the requested services. Include contacts for customer service, billing, and senior management.

The subset of NICE's organizational hierarchy responsible for the OCFA project is as follows:



NICE escalation contacts for technical support cases:

Esc	Roles	Name	Contact Number	Email Address
Level 2	Manager, Public Safety NICE Public Safety	Joey Rumps	+1 (847) 217-8745	joey.rumps@nice.com
Level 3	Vice, President, Global Services • Services Management	Gerry Cockram	+1 (972) 762-5551	gerry.cockram@nice.com
Level 4	General Manager, Public Safety • G & A Senior MGMT	John Rennie	+1 (201) 2897782	john.rennie@nice.com
Level 5	EVP, NICE Vertical Markets • G & A Senior MGMT	Christopher Wooten	+1 (703) 989-9491	<u>christopher.wooten@nice.co</u> <u>m</u>

Escalation for financial matters:

David Hawryluk

Credit & Collections Manager, G&A Business Finance, David.Hawryluk@nice.com 4.



What is the proposed amount of full-time and part-time staff that will be used to provide the requested services?

NICE will only assign full-time employees to this project. At the minimum, the team will be comprised of:

- (1) Project Management
- (1) Installation Engineer
- (1) Integration Manager
- (1) Solution Design
- (1) Training Delivery

Post-deployment technical support will be managed by a team of technical experts.

The Follow-the-Sun Tier 1 resource will review and assign a US-based engineer to each reported case per the terms of SLA and notify the US-based Tier 2 engineer and OCFA of the issues diagnostics and the proposed resolution plan. Only the US-based Tier 2 engineer will have access to the OCFA network and systems. This engineer connects via VPN or agreed-upon remote means of access to the OCFA system and immediately starts working to resolve the issue.

5. Is your firm planning to subcontract portions of the work? If yes, indicate the name of the subcontractor(s) and the portion of the work that will be subcontracted in each case.

Not applicable. NICE intends to deliver the project via its direct employees.

6. Provide the resume(s) of all person(s) who will be assigned to provide services as requested under this RFP. Resumes shall note all previous experience, years of experience, academic background, professional credentials, certifications, licenses, and any published material as it relates to this RFP.

As for specific project team, NICE typically assigns personnel to projects upon contract award, not prior to it, so providing resumes for this team is currently not feasible.

To be compliant with this requirement, however, we are enclosing resumes for the following personnel, as their level of education and expertise is typical:

- Rudy Gallegos Responsible for Project Management
- Bill Roche Responsible for Solution Design
- Ileska Giuffrida Responsible for the Delivery of Training
- 7. Is your company, either presently or in the past, been involved in any litigation, bankruptcy, or reorganization for any reason? If so, please provide dates and resolution.

No, not applicable.

8. Has your organization ever failed to complete any work awarded to it?

No, not applicable.



9. Why should OCFA select your firm? What sets your organization apart from other Offerors?

No other vendor can demonstrate the extent and depth of experience, responsibility and success with the proposed solution for 9-1-1 Voice/Radio Digital Logging Recording System and associated capabilities as NICE.

Included in our 3,000+ deployments are some of the most sophisticated and demanding agencies in the world, such as New York Police Department, Fire Department of New York, California Highway Patrol, Los Angeles Sheriff Department, Federal Aviation Administration at hundreds of sites, and numerous others, many of whom have been our customers for a decade or longer, because they know they can rely on NICE.

NICE solutions are uniquely designed to not only record and securely retain all new 9-1-1 emergency and non-emergency communications, but also to centralize access to this data, incorporating historical records from OCFA's current recording system with new recordings, for one-stop search, retrieval, incident reconstruction, quality evaluation, and more.

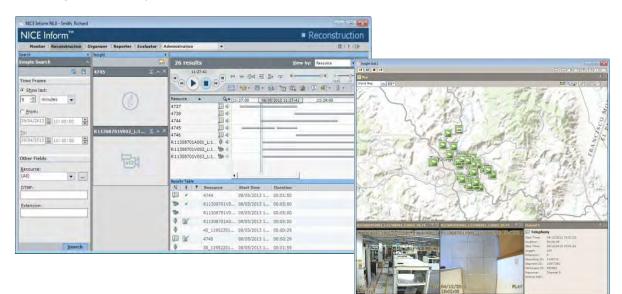
NICE also allows OCFA users to leverage all recorded media and data to consistently monitor and improve compliance with set performance standards and objectives. With NICE, Quality Assurance will become an intelligent tool for assessing compliance where it matters most, prioritized based on incident priorities and other objectives set by OCFA.

Most Powerful Incident Reconstruction

We all know that handling incident reconstructions is normally a time-consuming, but essential function. But as backlogs grow and disclosure deadlines get shorter, it's becoming harder to keep up. Up until now, the only solution for keeping up was to add more people.

NICE digitally transforms the entire audio evidence request, collection and sharing process. Now you can reconstruct incidents faster and more thoroughly. And fulfill requests at the click of a button. Through the power of automation, NICE will help OCFA eliminate backlogs and duplicated work, improve transparency, and free up time and resources, to give your people a great deal of time back, to focus on the human side of emergency communications.

NICE Inform reconstruction, powered by its unique in-depth integration with OCFA's CAD systems, makes incident reconstruction a very fast process. Simply enter the CAD incident ID or other incident parameters, and the phone, radio, text-to-911, and any associated data and incident events are automatically matched, assembled, and visualized. Adding any other related recordings or 3rd party evidence is quick and simple as well.





NICE is the only vendor who allows users to manage retention and access rights to each reconstructed incident individually, for the greatest possible flexibility and to match OCFA's internal requirements.

Export and distribution of reconstructed incidents is a simple process which produces a comprehensive evidence record with all data and media synchronized and visualized as in the NICE Inform interface that produced it, with self-contained media player. You can also encrypt and password-protect this incident collection to protect its integrity and limit access to those who truly need to know. Further, the system includes full audit logging and file checksums, so if an incident collection or individual recording has been altered, the system will capture when, how, and by whom and altered recordings will be flagged in the search results.

Unmatched Performance Reporting

No other vendor is able to deliver the breadth and depth of tactical intelligence in interactive reports and dashboards that NICE Public Safety can. NICE has set the new industry standard in this area. Our intelligence hub collects data and media from all connected systems and consolidates this data so OCFA managers can easily visualize cross-system metrics and rapidly identify abnormal patterns. Root causes can be immediately identified from the same interface via drill-throughs all the way down to playback of relevant recordings. This supports timely and accurate decision making which has been shown to avert impending problems, including those associated with staffing, staff turnover and job satisfaction, scheduling of teams, handover issues between telecommunicators and first responders, and more.

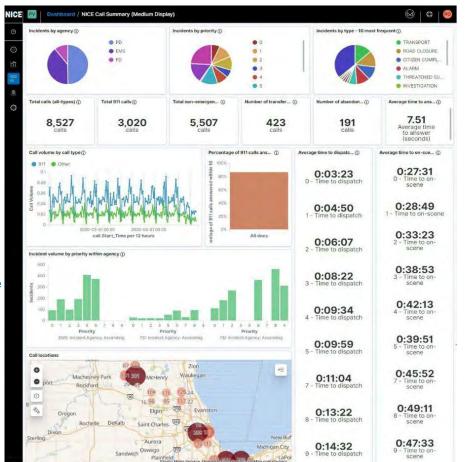
Extensive metrics are delivered in web-based dashboards for realtime analysis and tactical and strategic decision-making. Trend analysis enables managers to analyze incident response processes and diagnose lapses in performance.

All incident events, from the moment 911 calls arrive, to their subsequent handover from call takers to dispatchers and first responders (police patrol, fire crew, emergency medical response, etc.), and to the eventual 'clear scene' event, are captured and correlated to provide a full picture of the incident.

As one of our larger customers remarked: "We HAVE to have NICE to manage performance of our 911 center, otherwise we

are either not doing it, or when we try to do it, it's completely inefficient. At best, we could only spot-check. Our manual reports

were laborious and arrived too late



and still didn't have the level of insight that NICE provides, right in the moment, and delivered in a way we can immediately drill into and understand. This is transformational!"



This customer deals with substantial operational complexity, in addition to the inherent technical complexity. Their telecommunicators take calls and manage dispatch for over 30 different public safety agencies. As a result, it's essential that the center tracks and reports on performance adherence to SLAs for each of their constituent agencies. NICE's analytics are uniquely suited for collecting, calculating, and slicing-and-dicing performance information from each agency's perspective as well as from the perspective of the entire 'enterprise'

When the multimedia recording, performance and quality assurance feedback is used consistently to help telecommunicators overcome their challenges, improvement shall be reflected in their performance metrics. These metrics commonly also expose smaller issues that managers can address before they become bigger problems, or before telecommunicators choose to leave.

All of this can be monitored and analyzed in NICE Inform Intelligence Center dashboards.

Forward-looking agencies also use NICE's customized dashboard views as wallboards in their contact centers. Sharing real-time performance feedback with the team invariably leads to improved performance.

In Conclusion

At NICE, we understand the mission-critical environment of OCFA. We bring focused innovation and ability to perform for organizations similar to OCFA, in a manner that is unmatched by any other supplier.

Our solution will deliver considerable benefits to OCFA beyond the requirements of the RFP, enabling OCFA to increase employee retention and reduce turnover, while providing tools for getting more done with fewer resources needed, driven by valuable analytics, in addition to meeting all mandatory recording requirements.

10. Please provide a list of current clients.

Providing a complete list of current clients is neither feasible (we have thousands of clients), nor permissible due to multiple NDA agreements in place.

With the customer base larger than any other competing vendor, we are trusted and recognized as the leader and most trusted advisor in emergency response, incident intelligence, and digital evidence management. Please Also refer to a variety of case studies provided in the section titled 'Technical Abilities (Exhibit G)'.

Examples of State-Wide Deployments of NICE Public Safety Solutions





9. References (Exhibit I)

Describe fully at least five (5) contracts performed by your firm that demonstrate your ability to provide the services included with the scope of the specifications. At least three (3) references should be for projects needing 200 phone/radio channels recorded. Attach additional pages if needed. OCFA reserves the right to contact each of the references listed for additional information regarding their experience with your company.

Date of Project & Description of services provided including contract amount	2021, complete hardware and software upgrade to Inform Elite with QA, CAD integration and Intelligence Center Module for real-time Dashboards; 312 channels 700K		
E-mail/Telephone number	Rcahill@pd.sandiego.gov; 619-531-2940		
Contact Individual & Title	Roxanne Cahill; 911 Director		
Customer Agency Name	San Diego Police Dept		
Date of Project & Description of services provided including contract amount	2022, VPI conversion to NICE Inform, 226 channels and connection to LARICS IP Radio Logger, 250K		
E-mail/Telephone number	Scott.England@fire.lacounty.gov; 213-215-9458		
Contact Individual & Title	Scott England; Manager		
Customer Agency Name	Los Angeles County Fire Department		
provided including contract amount	B/U Ctr is 300 channels, 300K		
Date of Project & Description of services	2022/23, New Back Up Center, in addition to main PSAP,		
E-mail/Telephone number	Robert.stoffel@comm.ocgov.com;		
Contact Individual & Title	Robert Stoffel, Div. Director		
Customer Agency Name	Orange County Sheriff		
services provided including contract amount	channels at each location, Primary PSAP and Back up PSAP, contract value over 1 million dollars		
Date of Project & Description of	2020, upgrade to Radio Logger / NICE Inform, 400 plus		
E-mail/Telephone number	N1486@lapd.online; 213-949-7018		
Contact Individual & Title	Howard Tien		
Customer Agency Name	Los Angeles Police Department		
Date of Project & Description of services provided including contract amount	2022, VPI Conversion 38 sites over 3000 channels, 1.9 Million Dollars		
E-mail/Telephone number	spoole@lasd.org; 323-881-8115		
Contact Individual & Title	Sandy Poole; SCC Manager		
Customer Agency Name	Los Angeles County Sheriff		



10. Pricing Page (Exhibit J)

PROPOSAL COSTS - The fee information is relevant to a determination of whether the fee is fair and reasonable in light of the services to be provided. This section shall include the proposed costs to provide the services as described in your proposal. Provision of this information assist the Agency in determining the Offeror's understanding of the project and provides staff with tools to negotiate the cost.

Proposed costs must be inclusive of all costs and expenses associated with providing the services, including, but not limited to, all consultant fees, preparation of deliverables, printing, and any other incidental costs. Please note that the OCFA Board of Directors does not allow for travel time to be billed at the hourly rates. Provide estimated travel expenses (if needed) on a per trip basis. OCFA will determine if in-person meetings are required and the number to be included based upon the requested service level review.

Please provide your proposal costs sheet and rates with Exhibit J - Pricing Page in a separate sealed envelope or upload as the separate "Cost File" in the online bidding system.

Include a detailed estimated fee proposal that is itemized by task components. The fee proposal should include all anticipated reimbursable expenses as a separate line item, the rates of the people who would perform the work (please identify tasks to be performed by sub-consultants as applicable), and a standard hourly rate schedule.

Provide a description of the key assumptions used to calculate the project fee. If appropriate, identify cost saving strategies as well.

Fee Schedule and Pricing:

Development and Implementation Costs						
Description of Services	Hours	Hourly Rate	Total Cost			
Phase I – Project Planning : Initial meetings with OCFA Staff to define the design and delivery requirements. Produce final approved project plan and timeline. Include cost to meet with OCFA project team.			\$19,872			
Phase II – Design/Implementation: Design/ customize solution, adapt system to OCFA needs, develop user interfaces, and implements system. Convert and migrate existing data to new environment.			\$73,760			
Phase III – Testing/Training: Supply training materials and/or expertise to be delivered to users (<i>Provide details</i>).			\$14,500			
Other: Travel, lodging, meals, incidentals, etc.						

Annual Costs				
Description of Services	Unit Cost	Qty	Extended Total	
 Annual licensing/ Maintenance/ Support Cost: Please describe annual licensing and maintenance/ support costs Provide additional documentation as needed 	Software Hardware 1 st Year Maintenance: (24/7/365 onsite all inclusive)		\$140,500* \$137,018 \$33,930	
	Total Estimated Proj (without VPI integrati		\$419,580*	
Desired feature: VPI CAPTURE integration			\$50,000	

* baseline pricing (\$419,580) does not include VPI integration, considering the latest update to RFP requirements, where this functionality is no longer mandatory but desirable: "It is desired that the CR system support a "legacy load" capability for the existing VPI loggers".

Provide details of what is included in the total cost listed above. Travel and incidentals should be included in the total cost.

NICE recommends to replace the existing VPI recording infrastructure and to migrate the existing VPI legacy recordings and metadata into the new logger environment, providing seamless, integrated access to historical recordings from both platforms and across the replacement boundary.

In order to satisfy OCFA's requirement for data migration from their existing VPI loggers, this proposal includes services to convert and migrate the VPI DATABASE files from the existing recorders into VMs on the CEN NIR servers (see the optional line item inserted into the above price proposal table). Chain-of-custody issues and concerns preclude NICE personnel from converting or migrating the MEDIA files from the existing servers to the new, but NICE will provide support, instructions, and customized scripting, to automate the media conversion and transfer processes as much as possible.

Inform matrix channels will allow retrieving recordings from another NICE Inform system, such as a regional radio system recording solution (e.g., LARICS or Orange County Sheriff) to support interagency cooperation and interoperability.

The proposal includes services to integrate the NICE Inform application suite and NICE Inform Intelligence center with OCFA's Central Square Enterprise (formerly TriTech Inform) CAD v21.1.2.14. The proposed solution will provide a more robust and complete incident search and reconstruction capability.

The proposal includes integration with RapidSOS enhanced location data warehouse for capture and long-term retention of RapidSOS' short-lived enhanced location information.

The proposal includes integration with OCFA's Text-to-911/SMS provider (not provided in the RFP nor Addendum 1), if NICE has integration support for OCFA's provider. Otherwise, Text-to-911 may only be captured if the PC screen used for Text-to-911 is being recorded.

The proposal further includes the NICE Inform Elite R10 application suite, including:

- NICE Inform Reconstruction for searching, filtering, and gathering recording media and metadata into a timeline and saving as a scenario
- NICE Inform Evidence Compliance Pack, which includes Organizer (for adding external files to a scenario and packaging them for distribution outside the Inform system) and Media Player (which allows users outside the Inform system to view and playback scenario media in an Inform-like timeline interface).
- NICE Inform Reporter which provides a library of pre-built, but customizable, reports for summarizing Inform activity and performance as well as ad hoc reporting capabilities.
- NICE Inform Monitor which allows authorized Inform users to monitor recordings in-progress.
- NICE Inform Verify which allows agents to access and playback recordings of their most recent calls from their agent PC.
- NICE Inform Evaluator which allows call center management to automate the process of selecting and assessing caller-agent interactions for the purposes of measuring and improving individual agent and call center-wide performance.
- Assessments can be automatically assigned to appropriate evaluators and assessment completion can be tracked for timely fulfillment.
- The proposal also includes NICE Inform Health Manager (NIHM), the NICE SNMP-based system monitoring solution.

Per the RFP requirements, the proposal includes the following server hardware:

- Two (2) HP DL360 Gen10 NIR IP radio logger servers (one primary and one redundant) running Windows Server 2016 and both recording sixty (60) talk groups via thirty (30) simultaneous talk paths from Motorola's MCC7500 P25 AIS. These servers will be installed on OCFA's radio network infrastructure (RNI).
- One (1) HP DL360 Gen10 logger backup server (LBS) running Windows Server 2016 OS and shared between both IP radio NIR servers. Two (2) additional 6TB HDD will be added in a second RAID1 array for highly fault tolerant and expanded archiving and backup storage. This server will be installed on the RNI.
- Two (2) HP ML350 Gen10 NIR logger servers (one primary and one redundant) running Windows Server 2019 and both recording one hundred twenty (120) channels each (sixty-four (64) 2-wire analog sources; eighteen (18) VESTA consoles via passive SIP recording; twenty (20) Avaya 2-wire digital phones; and eighteen (18) unallocated channels for growth). Each server will be equipped with three (3) 24-channel 2-wire analog audio interface cards, one (1) 48-wire digital interface to support the Avaya 2-wire digital phones, and two (2) 6TB HDD in a second RAID1 array for additional local media storage (until archived). These servers will be installed on the customer enterprise network (CEN).
- Two (2) HP DL380 Gen10 NICE Inform application suite servers (one primary and one resilient) running Windows Server 2019 and MS SQL Server 2019 licensed for four (4) server CALs (shared with other servers, below) and ten (10) user/device CALs. The resilient Inform server will also host the NICE Inform Health Manager (NIHM - see below) services. These servers will be installed on the CEN
- One (1) HP DL380 Gen10 NICE Inform Intelligence Center server running Windows Server 2019 and MS SQL Server 2019. This server will be augmented with an additional 32GB RAM to improve performance on large and complex analytics tasks. This server will be installed on the CEN.
- Two (2) HP DL380 Gen10 NICE Inform Central Archiving (CA) servers running Windows Server 2019 and MS SQL Server 2019. These servers will receive media and database backups from the two CEN NIR servers (and, optionally, from the two RNI NIR servers, as well) to provide search, playback, and incident reconstruction capability even if both (CEN or RNI) NIR servers are offline, per the RFP requirements. These servers will each be augmented with four (4)

additional 6TB HDD to be combined in an 18TB RAID5 array. These servers will be installed on the CEN.

- One (1) DL360 Gen10 NICE Inform Screen Recorder satellite server running Windows Server 2019 and recording screens for eighteen (18) CAD workstations (2x 1920x1080 monitors per PC) and eighteen (18) VESTA call handling workstations (1x 1920x1080 monitors per PC). The screen satellite will be augmented with an additional two (2) 6TB HDD in a second RAID1 array for the required thirty (30) days screen recording retention. This server will be installed on the CEN.
- In addition to the one hundred twenty (120) telephony channels and the thirty (30) radio channels, the NICE Inform server will also be licensed for an additional twenty (20) (primary and redundant)
- This proposal includes NICE-provided services to ensure a successful deployment and transition to operational status. Services include on-site installation, configuration, and validation as well as remote Project Management to ensure a smooth implementation and onsite training services.

Proposed training includes:

- One 2-day NICE Inform training class for up to six (6) students.
- One half-day (4 hrs) NICE Inform Health Manager class for up to six (6) students
- One full day (8 hrs) NICE Inform Evaluator class for up to six (6) students.

The proposal presumes that, prior to the date of installation, the customer will have configured and tested the necessary network packet replication (Cisco SPAN port(s) or equivalent) to facilitate recording of the VESTA positions via VoIP as well as high-speed remote connectivity (VPN, screen sharing) into the OCFA logger network to facilitate remote support of the onsite deployment and configuration of the proposed solution. Requirements and documentation to be provided during project kickoff call.

The proposal further presumes that, prior to installation of the proposed solution, the customer has acquired, deployed, installed, and configured any needed Avaya licensing and functionality on the PBX needed to enable integration with the NICE loggers for recording the Avaya digital phones.

Detailed requirements will be provided upon contract award.

Provide what factors will be considered for pricing in subsequent contract years. (i.e. Consumer Price Index).

Maintenance is factored at a discounted rate of 9% as hardware includes first year warranty by manufacturer; second year is 18% of retail costs of hardware and software and goes up 3% per year as a CPI after that, with the 18% still being the costing factor.

Term of Offer: It is understood and agreed that this offer may not be withdrawn for a period of one hundred eighty days (180) from the Proposal Submittal Deadline, and at no time in case of successful Offeror.

Offer good for a period of one-hundred eighty days (180) from the Proposal Submittal Deadline.

1. Any additional information you would like OCFA to consider.

Not Applicable

TRUTH DEPENDS ON IT

Orange County Fire Authority

RFP: R02549A = 911 Voice/Radio Digital Logging Recording System

ScopeofWork:

NICE Systems Response

SECTION II: SCOPE OF WORK

2.1 PROJECT BACKGROUND

The Orange County Fire Authority is seeking to replace and upgrade the current 9-1-1 Voice and Radio Digital Logging Recorder System (Voice and Radio DLRS) that captures and archives 9-1-1 telephone and radio communications for compliance and quality assurance. The OCFA's current 9-1-1 Voice and Radio DLRS is more than 10 years old.

The DLRS records 9-1-1 voice and radio communications for over 130 plus channels and phone lines and integrates with the OCFA's Motorola Astro 25 Series MCC7500 Dispatch system with 18 consoles; and the VESTA v7.8 9-1-1 phone system; and the 800MHz radio CCCS; and the Nortel Meridian 1000 PBX administrative phone system; and the CentralSquare Enterprise v.21.1.2.11 CAD system.

The OCFA Emergency Command Center (ECC) Dispatch and Emergency Operations staff use the CentralSquare Enterprise CAD system to dispatch appropriate fire and medical resources to emergency incidents from 18 dispatch console positions. Integrated with the OCFA's CAD system is a Genesis GenWatch 3 emergency radio notification system, and Westnet SmartStation fire station alerting system that alerts 77 OCFA fire stations, 200+ emergency apparatus and vehicles, and Operations personnel deployed throughout the County.

UNDERSTOOD AND ACCEPTED

2.2 PROJECT OBJECTIVES

The intent of this solicitation is to award a professional services agreement to the most qualified offeror of a unified hardware and software Voice and Radio DLRS solution that utilizes state of the art technology for recording, archiving, data management, and reporting capabilities. The proposed solution must be fully compliant with NG9-1-1 standards. It must feature a User Interface (UI) that is modern and easy to use and to train users in its operation. The Voice and Radio DLRS must be robust, reliable, and easily interface with the OCFA's public safety systems including CAD, 9-1-1 and administrative phone systems, 800MHz and VHF radio, Motorola Dispatch system, and in-house analytical and reporting systems. The system must be robust with 24/7/365 up-time. It must be fully redundant so that there is no down-time due to routine maintenance, or single component failures.

UNDERSTOOD AND ACCEPTED

2.3 MINIMUM QUALIFICATIONS

Offeror and Offeror's principal staff assigned to the account must possess seven (7) or more years' experience in providing software design and programing, as well as ongoing technical support for comparable systems. Minimum qualifications the firm(s) shall demonstrate are:

• Offeror and any subcontractors must be able to meet OCFA insurance requirements as provided. COMPLY

NICE complies with all needed insurance requirements and will provide specific insurance certificates on request.

• Offeror and any subcontractors must not be under suspension or debarment by any state or federal government agency.

COMPLY

NICE is not under suspension or debarment by any state or federal government agency.

• Offeror and any subcontractors must have knowledge of and experience integrating with CentralSquare Enterprise Computer Aided Dispatch (CAD) system.

COMPLY

NICE has a proven experience with this integration. Example of customers where this integration is deployed and in operation:

- Washington DC OUC
- Prince William County, VA
- Valley Comm, WA

• Resources and ability to provide ongoing system support, troubleshooting, and technical updates as needed to maintain the technical currency of the solution.

COMPLY

NICE has extensive technical support resources in operation for prompt response to any service calls, staffed 24/7/365. NICE currently records emergency communications at over 3,000 sites. Among our most demanding, satisfied customers are New York Police Department (4 sites, over 20,000 recording channels), Fire Department of New York, Detroit Police Department (2 sites), San Diego Police Department (3 sites), Los Angeles Sheriff Police Department (39 sites), Los Angeles County Fire Department, San Jose Police Department, San Francisco DEM, Los Angeles Police Department (2 sites), and many others. NICE's high-quality ongoing system support, proactive technical support, and where required also proactive maintenance is among leading reasons for these agencies to be our long-term customers.

The Respondent must state specifically in the descriptive narrative how your firm meets the minimum gualifications specified above. Firm's proposal must be valid for not less than one-hundred eighty (180) days after the due date.

COMPLY

NICE has elaborated on each of the Qualification points above. The enclosed proposal is valid for at least 180 days after the RFP due date.

2.4 CONTRACTOR RESPONSIBILITIES

2.4.1 PERFORMANCE REQUIREMENTS

The selected firm will be responsible for the design, programming, implementation, project management, and provision of ongoing technical support as needed to meet the project objectives and desired features as stated in subsection 2.2 Objectives and following sub-section 2.5.2 Requested Features.

<u>Standards for Deliverables</u>: The Consultant's design, specifications, drawings, and related documents shall meet the requirements and standards of the OCFA and represent industry standards for public agency enterprise applications.

UNDERSTOOD AND ACCEPTED

The NICE Project Team will Implement the deployment of the OCFA deliverables utilizing the Project Management Institute principles and documentation methodology. NICE's documentation and process meets and exceeds all of the applicable industry standards.

Project Management: The Consultant will provide project management to insure fulfillment of this Scope within budget and schedule. The Consultant will be expected to provide continuous quality assurance and quality control of the project activities. The Consultant will be responsible to prepare the initial project schedule outlining all tasks, durations, and milestone dates, and provide all resources as required to keep the project on schedule and within budget.

UNDERSTOOD AND ACCEPTED

Upon receipt of an order from OCFA, NICE will appoint a project manager and a project team.

NICE Project Manager

Responsibilities of the NICE PM include:

- Be a proactive and customer-centric interface between OCFA and NICE, while determining that internal customers, technical staff and upper management are kept aware of project status, issues, and escalations.
- Plan, estimate and organize overall implementation of NICE products while being applied in the OCFA environment.
- Provide daily direction, motivation and support to project team.
- Plan for project contingencies and anticipate variations that may affect resources, successful implementation, and revenue recognition.
- Serve as the communication link between the OCFA and NICE throughout the entire

project, and act as liaison with other NICE departments.

Project Plan Details

A Project Plan will be developed utilizing the concepts established by the Project Management Institute. A **Project Manager** certified by PMI will be assigned to develop the procedures for delivery. The development of the NICE OCFA Project Plan will consist of the following accountable items:

- Defining the scope of work
- Establish the deliverables
- Identify Stakeholders
- Develop a Communication Plan
- Develop a Risk Management Plan
- Develop a Resource Management Plan
- Develop a Schedule

Project Scope is defined as all of the work and only the work to complete the Project. It identifies the limitations of the Project, the resources necessary for completion and the specific tasks for each Team member

- Identify each OCFA Site and the solution to be completed
- Define the deliverables for each Site
- Identify how each OCFA Site interacts with each other and the Main Data Center
- Identify the resources needed to complete the Project based on the requirements of each
 Site

Project Deliverables are products or services created or performed in the completion of a project. Deliverables will include but not limited to:

- Hardware
- Software
- Licensing
- Project documentation including daily status updates and installation test plans

Project Stakeholders need to be identified early and must be reviewed throughout the OCFA Project Lifecycle as they change. General practice will include Identifying all Stakeholders and ensuring their engagement. Regular interactions during the project mitigate risk. Agile methods use aggressive transparency which expose misalignment, dependency or other issues. Stakeholders to be identified include

- OCFA Project Manager
- OCFA Information Technology Personnel
- Site Contacts
- Other OCFA Organizational resources
- Install resources

A Communication Plan will be developed to keep the Project resources and Stakeholders in alignment. During the Planning Phase of the Project a Kickoff Meeting will be scheduled to discuss Scope, Communication and Risk. A schedule will be developed for weekly calls to engage all pertinent personnel involved. Effective forms of communication include:

- Weekly Meetings
- Email
- Phone Call
- Text Message

Communication Plan for all Key Stakeholders related to the Planning and Delivery of the NICE Project Plan consists of the following:

- Names of all Stakeholders
- Phone Numbers
- Titles
- Communication Flows
- Responsibilities
- Work Structures
- Escalation Points

Risk Management includes the processes of conducting risk management planning, identification, analysis, response planning, response implementation, and monitoring risk on a Project. During Project Kick-off risk concerns will be discussed. Additional Meetings can be scheduled separate to Risk issues. Items to be discussed:

- Site Prep
- OCFA Site Security Concerns
- Special Site Requirements

Resource Management is the process to identify, acquire and manage the resources needed for a successful deployment. During Project Initiation the NICE Project Manager will identify the OCFA solutions to be deployed and identify resources with the appropriate skillset to complete based on the work breakdown structure and previous resource knowledge.

A Project Schedule will be constructed based on OCFA requirements, and resource availability. A Project Schedule will be built to meet OCFA deliverable requirements. Additional meetings will be scheduled as necessary to manage the schedule based on resource and OCFA personnel availability.

Implementation Requirements: The successful offeror is expected to participate in the deployment of the DLRS hardware and software solution and provide materials, curricula, and training necessary to prepare OCFA technical (IT) and functional (end users) personnel to utilize the solution.

UNDERSTOOD AND ACCEPTED

NICE training Plan will be developed with direct engagement with the Customer Project Team responsible for coordinating the Training of the OCFA audiences. The Training Plan will consist of the following accountable items:

- Communication Plan for all Key Stakeholders related to the Planning and Delivery of NICE Training, consisting of the following:
 - Names, Emails, Titles, Communication Flows, Responsibilities, Work Structures, Escalation Points
- Training to be Delivered.
 - Dates and Times of Training to be Delivered.
 - Duration of Training.
 - Trainer Assigned and Contact Information.
 - Pre-Training Meeting with Trainee Audience.
 - Trainer to Understand End User workflows for customizable training delivery.
- Details for Trainee Audience.
 - Names, Emails, Work Structure Breakdown, Targeted Instructional Requirements.
 - Training Delivery Method.
 - Escalation Method and Contact Information.
 - Delivery of Training Collateral and Materials.
 - Setting Expectations for Successful Training.
 - Obtaining Feedback to identify Needs or Promotional situations.

- Agreed Upon Training Closure Criteria.
- Agreed Upon Training Follow-Up Methods and Timeframes.

Training Plan Documentation

The Training Plan will be documented by the NICE Technical Account Manager / Training Manager and will be communicated to all key stakeholders.

- Training Plan documentation will be developed and maintained by the TAM / Training Manager.
- Training Plan documentation will be stored at rest on NICE SharePoint servers in a location specific to the OCFA correlated documentation.
- The Training Plan documentation will be created and maintained in the most recent Microsoft Office applications (Excel or Word).

Training Schedule Delivery Plan

NICE will commit to perform All training efforts exactly as outlined in the Training Plan and the Training Schedule.

As the Training Schedule is be considered the document of record for NICE to deliver Training, it will be imperative for OCFA personnel to be included in the commitment of captured training delivery dates and methods. A successful training delivery includes OCFA personnel in the development of the training material focused content and delivery schedules. The Training Schedule will be considered a fluid document with changes inevitably made to accommodate schedules and environments. All Training Materials will be captured and delivered in accordance with the Training Plan based upon the following:

- Dates / Times
- Durations (1/2 Day / Full Day)

<u>Annual Contract</u>: OCFA may establish an annual contract for ongoing support services, system enhancements, new integrations, etc. The term of the contract, if issued, is anticipated to be for one year with up to four optional one-year renewal periods.

UNDERSTOOD AND ACCEPTED

NICE will negotiate with OCFA the terms of an annual contract for ongoing support services. NICE has always reached a mutual agreement with each of its thousands of public safety customers, to their satisfaction.

2.4.2 PERSONNEL

Contractor shall provide personnel that have been trained for performance of the specified services. The Contractor shall ensure sufficient staffing levels to provide the services described herein.

COMPLY

NICE hires and trains all of its expert service personnel for comprehensive, knowledgeable, white-glove customer service. Each person leverages their substantial experience in public safety software, and more specifically NICE Public Safety solutions. This team is dedicated to supporting NICE Inform solutions which then leads to extensive experience and deep domain expertise across thousands of customers. NICE has adequate staffing to provide high-end service support for thousands of customers in accordance with each customers' SLA.

NICE system will remotely monitor, support, fix, track and report on the recording system's health and performance per the OCFA SLA. We will facilitate high performance and availability by utilizing the NICE Health Manager system. NICE health monitor (a subset of functionality of NICE Health Manager) uses the SNMP protocol, to receive traps from the devices and data polling to monitor server status. Based on this data, NICE Health Manager system will automatically notify NICE that a service condition requiring prompt attention has occurred. Service workflows will then be triggered as appropriate to the level of severity assigned.

As another layer of accountability, the Health Manager tracks the alarm types and associated response times. If the alarm is not responded to by Tier 2 in a set period, the Health Manger automatically initiates an additional escalation process to ensure the SLA is maintained.

US Personnel

The Follow-the-Sun Tier 1 Resource will review and assign a US-based engineer to the case per the terms of the SLA and notify the US-based Tier 2 engineer and OCFA of the issues. Only the US-based Tier 2 engineer will have access to the OCFA network and systems.

This engineer connects via VPN or agreed-upon remote means of access to the OCFA system and immediately starts working to resolve the issue.

2.4.3 SERVICE PROCEDURE

Contractor shall provide services based upon project objectives as provided herein.

COMPLY

NICE will provide all services relevant to this project, in order to deliver the proposed solution NICE Inform as turn-key, in conformance with the project objectives as defined herein. All such services will be delivered by NICE's direct employees, as we do not envision any subcontractors at this time.

2.5 DELIVERABLES

The system must be operational 24/7/365 for the OCFA's 9-1-1 Dispatcher Emergency Command Center (ECC) but must be scalable to support other fixed and mobile Co-location/Disaster Recovery 9-1-1 Dispatch facilities.

COMPLY

NICE proposes to deploy system that utilizes industrial-grade HP servers with multiple degrees of internal redundancy as an assurance of high performance. We also propose to deploy the solution with 2N redundancy, so that each component of the solution is at least duplicated, in order to assure uninterrupted performance and user access to recordings and interfaces.

The vendor proposals shall also include conversion of and import of existing archive and data with the new DLRS, full implementation of the new system, as well as technical and end-user training and ongoing support and related technical services.

COMPLY

Having acquired the assets and intellectual property of Voice Print International (VPI) in 2016, NICE is *uniquely* able to completely and accurately convert legacy/archive VPI media recordings and metadata database files for import into the NICE Inform environment. This capability facilitates seamless and full-functionality incident reconstruction across the VPI/NICE transition boundary.

NICE will also be directly responsible for complete implementation of the proposed NICE Inform solution, via its proven project management/solution deployment methodology.

Technical/user training will be delivered as part of the proposed project, to assure rapid onboarding of the solution and its users, and the fastest possible time to value.

Ongoing 24/7/365 technical support with all needed services is included in the proposed solution as well.

All responses are to include listed length of warranties, after warranty support, onsite training, projected end of life hardware and software, installation, and all associated costs.

COMPLY

NICE Inform typically comes with 1 year warranty, which can be extended in one-year or multi-year increments at the same level of support, or at another level as selected by OCFA from NICE's menu.

Full, turnkey installation is included in the proposed solution. Onsite training is included in the proposed solution.

Although NICE has no control over how or when 3rd party hardware and software manufacturers may announce end of life (EoL) for their products, NICE leverages our strong relationships with vendors to provide as much advance notice as possible and have a history of providing our customers with an easy migration plan to prevent any disruption to day-to-day operations. In general, manufacturers provide a 5- to 7-year view to any EoL plans and none of the 3rd party hardware or software proposed, herein, is currently covered under any existing EoL announcement.

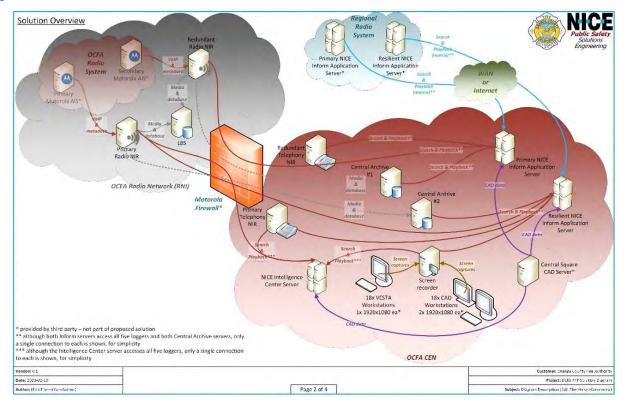
As for NICE hardware and software, NICE is committed to supporting all proposed products for the duration of the contract, as required elsewhere in this RFP.

The Contractor shall include details in their proposal for the complete replacement of the existing 9-1-1 DLRS with one that interfaces and is compatible with the Orange County 800MHz Combined Coordinated Communication System (CCCS), a P25 Phase 2 trunking radio system.

The system must be able to record trunked talk-group audio, P25 dispatch console audio, 9-1-1 and administrative telephone lines, and conventional radio channel audio.

COMPLY

The proposed solution is able to record all of the required sources using a variety of hardware and software interfaces, depending on the sources in use by OCFA, as follows below the connectivity diagram.



NICE proposes to replace the existing VPI recording infrastructure and to migrate the existing VPI legacy recordings and metadata into the new logger environment, providing seamless, integrated access to historical recordings from both platforms and across the replacement boundary.

Inform matrix channels will allow retrieving recordings from another NICE Inform system, such as a regional radio system recording solution (e.g., LARICS or Orange County Sheriff) to support interagency cooperation and interoperability.

The proposal includes services to integrate the NICE Inform application suite and NICE Inform Intelligence center with OCFA's Central Square Enterprise (formerly TriTech Inform) CAD v21.1.2.14. The proposed solution will provide a more robust and complete incident search and reconstruction capability.

The proposal includes integration with RapidSOS enhanced location data warehouse for capture and long-term retention of RapidSOS' short-lived enhanced location information.

The proposal includes integration with OCFA's Text-to-911/SMS provider (not provided in the RFP nor Addendum 1), if NICE has integration support for OCFA's provider. Otherwise, Text-to-911 may only be captured if the PC screen used for Text-to-911 is being recorded.

The proposal further includes the NICE Inform Elite R10 application suite, including:

- NICE Inform Reconstruction for searching, filtering, and gathering recording media and metadata into a timeline and saving as a scenario
- NICE Inform Evidence Compliance Pack, which includes Organizer (for adding external files to a scenario and packaging them for distribution outside the Inform system) and Media Player (which allows users outside the Inform system to view and playback scenario media in an Inform-like timeline interface).
- NICE Inform Reporter which provides a library of pre-built, but customizable, reports for summarizing Inform activity and performance as well as ad hoc reporting capabilities.
- NICE Inform Monitor which allows authorized Inform users to monitor recordings inprogress.
- NICE Inform Verify which allows agents to access and playback recordings of their most recent calls from their agent PC.
- NICE Inform Evaluator which allows call center management to automate the process of selecting and assessing caller-agent interactions for the purposes of measuring and improving individual agent and callcenter-wide performance. Assessments can be automatically assigned to appropriate evaluators and assessment completion can be tracked for timely fulfillment.
- The proposal also includes NICE Inform Health Manager (NIHM), the NICE SNMP-based system monitoring solution.

NICE Inform Intelligence Center is a sophisticated analytics and visualization tool which provides deep insight into PSAP performance and individual metrics. One-click drill-down capability allows supervisors, managers, and directors to quickly zero in on exceptional data points (good or bad) so that issues can be addressed before they become problems or so that successes can be shared and used to teach others. Combining data from OCFA's Enterprise CAD, Text-to-911, and VESTA call handling solutions, OCFA will be able to build intuitive dashboards using dozens of built-in visualization 'widgets'.

Per the RFP requirements, the proposal includes the following server hardware:

- Two (2) HP DL360 Gen10 NIR IP radio logger servers (one primary and one redundant) running Windows Server 2016 and both recording sixty (60) talk groups via thirty (30) simultaneous talk paths from Motorola's MCC7500 P25 AIS. These servers will be installed on OCFA's radio network infrastructure (RNI).
- One (1) HP DL360 Gen10 logger backup server (LBS) running Windows Server 2016 OS and shared between both IP radio NIR servers. Two (2) additional 6TB HDD will be added in a second RAID1 array for highly fault tolerant and expanded archiving and backup storage. This server will be installed on the RNI.
- Two (2) HP ML350 Gen10 NIR logger servers (one primary and one redundant) running Windows Server 2019 and both recording one hundred twenty (120) channels each (sixtyfour (64) 2-wire analog sources; eighteen (18) VESTA consoles via passive SIP recording; twenty (20) Avaya 2-wire digital phones; and eighteen (18) unallocated channels for growth). Each server will be equipped with three (3) 24-channel 2-wire analog audio interface cards, one (1) 48-wire digital interface to support the Avaya 2-wire digital phones, and two (2) 6TB HDD in a second RAID1 array for additional local media storage (until archived). These servers will be installed on the customer enterprise network (CEN).
- Two (2) HP DL380 Gen10 NICE Inform application suite servers (one primary and one resilient) running Windows Server 2019 and MS SQL Server 2019 licensed for four (4) server CALs (shared with other servers, below) and ten (10) user/device CALs. The resilient Inform server will also host the NICE Inform Health Manager (NIHM see below) services. These servers will be installed on the CEN

- One (1) HP DL380 Gen10 NICE Inform Intelligence Center server running Windows Server 2019 and MS SQL Server 2019. This server will be augmented with an additional 32GB RAM to improve performance on large and complex analytics tasks. This server will be installed on the CEN.
- Two (2) HP DL380 Gen10 NICE Inform Central Archiving (CA) servers running Windows Server 2019 and MS SQL Server 2019. These servers will receive media and database backups from the two CEN NIR servers (and, optionally, from the two RNI NIR servers, as well) to provide search, playback, and incident reconstruction capability even if both (CEN or RNI) NIR servers are offline, per the RFP requirements. These servers will each be augmented with four (4) additional 6TB HDD to be combined in an 18TB RAID5 array. These servers will be installed on the CEN.
- One (1) DL360 Gen10 NICE Inform Screen Recorder satellite server running Windows Server 2019 and recording screens for eighteen (18) CAD workstations (2x 1920x1080 monitors per PC) and eighteen (18) VESTA call handling workstations (1x 1920x1080 monitors per PC). The screen satellite will be augmented with an additional two (2) 6TB HDD in a second RAID1 array for the required thirty (30) days screen recording retention. This server will be installed on the CEN.
- In addition to the one hundred twenty (120) telephony channels and the thirty (30) radio channels, the NICE Inform server will also be licensed for an additional twenty (20) (primary and redundant) NICE

In order to satisfy OCFA's requirement for data migration from their existing VPI loggers, this proposal includes services to convert and migrate the VPI DATABASE files from the existing recorders into VMs on the CEN NIR servers. Chain-of-custody issues and concerns preclude NICE personnel from converting or migrating the MEDIA files from the existing servers to the new, but NICE will provide support, instructions, and customized scripting, to automate the media conversion and transfer processes as much as possible.

This proposal includes NICE-provided services to ensure a successful deployment and transition to operational status. Services include on-site installation, configuration, and validation as well as remote Project Management to ensure a smooth implementation and onsite training services.

Proposed training includes:

- One 2-day NICE Inform training class for up to six (6) students.
- One half-day (4 hrs) NICE Inform Health Manager class for up to six (6) students
- One full day (8 hrs) NICE Inform Evaluator class for up to six (6) students.

The proposal presumes that, prior to the date of installation, the customer will have configured and tested the necessary network packet replication (Cisco SPAN port(s) or equivalent) to facilitate recording of the VESTA positions via VoIP as well as high-speed remote connectivity (VPN, screen sharing) into the OCFA logger network to facilitate remote support of the onsite deployment and configuration of the proposed solution. Requirements and documentation to be provided during project kickoff call.

The proposal further presumes that, prior to installation of the proposed solution, the customer has acquired, deployed, installed, and configured any needed Avaya licensing and functionality on the PBX needed to enable integration with the NICE loggers for recording the Avaya digital phones.

Detailed requirements will be provided upon contract award.

The platform must provide a full 360-degree view of all communication. The system not only has to capture Voice, VoIP, RoIP, NG9-1-1 content, Email, Chat and screens but it also must allow for Quality Assessment, Reporting, and Auditing of all communications. Systems that employ a single approach providing only voice capture or only email capture will not be considered. The OCFA is not interested in managing multiple platforms to achieve our goal of NG9-1-1 recording and dispatch improvement.

COMPLY

The proposed solution NICE Inform does provide a complete view of all of the recorded multimedia communications and associated metadata as specified in this requirement and further clarified in Q&A session and follow-on written clarifications provided by OCFA. NICE's depth of CAD integration and its association to virtually every component of the recording, quality management/Quality improvement, and performance reporting solution has no match in the industry. NICE is the only vendor squarely focused on identifying, diagnosing and helping agencies improve individual and systemic issues impacting emergency communications and related response, and it helps agencies solve the impact of high turnover typical for this industry by automating numerous processes, allowing you to achieve more with less.



NICE provides means for proactive, continuous monitoring of telecommunicator performance per this recorded data, as well as methodology for improvement via integrated Quality Assurance Evaluation and subsequent performance monitoring and reporting.

2.5.1 REQUESTED FEATURES

The following draft of requested features provides preliminary information of the proposed solution for Digital Logging Recording System for 9-1-1 radio and voice communications. Creative alternative solutions are encouraged. The information below is intended to be incomplete and is expected to be modified by RFP responders.

The OCFA reserves the right to determine the best solution for the OCFA which may result in a system that provides alternatives to the requirements provided below. Submit additional system details in an attachment for any requirement that does not comply and include any additional costs that may be associated with a requirement.

2.5.1.1 Minimum Desired Requirements to Provide a Digital Logging Recording System for 9-1-1 Radio and Voice Communications:

2.5.1.1.1 **QUALITY and ENVIRONMENTAL RESPONSIBILITY -** The 9-1-1 Voice and Radio DLRS solution provider shall have the ability to record multimedia communications through a unified application that is able to capture and consolidate audio, video, images, CAD and location data, allowing for one-stop user access for synchronized playback and incident reconstruction.

COMPLY

NICE Inform is a multimedia incident data management solution which captures, organizes, and manages recorded audio content as well as other media types for the purpose of investigation and operational review.

Recorded phone and radio audio is consolidated with screen recordings, text-to-911 messages, CAD data, GIS location information, and optionally also imported video and images. All information and media is synchronized on a timeline along with CAD events (e.g., when the incident was logged, dispatched, en-route, on-site, etc.), to provide a comprehensive view of how each incident evolved. This level of data collection and synchronization per incidents is done automatically, to free users from having to reconstruct incidents manually (which would also invite human error).

It's powerful yet easy to use user interface can combine data and media from multiple sources to provide improved situational and post event analysis.

NICE Inform Reconstruction Module

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2.5.1.1.2 The 9-1-1 Voice and Radio DLRS solution provider shall use an integrated quality management system certified to ISO 9001 standard. Proof of certification shall be provided by the 9-1-1 Voice and Radio DLRS solution provider.

COMPLY

The proposed solution is available along with integrated quality evaluation/assurance module that automates many QA steps, such as intelligent selection of useful recordings for evaluation per a variety of criteria. All NICE software solutions are certified to highest quality standards, to include ISO 9001. Please refer to the enclosed certificate.

2.5.1.1.3 The 9-1-1 Voice and Radio DLRS solution provider shall demonstrate environmental responsibility certified to the ISO 14001 standard. Proof of certification shall be provided by the 9-1-1 Voice and Radio DLRS solution provider.

COMPLY

NICE adheres to the highest quality standards in its product development, information security, and quality control. Surpassing other vendors, NICE is certified to the following standards: **ISO 9001** for quality management, **ISO 14001** for environmental management, and **ISO 27001** for information security management. Please refer to enclosed certificates.

NICE Environmental Management

NICE prides itself on being fully committed to the communities in which we work. A major part of this commitment is compliance with all standards, regulations and requirements concerning the environmental aspects of our operations, and the products we produce. We believe that maintaining market leadership cannot preclude corporate commitment to a cleaner, safer world.

NICE Conflict Mineral Policy

NICE is committed to respecting human rights and the environment in accordance with accepted international conventions and practices, such as those of the United Nations 'Universal Declaration of Human Rights, ILO Core Conventions on Labor Standards, UN Global Compact, and OECD Guidelines for Multinational Enterprises. We want to ensure that all materials used in our products come from socially and environmentally responsible sources.

We do not tolerate nor by any means profit from, contribute to, assist with, or facilitate any activity that fuels conflict, leads to serious environmental degradation, or violates human rights, as set forth by above mentioned international conventions and NICE's policies.

2.5.1.1.4 The 9-1-1 Voice and Radio DLRS solution provider shall have a policy of the use of hazardous substances products it manufactures (for instance, by compliance with the EU Restriction of Hazardous Substances - RoHS directive).

COMPLY

NICE offers software solutions that do not contain any hazardous substances.

This software uses high-end, industrial server hardware from HP that is certified to the highest standards and does not include any hazardous substances.

NICE Environmental Management

NICE prides itself on being fully committed to the communities in which we work. A major part of this commitment is compliance with all standards, regulations and requirements concerning the environmental aspects of our operations, and the products we produce. We believe that maintaining market leadership cannot preclude corporate commitment to a cleaner, safer world.

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2.5.1.1.5 The 9-1-1 Voice and Radio DLRS solution provider shall provide proof of having security policy certified to the ISO27001 standard.

COMPLY

NICE adheres to the highest quality standards in its product development, information security, and quality control. Surpassing other vendors, NICE is certified to the following standards: **ISO 9001** for quality management, **ISO 14001** for environmental management, and **ISO 27001** for information security management.

2.5.1.1.6 INTELLIGENT DECISION-MAKING SUPPORT, CENTRAL INTELLIGENCE CORE

The proposed solution shall be specifically built for the support of strategic and tactical (intra-day) decision making with centralized views into operational performance focusing on incidents.

COMPLY

No other vendor is able to deliver the breadth and depth of tactical intelligence in interactive reports and dashboards that NICE Public Safety can. NICE has set the new industry standard in this area. Our integrated intelligence collects data and media from all connected systems and consolidates this data so your managers can easily visualize cross-system metrics and rapidly identify abnormal patterns. Root causes can be immediately identified from the same interface via drill-throughs all the way down to playback of relevant recordings. This supports timely and accurate decision making which has been shown to avert impending problems, including those associated with staffing, staff turnover and job satisfaction, scheduling of teams, handover issues between telecommunicators and first responders, and more.

Extensive metrics are delivered in web-based dashboards for real-time analysis and tactical and strategic decision-making. rend analysis enables managers to analyze incident response processes and diagnose lapses in performance.

All incident events, from the moment 911 calls arrive, to their subsequent handover from call takers to dispatchers and first responders (police patrol, fire crew, emergency medical response, etc.), and to the eventual 'clear scene' event, are captured and correlated to provide a full picture of the incident.

As one of our larger customers remarked: "We HAVE to have NICE to manage performance of our 911 center, otherwise we are either not doing it, or when we try to do it, it's completely inefficient. At best, we could only spot-check. Our manual reports were laborious and arrived too late and still didn't have the level of insight that NICE provides, right in the moment, and delivered in a way we can immediately drill into and understand. This is transformational!"

- 2.5.1.1.7 The proposed solution shall centralize and visualize all collected information to provide insights into operational performance including:
- 1. Central view of all incident intelligence, including key performance indicators (KPIs)

COMPLY

The proposed NICE solution centralizes and consolidates data from multiple sources and automatically calculates key performance indicators (KPIs) based on the combination of this data. The results are provided in easy to understand, graphical, interactive interface.

• 2. View of incident intelligence, including performance indicators and adherence to standards, for individual sites

COMPLY

•

NICE Intelligence Center views include metrics associated to multiple milestones of each incident response, as well as all incidents as a whole, to help you identify systemic issues or bottlenecks that need root cause analysis. Drill-through views help with immediate analysis of reasons for various metrics and any outliers, all the way down to playback of specific recordings that played a role in an anomaly shown in a chart displaying the metric.

Adherence to standards can be monitored via visually relating the actual KPIs to benchmarks/goals, providing a quick access to underperformance issues.

- 2.5.1.1.8 Overall performance results with drill-down to root causes of bottlenecks and other shortcomings in order to drive improvement, all the way down to:
 - 1. View of KPIs for individual sites COMPLY
 - 2. Views of KPIs for individual incidents and telecommunicators COMPLY
 - 3. Playback of recordings of communications involved in specific incidents COMPLY
 - 4. Quality Assurance evaluation results and status with same-screen access to underlying evaluations and recorded communications COMPLY

COMPLY

NICE's Intelligence Center displays overall metrics as well as metrics for each site where applicable.

Managers are able to view metrics relevant to incidents, as well as to individual telecommunicators. They can also monitor patterns across incidents and track root causes to specific telecommunicators who may be having issues and likely need more training, coaching, or other type of attention.

You can also drill from incident views and metrics directly into individual call recording to further diagnose outliers or other interesting observations shown in charts and metrics.

Results and progress of quality assurance evaluations can be viewed in Intelligence Center's dashboard charts as well. As with recordings, managers can drill from charts into specific quality evaluations.

- Auto-generated alerts to notify appointed users of non-compliance, such as when:
- 1. Time to dispatch exceeds the threshold for a given incident priority
- 2. Calls that fall below target answer time exceed set percentage

COMPLY

NICE's Intelligence Center automatically monitors adherence of reality to set benchmarks.

When monitored metric falls before the required threshold, the system initiates an automated alert to notify appointed personnel. This can involve both time to dispatch metric and time to answer metric.

2.5.1.1.10 Provide screen images to document how your proposed solution calculates and centralizes access to all incident handling metrics, using the use of formulas that combine data from single or multiple phone, radio, text-to-911, and CAD systems

COMPLY

NICE Intelligence Center provides a variety of views into performance that is expressed via calculated metrics. Following is one such example that combines telephony, CAD and geographic data across multiple incident types and priorities. Similar dashboards are provided for radio metrics and incident phases/milestones metrics.



NICE Intelligence Center – Call Summary Dashboard

2.5.1.1.11 Show how your system consolidates metrics for all incidents to help OCFA monitor adherence to set performance targets. This shall include:

- 1. Time to answer
- 2. Time to enter incident into CAD
- 3. Time to dispatch
- 4. Time to on-site

- 5. Hello to hello time from answer to on-site
- 6. Geographic distribution of different incident types in interactive map to help monitor patterns
- 7. QA evaluation scores

COMPLY

NICE's systems automatically calculate metrics based on combined data from all connected systems, to include the following examples:

Call Summary Dashboard	Call Taking Dushboard	Incident Lifecycle Dashboard	NICE QA Evaluations Dashboard	NICE Text 911 Summary Dashboard	NICE Radio Dashboard
Incidents by Agency Incidents by Phonty Incidents by Phonty Incidents by Type Total 911 Calls Average 111 Call Time Io Answer Number of Abandoned S11 Call Amage Total Number of Non- Emergency Calls Total Calls (All Types) Total Calls (All Types) 911 Call Locations 4911 Calls Answered	 Incidents by Agency Incidents by Priority Incidents by Priority Incidents by Type S11 Calls Over Time Atandoned 911 Calls Over Time Highest Average 911 Call Answer Time by Call Taker Lowest Average 911 Call Answer Time by Call Taker Average Answer Time per Hours of Day Highest Average Time to Enter per CAD Call Taker Average Time to Call Taker Average Answer Time to Enter per CAD Call Taker Average Time to Enter per Day of Week Average Time to Enter per Day of Week Average Time to Enter per Day of Week Average Time to Enter per Hour of Day 	Incidents by Agency Incidents by Priority Incidents by Priority Incidents by Type Average Time to Answer S11 Calls Time to Enter Average Time to Dispatch Average Time to On-Scene S11 Call Time to Answer (count by seconds) Time to Dispatch (count by seconds) Time to Dispatch (count by seconds) Time to Dispatch (count by seconds) Time to Dispatch (count by seconds) Time to Dispatch (count by seconds) Time to Dispatch (count by seconds) Time to Dispatch (count by seconds) Highest Average Time by Call Taker Highest Average Time by Call Taker	Highest Average DA Score Per Evaluated User Average Section Percentage Section Actual Score Average Section Actual Score Average Percentage Score Over Time Average Percentage Score Over Time per Section Per Form Average Evaluation Actual Score Percentage Number of Evaluations Per Form Number of Evaluations Per	Incidents by Agency Incidents by Priority Average Time to Dispat/Chn-Scene by Priority TEXT-911 conversations over fime Average TEXT-911 response time per nour of day Average Time to On-Scene by Priority Highest average TEXT-911 response time try operator Lowest average TEXT-911 response time try operator Average time to enter per hour of day Average time to enter per day of week Highest average time to enter per CAD call taker	Highest number of transmissions per radio Lowest number of transmissions per lakeroup Lowest number of transmissions per talkgroup Lowest number of transmissions per talkgroup Transmission volume by duration Errengency event volume per talkgroup Transmission volume per talkgroup Transmission volume per talkgroup

These metrics are visualized on dashboards as shown in the above answer. These dashboards are interactive, allowing users to drill into root causes of issues, such as when a metric value reveals underperformance.

2.5.1.1.12 The solution shall provide graphical, interactive charts, reports, heat-maps, and other performance indicators and visualizations for analyzing operational, phone, radio, text-to-911, and CAD incident metrics for tactical decision-making, in near- real time.

COMPLY

NICE Intelligence Center provides graphical, interactive charts, reports, heat maps, KPI tiles, and other visualizations of a wide variety of metrics.



Selected examples:

2.5.1.1.113 The solution shall allow for organization of different types of metrics under different dashboard tabs in the web browser-based interface, to support rapid access to information shown from various perspectives.

COMPLY

NICE Intelligence Center offers several dashboard configurations out of the box, under different dashboard tabs. Users can add additional tabs with additional dashboards, based on their specific needs.

2.5.1.1.114 Provide screen images to demonstrate how your solution supports monitoring all performance metrics by different groups and incident priorities, including:

- 1. Views by different agencies served
- Views by different teams of telecommunicators
 Views by individual telecommunicators
- 4. Subset of views by incident types and priorities, agencies served, etc.

COMPLY

The following images show filters that meet these requirements:



This example shows a dashboard that allows views by specific telecommunicators and their teams:



2.5.1.1.15 Dashboards shall also provide recorded conversations for playback directly from the graphical report views to support root cause analysis. The list of recordings provided in a dashboard view shall be automatically adjusted to the chart views (for example, Incident type '0' for the past month for a call taker 'John Doe').

COMPLY

NICE Intelligence dashboards provide direct links to recorded communications relevant to the graphical charts on the same page. See the image provided in the preceding response (links to recordings are on the bottom of the screen shot).

As users click through layers of information, the available recordings become filtered in a corresponding manner.

2.5.1.1.16 The solution shall be able to visualize performance and adherence to set metrics in a wallboard view to help improve performance. The wallboards should be configurable, and able to show site-specific details.

COMPLY

NICE customers use NICE Intelligence Center in wallboard configurations in order to encourage friendly competition and improve performance. Dashboards can be configured to specifically reflect information that is appropriate for wallboards.

2.5.1.1.17 The solution shall allow the end-user to create new visualizations by drawing from the bank of metrics and other options.

COMPLY

NICE will train your users on creating new visualizations based on a variety of available metrics and associated settings and customizations.

2.5.1.1.18 The solution should not require the end-user to know SQL or any programming language in order to easily use the system.

COMPLY

NICE Intelligence Center is designed with easy-to-use graphical interface that guides users through intuitive steps of viewing and drilling through information by simple clicks on graphical visualizations. There is truly no need for any SQL programming experience.

GENERAL DESCRIPTION of AUDIO RECORDING

2.5.1.1.19 The recordings shall be retained for a minimum period of 1 year or another retention period that is configurable by the system administrator.

COMPLY

The proposed Solution provides storage internal to the logger. Unless specifically stated, NICE makes no claim as to the retention period (measured in the number of days) which this Solution will support, unless information about the volume of recordings generated in one year is provided.

For example, the MCC 7500 IP Radio Logger can store up to 150,000 hours of digitally trunked radio audio. Additional storage capacity can be achieved with external storage devices, such as NAS.

NICE can make no claim as to how many days this will be; as it is entirely dependent on the amount of audio the Purchaser generates each day.

The solution includes a SQL database (with appropriate SQL licensing) for each logger. It is the responsibility of the Purchaser to back-up these databases on a regular basis.

The storage in the recorder for SQL database tables is not unlimited. If Purchaser retention requirements are measured in years rather than months, it is the responsibility of the Purchaser to raise this subject with NICE prior to the final system configuration. This will help ensure the Purchaser receives a solution that will meet retention requirements.

If the Purchaser is archiving to network storage, the LAN/WAN latency in the network is assumed to be less than thirty (30) milliseconds.

Any network storage used for archiving becomes the primary storage for playback of audio and will be retained for a minimum period of one year or another retention period and is configurable by the system administrator.

2.5.1.1.20 All system access actions like user administration, alarm management, and audit trail monitoring shall be performed with a web-deployed interface.

COMPLY

The proposed Solution is delivered with comprehensive audit trail which includes all system as well as user administrator and activity information. Access to these details is restricted via security access policies. Web-deployed interface is used for viewing this information.

2.5.1.1.21 All system audio recordings must be archived as .wav files, which contain the audio for the call and the call meta-data in the .wav file 'info' section.

COMPLY

The proposed Solution stores captured recordings in .wav file format, along with call metadata as required.

2.5.1.1.22 All system audio must be encrypted using A FIPS 140-3 compliant Block Cipher Algorithms.

COMPLY PARTIALLY

NICE Offers FIPS 140-2 compliance, per the requirements we received from Federal Aviation Administration (NICE is their sole provider of recording solutions across hundreds of sites).

This is related to limits within MS Windows, as NICE uses the Windows cipher libraries. We understand that MS Windows is pursuing an official compliance approval. Once this is granted, NICE will be able to offer a derived compliance.

2.5.1.1.23 The system shall apply a FIPS 140-3 complaint checksums which must be used on the archived audio to ensure no tampering.

COMPLY

NICE Inform Recorder audio archiving is compliant with FIPS 140-3 Cipher and checksum requirements.

2.5.1.1.24 The system user interface must graphically show if the audio files have passed its file integrity checksum.

COMPLY

When the audio is passed to NICE Inform for playback, the call data is automatically checked against the checksums and any mismatch is highlighted in the client application interface by cross-hatching in the time line and a crossed red circle icon in the Results Table. The call can still be replayed, exported as .wav files (.wav files saved from the NICE Inform Client no longercontain the MD5 checksums) or transferred to a NICE Inform Organizer module incident folder. Tampered recordings remain highlighted after transfer to a NICE Inform Organizer incident folder. Recordings transferred to NICE Inform Organizer incident folder. Recordings transferred to NICE Inform Organizer incident folder. Recordings transferred to NICE Inform Organizer incident folders from any recording platform can have a new checksum applied.

Display of Tampered audio within NICE Inform

22	7 re	sults		<u>V</u> iew by: Resource
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	×	1:0001	07/06/2016 11:12:11	00:00:12
	8	1:0002	07/06/2016 11:12:11	00:00:11
		1:0001	07/06/2016 11:11:50	00:00:18
	~	1:0002	07/06/2016 11:11:50	00:00:18
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	~	1:0001	07/06/2016 11:11:07	00:00:40
	✓ ⊗			

2.5.1.1.25 The solution shall be capable of synchronizing to designated SNTP or NTP server(s). COMPLY

The proposed NICE Inform system is capable of synchronizing to designated SNTP servers using the SNMP protocol to receive traps from the devices in the monitored system. Authorized users configure data polling frequency in seconds for every device, and the number of poll failures resulting in a critical alarm or a condition that triggers an alarm. In this manner, the system can monitor CPU, Memory, and Storage, in addition to external devices. This information is also visualized in status and trend charts.

The easy set-up and configuration makes it equally suited to small agency environments as well as larger sites and complex multi-site agencies with many devices.

All workstations will sound an audible alarm and trigger a desktop pop-up within 2 seconds of the alarm raised by the server, whether triggered by a specific SNMP trap received or upon a device polling that passes a threshold. The alarms are displayed on the NICE Inform server screen and connected workstations simultaneously. Email notifications can be configured as well for specific alarm types based on severity and other criteria. NICE Inform monitors this activity as well and raises an alarm if email notifications fail to send to assure that appropriate users are notified about all configured events.

2.5.1.1.26 The solution shall generate alarms based on specific system conditions via SNMP commands or via a dedicated system monitor/maintenance application.

COMPLY

The proposal includes NICE Inform Health Manager (NIHM), a robust SNMP-based solution which monitors and reports on events and conditions of the NICE solution. Users configure who, how, and when they want to alerts to be sent when various SNMP messages are received or when specific conditions arise.

The proposed NICE Inform system generates alarms based on specific system conditions via SNMP commands using the SNMP protocol to receive traps from the devices in the monitored system.

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2.5.1.1.27 The Solution system shall keep a full audit trail of all alarms and faults and provide a method of viewing the alarm history.

COMPLY

The NICE Inform Audit Function provides an audit trail of all actions taken on any of the recordings or within the system itself (modules, log-in, modification or creation of incident folders etc.). This information is kept within a quarantined section within the application. This enables an administrator to follow up and view actions taken by authorized users concerning any particular areas of interest. Administrators also have the option to undertake a search in order to pinpoint a specific system action. It is possible to print the audit listing and also save it to a CSV file.

NICE's Health Manager application contributes another layer of details about system health (and a health of its various components) and any associated alert or alarm that was trigged.

2.5.1.1.28 The solution shall keep a full audit trail of all user access and Voice and Radio DLRS maintenance functions with details of who accessed the system and when, with details of what was changed or accessed.

COMPLY

The NICE Inform solution provides a full audit capability, including the ability to track when and by whom any specific recording is accessed and/or exported, in any form, in addition to a variety of other actions taken by each user, along with the user ID, date and time of the action, as well as what specific action was performed.

RECORDING INTERFACE

2.5.1.1.29 The solution shall support various recording methods (techniques) to facilitate recording from a wide variety of telephony/radio systems. Please provide a list of your currently supported integrations.

COMPLY

NICE Inform Recorder (NIR) supports recording of 2-wire analog audio (e.g., computer audio output, TDM analog telephone circuits, headphone and speaker outputs from handheld and portable radios and communications devices, etc.); 2- and 4-wire digital audio sources; and a wide variety of IP audio sources using SIP/RTP recording. In addition, NICE Inform supports bespoke and generic SIP and CAD integrations for gathering metadata from a variety of SIP-based audio and SQL-based CAD systems.

Examples of other NICE Inform's proven integrations are as follows:

Inform Elite	CAD
ADSi	
CentralSquare Er	terprise Inform (TriTech) CAD

CentralSquare One Solution (Superion) CAD
CentralSquare Total Command (TriTech) CAD
CentralSquare Pro (Zuercher) CAD
eFORCE CAD
Generic CAD (MS SQL Server)
Hexagon Intergraph CAD
Motorola Premier One CAD
Motorola Spillman Flex CAD
Tyler New World CAD
Versater m vCAD
CDR
Alcatel OXE CDR (Accounting ticket)
Genesis GenWatch GenSPOut
Call Taker & Dispatch CTD
Air Traffic Management (EUROCAE ED-137)
APD Cortex
Atos S-PRO
Atos SPDS Radio Dispatch(formerly S-PRO)
Avtec Scout
BT Trading (IP Trade) VRC
BT ITSTDM
Capita DS3000
French Emergency Services NF399 Integration
French Emergency Services NF399 Replay API
Frequentis CDR API
Frequentis 3020 LifeX
InterTalk ILS
Intrado VIPER audio
Motorola VESTA 9-1-1 audio
Solacom Guardian audio (i3LogEvents)
Unify OpenScape Xpert
Zetron ACOM
Zetron MAX Call Taking
Zetron MAX Dispatch
CTI Telephony
Alcatel OXE TSAPI
Atos Asterisk
Avaya DMCC
Cisco CuCM without JTAPI
Cisco CuCM JTAPI
Cisco UCCE

Configurable SIP Active (with vendor plugins)
Enghouse Contact Centre
Genesys T-Server
Mitel MiVoice Business SRC
Mitel MiVoice MX-ONE
Unify OpenScape Voice
Location
ANI/ALI Call Annotation
RapidSOS Advanced Location
NICE Location Server(NLS)
Text-911
AGENT511 TextBLUE Text
INdigital Texty Text
Intrado RFAI Text
Intrado VIPER MSRP Text via eCDR
Motorola VESTA Text & NENAi3 Text
Motorola CallWorks Text
Solacom Guardian Text via i3LogEvents
Trunk Radio
APCO P25 ISSI / CSSI
L3 Harris VIDA (DTRL) P25 & OpenSky
Motorola MCC7500 AISASTRO
Motorola MCC7500 AISDIMETRA
Motorola Wave PTX
Motorola Airwave DCS

2.5.1.1.30 All components of the proposed 9-1-1 Voice and Radio DLRS solution must be certified and approved to integrate with the OCFA's VESTA 9-1-1 phone system to record voice communications and screen interactions.

COMPLY

NICE Inform Recorder (NIR) requires no installation of any local agent or client software on the VESTA solution for recording and, therefore, does not require any certification by Motorola. We capture audio and metadata by separately capturing VESTA's standard SIP/RTP and CDR/CAD spill data outside the VESTA solution as it is traversing the LAN or being passed to the CAD system.

The NICE Inform Screen Recording agent has been repeatedly confirmed to operate on VESTA workstations without measurable impact on, nor interference with, the VESTA solution.

NICE has made a significant investment in the integration abilities with other vendors in the 911 technology stack. Because of this we are uniquely able to solve numerous 911 challenges that may arise. Not only are we collecting audio from the radio and telephony systems, we also collect and consolidate comprehensive metadata from each of the integrated systems in near real time, to provide broad intra-day operational insights, as well as trends over time. The value of this information includes precision search / playback, incident reconstruction, and targeted quality assurance, but it does not end there. NICE also provides tools for monitoring operational

performance and identifying operational gaps as well as their root causes, leveraging the combination of data from these systems together with the media and data produced by NICE Inform. This in turn informs accurate decision making for your managers.

2.5.1.1.31 The 9-1-1 Voice and Radio DLRS solution must capture ANI/ALI and agent ID. COMPLY

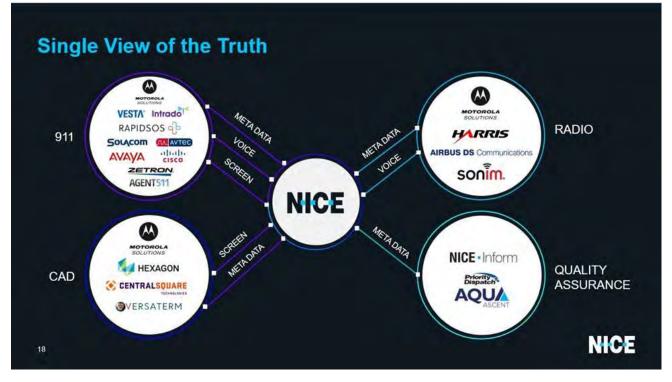
The NICE Inform Solution captures ANI/ANL and agent ID data in our database for using searches, QA, and reporting. This assumes that Agent ID field is provided by the VESTA solution.

2.5.1.1.32 The 9-1-1 Voice and Radio DLRS solution must capture the RapidDeploy Text- to-911

COMPLY

NICE Inform Recorder (NIR) uses the agent ID field provided by the VESTA solution to capture the RapidDeploy Text-to 911 data in our database to use during searches, QA, and reporting. Additionally,

the proposed screen recording will capture any activity that takes place on either the CAD or VESTA workstation PCs.



2.5.1.1.33

The system must capture 2-wire analog devices with the following options:

- 1. Level or energy detection with manually adjustable threshold
 - 2. On/off hook detection (for telephony)
- 3. Contact closure

COMPLY

NICE Inform Recorder (NIR) supports all three of these methods for controlling recording start and stop.

2.5.1.1.34 The solution shall be able to capture and properly categorize communications by call takers who manage both voice and text communications.

COMPLY

NICE Inform tags each recording with all available metadata, to include IDs of call takers. This applies to both voice and text communications.

2.5.1.1.35 All fields shall be discretely searchable via the standard replay client provided with the 9-1-1 Voice and Radio DLRS solution.

COMPLY

NICE Inform provides a comprehensive search interface that enables users to search for recordings with any combination of metadata parameters that are captured with 911 call and radio recordings.

ARCHIVING

2.5.1.1.36 The 9-1-1 Voice and Radio DLRS solution shall archive calls by making a copy of the recorded media files and associated data to another medium. If an attempt to replay a call is made and the audio (or another media type) is not available on the recorder, the recorder shall automatically check the archive to locate the audio.

COMPLY

As users search for recordings using NICE Inform interfaces, the system automatically locates each recording (whether it resides in the primary or archive storage), displays it in search results, and offers it for playback.

2.5.1.1.37 The 9-1-1 Voice and Radio DLRS solution shall allow archive rules to be created that specify the location of the archive and the recording content that shall be archived.

COMPLY

NICE Inform Recorder's archiving rules provide a flexible and robust mechanism for defining rules and schedules for recording archiving, including different rules for recordings from different sources.

2.5.1.1.38 It shall be possible to define separate archiving rules for audio vs. text based communications.

COMPLY

NIR archiving allows different content rules to be setup based on metadata field values. As long as a particular media type is uniquely identifiable (such as phone vs SMS), unique archiving rules may be applied based on one or more metadata field values.

2.5.1.1.39 The 9-1-1 Voice and Radio DLRS solution shall allow an archiving Selection rule to be specified that contains:

- 1. The archive location to be used
 - a. All channels or a channel range
- 2. Whether the call details (database fields) meet specified criteria
- 3. Selection according to the user group the recording target belongs to

COMPLY

NICE Inform Recorder (NIR) content rules (aka archive rules) support content selection based on all of these criteria.

2.5.1.1.40 The 9-1-1 Voice and Radio DLRS solution shall allow an archiving Schedule rule to be specified that contains:

- 1. Whether archiving occurs immediately or after a specified period of time
- 2. Whether audio is deleted from the recorder immediately or after a specified period of time
- 3. Whether call data is deleted from the recorder immediately or after a specified period of time

COMPLY

NICE Inform Recorder (NIR) archiving rules support all of these criteria in its archiving rules.

2.5.1.1.41 The 9-1-1 Voice and Radio DLRS solution shall allow an archiving Retention rule to be specified that contains:

• The duration the archive is to be kept before deletion (expiry date)

COMPLY

NIR Content Rule settings allow creation of retention policies based on these criteria.

• The number of database backups to be kept

COMPLY

NIR Content Rule settings allow creation of retention policies based on these criteria.

2.5.1.1.42 The 9-1-1 Voice and Radio DLRS solution shall allow two removable archive locations (RDX) to operate in Mirrored mode or Sequential mode as follows:

- 1. **Mirrored mode**: Archive calls to both locations simultaneously; both locations contain the same calls.
- 2. **Sequential mode**: Archive calls to the first location until this medium is full, then switch to the second location.

COMPLY

When using pairs of removable archive locations, either Mirrored or Sequential archiving may be configured against each pair.

2.5.1.1.43 The 9-1-1 Voice and Radio DLRS solution shall display the percentage of disk space remaining on the archive medium.

COMPLY

NICE Inform's administrative interface provides a view of disk storage status, including space use versus space remaining.

- 2.5.1.1.44 The 9-1-1 Voice and Radio DLRS solution shall maintain information about removable archive media. The information stored for each piece of media shall contain:
 - 1. Date of first call and last call on medium
 - 2. Date of first and last backup (dates of archiving activity)
 - 3. Recorder location

COMPLY

The NICE INFORM record archives to up to four locations including removable media. When playback is requested will automatically retrieve the audio from the available archive, if it is only on the removable media and it is not mounted it will advise on the media that needs to be installed.

HARDWARE

2.5.1.1.45 The 9-1-1 Voice and Radio DLRS solution shall be installed on one or more computer servers.

COMPLY

Proposed solution includes all necessary server hardware for hosting all elements of the solution. However, per RFP requirements, some elements may be deployed within virtual machines, if preferred by OCFA. 2.5.1.1.46 The 9-1-1 Voice and Radio DLRS solution shall be deployable on 64-bit Windows Operating Systems.

COMPLY

As a Microsoft Development Partner, all NICE software is deployable on the latest 64-bit Windows Server versions.

2.5.1.1.47 The 9-1-1 Voice and Radio DLRS solution and interface boards shall be approved for: CE; EN55022; EN55024; UL IEC60950, FCC part 68 and FCC part 15.

COMPLY

All hardware components of the proposed OCFA solution are compliant with all of these standards.

2.5.1.1.48 The 9-1-1 Voice and Radio DLRS solution audio channel cards shall be designed and developed by the 9-1-1 Voice and Radio DLRS solution provider and manufactured under the control of the supplier.

COMPLY

Where relevant (e.g. in analog recording), NICE solutions use interface/audio channel cards that are specifically designed and developed for NICE Inform solution. The availability of these cards is therefore under NICE's control.

VIRTUALIZATION

2.5.1.1.49 The 9-1-1 Voice and Radio DLRS solution shall be capable of being virtualized.

Some elements of the proposed solution may be deployed within virtual machines, if preferred by OCFA. Refer to the following item below for further details.

2.5.1.1.50 The 9-1-1 Voice and Radio DLRS solution shall be capable of being virtualized as an All-in-one deployment OR as a Distributed deployment.

COMPLY

All NICE applications may be deployed on virtual machines except:

NICE Inform Recorders (NIR) requiring physical audio interface cards (analog and digital audio) MUST be deployed on physical servers, as the interface card drivers are not designed to work in a virtualized environment.

NICE strongly recommends that all recorders (audio, screen, etc.) be deployed on bare-metal servers since the virtualization layer can often introduce delays into the real time capture of streaming media.

DEPLOYMENT

2.5.1.1.51 The 9-1-1 Voice and Radio DLRS solution shall be:

1. Scalable from a few channels to thousands of channels by various deployment options. This shall involve the deployment on one or multiple servers, with unified user access to all recordings from one interface.

COMPLY

NICE solutions support the recording of any number of channels, up to thousands or even tens of thousands of channels per agency (as is the case with some of our larger customers).

The large-scope recording is accomplished via a network of recordings servers with a centralized user interface, which allows users to have a single point of access to all recordings.

2. Shall be capable of being installed on a single server for smaller applications (all-in-one deployment); below 200 recording channels

COMPLY

NICE solutions can be deployed for smaller agencies, such as those with below 200 recording channels, where all recording is accomplished via one server.

3. Shall be capable of being installed on two or more servers for larger applications (semi-distributed deployment);200 or above

COMPLY

NICE solutions can be deployed for recording via multiple networked servers where the number of recording channels demands it. Regardless of the number of recording servers deployed, users enjoy the convenience of a single point of access to all of them.

4. The call data database shall be a non-proprietary relational database

COMPLY

NICE solutions utilize on-proprietary, industry-standard MS SQL database.

5. Shall support installing the call data database on the same server as the recorder (all in one deployment).

COMPLY

NICE solutions support the installation of an all-in-one recording solution where the call data database resides in the same server that performs the recording function. This is dependent on the number of recording channels, as specified above.

6. Shall support installing the call data database on a management server shared between recorders.

COMPLY

All three main elements of the logger architecture (CORE (DB management), Satellite (media capture), and CTI/CTD (metadata capture)) may be deployed separately and a single CORE may manage multiple satellites.

RESILIENCE

2.5.1.1.52 The 9-1-1 Voice and Radio DLRS solution shall provide the following resiliency options:

• 1. Hardware redundancy within the server chassis

COMPLY

Multiple components within the server chassis are redundant and hot-swappable.

2. Total system redundancy (2N)

COMPLY

NICE Inform supports 2N configurations where each recording components is at last duplicated, while the associated software performs data and media reconciliation.

3. Partial redundancy (N+1)

COMPLY

NICE Inform Recorder (NIR) supports N+1 redundancy (aka Satellite Pooling) for some systemspecific integrations which can dynamically redirect media to a failover destination.

It is not a recommended resilience/redundancy method for public safety applications, only administrative content, due to the switching matrix introducing a point of vulnerability. For mission-critical recording environments, we would recommend 2N for its inherently greater reliability.

2.5.1.1.53 Each 9-1-1 Voice and Radio DLRS solution recording server chassis shall support:

2.5.1.1.54 An internal RAID1 or RAID5 hard disk configuration.

COMPLY

NICE Inform's recording server chassis supports both an internal RAID1 and a RAID5 hard disk configuration.

2.5.1.1.55 Each 9-1-1 Voice and Radio DLRS solution server chassis shall support hot swap redundant power supplies.

COMPLY

NICE Inform utilizes industrial grade servers with redundant, hot-swappable power supplies.

2.5.1.1.56 The 9-1-1 Voice and Radio DLRS solution shall support total independent redundancy comprising of two identical recording systems recording the same calls, working independently. The Search and Replay system shall allow replay from either recording system according to its availability and based on user preference.

COMPLY

NICE Inform supports 2N configurations where each recording components is at last duplicated, while the associated software performs data and media reconciliation (and an optionally suppressed duplicates in search results).

2.5.1.1.57 The Search and Replay system shall suppress duplicate calls in search results when both recording systems are active.

COMPLY

NICE Inform pairs redundant recordings automatically. It allows users to select whether they wish to view pairs of recordings or only a single recording for each recorded conversation.

2.5.1.1.58 The 9-1-1 Voice and Radio DLRS solution shall support individual subsystems to be duplicated for redundancy (for example the voice capture subsystem).

COMPLY

This is a supported configuration that can be delivered on request.

2.5.1.1.59 The 9-1-1 Voice and Radio DLRS solution shall support dynamic calls allocation to recording channels on operational recorders and calls load balancing of recorded calls between operational recorders.

COMPLY

NICE INFORM Recorder can support dynamic channel allocation on active IP integrations. Static channels like analog do not support dynamic channel allocation. Active telephony integration can support dynamic server pooling, but it is not proposed for OCFA at this time.

SOFTWARE SCREEN RECORDING

2.5.1.1.60 The 9-1-1 Voice and Radio DLRS solution shall have the ability to record, store and replay computer screens.

COMPLY

The NIR recording solution can support the capture of computer screens. The capture of computer screens is proposed in the baseline proposal for 18 call taking positions.

2.5.1.1.61 It shall be possible to configure screen recording so that only the primary screen is captured.

COMPLY

This is one of the standard features available with NICE Inform screen recording solution.

2.5.1.1.62 The Software Screen recorder shall be able to record the screens 24x7 in 10- minute increments when the workstation is logged in, in order to capture the context of call taker or dispatcher communications, before, during and after their incident handling.

COMPLY

NICE Inform can capture screen interactions in set increments (such as 10-minute blocks) when the workstation is logged in and in operation. This captures the general context of each communication, revealing what a telecommunicator knew when he/she made decisions, what else they were handling at the same time, and what actions they took when the call was completed.

2.5.1.1.63 Screen recordings shall be retained for 30 days, unless they are needed for extended storage as part of reconstructed incidents, for investigation, quality assurance review, or other purposes as determined by authorized users.

COMPLY

NICE Inform can be set up for retaining screen recordings for 30 days. When they are used in incident reconstruction or for other purposes, their retention period can be extended as needed.

2.5.1.1.64 The screen recorder shall be software-based and not use any proprietary hardware devices.

COMPLY

NICE Inform screen recording is fully software based.

2.5.1.1.65 It should be possible to store the screen recording locally and be played back centrally and excluded the screen content from the central repository.

COMPLY

Screen recordings are normally stored locally on the screen recorder server. They are accessible from the centralized Inform server(s), and are not archived to the central repository.

RAPIDSOS INTEGRATION as the CENTRAL SYSTEM OF RECORD

2.5.1.1.66 The 9-1-1 Voice and Radio DLRS solution shall support the capture and storage of advanced location integration obtained from the RapidSOS Clearinghouse for cell phones.

COMPLY

NICE and RapidSOS are transforming emergency response and incident reconstruction by integrating incident intelligence and emergency data Clearinghouse solutions. The integration of the two solutions extends RapidSOS enhanced emergency information beyond real-time incident handling – to provide a single system of record of all incident information within NICE Inform – which dramatically enhances incident reconstruction and investigations.

The NICE Inform solution uses the ANI (automatic number identification) associated with each call to request the device location data from the RapidSOS Clearinghouse for the device making the call.

NICE Inform Reconstruction provides detailed RapidSOS location data in an Insight View window and in a dynamic geo-map interface. It also plots RapidSOS data on a timeline of an incident. RapidSOS data is combined with data from CAD, 911 and Radio to graphically represent what happened.

When selecting any recorded calls for playback, users can visualize the movement of the caller on a map, while synchronously listening to the call recording as it plays back.

2.5.1.1.67 The RapidSOS Clearinghouse contains close to real-time location information which is obtained from multiple sources, such as Apple and Android cell phones. The information is time sensitive and must be captured by the proposed solution during the RapidSOS data availably window.

COMPLY

NICE Inform connects to RapidSOS Clearinghouse and independently collects data associated to specific recordings for extended storage, beyond their short window of accessibility via RapidSOS.

2.5.1.1.68 The 9-1-1 Voice and Radio DLRS solution must connect directly to the RapidSOS Clearinghouse via end user supplied credentials.

COMPLY

NICE Inform does connect to RapidSOS Clearinghouse via end user supplied credentials.

2.5.1.1.69 The 9-1-1 Voice and Radio DLRS solution must not use a third party to provide RapidSOS data.

COMPLY

NICE Inform accesses RapidSOS data directly via the connection to the Clearinghouse, with no need for any 3rd party involvement.

2.5.1.1.70 The 9-1-1 Voice and Radio DLRS solution must support the querying of RapidSOS data along with metadata collected from other connected systems, for precision search and retrieval of recorded communications and geographic context visualizations.

COMPLY

All metadata collected from the telephony switch by each integration can be displayed and used within search criteria, along with location data. Multiple location information tags for each recording, obtained from traditional ANI/ALI sources and/or from RapidSOS, can be reviewed and used to search by.

NICE provides capture and extended storage for the following RapidSOS metadata:

- **Standard** Caller ID, Created Time, Location Time, Call Start Time, Source of Location Information, Latitude, Longitude, and Uncertainty Radius
- **Optional** Caller Name, Altitude, Positioning Method, Uncertainty Confidence, Civic Address, and more
- 2.5.1.1.71 The 9-1-1 Voice and Radio DLRS solution must be able to visualize progressive movement of the caller on a geo-map, pinning evolving location coordinates along the path of the caller's movement. P rovide a screen shot to show this visualization.

COMPLY

NICE Inform provides a progression of location coordinates as a caller and his/her location moves during the 911 conversation. The following screen image shows multiple pins along the path of a caller's movement, with a pop-up view of details, relating to one of these coordinates.

NICE Inform ^{**}		Reconstruction
Nandur Secondautium Departer Reporter Veduator	Advantage w	III + / 0+
	26 results	Kee by Basela & Louise
Trans Spon last Spon		
Ann Faldh	Restrictions	

APPLICATIONS

2.5.1.1.72 The 9-1-1 Voice and Radio DLRS solution shall provide a system-wide multi- channel Web-deployed search and replay application.

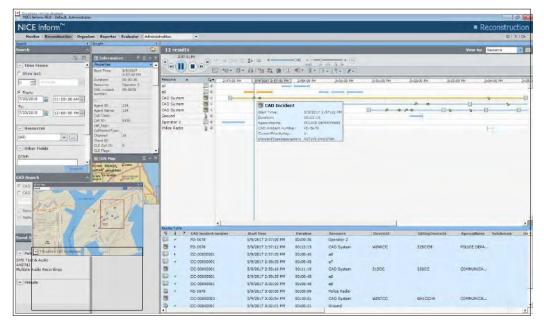
COMPLY

NICE Inform provides a multi-channel search and replay functionality from a single convenient interface.

• Please provide an actual screenshot of user interface with this functionality, showing a timeline with synchronized calls, radio communications, as well as message-by-message progression of text-to- 911 communications on the same timeline.

COMPLY

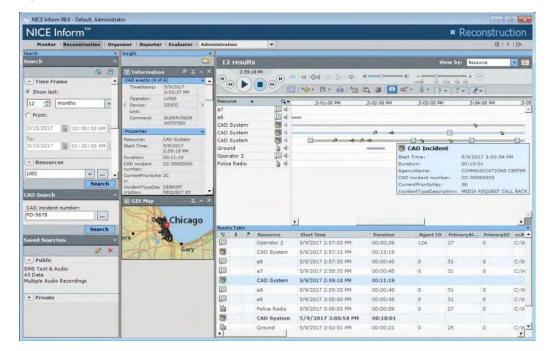
The following image provides an example of a complex incident with all of the different recordings automatically synchronized on a timeline, to include message-by-message progression of text-to-911 communications on the same timeline.



• The screen shot should also show visualization of CAD events and notations and location information on the same timeline.

COMPLY

NICE Inform can visualize CAD events and notations on the same timeline as associated recordings. Refer to the following scren shot for the illustration of this fact.



2.5.1.1.73 The 9-1-1 Voice and Radio DLRS solution application shall support context sensitive online help, as well as standard user manuals and quick reference guides.

COMPLY

NICE Inform's 911 Voice and Radio DLRS solution application provides relevant and convenient context-sensitive online help and also offers an Online Guide and User Manual for reference and quick how-to assistance.

2.5.1.1.74 The 9-1-1 Voice and Radio DLRS solution search and replay application shall support the search and replay of all channels recorded simultaneously, as part of the multimedia recording solution.

COMPLY

The NICE Inform Reconstruction module within the NICE Inform application provides the basis of the search and replay activities within the system. It is from here that the user is able to perform extensive searches for the recorded multimedia elements they wish to review, organize, manage or distribute later in the module.

Recordings can be retrieved from multiple channels, displayed in a table and on a timeline, and played synchronously, across multiple recordings from multiple channels.

- 2.5.1.1.75 The 9-1-1 Voice and Radio DLRS solution search and replay application shall support fully redundant parallel recording environment as follows:
 - 1. Automatically and transparently search both primary and back-up channels in parallel and by default hide duplicate recording from the user.

COMPLY

NICE Inform can display or suppress duplicate (paired) results.

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0 -	Body-worn 1	11/30/2012 9:03:43		27	27	

2. Automatically and transparently replay corresponding recordings from the back up recording channel if/when they are not available from the primary channel.

COMPLY

NICE Inform will automatically replay the recordings from the first available resource.

3. Have the ability to display and replay recordings from both the primary and back-up channel when required.

COMPLY

NICE Inform allows the users to select the playback view with both primary and backup recordings. **SEARCH**

2.5.1.1.76 The 9-1-1 Voice and Radio DLRS solution search and replay application shall allow simple and quick search based on a custom choice of frequently used search parameters. The user shall be able to configure up to three default search parameters, in addition to Time/Date window, by which to narrow the search. Please provide an actual screenshot of user interface with this functionality.

COMPLY

The NICE Inform Reconstruction module within the NICE Inform application provides the basis of the search and replay activities within the system. It is from here that the user is able to perform extensive searches for the recorded multimedia elements they wish to review, organize, manage or distribute later in the module.

The search function within the NICE Inform Reconstruction module includes several powerful features and enables the user to utilize all search parameters and criteria captured by the NICE Inform application and associated recordingplatform. Users can search by items such as call duration, caller ID, specific recorded resources, annotations/bookmarks, user ID and extension and any other meta-data field captured by the recording layer.

Saved searches (private and public) – Once a search has been defined this canthen be saved as a search that may be used again at a later date. Searches canbe made available to other NICE Inform users by making them public or specific to the user that created them by assigning them as private.

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CAD incident number	Your message has been received by 911 and will be			~	CC-00000001	09-May-17 3:00:00 PM	00:00:45	86	
C CAD report number	responded to shortly. If this				CC-0000003	09-May-17 3:00:54 PM	00:10:01	CAD System	WIN7C
PD-5678	is an emergency and you are able to make a voice		日	4		15-May-17 10:03:43 AM	00:02:35	CPD(894)	
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	Hello, what is your location?			*		15-May-17 10:03:43 AM	00:01:06	Operator 1	
Search	Are you able to make a voice call to 911?		齻	v		15-May-17 10:03:43 AM	00:00:57	Clearance	

2.5.1.1.77 The 9-1-1 Voice and Radio DLRS solution search and replay application shall:

1. Support searches using ANI/ALI data (when available) as the search criteria

COMPLY

NICE Inform collects ANI/ALI data with recordings either via ANI/ALI controller or via CAD integration. Additional location information is collected via the RapidSOS integration. All location meatata is then available for searches.

2. Support searches using annotation data including text annotation, voice annotation and bookmarks as the search criteria. Searches by text annotations must be available by any part of the text content (keywords or phrases)

COMPLY

NICE Inform allows users to search by metadata from annotations and bookmarks as required. Keyword searches across all annotations are supported.

- 3. Allow users the ability to display and replay recordings from both the primary and back-up channel when required
 - a. Time & Date
 - b. Duration
 - c. Channel ID
 - d. Position or Alias
 - e. Extension Number
 - f. Condition Code (incoming or outgoing)
 - g. Dialed Number (where available)
 - h. Calling Number (where available)
 - i. Annotation user specific notes
 - j. ANI/ALI data (where available)
 - k. Call Type (VOX or CDR)
 - I. Direction of the call (where available)
 - m. Mark ID (Determines archiving rule)

- n. PBX call ID (as known to the PBX, where available)
- o. Custom fields specific to an 'Integration'
- p. CAD incident number, type, priority, and other data from CAD system integration
- q. Recording Target (CLI)
- r. SMS Text Message Content (where available)

It must be possible to combine any number of search criteria elements into one search function to provide complex but efficient system-wide searching capability.

COMPLY

The advanced search function within NICE Inform provides the ability to create very complex search queries across any and all available metadata fields, to include all of those required under this specification.

- 2.5.1.1.78 The 9-1-1 Voice and Radio DLRS solution shall integrate with CAD system databases to allow searching for calls by the following CAD system fields, where this information is available from the CAD system:
- CAD incident number
- Incident Type / Subtype
- Incident Priority
- Agency Name / Id
- Report / Case Number
- Call Taker
- Dispatcher
- Incident Location

COMPLY

NICE integrates with CAD system databases to search for calls in CAD system fields that include CAD incident number, Incident Type/Subtype, Incident Priority, and Agency Name/Id, and a variety of other metadata. NICE Inform is the only solution available today that does not limit the number of metadata captured with recordings and utilized to drive automation and intelligence throughout the solution.

In an emergency communications center, accurate insights are hard to come by because bits of data are scattered across many systems and point solutions. Agencies are choosing NICE to bring all this data together in one place, due to its proven experience and results especially in this specific area.

NICE's significant area of investment is in integration with other vendors in the 911 technology stack, which includes but is not limited to CAD integration.

2.5.1.1.79 When searching for calls, radio communications, and/or text-to-911 communications by CAD metadata, search results should include recorded communications associated with CAD incidents based on metadata matching, including both – communications directly associated with the CAD, and related communications.

COMPLY

NICE Inform can use CAD metadata (such as Incident ID) to automatically retrieve all recordings that are directly relevant to the specified incident, as well as related communications. A user may choose to include or exclude these related communications from search results.

2.5.1.1.80 The 9-1-1 Voice and Radio DLRS solution search and replay application shall:

1. Be capable of displaying the date/times of significant events/updates within a CAD incident record on the incident timeline. Examples of these specific timepoints include a time phone when the first responders dispatched, en-route, on-scene, and clear.

COMPLY

NICE Inform, when deployed with CAD integration, automatically collects various CAD incident events and plots them on a timeline, along with metadata applicable to each such event such as when first responders are dispatched, en-route, on-scene, and when they clear the scene. These data points are synchronized with recorded communications on the same timeline.

a. All notes added by all call takers and dispatchers to the same incident should be also shown on the timeline, based on the time when these comments were posted

COMPLY

NICE inform automatically collects notes entered into CAD systems by telecommunicators and it plots them on the timeline with all recordings, to the timepoints when these notes were posted in the CAD interface.

b. All these data points shall be visible on a timeline, overlayed on the synchronized replay of incident media, in order to assist with detailed post-incident reconstruction and investigation.

COMPLY

All these datapoints are shown on timelines as 'notepad' icons. Once a user hovers over this icon, a detailed information pops up, showing the notes as well as additional metadata.

2. Allow multimedia and multi-source searches from the single application without the need to switch between screens and databases for each media type or source. For example: recorded audio from both radio and telephony systems, as well as recorded screen video and text-to-911 communications, could be searched from a single query and results presented and synchronized on the single screen.

COMPLY

The NICE Inform Reconstruction module within the NICE Inform application provides the basis of the search and replay activities within the system. It is from here that the user is able to perform extensive searches for the recorded multimedia elements they wish to review, organize, manage or distribute later in the module.

The search function within the NICE Inform Reconstruction module includes several powerful features and enables the user to utilize all search parameters and criteria captured by the NICE Inform application and associated recordingplatform. Users can search by items such as call duration, caller ID, specific recorded resources, annotations/bookmarks, user ID and extension and any other meta-data field captured by the recording layer.

3. Support searching by any data fields associated with the recordings. This search functionality shall include both structured searches as well free expression searches to allow maximum flexibility to the user.

COMPLY

NICE Inform can search by a combination of specific data values (structured metadata) as well as non-structured, such as wildcards or keywords.

4. Allow access to calls to be restricted to those calls made since the user's last login. This setting shall be configurable by the administrator for each individual user.

COMPLY

NICE Inform application within NICE Inform suite supports access to calls that is restricted to those since the last login.

5. Allow saving and editing of searches to be used by either all users (public searches) or by a specific user (private searches).

COMPLY

Saved searches (private and public) – Once a search has been defined this canthen be saved as a search that may be used again at a later date. Searches canbe made available to other NICE Inform users by making them public or specific to the user that created them by assigning them as private.

6. Be capable of displaying multimedia search results graphically arranged by time of recording to allow a full view of the incident picture – simplifying review of how each relevant phone, radio, or text communication and operator screen interaction impacted the incident response.

COMPLY

NICE Inform shows all types of communications participating in an incident on a timeline, as well as in a table format. Icons and resource names clearly distinguish various types of multimedia communications.

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	Conversation (14 messages)	3		PD-5678	09-May-17 2:57:12 PM	00:13:15	CAD System	WINBO
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Exclude radio transmissions	CPD(eb4) &	5			15-May-17 10:03:43 AM	00:00:33	Centre	
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Please provide an actual screenshot of user interface with this functionality.

1. Allow for the user to view the graphical display of search results grouped by any call data field.

COMPLY

NICE Inform can group, order and filter search results by virtually any call data fields. Users can individually select this in their interface.

2. Be capable of displaying multimedia search results in table format. Please provide an actual screenshot of user interface with this functionality.

COMPLY

NICE Inform records and displays multimedia in several views (search results, incident reconstruction, quality assurance, etc.).

The following example shows a combination of voice, text and screen recordings:

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beatingup on me	Resource	· Q. (11	5:00 .1	3: 30/03/2014 13:16:1:
₽ V 123-491-3334	David Smith	8 4	-	-
30/10/2015 09:10:10	David Smith	- Screen 🧾 🍕		-
Your message has been received by 911 and will be	R11308701V	002_L:1 🕲 🐗		
responded to shortly. If this is	TG5 - West			
an emergency and you are able to make a voice call to 911,	TG7 - NEast			
please do so	Brad Smith_F	PmDemo 🔁 🍕	- d - d	
Brad Smith_PmDemo			1	<u> </u>
30/10/2015 09:10:40	Results Table	<u>.</u>		
Hello, what is your location? Are you able to make a voice	V i P	Resource	Start Time	Duration
call to 911?		David Smith	30/03/2014 1	00:01:09
Brad Smith_PmDemo		David Smith	30/03/2014 1	00:01:08
David Smith - Screen 🛛 🛎 👌	< 📷 🕨	R11308701V0	30/03/2014 1	00:00:59
	- 6 -	TG5 - West	30/03/2014 1	00:00:06
		TG7 - NEast	30/03/2014 1	00:00:13
	1 in ~	TG5 - West	30/03/2014 1	00:00:07
	6 ~	TG5 - West	30/03/2014 1	00:00:06
	1 in -	TG7 - NEast	30/03/2014 1	00:00:14
	- F2	Brad Smith_P	30/03/2014 1	00:01:08

Users can enlarge selected parts of search results in 'insight grids' for a closer view of details, such as in this example with a map view and a video, with additional telephony data.

3. Allow for the user to configure the table display to include any of the available fields in the database and to sort the table by any of its columns.

COMPLY

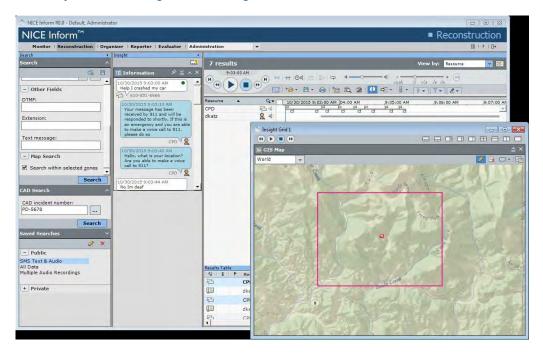
NICE inform automatically shows search results in both the table view and the timeline view (the above screen shots demonstrate this). Users may then choose to reorder and sort columns in the table view and add other columns from the bank of options.

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4. Be capable of searching for geo-located media and meta-data by defining a search zone on a GIS map panel via a simple mouse-click-and-drag method. Subsequent search results shall only include those elements with geo-location tags within the defined search zone.

COMPLY

Users can easily click and drag in a geo map within the NICE Inform interface, to specify the range of locations in which they are searching for recordings.



5. Support displaying time values from the recording systems, with zooms at resolutions down to 100th of a second (10ms).

COMPLY

Reconstruction allows zooming of the timeline down to 1/100th second increments.

SEARCH RESULTS MANAGEMENT

2.5.1.1.81 The 9-1-1 Voice and Radio DLRS solution search and replay application shall:

1. Allow the user to filter the search results based on user-configurable parameters. The filter could be activated to include or exclude recordings that match the filter criteria.

COMPLY

A search may be further refinedby the use of the filter tool which applies additional filter parameters against the search results displayed within the graphical and text results fields.



2. Allow the user to add selected items to a clipboard. This is to allow the user to assemble a group of recordings from one or multiple searches and get a better understanding of the incident. It shall be possible to switch between the clipboard view and the search results view.

COMPLY

NICE Inform's clipboard enables the user to keep a selection of search results on hand, while performing a new search or reviewing additional audio. The clipboard is particularly useful when the user finds that an incident involves a longer time frame or a wider number of channels than expected – all relevant audio from the first search can be placed on the clipboard, a new search performed with the new criteria and the combined results are now available for replay and further analysis. Users may switch between the search results view and clipboard view as needed.

3. Provide the capability to tag text annotations to various time points within selected recordings. The annotation field will be at least 4000 characters in length and allow 10 such entries per call.

COMPLY

During the review of the audio, users can add text and/or speech annotations to store further details or notes on the entire audio segment or on multiple specific points in the recording.

Annotations are marked as flags on the graphical view of recordings, so users can quickly refer to them. Bookmarks (annotations without text or speech) can also be added. Annotations and bookmarks can be added to each recording by multiple users during multiple log-in sessions. All annotations are visible to all other users with privileges to review the annotated recording. Users may also search for recordings by annotations at a later date.

4. Allow the user to search for recordings based on text within the annotation field. The text annotation field shall be stamped with a specific point of time so it can be related to a specific part of the recording. The annotation shall be marked with the date and time it was created and author - the user who created it.

COMPLY

During the review of the recordings, users can add text and/or speech annotations to store further details or notes on the entire audio segment or on specific points in the recording. Annotations are marked as flags on the graphical view of recordings, so users can quickly refer to them. Bookmarks (annotations without text or speech) can also be added. The system tracks the date/time and author of each annotation.

Annotations or bookmarks can be added to each recording by multiple users during multiple log-in sessions. All annotations added via both NICE Inform Reconstruction and NICE Inform Verify modules are visible to all other users with privileges to review the annotated recording. Users may also search for annotations (or for recordings based on keywords/phrases within these annotations) at a later date

5. Provide the capability to add voice annotations to selected recordings.

COMPLY

NICE Inform supports both voice and text annotations.

6. Allow a minimum of 10 voice annotations per recording and be capable of graphically displaying the voice annotations tagged along the timeline of the recording. The voice annotation field shall be stamped with a specific point of time so it can be related to a specific part of the recording and shall be marked with the date and time it was created and the author - user who created it.

COMPLY

NICE Inform Reconstruction supports voice annotations as defined herein. Adding 10 such annotations per recording is not a problem at all. Annotations are graphically tagged as flags. Voice annotations are tagged onto the timeline of each recording in a manner that is visually similar to text annotations, so that users can quickly identify them and replay them.

7. Allow the user to set and graphically display flags (markers) within a recording. The flag shall be stamped with a specific point of time so it can be related to a specific part of the recording. The associated annotation shall be marked with the date and time it was created and the author - user who created it.

COMPLY

Bookmarks (annotations without text or speech) can be added to recordings as flags. The system keeps track of who added which flag and when and it provides this information for review.

8. Be able to save the audio from a search into a single stereo .wav, .wma, .mp4 or .mp3 file.

COMPLY

Whole or partially selected audio recordings can be saved in either PCM .wav file, Windows Media Audio (.wma), MP3 (.mp3) or MP4 (.mp4) audio file formats

9. Be able to save part of the audio from a search into a single stereo .wav,wma, .mp4 or .mp3 file.

COMPLY

Individual recordings may be exported into files in various audio formats, to include .wav, WMA, mp4 and mp3 files. Stereo is supported as well.

10. Be able to select multiple parts of audio recordings which contain sensitive or private information for redaction. When replaying or saving audio recordings to .wav, .wma, .mp4 or .mp3 files, the audio marked in this way will be replaced with either silence or an audible tone, according to user configuration.

COMPLY

Single or multiple redacted audio recordings can then be saved as single .wav, .mp3, mp4 audio or .wma files; redacted audio is replaced within the exported file with either silence or an, as configured by user preference.

- Audible tone with equal duration to the audio redacted.
- Silence with equal duration to the audio redacted.
- One second of audible tone; this usually shortens the length of the saved file.
 - 11. Allow exporting and saving the audio with both spoken date and time, with user configurable balance.

COMPLY

NICE Inform Reconstruction distribution export dialog includes these settings.

12. Allow exporting and saving the audio with IRIG time code enabled, with user configurable balance.

COMPLY

NICE Inform Reconstruction distribution export dialog includes these settings.

13. Allow exporting and saving the audio with Automatic Gain Control (AGC).

COMPLY

Spoken Date and Time announcements and Automatic Gain Control can optionally be applied to saved (and exported) audio files.

14. Be able to save video from a search into a single .avi file. Multiple video selections shall be saved as individual .avi files.

COMPLY

All video recordings selected within the Timeline display and Results table are saved in the chosen location. A separate AVI file is saved for each selected recording.

15. Enable the user to export and save multiple recordings in a chain for playback without silence between them, by utilizing sequential playback.

COMPLY

All selected files can be saved into a single file, either sequentially or summed, as needed.

16. Able to save text conversations into a .pdf file.

COMPLY

Recorded Text-to-911 communications can be exported in a .pdf file as needed.

17. Provide the ability to save all (no limit outside of the workstation capabilities) recordings associated with a particular incident to a single named directory (a "Scenario"), recognizable by the search and replay application as a single entity.

COMPLY

NICE Inform's Multimedia Recorder captures, consolidates and synchronizes analog, digital and VoIP calls, radio traffic, and VoIP calls, operator screens, text-to-911, videos, photos, comprehensive computer-aided dispatch (CAD) data, locations from geographic information systems (GIS) and RapidSOS, ESInet data, and other information. This is important for comprehensive incident reconstruction comprising multiple types of media, data and visualizations.

The entire reconstructed incidents can be saved into a single named directory. This 'incident' is subsequently viewable and searchable by authorized users, and can be managed (for security, retention period, export, etc.) as a single entity.

18. Provide the ability to print the data associated with selected recordings in a table format. The user shall be able to configure which data fields will be included in the printout.

COMPLY

NICE Inform provides the ability to print the data associated with selected recordings in a table format by exporting and printing the Reconstruction Results Table of the recording selected.

2.5.1.1.82 The 9-1-1 Voice and Radio DLRS solution should allow for both manual assembly of recordings into incident folders and automated, rules-based assembly such as "collect all recordings from ABC channels between specified time points and save them under XYZ incident name." This is to aid with assembly of recordings pertaining to extensive or complex incidents that may span hours or days.

COMPLY

- NICE Inform allows users to assemble incident evidence in several ways:
- Manually via one or multiple searches
- Automatically via CAD integration

Automatically via settings that monitor an incident underway and assemble recordings as they occur into a single incident directory.

2.5.1.1.83 The 9-1-1 Voice and Radio DLRS solution must be able to search for and re- display the saved scenario along with associated data and provide the ability for authorized users to continue filtering or replaying recordings within the saved scenario, even without access to a recorder.

COMPLY

NICE Inform keeps all files and data items associated to a specific scenario/incident in a folder. This folder and its contents can be re-displayed as many times as needed, whether within the NICE Inform application suite, or in a stand-alone, exported view. Once exported away from NICE Inform, users may filter within the scope of exported data.

SEARCHES of TEXT-TO-911 MESSAGES

2.5.1.1.84 The 9-1-1 Voice and Radio DLRS solution search and replay application shall support searches for SMS text messages by meta-data and by text content within each message.

COMPLY

users of NICE Inform may search for text-to-911 recordings (SMS text messages) by metadata in the same manner as voice recordings. Additionally, they may use key words or phrases to search by, for NICE Inform to retrieve SMS recordings with text-content matches within each message.

2.5.1.1.85 The 9-1-1 Voice and Radio DLRS solution search and replay application shall support display of SMS Text Messages synchronized alongside other multi- media resources such that the user gains an understanding of the relative times that SMS Text Messages and other multi-media resources were recorded.

COMPLY

SMS text conversations are displayed on the NICE Inform Reconstruction TimelineDisplay alongside other media, synchronized with other types of recorded communications. When a text conversation is selected, the text messages themselves are displayed within a scrollable Insight window.

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responded to shortly. If this is	TG5 -	West			
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Partial screen shot of NICE Inform Reconstruction Module - SMSText conversatio

2.5.1.1.86 The same, unified user interface shall provide both playback of voice conversations and a view of text-based communications – in the same sequence and with any overlaps as they occurred.

COMPLY

The NICE Inform Reconstruction module provides a combination of graphical and list displays of the recordings – giving a visualization of the audio and text based communications recordings and the metadata details associated to each, to allow users to investigate events and incidents more faithfully to reality. All types of recorded communications are automatically synchronized, to provide for review of the entire context of each communication and incident as it occurred (with any applicable sequencing and overlapping as can be seen in the above screen image).

REPLAY (AUDIO)

2.5.1.1.87 The 9-1-1 Voice and Radio DLRS solution search and replay application shall be:

1. Capable of replaying any of the multimedia channels time synchronized, allowing effective scenario and incident reconstruction.

COMPLY

The NICE Inform Reconstruction module is capable of searching, displaying and replaying virtually all forms of media such as screen, Computer Aided Dispatch (CAD), SMS text messages and Geographic Information System (GIS) data, and more, synchronized and replayed on a single consolidated interface.

NICE Inform Reconstruction module provides a time-based graphical view of all multimedia segments. This graphical view provides rapid visual confirmation of a recordings' existence, duration and sequence, all of which is necessary for effective scenario and incident reconstruction.

2. Support block replay. This feature involves the selection of multiple recordings simply by drawing a frame around them.

COMPLY

NICE Inform allows users to draw a frame around the subset of retrieved recordings for playback. The system then plays only those recordings and not all those that were retrieved through a search.

3. Support looping of playback between two times set by markers.

COMPLY

NICE Inform supports loop playback between two graphical time markers that are dragged into the desired position in the user interface.

 Support output of IRIG time code during replay. IRIG time code shall be synchronized to recording time.
 On playback from a standard PC, it shall be possible for the IRIG time code and the audio from the call to be played on separate speakers, e.g. the IRIG is played on the left speaker and the audio on the right speaker.

COMPLY

Playback and export dialogs in NICE Inform allow this capability.

5. Support spoken date and time during replay. Spoken date and time shall be synchronized to recording time.

COMPLY

Playback and export dialogs in NICE Inform allow this capability.

a. On playback from a standard PC, it shall be possible for the spoken date and time and the audio from the call to be played on separate speakers e.g., the spoken time is played on the left speaker and the audio on the right speaker.

COMPLY

The default is for audio and date & time to be plaid balanced with the date & time and volume at 50% of the audio volume setting. The playback preference tab can set audio playback to the left and date & time to the right or any combination you wish by controlling their individual balance and the date & time volume.

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O Local time	
C Coordinated Universal Time (UTC)	
elect the required format for date & time output.	
O IRIG B122	
Spoken date & time	
Announce date and time before playback starts	
Announce date and time after playback ends	
Major interval - date and time: every 60 seconds	

Audio Export features

It is possible to save single or multiple audio recordings to a single file, optionally including automatic gain control and spoken date and time announcements, in multiple formats:

- PCM .wav files
- .wma files
- mp3 / .mp4 audio files with a choice of sample and bit rates

Save As Audio File Dialog

Save As Audio File			
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b. Spoken time/date intervals shall be configurable separately, e.g. spoken time every 30 seconds, and spoken date every 2 minutes.

COMPLY

The application can be configured with two intervals - one for date and the other just for time

Select the required format for date & time output.

- C IRIG B122
- Spoken date & time
 - Announce date and time before playback starts
 - Announce date and time after playback ends
 - Major interval date and time: every 60 seconds
 - Minor interval time only: every 10 seconds

c. Spoken date and time volume shall be controlled separately from the master audio volume control.

COMPLY

NICE Inform provides Playback Volume and Balance Control per Recorded Channel. When replaying multiple audio channels mixed together and synchronized in real- time, users can dynamically control audio settings for each channel independently. Users can therefore quickly gain an understanding of both the incident communication as a whole and each audio recording individually.

6. Support the ability to toggle Automatic Gain Control (AGC) on & off during replay.

COMPLY

Spoken Date and Time announcements and Automatic Gain Control can optionally be applied to saved audio files, and AGC can be toggled on and off during replay, which is an assurance that the original recordings will not be impacted.

7. Be able to replay the silence between recordings to fully recreate the original incident. The application shall allow the user the option to play back the recordings with silence between recordings played (silence reconstruction) or not (skip silence).

COMPLY

NICE Inform can replay incidents with multiple recordings with audio and silence periods played as they evolved during the actual event. They may be also replayed with silence skipped.

8. Support the playback of recordings in mixed mode, where the recordings are replayed as they occurred; or in sequential mode, where each recording is played back sequentially one at a time. This may aid the user in understanding individual recordings where multiple occur on different recorder channels simultaneously, relevant to the same incident

COMPLY

NICE Inform supports both the mixed mode with recordings replayed in a manner that reproduces the actual incident. Alternately, users may playback recordings in a sequential chain which allows for closer attention to each of them individually.

- 9. Support volume and balance control per audio channel.
 - a. It shall be possible to vary the speed of voice playback without pitch distortion, from 0.5x to 8x.

COMPLY

NICE Inform offers Playback Volume and Balance Control per Recorded Channel. When replaying multiple audio channels mixed together and synchronized in real- time, users can dynamically control audio settings for each channel independently. Users can therefore quickly gain an understanding of both the incident communication as a whole and each audio recording individually.

b. It shall be possible to define the skip forward/backward interval between 1 and 60 seconds.

COMPLY

NICE Inform provides for skip settings as required.

– Audio			
Fast forward/rewind interval:	<u> </u>	I	 5 seconds

10. Automatically detect tampering with any of the audio files prior to playback and graphically distinguish the recordings that have been tampered with, both in search results line items and on timeline display of the recordings.

COMPLY

NICE Inform Recorder and NICE Recording archives all audio recordings as wav files, which contain the audio for the call and the call meta-data in the .wav file 'info' section.

Two MD5 checksums are included with the meta-data; a checksum of the audio bytes (referred to as the Finger-Print) and one for the metadata (the Metadata Checksum). Any modification of the archived audio file means the checksums no longer match the .wav files and so any call tampering is identified.

When the audio is passed to NICE Inform for playback, the call data is automatically checked against the checksums and any mismatch is highlighted in the client application interface by cross-hatching in the timeline and a crossed red circle icon in the Results Table. The call can still be replayed, exported as .wav files (.wav files saved from the NICE Inform Client no longer contain the MD5 checksums) or transferred to a NICE Inform Organizer module incident folder. Tampered recordings remain highlighted after transfer to a NICE Inform Organizer incident folder. Recordings transferred to NICE Inform Organizer incident folders from any recording platform can have a new checksum applied.

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Display of Tampered audio within NICE Inform

REPLAY (VIDEO)

2.5.1.1.88 The 9-1-1 Voice and Radio DLRS solution search and replay application shall:

1. Support replay of video at native resolution, as well as scaled.

COMPLY

NICE Inform can play back imported video in a separate panel within the media player. Video may be also moved to its own window and expanded to full screen, which may be larger or smaller than the native resolution of the video.

2. Support replay of video and other multimedia, e.g. audio.

COMPLY

NICE Inform supports playback of all audio and video media, including files imported from other sources.

3. Support zoom capability within the video replay.

COMPLY

A separate video window can be opened to playback video (referred to in the application as the Insight Grid) and this window can be expanded to the full window if required.

REPLAY (GIS)

2.5.1.1.89 The 9-1-1 Voice and Radio DLRS solution search and replay application shall support display of GIS based data on a map.

COMPLY

NICE Inform can provide integration into 3rd party GIS mapping solutions within a Control Center environment. This provides the ability to associate a radio transmission or a telephone call with a geographic location, sometimes multiple geographic locations displayed graphically on a map display. This integration enables synchronization with the other elements of the NICE Inform multimedia capture such as audio, CAD metadata and screen recording.

The following map sources are supported:

- ESRI ArcGIS Map Service (ArcGIS Server or ArcGIS Online)
- ESRI Shape File (.SHP file)
- 2.5.1.1.90 The map shall support standard zoom/pan functionality, as well as display of scale information.

PARTIALLY COMPLY

NICE Inform map display provides standard pan and zoom capability but does not provide scale information.

2.5.1.1.91 The map shall display event location icons for ANI/ALI, RapidSOS, CAD incident events, as well as audio recordings and text messages.

COMPLY

The NICE Inform Reconstruction module uses 'Insight Windows' to display and replay graphical content such as screen recording, text conversations, location information rendered onto a map etc. Insight Windows can also be used to display meta data describing the properties of audio recordings as they are replayed.

Insight Windows can either be displayed 'docked' within the Insight Panel of the NICE Inform Reconstruction module or within a separate application window known as an Insight Grid.

Users can view a combination of geo tags and recordings within map views.

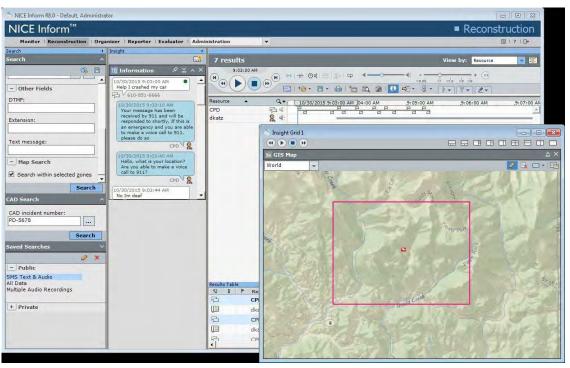
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2.5.1.1.92 The map shall support the drawing of a zone to define a specific area within the map. Once defined events are searchable within the defined zone.

COMPLY

It is possible to search for recordings that have geo-location tags by clicking and dragging on a GIS map panel in order to specify a search area. The location of geo-located tagged data can be displayed on and selected for playback/review from the map panel whether searched for by location or by other criteria. Data and recordings that can have search/displayable geolocation tags include:

- Mobile phone calls with ANI/ALI data including latitude/longitude
- Telephone calls (mobile and land line) with RapidSOS location information.
- SMS text messages
- Radio transmissions that include latitude/longitude meta-data, e.g.transmissions from Motorola ASTRO systems with UNS or Harris10c.



CAD Incidents

2.5.1.1.93 The map shall support multiple layers, taken from the following types:

- 1. Local image (.JPG, .JPG2000, .TIF)
- 2. Local ESRI® file (.SHP)
- 3. ESRI ArcGIS® Server layer
- 4. ESRI ArcIMS® Server layer

PARTIALLY COMPLY

NICE Inform can provide integration into 3rd party GIS mapping solutions as well as offline shape files. NICE Inform can support ESRI ArcGIS Map Service (ArcGIS Server or ArcGIS Online) and local ESRI Shape File (.SHP file). Third party applications from other vendors can be used to convert image files to shape files.

2.5.1.1.94 Time varying GIS data shall be playable, indicated by a moving marker on the map. **COMPLY**

The time varying GIS data can be displayed on a geo map and signified by a moving marker during playback. This is one of the benefits of RapidSOS integration.

2.5.1.1.95 Non time-varying GIS data (e.g., ANI/ALI where available) will be indicated by a static marker on the map.

COMPLY

NICE's replay interface graphically distinguishes static markers (GIS data such as from ANI/ALI sources) from dynamic, time-varying markers (data from RapidSOS integration) in the same interface. This means that users have access to both types of geo-tags in the same map view.

2.5.1.1.96 The features drawn onto the map shall support configurable color schemes.

COMPLY

Color of features drawn on the map are user configurable.

REPLAY (SCREEN)

2.5.1.1.97 The 9-1-1 Voice and Radio DLRS solution search and replay application shall support replay of screen recordings at native resolution, as well as scaled.

COMPLY

Screen recordings may be played back in native resolution, or the playback window may be resized and the video will shrink to fit.

2.5.1.1.98 The 9-1-1 Voice and Radio DLRS solution search and replay application shall support synchronized replay of a minimum of 12 screens in parallel.

COMPLY

NICE Inform media player allows synchronized simultaneous playback of unlimited screen recordings; however, playback computer CPU, RAM, and graphics capabilities may limit performance.

2.5.1.1.99 It shall be possible to vary the speed of the Screen playback, from 0.25x to 8x. COMPLY

Media playback speed may be adjusted from .25X to 8X.

REPLAY (EVENTS)

2.5.1.1.100 The 9-1-1 Voice and Radio DLRS solution search and replay application shall support display of Event information representing point-in-time occurrences, e.g., from a Public Safety Information Management (PSIM) system.

COMPLY

NICE Inform Reconstruction and Media Player display content information in the Information pane, which includes all metadata associated with the content, including date and time, source channel, etc.).

2.5.1.1.101 The 9-1-1 Voice and Radio DLRS solution search and replay application shall support display of any call data and attachments associated with each event.

COMPLY

NICE Inform displays all call data and attachments associated with each event and offers playback of the same on a synchronized timeline.

With CAD integration, the system offers automated assembly of voice/text recordings and data via intelligent data matching based on Incident ID. External content can be imported as well, and if this content is media (e.g. audio or video), you may pin it onto the correct timepoint on a timeline, so that it plays at the right time, synchronized with other recordings, data and events, for truly comprehensive understanding of how the events unfolded.

MONITORING (AUDIO)

2.5.1.1.102

- D2 The 9-1-1 Voice and Radio DLRS solution monitoring application shall:
 - 1. Contain a monitor application to allow live or almost live monitoring of audio conversation as it is being recorded.

COMPLY

NICE Inform Monitor module provides near real time, non-intrusive access to ongoing static-channel recordings and a way to view real time activity on a group of channels. One or more channels can be optionally selected for monitoring.

2. Allow monitoring of channel activity status for all audio channels simultaneously.

COMPLY

The Monitor Tool displays channels status for all channels at once.

3. Allow streaming a minimum of 10 audio channels simultaneously over the LAN in compressed format..

COMPLY

All media is compressed and played back over the LAN simultaneously, in a synchronized manner, whether it is across 10 channels or more.

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Please provide an actual screenshot of user interface with this functionality

4. Be capable of recording on all channels during monitoring. The monitor operation shall not affect the recording performance in any way.

COMPLY

Live monitoring or any other playback operations function independently from recording, so there is no mutual impact.

2.5.1.1.103 The 9-1-1 Voice and Radio DLRS solution table view shall include fields such as channel name, activity status and channel type.

COMPLY

The example fn the following page is a screenshot of NICE's Inform Live Monitoring Interface that provides the user interface to access information including channel name, activity status, and channel type for all of the monitored recordings.

Please provide an actual screenshot of user interface with this functionality.

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2.5.1.1.104 The 9-1-1 Voice and Radio DLRS solution shall provide a volume and balance control for each channel separately when monitoring more than one channel simultaneously.

COMPLY

NICE Inform's live monitoring interface provides controls for adjusting volume and balance for each channel separately. This is indeed important when monitoring multiple channels at the same time, to avoid important parts of conversations becoming 'drowned'

INSTANT REPLAY

2.5.1.1.105 The 9-1-1 Voice and Radio DLRS solution shall contain an instant replay application to:

1. Allow replay of earlier parts of an audio conversation as it is being recorded, as well as replay of most recently recorded conversations.

COMPLY

NICE Inform's Instant Replay application is called NICE Inform Verify. Users can have access to this interface even if they can't access the remainder of NICE Inform features. The Graphical User Interface (GUI) has been developed tobe usable in a touch-screen environment and also resizable to a minimal screenfootprint so that it may fit in and around other applications utilized by call takers.

NICE Inform Verify is an application designed to provide a verification tool for call takers and dispatchers within a Control Center concerning recent and in-progress telephone calls as well as recently completed radio communications.

As you can see in the following screen shot, a group of the most recent conversations is offered for playback, and each has a visual timeline of the conversation presented, so that users may backtrack to the desired earlier part of the conversation (this also applies to conversations that are still in progress of being recorded).

The application enables the user to search up to 50 resources at a time over a configurable time period; by default, the search period is the last 30 minutes, configurable to the last 24 hours via the user account's profile



Please provide an actual screenshot of user interface with this functionality.

2. Provide users the ability to replay an audio call from a remote PC workstation via the network. The Instant Replay application must be software-based, only utilizing the sound card of the PC and shall not require any additional hardware to be installed in the recorder or console of the Control Center. Solutions that require individual hardware-based Instant Replay devices will not be considered.

COMPLY

NICE Inform's Instant Replay application is fully software based. It allows users to replay audio from a remote PC workstation via the network as required.

3. The 9-1-1 Voice and Radio DLRS solution instant replay application shall provide users the ability to replay a call from a remote PC workstation via the network with a single step action in both ways: single mouse-click and hot-key (predefined by the user).

COMPLY

NICE Inform's Instant Replay application allows users to replay audio from a remote PC workstation via the network as required. It supports two types of controls: mouse clicks and touch screen.

4. Shall stream audio over the LAN to the client workstation to allow fast replay.

COMPLY

NICE Inform streams audio over the LAN to overcome needless delays and provide fast access to replay.

5. Have the ability to replay calls that are still in progress as well as calls that have been completed.

COMPLY

NICE Inform Verify is an application designed to provide a verification tool for call takers and dispatchers within a Control Center concerning recent and in-progress telephone calls as well as recently completed radio communications.

6. Be capable of recording on all channels during instant replay. The instant replay operation shall not affect the recording performance in any way.

COMPLY

NICE Inform's instant replay functionality is independent from the recording process, so there is no mutual impact.

7. Provide a replay interface with the following play controls (skip forward, skip backward, pause, stop, play, fast forward etc.).

COMPLY

NICE Inform provides all of the standard replay controls in its interface.

8. Be capable of controlling the speed of replay. It shall be possible to change the rate of replay without pitch distortion to multiple settings between 0.5x and 2.0x to assist in clarification of the call.

COMPLY

NICE Inform provides speed controls from 0.25x to 8x. The rate of replay comes with automated pitch control.

9. Provide a replay interface with a graphical representation of the call and the current play position within the call.

COMPLY

NICE Inform provides graphical representation of the call (along with a cursor signifying the playback position within a call) in all of its playback interfaces, to include instant recall.

10. Be configurable to enable access to a group of channels (consisting of up to 50 channels) for the replay of last message for each operator position.

COMPLY

NICE Inform Verify supports the creation of channel groups of up to 50 resources (aka channels).

11. Allow access to call information up to 24 hours in the past. This time back shall be configurable by the administrator for each individual user.

COMPLY

The application enables the user to search up to 50 resources at a time over a configurable time period; by default, the search period is the last 30 minutes, configurable to the last 24 hours via the user account's profile.

12. Allow access to calls to be restricted to those calls made since the user's last login. This setting shall be configurable by the administrator for each individual user.

COMPLY

NICE Inform Verify supports this capability with the Shift Restriction feature.

13. Display a list of calls (if present) upon start up. This list shall be refreshed continuously to reflect the last messages. It shall be possible to pick any call within the list and start playing that call. In this way it will be possible for the operator to quickly select a call that may be older than the most recent (last) call on the selected channel.

COMPLY

NICE Inform Verify presents a list of recordings on available resources at startup and refreshes the list continuously.

14. Be configurable to display any additional call data information, when available.

COMPLY

NICE Inform Verify allows for viewing of additional call data information as needed.

15. Display ANI/ALI and RapidSOS information, where applicable.

COMPLY

The call information accessed via NICE Inform Verify is updated with ANI/ALI and DTMF information when this is available. Following completion of calls, call recordsare further updated to display additional call information obtained from CTI and RapidSOS location integrations where available.

16. Be a standard part of each DLRS provided by the Supplier. Suppliers that do not provide instant replay software as a standard configuration will not be considered.

COMPLY

NICE Inform Verify is supplied with the proposed solution as our standard.

17. Allow the user to create annotations on calls that becomes a part of the call record, available for access by other users via instant replay or search and playback interface.

COMPLY

NICE Inform Verify provides an option to associate bookmarks or text annotations to certain points within a call; up to 10 annotations or bookmarks can be added per recording, which can then be displayed within other modules of Inform.

INCIDENT INFORMATION MANAGEMENT

- 2.5.1.1.100 The 9-1-1 Voice and Radio DLRS solution shall:
 - 1. Contain an incident information management feature set for operational review, investigation, debriefing and distribution purposes.
 - Please provide an actual screenshot of user interface with this functionality.

COMPLY

NICE Inform Organizer is an advanced incident data management module thatprovides a central location where all incident recordings and related information can be stored and managed. Authorized users can refer to a single location for all incident information rather than to multiple sources, saving time and reducing errors.

This is a valuable tool for creating scenarios or incident reconstructions, whether they are for operational review, investigation, debriefing or distribution.

Incident reconstructions can be built manually via searches, or automatically via CAD integration and intelligent data matching. Automated creation of incident reconstruction is highly recommended for your consideration, as it has been shown to save a tremendous amount of time.

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Following is an example of a reconstructed incident.

 Support upload of incident related information into a named folder that contains all items related to the same incident. The information should include recordings captured by the RS system (audio, video, screen, text communications, GIS and events), CAD meta-data synchronized on the timeline along with recordings, as well as other related files – CCTV camera video, incident reports and other documents, digital photos, mobile phone video clips, etc.

COMPLY

Multimedia incident folder that has been assembled from all types of audio and text recordings, CAD data and events via manual or automated actions is saved under a custom name and can be further edited, such as by adding / importing additional files (such as audio, video, documents, etc.). All natively recorded and imported media can be synchronized on a single timeline, to provide a true understanding how incident events unfolded.

3. Provide the ability to import standard format video and audio files exported from 3rd party recording solutions into incident folders, alongside and synchronized with natively captured communications.

COMPLY

NICE Inform supports importing additional media (audio and video files) into an incident so that they can be displayed on the timeline and replayed synchronously with audio or video from connected systems that are being recorded by NICE Inform.

4. Support the quarantine of incident information. This is to ensure sensitive case information is stored separately from other recordings, for extended amount of time.

COMPLY

NICE Inform Reconstruction allows the transfer of media (recordings, etc.) with metadata to NICE Inform Organizer. Doing so protects the transferred content from the usual auto-delete mechanism.

5. Allow importing audio clips from 3rd party media as part of the collection of items for consolidated, centralized incident investigation.

COMPLY

NICE Inform supports importing additional media (audio and video files) into an incident, so that all available information about an incident can be saved in one convenient place, and managed for retention, access, etc. as a single entity.

6. Allow importing video clips from 3rd party media as part of the collection of items for consolidated, centralized incident investigation.

COMPLY

NICE Inform supports importing additional media (audio and video files) into an incident, so that all available information about an incident can be saved in one convenient place, and managed for retention, access, etc. as a single entity.

7. Allow imported 3rd party media to be positioned at relevant points of the incident timeline, together with other media.

COMPLY

NICE Inform supports importing additional media (audio and video files) into an incident, and it can place these media items onto the relevant point of the incident timeline, so they can be viewed and played in a single session together with other media.

8. Allow imported 3rd party media to be played synchronized with other media, reconstructing events as they occurred.

COMPLY

NICE Inform supports importing additional media (audio and video files) into an incident, pinning them to the appropriate point of a timeline to support reconstruction of incidents as they occurred.

9. Allow 3rd party files to be downloaded and opened for viewing or playback via the application registered for their file type on the client PC.

COMPLY

NICE Inform allows incidents to be exported and downloaded in a secure manner, and this can include the entire collection of media and data, to include 3rd party files. The entire set of evidence can then be securely accessed for playback independently of the NICE Inform interface.

10. The incident information management application shall support an authentication mechanism to ensure the integrity of the quarantined incident information including audio and video recordings as well as imported files such as: documents, photos, video clips, etc.

COMPLY

NICE Inform Organizer supports checksums, audio certification, and authenticity stamp of distributed media content to be able to detect file tampering.

11. Provide retention management mechanism for each incident folder.

COMPLY

NICE Inform Organizer provides for access rights management for each incident folder separately if desired.

12. Allow users to create a custom folder and subfolder structure for intuitive organization of collections of incident information.

COMPLY

NICE Inform Organizer provides an organizational feature to enable users to group different types of recordings into different subfolders within the overall incident folder. For example, some of our users prefer to have recorded radio communications saved in a separate subfolder, but this is completely up to your users.

13. Apply a digital signature to each incident media item and folder and detect tampering with any of the incident items.

COMPLY

NICE Inform Organizer supports checksums, audio certification, and authenticity stamp of distributed media content to be able to detect file tampering.

- 14. The incident management interface shall be:
 - a. Similar to the search and playback interface for representing the various types of incident information graphically and in a table.

COMPLY

NICE Inform Organizer interface is very similar to the main NICE Inform Reconstruction interface to maintain continuity of experience and to keep all interfaces intuitive. All elements of the reconstructed incident are represented in both table and graphical timeline formats.

b. Enable review of uploaded files (documents, photos, video clips, etc.).

COMPLY

NICE Inform Organizer provides easy 'shortcut' access to all imported/uploaded files that have been added to the incident. They can be saved in the 'related material' subfolder.

c. Present the Incident folder storage usage. Also, an alert shall be generated by the DLRS system if the remaining space is smaller than defined (1-100% available space).

COMPLY

NICE Inform Organizer displays the disk space required for distributions being saved to disk as well as the available space before the user completes the distribution creation.

15. The 9-1-1 Voice and Radio DLRS solution incident information management shall enable review of audio, video, screen recordings and SMS Text Messages in one interface, without the need to switch to another application.

COMPLY

NICE Inform Organizer displays and synchronizes all parts of each incident on the same timeline in the same screen view, including audio, video, screen recordings and SMS messages. While other systems simply provide a file with SMS messages, NICE Inform is the only solution on the market that breaks them down into segments as they were exchanged, and shows each on the timeline, because it is important to understand what part of information was conveyed when and what decisions were made in real time.

16. Support the organization of any incident related material according to the incident number and other user preferences and shall include an intuitive way to find information.

COMPLY

NICE Inform automatically organizes all reconstructed incidents by their incident numbers (via the CAD integration) and other metadata, as meaningful in your environment. Users can very easily and quickly search for incidents by this data as criteria.

17. Allow association of different reference numbers with each incident, such as: CAD incident number, etc. to help users quickly locate the entire collection of incident recordings and other items related to the same incident.

COMPLY

NICE Inform can automatically reconstruct all incidents, using CAD incident number via the CAD integration. This reference number remains associated with the entire incident collection, to include all recordings and data captured by NICE Inform, a well as any imported add-on media and associated information. The system treats the entire incident collection as one asset for the purposes of search and retrieval when users search for reconstructed incidents.

 Include incident metadata in exported incident files, to include location data (e.g. ANI/ALI), annotations, call data, radio data, video data, history, and incident properties.

COMPLY

NICE Inform collects all available information via the CAD integration (detailed incident properties), and associates this information to correct reconstructed incidents.

19. Allow for incident search based on user-defined combination of saved metadata, to include wildcard searches when only partial information is known.

COMPLY

NICE Inform allows users to search for incidents by any of the metadata automatically collected via CAD (including notes searchable by keywords) and added by users. Wildcard searches are supported as well.

20. Be able to select multiple parts of audio recordings which contain sensitive or private information for redaction. When replaying or exporting audio recordings to .wav, .wma, .mp4 or .mp3 files, the audio marked in this way will be replaced with either silence or an audible tone, according to user configuration.

COMPLY

Redaction of audio recordings is fully integrated within the NICE Inform. Audio recordings can be selected for redaction and displayed in a wave form within the audio redaction panel, which can be scrolled or resized ('zoomed') in order to display different parts of the recording clearly. Multiple sections of the recording can be selected for redactionwhile playback is in progress, paused or stopped.

Redacted audio is replaced within the exported file with any of the following, configured by user preference:

- Audible tone with equal duration to the audio redacted.
- Silence with equal duration to the audio redacted.
- One second of audible tone; this usually shortens the length of the saved file

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21. Ensure Read-only users will be unable to playback the original audio segments that have been redacted and saved in an incident folder. Users with edit permissions will be able to remove or reposition redactions within the audio recording.

COMPLY

NICE Inform protects recordings from unauthorized access, with also includes original recordings (unredacted versions that are saved in their original state for evidentiary purposes). Only users with edit permissions have access to unredacted originals, as well as to editable redacted versions.

22. Allow copying an incident material from one incident folder to another.

COMPLY

NICE Inform Organizer allows files to be moved between folders within the incident.

23. Support access management to incident information on per user or per group basis and for 'read', 'modify' and 'full' access levels.

COMPLY

NICE Inform provides for a very granular definition of access rights to each reconstructed incident (which protects these collections of recordings, data and imported files from tampering). Access can be restricted to only select number of users, and each user can be assigned a specific level of access – to include 'read', 'modify' and 'full' access options.

24. Allow for setting custom access privileges separately for each incident (e.g. only allow access to supervisors and selected detectives to individual incident folders), or globally for all incidents

COMPLY

NICE Inform allows you to determine the level of access to reconstructed incidents, whether globally across all incidents, or individually at the level of each incident. This indeed determines who can access what and to what extent. Separate roles can be defined for supervisors, detectives, and other personnel as needed.

25. Enable traceability of history of actions taken on any of the incident information items, including any distribution actions – provided in audit report view for each incident folder.

COMPLY

NICE Inform Organizer includes an audit log under the History tab for each folder in the incident.

DISTRIBUTION of INCIDENT INFORMATION

- 2.5.1.1.107 The 9-1-1 Voice and Radio DLRS solution shall:
 - 1. Enable remote access to incident information for authorized users. This could be used by investigators, for example, in order to review evidentiary material in an organized, synchronized manner rather than replay it one recording at a time from a folder or removable media.

COMPLY

NICE Inform enables remote access to incident folders and all contents within, ordered and synchronized as the events originally evolved. If OCFA wishes to grant direct access to investigators to this information, it will eliminate manual steps involved in legacy sharing methods.

2. Support distribution of multimedia recordings as well as other incident files by email.

COMPLY

NICE Inform's Media Player Distribution exports all incident material, including data and multiple files and media formats, that can be reviewed using the self-contained NICE Inform Media Player in a stand-alone incident (outside of the originating NICE Inform application).

3. Provide the option to create a draft distribution folder where content can be added over a period of time whereby it can then be distributed and becomes a sealed distribution.

COMPLY

NICE Inform Organizer allows users to add content to an incident over time and create distributions throughout the incident lifecycle.

The distribution process shall support inclusion certification audio for both authentication and introduction purposes.

COMPLY

The distributed incident collection is encrypted in order to enhance security of the content within the distribution (which in most cases is extremely sensitive). NICE Inform also provides certification of authenticity with the distribution. As yet another layer of protection, recipients must first authenticate with valid credentials (e.g. password) in order to open and view and play the incident.

4. Provide a mechanism to distribute incident information in standards- based formats.

COMPLY

NICE Inform's Web Distribution exports incident material into selected storage location in industry standard formats appropriate to each media type, e.g. .wav, .avi, wma, so that the recordings can be replayed by 3rd party applications, such as Windows Media Player.



 Allow for export of text-based communications (text-to-911) into a document in CSV or PDF format that clearly shows time-stamped statements typed by each party, in sequence as they occurred. Exported text-based communications should be formatted to include all captured metadata, such as mobile carrier, location data (e.g., ANI/ALI), time, duration, Agency ID and alias, call taker ID and more.

COMPLY

Exported text-based communications can be shared in a PDF or CSV format that distinguishes between individual segments of the communication and timestamps each of them.

In both formats, all meta-data relating to the conversation is exported, as well as all text within the messages themselves.

All times are exported in the local time of the client used to save the conversation, with an offset from GMT to indicate the time-zone.

6. The distribution process and created incident folders shall support an authentication mechanism to ensure the integrity of the incident information when to the originals, for audio and video recordings as well as files such as: compared documents, photos, video clips, etc.

COMPLY

NICE Inform Organizer supports checksums, audio certification, and authenticity stamp of distributed media content to be able to either confirm the integrity of the incident files or detect file tampering, as relevant in each case.

- .2.5.1.1.108 The 9-1-1 Voice and Radio DLRS solution incident management application shall: 1. Allow for exporting individual recordings as stand-alone files, or a group of
 - recordings and other items exported as a collection in a single file.

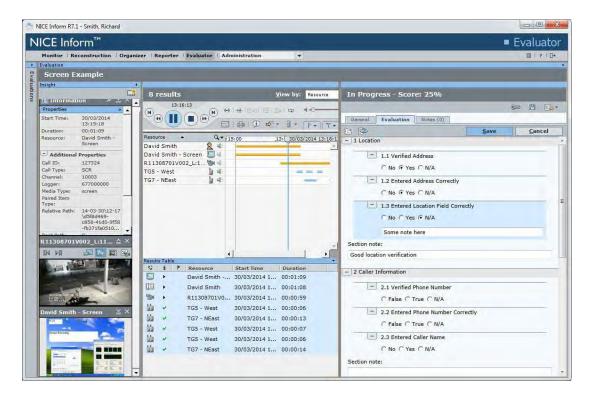
COMPLY

NICE Inform enables multiple audio recordings to be exported as separate files, or mixed into a single file, or saved as a single file per recording channel, etc. including optional audio certification messages recorded by the user.

2. Provide a mechanism to distribute encrypted, password protected sets of incident recordings and data with self-contained media player which will provide a synchronous playback and view of the distributed content.

COMPLY

The NICE Inform Media player is a true standalone application which enables the recipients of a distributed incident from the NICE Inform Organizer module to view and playback the incident transactions in a synchronous format Incidents are distributed with a self-contained media player, which does not impose on any organizational IT security policies. The media player distribution option from the NICE Inform Organizer module also enables the distributing user to secure the distribution file with a password ensuring that it is encrypted when created and made ready to be e-mailed or burned on a dis



QUALITY ASSURANCE EVALUATION

2.5.1.1.109

The 9-1-1 Voice and Radio DLRS solution shall contain an integrated quality management application for the purpose of evaluating call taker and dispatcher communications and their adherence to standards and protocols.

COMPLY

The NICE Inform Evaluator module provides Quality Assurance functionalityfor the Public Safety organizations within the NICE Inform applicationsuite. Single or multiple recordings in multiple media formats can be either selected individually or via an automatic scheduling feature for evaluation of performance of either a single Call Taker or Dispatcher or a whole incident handled by multiple Public Safety Operators.

Please provide an actual screenshot of the user interface that shows this functionality.

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- 2.5.1.1.110 The 9-1-1 Voice and Radio DLRS solution quality management application shall:
 - 1. Provide a way for a user (e.g., supervisor) to score recordings of another user's communications (e.g., dispatcher / call taker) according to a predefined set of questions organized in a form.

COMPLY

NICE Inform Evaluator provides form-based scoring, with multiple customizable questions and form sections. While the system comes with a set of predefined, recommended forms, users with appropriate rights are also able to create new forms from scratch, or they can modify the initial set of forms as needed.

2. Provide a way of creating and editing quality evaluation forms. The forms shall support user definable questions, to be answered with a choice from user definable answers and associated scores per question/answer.

COMPLY

NICE Inform Evaluator provides the 'Template Designer' interface for authorized users to create new QA evaluation forms or modify existing forms. These users may create any number of QA questions and assign specific types of rating type to each of them (e.g. yes/no answer, sliding scales, etc)

3. Contain all QA forms as defined by the atest APCO/NENA ANS standard for QM/QI. These predefined forms shall be adaptable to local requirements. The QA evaluation forms shall allow for entering comments on question level as well as form level.

COMPLY

NICE Inform Evaluator is delivered with a set of forms that are exact replicas of the forms recommended in the APCO/NENA ANS standard for QM/QI. These forms are editable, which allows you to adapt them to your local policies and requirements.

Each QA evaluation form can be designed to allow for comments on a question and a form level.

4. Provide the option to have "Not Applicable" answers, and conditional actions based on individual answers (e.g., skip section, skip form).

COMPLY

NICE Inform Evaluator forms support optional questions as well as multiple choice which include "Not Applicable"

5. Provide a staged approach to assessments that includes arbitration. This means that once a supervisor or trainer finishes the initial evaluation, the dispatcher or call taker reviews & signs off on the evaluation to complete the process, unless a dispute is raised.

COMPLY

NICE Inform Evaluator provides arbitration functionality where the completed evaluation allows for telecommunicator's feedback/comments and acceptance with signoff or a dispute.

6. Allow any authorized user to make comments on the evaluation while it is in progress.

COMPLY

NICE Inform Evaluator restricts access to open evaluations to only those users who have them in progress.

7. Present the status of the Evaluation folder storage usage. Also, an alert shall be generated by the DLRS system if the available space is smaller than defined (1-100% available space).

COMPLY

NICE Inform System administration provides the information on storage usage related to evaluations themselves. This also includes the ability to set the warning thresholds if the available storage space diminishes to a predefined critical value.

8. Have a configurable retention period for completed evaluations, after which time recorded communications associated with any expired evaluations will be deleted.

COMPLY

NICE Inform System administration provides the capability to define evaluation retention period as well as whether or not associated media is deleted at the same time.

9. Allow authorized users to schedule automatic, rules-based selection of recordings for evaluation to assure objectivity and to maximize opportunities for review of coachable calls. The QA application shall support selection of recordings by a combination of call and CAD metadata.

COMPLY

Using the QA scheduler, schedules can be defined which automatically select recordings for QA according to pre-defined rules. Recordings can be automatically selected according to rules defined on call meta-data and assigned for evaluation together with associatedscreen recordings if this is present, while also assigning an evaluation form and a reviewer according to pre-defined rules.

a. It shall be possible to schedule different number of recordings for evaluation of different types of incidents to increase assessment and training focus on specific types such as Priority One incidents.

COMPLY

NICE Inform allows for multiple rules/schedules to be defined and running concurrently, so that different types of incidents may be evaluated in different priorities and quantities, as is also recommended in the APCO/NENA ANSI standard. This will allow NICE's automation to select recordings (and relevant QA forms) to allow you to pay special attention to important incidents (such as Priority One) while also sampling other types of calls and incidents.

b. The automated call selection schedules shall be able to select all Priority One incidents, a specific percentage of other specific incident types, and a random percentage selected from all recorded communications.

COMPLY

NICE Inform allows for multiple rules/schedules to be defined and running concurrently as defined in this requirement, and as recommended in the APCO/NENA ANSI standard.

10. Allow evaluation of audio, video and screen recordings – individually, or in combination to allow for instances where call audio is segmented into multiple recordings and additionally to assess the entire incident from a citizen perspective.

COMPLY

NICE Inform allow for evaluation of individual recordings, as well as multiple recordings in a group to provide greater context. This also allows for the assessment of the entire incident as citizens experienced it from their perspective.

11. Initiate e-mail notifications to QA staff when recordings have been automatically selected for evaluation and to call takers when evaluations of their performance are ready for their review.

COMPLY

NICE Inform Evaluator supports email notification of evaluators when evaluations are ready for their review. The notification workflows can be triggered as follows:

- To Quality Assurance Evaluators evaluations ready to be scored/reconsideration requested.
- To Call Takers/ Dispatchers evaluations ready for review.
- **To Administrators** evaluation schedules not completed due to lack of calls for specified operators or configuration incomplete.
- 2.5.1.1.111 The 9-1-1 Voice and Radio DLRS solution shall have the capability to generate reports on the evaluations to generate status and trend information on individual and team quality ratings.

COMPLY

NICE Inform Evaluator comes with an extensive menu of reports to provide insights into the status and trend information related to QA evaluations and rating results.

In addition to these standard QA reports, NICE Intelligence Center adds the root cause analysis functionality to the graphical reports, so you may easily monitor, diagnose and resolve issues behind any outliers or abnormal patterns.

REPORTING

2.5.1.1.112 The solution shall contain a reporting application for the purposes of providing reports on system recording statistics.

COMPLY

The NICE Inform Reporter module enables users to create and display report charts displaying both call volume and QA evaluation data, based on pre- defined, customizable templates. For example, call volume reports are defined by specifying the template (which determines the chart type) time range and resources to be reported on.

The user can select their most frequently used reports to appear on a Dashboard view within the NICE Inform Reporter module. All reports can also be displayed individually in the module. The reports can also be printed, e-mailed and saved in multiple formats including .csv, enabling the raw data on which they are based to be exported from the system.

2.5.1.1.113 Please provide an actual screenshot of user interface that shows this functionality. **COMPLY**

Following is a screen shot of NICE Inform Reporter's dashboard view which is customizable by each user with reports that are needed for a quick glance at the status in various areas.

This also allows for quick access to the 'favorite' reports shown in this dashboard and underlying data. The system also provides a menu of additional reports for users to access as needed.

This is a baseline reporting functionality that comes with all levels of the solution. In addition, NICE also provides an upgraded reporting functionality with its Intelligence Center, discussed in early sections of this RFP document.



2.5.1.1.114 The 9-1-1 Voice and Radio DLRS solution shall provide a wide variety of templates support fast creation of customized reports directly by authorized users.

COMPLY

NICE Inform Reporter provides many templates for users to choose from, to create reports on call statistics as well as QA evaluation statistics.

Working with these templates is easy, users may select various values and determine desired ranges, in addition to other options.

2.5.1.1.115 The 9-1-1 Voice and Radio DLRS solution reporting application shall:

1. Allow new report templates to be added to the system.

COMPLY

NICE Inform Reporter provides a menu of templates out of the box. Other templates can be added as well.

2. Allow the user to customize reports by selecting and defining ranges of criteria such as time frame and recorded channels.

COMPLY

NICE Inform Reporter allows users to customize ranges of criteria as needed, to include time frames and recorded channels.

3. Allow the reports to be presented in graphical formats (e.g. Bar chart, Pie chart, Line chart) as well as tabular formats.

COMPLY

NICE Inform Reporter provides multiple types of visualizations, to include bar charts, pie charts, line charts, and tabular formats, as meaningful for each templated report.

4. Allow the user to display a custom choice of reports on a dashboard screen for at-glance view, up to 6 at a time.

COMPLY

NICE Inform Reporter allows users to select up to 6 of their most frequently accessed reports to be shown on the dashboard for rapid assessment.

5. Allow reports to be shared between users (public reports) or kept private.

COMPLY

Reports can be private, whereby they are only available to the user that createdthem, or public, whereby they are available to any user with access to the NICE Inform Reporter module. Users reviewing a public report created by another user are able to view the full report, even if they do not have access to the resources or users etc. being reported on.

6. Allow reports to be saved, emailed, or printed.

COMPLY

The reports can also be printed, e-mailed and saved in multiple formats including .csv, enabling the raw data on which they are based to be exported from the system for stand-alone review.

7. Provide the ability to click-through (drill down) from dashboard metrics to specific operator evaluations

COMPLY

NICE intelligence Center provides QA evaluation dashboards which display interactive charts that can be clicked through for views of underlying details, to include rapid access to associated QA evaluations.



AUDIT

2.5.1.1.116

The 9-1-1 Voice and Radio DLRS solution shall:

1. Keep a full audit trail of all application access and security functions with details of who accessed the DLRS and when, with details of what were changed or accessed.

COMPLY

An audit trail of all actions taken on any of the recordings or within the systemitself (modules, log-in, modification or creation of incident folders etc.) is keptwithin a quarantined section within the application. This enables an administrator to follow up and view actions taken by authorized users concerning any particular areas of interest (to include who took which action and when).

Administrators also have the option to undertake searches in order to pinpoint a specific system action. It is also possible to print the audit listing and also save it to a CSV file.

2. Be configurable for triggering alarms in response to specific system conditions or events.

COMPLY

NICE Inform provides SNMP alarms and notifications related to its different system conditions, events or components.

3. Keep a full audit trail of all alarms and faults and provide a method of viewing the alarm history. Access to the 9-1-1 Voice and Radio DLRS solution audit application shall be controlled by user profile that grants specific privileges.

COMPLY

NICE Inform Health Manager (NIHM) monitors SNMP traps as well as data from NICE solution elements (hardware and software) to generate and log alerts whenever anomalies (threshold violations, workflow management issues, etc.) are detected, based, in some cases, on user-defined criteria. Alarm history is recorded and provided for viewing to authorized users, according to specific definitions of their access privileges.

4. The 9-1-1 Voice and Radio DLRS solution audit application shall allow the user to search within the audit history according to time and other criteria.

COMPLY

NICE Inform System Administrators have the option to undertake searches across records in the audit logs (based on date/time and other criteria) in order to pinpoint a specific system or user action.

SECURITY

2.5.1.1.117 The 9-1-1 Voice and Radio DLRS solution shall support a configurable security to include the creation of unique user profiles (security accounts) allowing users to access only specified channels with specified functionality. For example, call takers may be limited to viewing and playing their own calls only, without the ability to export them.

COMPLY

NICE Inform enables administrators to set up system-wide and user-by-user security for access to the system. Each and every user (including administrators and maintenance staff) requires a security account, which is used to control access to all Inform modules, module features and recorded channels and resources in the system.

Users are given permission to use NICE Inform modules by attaching a profile to them. The profile defines the modules and features the user can access.

2.5.1.1.118 The 9-1-1 Voice and Radio DLRS solution shall support a configurable security methodology that prevents unauthorized users from replaying media.

COMPLY

NICE Inform prevents unauthorized users from accessing and replaying media by defined access policy with individualized user credentials. File encryption adds another layer of protection from unauthorized access and tampering.

- 2.5.1.1.119 The 9-1-1 Voice and Radio DLRS solution shall support the following configurable organizational security options for user access:
 - 1. Minimum username length
 - 2. Minimum/Maximum password age
 - 3. New password at login
 - 4. Minimum password length
 - 5. Strict password checking
 - 6. Forbidden password list
 - 7. Deactivate after idle period
 - 8. Deactivate after failed logins
 - 9. Auto-reactivate
 - 10. Last login information
 - 11. Second password
 - 12. Auto logout
 - 13. Login security message
 - 14. Per user workstation restrictions

COMPLY

NICE Inform User Administration supports all of these security functions.

The NICE Inform User Administration function also enables the administratorto import CSV files for defined users in order to shortcut the initial setup of users within the Inform application.

Examples of NICE Inform User Administration views

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2.5.1.1.120 The 9-1-1 Voice and Radio DLRS solution shall:

1. Allow the definition of individual user accounts to override the organizational settings.

COMPLY

NICE Inform User Administration interface allows for the creation of individual user profiles that will bypass group security.

2. Support authenticating users with Active Directory.

COMPLY

Users can log in to NICE Inform using either account details configured within NICE Inform or with their Windows/network log-in credentials, synchronized with NICE Inform via its integration with Windows Active Directory.

3. Support single sign on for Active Directory users.

COMPLY

Active Directory user accounts can optionally be configured to automatically log-in to NICE Inform as the application starts.

4. Allow the system to be shared by multiple organizations while maintaining isolation of recordings and data between the organizations. Users in these different organizations are not to be aware of the existence of other organizations sharing the same system. This is also known as Agency Partitioning or Multiple Tenancy.

COMPLY

NICE Inform supports multi-tenancy as required.

5. Support both standard and secure Lightweight Directory Access Protocol; LDAP and LDAPS

NICE Inform supports LDAP and LDAPs protocols.

6. Support a minimum version 1.2 of Transport Layer Security (TLS).

COMPLY

NICE Inform applications support a minimum version 1.2 of Transport Layer Security (TLS).

ADMINISTRATION

2.5.1.1.121 The 9-1-1 Voice and Radio DLRS solution shall allow the DLRS applications to be administered from a central location.

COMPLY

NICE Inform system administration can be handled over your network, from a central location.

2.5.1.1.122 The 9-1-1 Voice and Radio DLRS solution shall allow the system administrator to:1. Manage the day-to-day operation of the applications from a central point.

COMPLY

NICE Inform system administration can be handled over your network, from a central point. The principal tasks involved with NICE Inform System Administrationinclude:

- The addition, editing and removal of recording systems (or recorders).
- Assigning a user-specified name or label to each channel and pairingprimary and secondary channels.
- Creating groups of channels in order to enable subsequent security rights management of a group of channels as a single entity, for speed, accuracy and consistency.
- Day to day administration of storage status (with either EMC Centera®, NICE Storage Centre or a 3rd party Network Archiving System (NAS) device)and also recording platform configurations.
 - 2. Allow the system administrator to centrally manage the user profiles.

COMPLY

NICE Inform user administration can be handled over your network, from a central point. The principal activities involved with NICE Inform User Administration are:

- Configuration of user and system wide Security Policies (includingpassword rules and logon banner).
- The creation, editing and deletion of users and groups, includingprivilege profiles.
- The assignment of privileges to a profile, which can then be given to auser or user group.
- Attaching profiles and associated privileges to existing network and domain users (Active Directory)
- 2.5.1.1.123 The 9-1-1 Voice and Radio DLRS solution configuration application(s) shall:
 - 1. Allow the system/user administrator to import users from CSV file.

COMPLY

The NICE Inform User Administration function also enables the administratorto import CSV files for defined users in order to shortcut the initial setup of users within the Inform application.

2. Allow the system/user administrator to import users from Active Directory integration.

NICE with work with OCFA to import users from Active Directory if desired.

3. Allow the system administrator to back up the system databases - both by ad-hoc command and by setting up automatic backup schedules.

COMPLY

NICE Inform allows OCFA's system administrator to backup the system database, whether via automatically running backup schedules, or by an ad-hoc command.

CENTRAL REPOSITORY

2.5.1.1.124 The CR must:

1. Accept transaction data in its locally captured format.

COMPLY

NICE Inform specializes in integrating content via multiple integrations. We will collect transaction data from your telephony, radio, CAD, and other systems.

2. Store the transaction data from each capture platform and cannot combine the data from two redundant capture platforms into a single data set.

COMPLY

NICE Inform Central Archiving supports separate repositories for each logger/recorder being archived.

3. Support the ability to confirm transactions have been copied to the CR.

COMPLY

NICE Inform Central Archiving (both client and server) have a robust error detection mechanism and can raise error conditions which are then received, reported, and notified through the NICE Inform Health Manager application.

4. Have a repository that is a generally available product at the time of proposal, in order to minimize implementation risk.

COMPLY

NICE Inform provides a central repository for a wide variety of incident data and media that serves as one-stop location for the collection of incident evidence. This is currently in production, operating at numerous customer sites, and improving the overall efficiency and accuracy of incident reconstruction and evidence production.

5. Have a local Client shall run on the local platform and not requiring a separate server.

COMPLY

NICE Inform Central Archiving client runs locally on an existing logger and does not require its own server.

6. Must be deployed in such a way that it avoids a single point of failure at the local site.

NICE Inform can be deployed in 2N configuration across sites, where all resources involved in recording and user access are at least duplicated, thereby providing a reliable solution that is not threatened by failures at any one site.

7. Support raising errors via SNMP at both the local and central systems.

COMPLY

NICE Inform Health Manager (NIHM) and built-in audit logging of every user interaction with the system provides a robust solution for managing and monitoring solution security and performance. With NIHM, user can define their own alerts based on metrics captured by NIHM as well as certain audit log events and have those alerts sent via email to multiple stakeholders.

NIHM monitors SNMP traps as well as WMI data from NICE solution elements (hardware and software) to generate and log alerts whenever anomalies (threshold violations, workflow management issues, etc.) are detected, based, in some cases, on user-defined criteria.

8. Maintain the chain of custody by verifying the audio has not been altered before being stored in the central archive.

COMPLY

NICE Inform keeps comprehensive audit trail records for chain of custody documentation. It also offers authentication checksum associated with each of the files within the distribution. The NICE Inform Media Player utilizes its ownauthentication function to detect whether files have been tampered with deleted, or modified in any way.

9. Be capable of dealing with significant volume from multiple sources and dealing with data in multiple formats and dynamically changing load from multiple sources.

COMPLY

NICE Inform Central Archiving has no limits on volume or number of clients, though capacity of the server(s) (e.g., CPU, RAM, and HDD) may limit performance in extreme cases.

10. Provide a robust and resilient service with adequate optional back-up to the cloud capabilities.

COMPLY

All NICE loggers running CA clients as well as CA servers offer the option to also backup their data to any Windows-accessible location (local, LAN, WAN, or cloud).

11. Provide a high level of information security given the sensitive and confidential nature of any stored data.

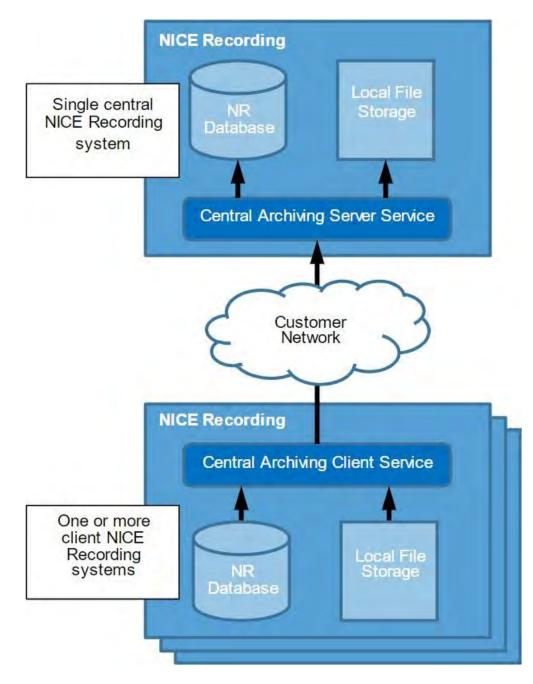
COMPLY

NICE Inform protects all of it's data and recordings, which is evidentiary in nature, from unauthorized users via multiple layers of security. Firstly, privilege-based access via the application interface, upon secure login, is the only means to access any data or recordings. Evidence is encrypted in NICE Inform, which prevents direct access to and use of any of the files.

NICE also automatically verifies the integrity of every recording, detecting whether files have been tampered with, deleted or modified in any way.

Exported recordings can be encrypted, password protected, checked and verified via our built-in mechanism as well.

Additional information on security is available upon request.



12. Briefly describe the CR technology infrastructure including OS, hardware type, DBMS, application/webserver technology.

COMPLY

NICE Recording Central Archiving consists of two Windows services.

- Central Archiving Server
- Central Archiving Client

The Central Archiving Server service runs on a NICE Recording system with no recording channels and no satellite recorders. This service listens for connections from Central Archiving Clients and receives call recordings and call meta-data from connected clients. Received call recordings are stored in the local file storage and call meta-data is inserted into the NICE Recording database.

The Central Archiving Client runs on one or more NICE Recording systems which can be stand-alone or core/satellite systems. This service attempts to transfer all local call recordings to the Central Archiving Server. If transfer of a call recording fails then the transfer is retried periodically for a configured number of days.

The recordings on the both the central and client NICE Recording systems can be accessed by NICE Inform by adding each system as a data source. This allows calls to be replayed from NICE Inform if either central or the client NICE Recording system is unavailable.

13. Describe any technological or architectural considerations in connection with your approach that would prevent these requirements from being met.

COMPLY

NICE Inform Central Archiving fully satisfies all of OCFA's requirements, without conditions nor exceptions.

14. How will this platform be scaled if additional capacity is required?

COMPLY

NICE Inform offers scalable architecture where additional recording interfaces, servers, storage devices, features and integrations can be incrementally added as needed. As for extending storage, OCFA may also utilize standard network-based storage devices (NAS). Recording channel capacity can be incrementally scaled within the provided recording servers via additions of RAM, interfacing as aplicable to the type of channels, and software licensing.

15. Describe how the internal technology architecture is arranged to facilitate functional requirements evolution. What types of changes are anticipated and how has the system been architected to simplify these kinds of changes?

COMPLY

NICE Inform Central Archiving architecture simply inserts a client-server communications mechanism between standard NICE Inform Recorder components to extend the storage of media and metadata to another storage location. This allows the Central Archiving services to continue to evolve independently of the underlying NIR software, and vice versa.

16. The CR system must support a "legacy load" capability for the existing VPI loggers.

COMPLY

Once converted, legacy VPI data may be added to the Central Archive server as one or more additional clients.

SYSTEM STATUS / ALARM REPORTING

2.5.1.1.125 The 9-1-1 Voice and Radio DLRS solution shall:

1. Provide detailed device monitoring to track, visualize and rapidly alert to specific events, based on rules that categorize event types by severity.

The NICE Inform Health Manager has been designed to provide detailed device monitoring to track, visualize and rapidly alert to specific events, based on rules that categorize event types by severity and other criteria, and promptly initiate the appropriate response directed to designated users.

2. Accept SNMP traps from all the solution components, as well as third- party devices such as UPS, NTP clocks and servers.

COMPLY

The server running this service is configured as the SNMP trap destination for all NICE solution components, as well as third party devices such as UPS or NTP clock.

3. Be accessed by users via a web-based application.

COMPLY

With the NICE Inform Health Manager, users access all information and configuration in web based and rich clients.

4. Actively poll all devices based on a user-defined time period and, after a user-defined number of failures, trigger a critical alarm.

COMPLY

The Health Manager uses the SNMP protocol to receive traps from the devices in the monitored system. Authorized users configure data polling frequency in seconds for every device, and the number of poll failures resulting in a critical alarm or a condition that triggers an alarm.

5. Monitor any servers, CPU, Memory, and Storage, in addition to external devices. This information shall be visualized.

COMPLY

The system can monitor CPU, Memory, and Storage, in addition to external devices as required. This information is also visualized in status and trend charts.

6. Have a solution-connected monitoring workstation that shall sound an audible alarm and trigger a desktop pop-up within 2 seconds of the critical alarm being raised.

COMPLY

All Health Manager workstations sound an audible alarm and trigger a desktop pop-up within 2 seconds of the alarm raised by the server, whether triggered by a specific SNMP trap received or upon a device polling that passes a threshold. The alarms are displayed on the Health Manager server screen and connected workstations simultaneously. Email notifications can be configured as well for specific alarm types based on severity and other criteria. Health Manager monitors this activity as well, and raises an alarm if email notifications fail to send to assure that appropriate users are notified about all configured events.

7. Have alarms that must be displayed on the server screen and connected to workstations simultaneously.

COMPLY

NICE Inform Health Manager displays alarms on the server in the active alarms list and on client workstations, as well.

8. Support Email notifications assuring those appropriate users are notified about specific alarm types based on severity and other criteria.

COMPLY

Email notifications can be configured as well for specific alarm types based on severity and other criteria. Health Manager monitors this activity as well, and raises an alarm if email notifications fail to send to assure that appropriate users are notified about all configured events.

9. Support the visualization of the system components in a hierarchal device tree.

COMPLY

Users may easily add their devices for monitoring (NICE Inform Recorder, NICE Inform Server, Workstations, and any other hardware on the network that interacts with NICE systems via a set of protocols), customize their hierarchy in a device tree, and start monitoring them within seconds.

10. Support active alarm being displayed with its date, time, severity (word label and color-coding), source (device), and a description in plain English.

COMPLY

Each active alarm is displayed with its date, time, severity (word label and color-coding), source (device) and a description in plain English.

11. Must display the number of critical, major and minor alarms and status notification events is in the graphical interface for rapid status assessment.

COMPLY

The number of critical, major, and minor alarms is shown in the header counter in the graphical interface, for rapid status assessment. The system also tracks status notification events.

12. Support users selecting one or multiple active alarms in the graphical interface, acknowledge, silence, or clear them, and add a note describing reasons such as specific actions taken.

COMPLY

Users can select one or multiple active alarms in the graphical interface, acknowledge, silence or clear them, and add a note describing reasons such as specific actions taken. Cleared alarms continue to be stored in the system's history for statistical reporting.

13. Support storing all cleared alarms in the system's history for statistical reporting.

COMPLY

With NICE Inform Health Manager, cleared alarms continue to be stored in the system's history for statistical reporting.

14. Support four levels of severity with default labels set as Critical, Major, Minor and Status or Informational Event. These labels and corresponding icons, color-coding, and a sound notification can be customized for each, according to end-user requirements.

COMPLY

Four levels of severity are provided, with default labels set as Critical, Major, Minor and Status or Informational Event. These labels and corresponding icons, color-coding, and a sound notification can be customized for each, according to agency requirements. 15. Allow users to set the period after which an acknowledged but not cleared alarm is raised again, and a period after which a silenced alarm is raised again if the alarm condition persists.

COMPLY

Users may set the period after which an acknowledged but not cleared alarm is raised again, and a period after which a silenced alarm is raised again if the alarm condition persists. Audible alarms are accompanied by a desktop notification in the task bar on the user's screen with information on severity and an alarm description.

16. Have an audit log and automatically collects data on acknowledged and silenced alarms, including date, time, user, action taken, and reason.

COMPLY

NCE audit log automatically collects data on acknowledged and silenced alarms, including date, time, user, action taken, and reason.

17. Allow authorized users to search and filter past events that are retained in the system database, ranging anywhere from past minutes to past months, whether this pertains to Alarm Management Audit related to user actions, or Alarms and Informational Events related to devices, such as SNMP traps or the history of memory or CPU utilization.

COMPLY

Both the Health manager and Audit system supports this search and filter operations.

18. Be able to provide detailed device and user activity monitoring to track, visualize and rapidly alert to specific events, based on predefined rules that categorize event types by severity and other criteria.

COMPLY

The proposal includes NICE Inform Health Manager (NIHM), a robust SNMP-based solution which monitors and reports on events and conditions of the NICE solution. Users configure who, how, and when they want to alerts to be sent when various SNMP messages are received or when specific conditions arise.

The proposed NICE Inform system generates alarms based on specific system conditions via SNMP commands using the SNMP protocol to receive traps from the devices in the monitored system.

Authorized users configure data polling frequency in seconds for every device, and the number of poll failures resulting in a critical alarm or a condition that triggers an alarm. In this manner, the system can monitor CPU, Memory, and Storage, in addition to external devices. This information is also visualized in status and trend charts.

ARCHITECTURE

2.5.1.1.26 The 9-1-1 Voice and Radio DLRS solution client applications shall:

- 1. Support redundancy:
 - a. Such that users can continue to access recordings in the event of a server failure.

COMPLY

The proposal includes NICE Inform 2N redundancy to assure uninterrupted operation in the unlikely event that a server fails.

b. Support database resilience.

COMPLY

NICE Inform Recorder provides database resilience through the deployment of redundant loggers capturing from the same media sources. SQL database replication imposes significant performance impediment for real time mission critical applications such as public safety audio recording.

2. To support geographic separation via suitable WAN connections.

COMPLY

Both NICE Inform Recorder (NIR) and NICE Inform server support redundant deployment across suitable WAN connections.

In the event that the Primary NICE Inform Server is unavailable, users may access an alternative Standby NICE Inform Server. Multiple resilient NICE Inform Servers can be deployed across geographically separate sites, providing a single interface for configuration and access to the system while ensuring access is maintained while any single site is unavailable.

3. Support automatic failover of the client in the event of server failure.

COMPLY

All active NICE Inform clients will automatically fail over to the secondary server in the event that the primary server fails.

4. Support firewalls between the client / server applications, including NAT configurations.

COMPLY

NICE Inform Recorder (NIR) and NICE Inform software are compatible with secure network configurations that include firewalls and/or NAT.

5. Support IPv6 connection to the server.

COMPLY

NICE Inform Recorders and applications are fully compatible with IPv6 network deployments.

2.5.1.1.127 The 9-1-1 Voice and Radio DLRS solution shall be capable of being virtualized as an All-in-one server deployment OR as a Distributed deployment.

COMPLY

All NICE applications may be deployed on virtual machines except:

NICE Inform Recorders (NIR) requiring physical audio interface cards (analog and digital audio) MUST be deployed on physical servers, as the interface card drivers are not designed to work in a virtualized environment.

NICE strongly recommends that all recorders (audio, screen, etc.) be deployed on bare-metal servers since the virtualization layer can often introduce delays into the real time capture of streaming media.

- 2.6.1.1.128 The 9-1-1 Voice and Radio DLRS solution shall:
 - 1. Support Active Directory and single sign-on.

COMPLY

Users can log in to NICE Inform using either account details configured within NICE Inform or with their Windows/network log-in credentials, synchronized with NICE Inform via its integration with Windows Active Directory.

2. Provide redundancy in the data center.

COMPLY

The proposal includes NICE Inform 2N redundancy to assure uninterrupted operation in the unlikely event that a server fails.

3. Be able to show the current state of the data center and remote systems.

COMPLY

The NICE Inform Health Manager has been designed to provide detailed device monitoring to track, visualize and rapidly alert to specific events, based on rules that categorize event types by severity and other criteria, and promptly initiate the appropriate response directed to designated users. Authorized users may monitor the status of all configured hardware and software items using NICE Inform Health Manager.

4. Provide notification of elements that might lead to service degradations or outages.

COMPLY

The NICE Inform Health Manager will help OCFA prevent outages or degradation of service. It uses the SNMP protocol to receive traps from the devices in the monitored system. Authorized users configure data polling frequency in seconds for every device, and the number of poll failures resulting in a critical alarm or a condition that triggers an alarm.

All Health Manager workstations sound an audible alarm and trigger a desktop pop-up within 2 seconds of the alarm raised by the server, whether triggered by a specific SNMP trap received or upon a device polling that passes a threshold. The alarms are displayed on the Health Manager server screen and connected workstations simultaneously. Email notifications can be configured as well for specific alarm types based on severity and other criteria. Health Manager monitors this activity as well, and raises an alarm if email notifications fail to send to assure that appropriate users are notified about all configured events

5. Support storage redundancy for centralized archiving.

COMPLY

The proposed configuration includes One (1) HP DL360 Gen10 logger backup server (LBS) running Windows Server 2016 OS. It is shared between both IP radio NIR servers. Two (2) additional 6TB HDD will be added in a second RAID1 array for highly fault tolerant and expanded archiving and backup storage. This server will be installed on the RNI.

6. Be capable of authenticating any distribution it creates.

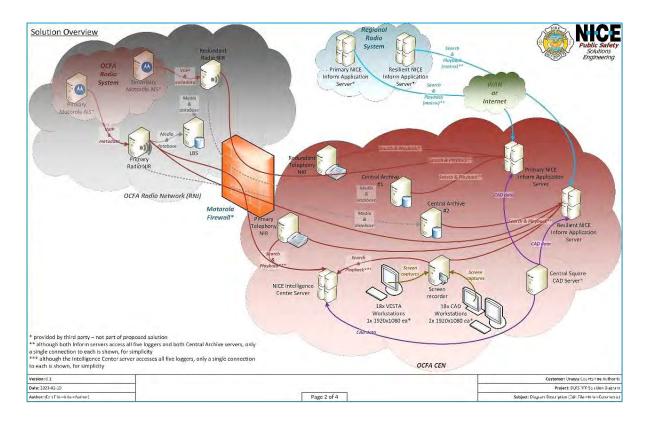
COMPLY

NICE Inform Organizer supports checksums, audio certification, and authenticity stamp of distributed media content, for users to be able to detect file tampering.

- 2.5.1.1.129 To document its solution, the proposer must supply enterprise diagrams in the following 2 formats:
 - I. Visio
 - II. PDF
 - 1. Showing physical components and logical data flow (e.g., replication, connectivity to external interfaces, archive/external storage).

COMPLY

The diagram on the following page presents the required information. The same is also enclosed in a stand-alone file.



2. Showing laboratory solution, to include physical components and logical data flow.

Not applicable, based on OCFA's answers to vendor questions.

3. Showing replay solution/topology, to include planned physical components and logical data flow.

COMPLY

The above diagram presents the required information.

4. Showing external integrations (e.g., CAD system), to include planned physical components and logical data flow.

COMPLY

The above diagram presents the required information.

5. Showing audio archive, to include planned physical components and logical data flow.

COMPLY

The above diagram presents the required information.

6. That show the legacy VPI audio and metadata location, physical components, and logical data flow.

Not applicable to the diagram, based on OCFA's answers to vendor questions. VPI data will be installed on the central arrive server for historical playback

MANAGEMENT and SUPPORT

2.5.1.1.130 The 9-1-1 Voice and Radio DLRS solution shall be capable of being maintained remotely, including diagnostics and issue resolution via secure remote connection.

COMPLY

NICE typically manages all of the deployed NICE Inform solutions via secure remote connection which minimizes time to diagnostics and resolution, and also affords rapid access to the best experts for any reported service condition.

2.5.1.1.131 Access to the 9-1-1 Voice and Radio DLRS solution via the remote control software shall be account name and password protected.

COMPLY

NICE only accesses the NICE Inform solutions within customer environment with each customer's permission, and this access is secured by username and password.

2.5.1.1.132 It shall be possible to monitor the status and alarms of the DLRS from a single PC Workstation.

COMPLY

NICE Inform Health Manager can be configured to send alerts and alarms in response to identified issues of various components of the solution to either one or multiple individuals (this can be different for different types of reported issues).

Any PC workstation on OCFA's network can be appointed for monitoring of the status and alarms.

2.5.1.1.133 The 9-1-1 Voice and Radio DLRS solution shall support sending alarm events as SNMP traps.

COMPLY

The NICE Inform Health Manager solution provides this capability. It monitors SNMP traps as well as WMI data from NICE solution elements (hardware and software) to generate and log alerts whenever anomalies (threshold violations, workflow management issues, etc.) are detected, based, in some cases, on user-defined criteria.

INFORMATION ASSURANCE

2.5.1 ,1,134 The 9-1-1 Voice and Radio DLRS solution supplier has an internally known IA roadmap of continuous improvement based on the current Department of Defense STIG assessments.

COMPLY

As a leading innovator in the Public Safety sector, NICE continuously invests in new and innovative technology to bring unmatched value to our clients through service efficiencies, best practices, and the most innovative technologies for the Public Safety sector which includes a variety of government agencies (e.g. FAA, where NICE solutions record communications with full compliance at 700 locations).

As a result, NICE is continuously building out a roadmap that anticipates our client's needs, addresses industry trends and regulatory issues, and provides compliance or resolution to any new requirements, thresholds, or capabilities that our clients or constituents have communicated as relevant to them.

2.5.1.1.135 The 9-1-1 Voice and Radio DLRS solution shall support a configurable security methodology which prevents unauthorized users from replaying media.

COMPLY

NICE Inform enables administrators to set up system-wide and user-by-user security for access to the system.

Each and every user (including administrators and maintenance staff) requires a security account, which is used to control access to all Inform modules, module features and recorded channels and resources in the system.

Users are given permission to use NICE Inform modules by attaching a profile to them. The profile defines the modules and features the user can access.

2/5/1/1/136 The 9-1-1 Voice and Radio DLRS solution provider shall provide a written operating system hardening policy.

COMPLY

The following documents have been provided as Enclosures in this proposal response document providing a written operating system hardening policy. The following Enclosure documents can be found in the last section of this RFP response:

- NICE Inform Recorder R9.2.1 Hardening Guide.pdf"
- TN812-035-03 NICE Inform OS Hardening Guide for Windows Server 2012 R2, 2016 and 2019.pdf"
- 2.5.1.1.137 The 9-1-1 Voice and Radio DLRS solution and interface boards shall be approved for: CE; EN55022; EN55024; UL IEC60950, FCC part 68 and FCC part 15.

COMPLY

2.5.1.1.138 The 9-1-1 Voice and Radio DLRS solution shall be RoHS and RoHS-2 compliant.

COMPLY

NICE solutions are are complaint and so are the HPE servers

2.5.1.1.139 The 9-1-1 Voice and Radio DLRS solution shall support current published National Emergency Number Association (NENA) standards and be committed to long-term support of said standards.

COMPLY

Maintaining its pace-setting public safety solution innovation, NICE has played an important role in NENA's planning and standards definition for NG9-1-1 and deployment of NENA i3 compliant solutions.

NICE is an active member of NENA's Next Generation Partner Program and i3 Architecture Working Group, extensively involved in defining multimedia recording standards and interfaces and participating in interoperability testing. NICE has successfully participated in all Industry Collaboration Events where transitional elements of the NG9-1-1 network (ESInet), location information, multiphase, interoperability of call, event, and data logging were tested, relevant to call and data logging and recording. NICE is also actively piloting solutions with industry partners and PSAPs as part of the ESWG Canada NG911 initiative.

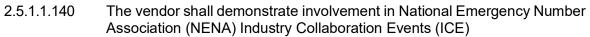
The NICE solution for NG9-1-1 is centered on the NICE Inform Public Safety multimedia application suite. This application suite is well established with thousands of Public Safety customers. It offers the ability to view recorded information from a variety of sources including radio and telephony audio, screen video, and SMS text. Recorded information can be collected into incident folders, stored and distributed.

Multi-media integration is a core architectural feature of NICE Inform - NICE is able to add support for future media types while maintaining the same simple, single application for operators. This architecture allows NICE to incorporate new media types as they become relevant in the future while preserving investment of our customers in previous platforms.

NICE is committed to FULL compliance with all NENA and APCO requirements and standards today, and as they evolve in the future. NICE also regularly engages with our top-tier customers, such as OCFA, to ensure our product direction continues to lead the market and align with the real- world needs of public safety users.

Note also that NICE has been selected among the leading partners of CAL OES initiative for the deployment of NG911 throughout the state of California, through nearly all regions, in partnership with NG911 network providers. For this initiative, NICE has been selected as a recording provider in partnership with ATOS, NGA911, Century Link/Lumens, Motorola and West.





COMPLY

NICE is an active member of NENA's Next Generation Partner Program and i3 Architecture Working Group, extensively involved in defining multimedia recording standards and interfaces and participating in interoperability testing. NICE has successfully participated in all Industry Collaboration Events where transitional elements of the NG9-1-1 network (ESInet), location information, multiphase, interoperability of call, event, and data logging were tested, relevant to call and data logging and recording.

NICE is also actively piloting solutions with industry partners and PSAPs as part of the ESWG Canada NG911 initiative.

Additional information is available on request.

2.5.2. SUPPORT SERVICES

The selected firm will be responsible for providing standard priority support during OCFA RFOTC business hours with a maximum response time of four hours.

Priority	Definition	Response Time After Notification*	Target Resolution Time
Emergency	 DLRS is non-functional and backup is not working Entire organization is affected Security violation 	15 minutes	2 hours
Critical	DLRS has impaired performance and multiple users are directly affected	1 hour	4 hours

* Notification to be by voice, email, and/or text messaging

COMPLY

2.6 DUE DATES/SCHEDULES/TIMELINES

The OCFA anticipates a project implementation time frame of 6 months after contract award for a total project duration of 6 months.

COMPLY

2.7 REPORTS AND MEETINGS

2.7.1 REPORTS

As requested by OCFA, the Supplier will provide reports detailing the order history during the contract term.

COMPLY

2.7.2 ON-SITE MEETINGS

Meetings between the Contractor and OCFA will occur in the best interest of the OCFA as needed. During these meetings, the services provided will be discussed to ensure the services provided meet the agreed upon requirements. Meetings will be coordinated and scheduled by OCFA. COMPLY



Enclosures

- 1. Annual Report US SEC Form 20-F
- 2. Resumes:
 - Ileska Giuffrida
 - Rudy Gallegos
 - William Cannon Roche
- 3. NICE and RapidSOS Solution Overview Brochure
- 4. NICE and RapidSOS eBook
- 5. OCFA RFP Solution Diagram
- 6. NICE Inform Recorder Hardening Guide
- 7. NICE Inform Central Archiving Installation Guide
- 8. EXHIBIT G.2 (Submitted as a separate Excel Spreadsheet)
- 9. Attachment NICE Inform Migrating VPI Loggers to Legacy data sources
- 10. Attachment NICE Inform R10.0 Update Pack 3 Details

UNITED STATES SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D.C. 20549

FORM 20-F

□ REGISTRATION STATEMENT PURSUANT TO SECTION 12(b) OR (g) OF THE SECURITIES EXCHANGE ACT OF 1934

OR

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the fiscal year ended December 31, 2021

OR

□ TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

OR

□ SHELL COMPANY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

Commission file number 0-27466

NICE LTD.

(Exact name of Registrant as specified in its charter)

N/A

(Translation of Registrant's name into English)

Israel

(Jurisdiction of incorporation or organization)

13 Zarchin Street, P.O. Box 690, Ra'anana 4310602, Israel

(Address of principal executive offices)

Tali Mirsky **Corporate VP, General Counsel and Corporate Secretary** Tel: +972-9-7753151 E-mail: tali.mirsky@nice.com 13 Zarchin Street, P.O. Box 690, Ra'anana 4310602, Israel

(Name, Telephone, E-mail and/or Facsimile number and Address of Company Contact Person)

Securities registered or to be registered pursuant to Section 12(b) of the Act:

Name of Each Exchange On Which Registered

Title of Each Class

Trading Symbol NICE

NASDAQ Global Select Market

American Depositary Shares, each representing one Ordinary Share, par value one New Israeli Shekel per share

Securities registered or to be registered pursuant to Section 12(g) of the Act:

None

(Title of Class)

Securities for which there is a reporting obligation pursuant to Section 15(d) of the Act:

None

(Title of Class)

Indicate the number of outstanding shares of each of the issuer's classes of capital or common stock as of the close of the period covered by the annual report: <u>63,476,860 Ordinary Shares, par value NIS 1.00 per share (which excludes 11,296,587 treasury shares)</u>

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act.

🖾 Yes 🛛 No

If this report is an annual or transition report, indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 15 (d) of the Securities Exchange Act of 1934.

 \Box Yes \boxtimes No

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days:

🛛 Yes 🗆 No

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files).

🖾 Yes 🛛 No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or an emerging growth company. See definitions of "large accelerated filer," "accelerated filer," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

 Large Accelerated Filer ⊠
 Accelerated Filer □

 Non-Accelerated Filer □
 Emerging Growth Company □

If an emerging growth company that prepares its financial statements in accordance with U.S. GAAP, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. \Box

The term "new or revised financial accounting standard" refers to any update issued by the Financial Accounting Standards Board to its Accounting Standards Codification after April 5, 2012.

Indicate by check mark whether the registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report. \square

Indicate by check mark which basis of accounting the registrant has used to prepare the financial statements included in this filing:

U.S. GAAP

International Financial Reporting Standards as issued by the International Accounting Standards Board

□ Other

If "Other" has been checked in response to the previous question indicate by check mark which financial statement item the registrant has elected to follow:

 \Box Item 17 \Box Item 18

If this is an annual report, indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act).

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PRELIMINARY NOTE

This annual report contains historical information and forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995 with respect to NICE's business, financial condition and results of operations. The words "anticipate," "believe," "estimate," "expect," "intend," "may," "plan," "project," "should," "strategy," "continue," "goal" and "target" and similar expressions, as they relate to NICE or its management, are intended to identify forward-looking statements. Such statements reflect the current beliefs, expectations and assumptions of NICE with respect to future events and are subject to various risks and uncertainties. The forward-looking statements relate to, among other things: operating results; anticipated cash flows; gross margins; adequacy of our resources to fund operations; our ability to maintain our average selling prices despite the aggressive marketing and pricing strategies of our competitors; our ability to maintain and develop profitable relationships with our key distribution channels; the financial strength of our key distribution channels; and the market's acceptance of our technologies, products and solutions.

In connection with the "safe harbor" provisions of the Private Securities Litigation Reform Act of 1995, we are identifying important factors that, individually or in the aggregate, could cause actual results and outcomes to differ materially from those contained in any forward-looking statements made by us; any such statement is qualified by reference to the following cautionary statements. Many factors could cause the actual results, performance or achievements of NICE to be materially different from any future results, performance or achievements that may be expressed or implied by such forward-looking statements, including, among others, changes in general economic and business conditions, competition with existing or new competitors, the success and growth of our cloud Software-as-a-Service business, successful execution of our growth strategy, difficulties in making additional acquisitions or effectively integrating acquired operations, dependency on third-party cloud computing platform providers, hosting facilities and service partners, rapidly changing technology, cyber security attacks or other security breaches, privacy concerns and legislation, changes in currency exchange rates and interest rates, the effects of additional tax liabilities resulting from our global operations and various other factors, both referenced and not referenced in this annual report. In addition, at this time, the extent and duration of the continued impact of the COVID-19 pandemic is unknown, and therefore we cannot predict how it may affect the Company's future business, results of operations, financial condition and strategic plans. These risks are more fully described under Item 3, "Key Information – Risk Factors" of this annual report. Should one or more of these risks or uncertainties materialize, or should underlying assumptions prove incorrect, our actual results may vary materially from those described herein as anticipated, believed, estimated, expected, intended, planned or projected. All forward-looking statements are made only as of the date hereof. NICE does not intend or assume any obligation to update these forward-looking statements. Investors should bear this in mind as they consider forward-looking statements and whether to invest or remain invested in NICE's securities.

In this annual report, all references to "NICE," "we," "us," "our" or the "Company" are to NICE Ltd., a company organized under the laws of the State of Israel, and its wholly-owned subsidiaries. For a list of our significant subsidiaries, please refer to Item 4.C, "Organizational Structure" of this annual report.

In this annual report, unless otherwise specified or unless the context otherwise requires, all references to "\$" or "dollars" are to U.S. Dollars, all references to "EUR" are to Euros, all references to "GBP" are to British Pounds, all references to "CHF" are to Swiss Francs, all references to "NIS" are to New Israeli Shekels and all references to "INR" are to Indian Rupees. Except as otherwise indicated, the financial statements of and information regarding NICE are presented in U.S. dollars.

PART I

Item 1. Identity of Directors, Senior Management and Advisers.

Not Applicable.

Item 2. Offer Statistics and Expected Timetable.

Not Applicable.

Item 3. Key Information.

A. [Reserved]

B. Capitalization and Indebtedness

Not applicable.

C. Reasons for the Offer and Use of Proceeds

Not applicable.

D. Risk Factors

Our business faces significant risks. You should carefully consider all of the information set forth in this annual report and in our other filings with the Securities and Exchange Commission ("the SEC"), including the following risk factors which we face, and which are faced by our industry. The risks and uncertainties described below are not the only ones facing us. Other events, circumstances or factors that we do not currently anticipate or that we currently do not deem to be material risks may also affect our business, results of operations and financial condition. Our business, financial condition and results of operations could be materially and adversely affected by any of these risks.

Risks Relating to our Business, Competition and Markets

The markets in which we operate are highly competitive and we may be unable to compete successfully.

The markets for our products, solutions and related services (also referred to elsewhere in this document as our "offerings") are, in general, highly competitive. Our competitors include a number of large, established software development vendors. Some of our principal competitors or potential competitors may have advantages over us, including greater resources, a broader portfolio of products, applications and services, greater brand recognition, larger patent and intellectual property portfolios and access to a larger customer base. These potential advantages would enable our competitors to better adapt to new market trends, emerging technologies or customer requirements, or devote more resources to the marketing and sale of their products and services.

Additional competition from new potential entrants to our markets, including new technology vendors competing in specific areas of our business, may lead to the widespread availability and standardization of some of the products and services we provide, which could result in the commoditization of our products and services, reduce the demand for our products and services and drive us to lower our prices.

In recent years, some of our competitors have increased their presence in our markets through internal development, partnerships and acquisitions. Infrastructure and/or enterprise software vendors, such as those from the traditional enterprise business intelligence and business analytics sector, Customer Relationship Management ("CRM") vendors or Platform as a Service ("PaaS") vendors, have entered or may decide in the future to enter our market space and compete with us by offering comprehensive solutions (whether through internal development or through acquisition of any of our competitors). In addition, some Unified Communications as a Service ("UCaaS") and video collaboration providers have acquired or may decide to build or acquire contact center as a Service ("CCaaS") solutions. If we are not able to compete effectively with these market entrants or other competitors, we may lose market share and our business, financial condition or results of operations could be adversely affected.

In light of the intense competition in our markets, successful development, positioning and sales execution of our offerings is a critical factor in our ability to successfully compete and maintain growth. Therefore, we must continue making significant expenditures on research and development and marketing and sales activities to compete effectively. In addition, our software solutions may compete with software developed internally by potential customers, as well as software and other solutions offered by competitors. We cannot ensure that the market awareness or demand for our new products, applications or services will grow as rapidly as we expect, or that the introduction of new products or technological developments or services by others will not adversely impact the demand for our offerings.

Successful marketing of our offerings to our customers and partners will be critical to our ability to maintain growth and to our competitive positioning. We cannot assure that our offerings or existing partnerships will allow us to compete successfully. The market for some of our solutions is highly fragmented and includes a broad range of product offerings, features and capabilities. Consolidation through mergers and acquisitions, or alliances formed, among our competitors in this market, could substantially influence our competitive position.

As we expand into new markets, we are faced with new challenges, including new competition, which may possess specific assets, relationships, know-how, and technologies that enable our competitors to better respond to market trends or customer requirements or devote greater resources to the development, promotion and sale of their products and services.

Additionally, prices of our offerings may decrease throughout the market due to competitive pressures or at times of economic difficulty. In relation to our cloud Software-as-a-Service ("SaaS", also referred to as "cloud") business, we may be affected by the pricing of certain infrastructure services, such as in the area of Platform as a Service and network connectivity, which could in turn affect the rates we offer to our customers. This could have a negative effect on our gross profit and results of operations.

We may not be able to maintain and further expand the success in our cloud business.

Our cloud business, in both our Customer Engagement and Financial Crime and Compliance markets, has grown significantly, and therefore we are more dependent now on the success of this area of our business. If we are not able to compete effectively, generate significant revenues or maintain the profitability of our cloud business or if we do not successfully execute our cloud strategy or anticipate the needs of our customers, including in relation to the pace of adoption of cloud-based solutions by large enterprises, our revenues could decline and our reputation may be adversely affected.

We rely on cloud computing platforms provided by third parties, including PaaS provided by strategic partners such as Amazon, Microsoft, Rackspace, Equinox and Lumen. These cloud computing platforms may not continue to provide competitive features and functionality, or may not be available at reasonable prices or on commercially reasonable terms. In addition, some of our customers may not accept the use of such services or particular platform. The inability to use any of these hardware, software or cloud computing platforms could have a material adverse impact on our business, increase our expenses and otherwise result in delays in providing our services until equivalent technology is either developed by us, or obtained through purchase or license and integrated into our services. In addition, to the extent that we suffer periods of unavailability of our service for reasons related to PaaS providers, we may be contractually obligated to provide our customers with credits for future services, and in some cases refunds, or be liable for penalties. Any such extended service outages could harm our reputation, revenue and operating results.

As we grow our cloud business, we will continue to depend on both existing and new strategic relationships with such vendors. Our inability to establish and foster these relationships could adversely affect the development of our cloud business, as well as our growth, reputation and results of operations.

The increasing prevalence of SaaS delivery models offered by us and our competitors may unfavorably impact pricing in both our on-premises enterprise software business and our cloud business, as well as overall demand for our on-premises software product and service offerings, which could reduce our revenues and profitability. With our move to the cloud, we cannot guarantee that revenues generated from our cloud business will compensate for a loss of business in our on-premises enterprise software business.

Further, cloud computing may make it easier for new competitors to enter our markets due to the lower up-front technology costs and easier implementation and for existing market participants to compete with us on a greater scale. Such increased competition is likely to heighten the pressure on us to decrease our pricing, which could have a negative effect on our revenues, profitability and results of operations.

The business model of our cloud offering differs from the business model for the sale of our other products and services. Our cloud offering is generally purchased by customers on a subscription basis and revenues from these offerings are generally recognized ratably over the term of the subscriptions. Therefore, the continued shift to subscription based sales could result in a delay in revenue recognition and may adversely affect our results of operations and our rate of growth. Moreover, our subscription model also makes it difficult for us to rapidly increase our revenue through additional sales in any period, as revenue from new customers must be recognized over the applicable subscription period.

Our inability to respond to the rapid technological changes and frequent new products and service introductions in the markets in which we operate, may have a material adverse effect on our results from operations and/or competitive position.

We operate in several markets, each characterized by rapidly changing technology, new product introductions and evolving industry standards. The introduction of products and services embodying new technology and the emergence of new industry standards might exert price pressures on our offerings or render them obsolete. Our markets are also characterized by consistent demand for state-of-the-art technology and products. Existing and potential competitors might introduce new and enhanced products and services that could adversely affect the competitive position of our offerings.

We believe that our ability to anticipate changes in technology and industry standards and to successfully develop and introduce new, enhanced and differentiated products and services, on a timely basis, in each of the markets in which we operate, is a critical factor in our ability to grow our business. As a result, we expect to continue to make significant expenditures on research and development, particularly with respect to new software applications, which are continuously required in all our business areas. In the event that we do not anticipate changes in technology or industry practices or fail to timely address market needs or not be able to provide the products and services that are in demand, or should customer adoption of new technologies be slower than we anticipate, we may lose market share and our results of operations may be materially adversely affected.

In addition, some of our offerings must readily integrate with major third-party telephone, security, front-office and back-office systems. Any changes to these third-party systems could require us to redesign our products, and any such redesign might not be possible on a timely basis or achieve market acceptance.

We cannot assure that the market or demand for our offerings will be sustained or grow as rapidly as we expect, that we will successfully develop new products and applications, that such new products and applications will achieve market acceptance, or that the introduction of new products, services or technological developments by others will not render our products obsolete. Our inability to develop products and services that are competitive in technology and price and responsive to customer needs could have a material adverse effect on our business, financial condition and results of operations.

We may not be able to successfully execute our growth strategy.

Our strategy is to continue investing in, enhancing and securing our business and operations and growing our business, both organically and through acquisitions. Investments in, among other things, new markets, products, solutions, and technologies, research and development, infrastructure and systems, geographic expansion, and additional qualified and experienced personnel, are critical to achieving our growth strategy. Growth of our revenue depends on the success of all these factors, including our ability to capture market share, attract new customers, develop our strategic partnerships, introduce our offerings to new global markets, strengthen and improve our offerings through significant investments in research and developments and successfully consummate and integrate acquisitions.

Our success depends on our ability to execute our growth strategy effectively and efficiently, including expanding of our capabilities to provide enhanced and holistic digital customer service in order to meet our customers' and market needs. If we are unable to execute our growth strategy successfully and properly manage our investments and expenditures, our results of operations and stock price may be materially adversely affected.

We cannot guarantee that we will be able to sustain our growth in future years. Our new products and solutions might not achieve general market acceptance, and therefore might fail to support revenue growth. The failure to implement our growth strategy successfully could affect our ability to sustain growth and could materially adversely affect our results of operations.

Our business could be materially adversely affected as a result of the risks associated with acquisitions and investments. In particular, we may not succeed in making additional acquisitions or be effective in integrating such acquisitions.

As part of our growth strategy, we have made a significant number of acquisitions (see Item 5, "Operating and Financial Review and Prospects—Recent Acquisitions" in this annual report for a description of certain recent acquisitions). We expect to continue to complete acquisitions and investments in the future as part of our growth strategy. We frequently evaluate the strategic or tactical opportunities available related to complementary businesses, products or technologies. There can be no assurance that we will be successful in closing additional acquisitions. Even if we are successful in making additional acquisitions, integrating an acquired business into our operations or investing in new technologies may: (1) result in unforeseen operating difficulties and large expenditures; and (2) absorb significant management attention that would otherwise be available for the ongoing development of our business, both of which may result in the loss of key customers or personnel and expose us to unanticipated liabilities.

Other risks commonly encountered with acquisitions include the effect of acquisitions on our financial and strategic position, the inability to integrate successfully or commercialize acquired technologies and achieve expected synergies or economies of scale on a timely basis and the potential impairment of acquired assets. Further, we may not be able to retain the key employees that may be necessary to operate the businesses we acquire and we may not be able to attract, in a timely manner, new skilled employees and management to replace them.

In recent years, several of our competitors have also completed acquisitions of companies in our markets or in complementary markets. As a result, it may be more difficult for us to identify suitable acquisitions or investment targets or to consummate acquisitions or investments once identified on acceptable terms or at all. If we are not able to execute on our acquisition strategy, we may not be able to achieve our growth strategy, may lose market share, or may lose our leadership position in one or more of our markets.

We often compete with others to acquire companies, and such competition may result in decreased availability of, or an increase in price for, suitable acquisition candidates. We also may not be able to consummate acquisitions or investments that we have identified as crucial to the implementation of our strategy for other commercial or economic reasons. Further, we may not be able to obtain the necessary regulatory approvals, including those of competition authorities and foreign investment authorities, in countries where we seek to consummate acquisitions or make investments. For those and other reasons, we may ultimately fail to consummate an acquisition, even if we announce the intended acquisition. Also, even if we do consummate acquisitions, we may do so on less favorable terms and/or may be subject to certain conditions or commitments imposed by such authorities and agencies that may impact post-acquisition integration or have an adverse effect on our business.

We may require significant financing to complete an acquisition or investment, whether through bank loans, raising of debt or otherwise. We cannot assure that such financing options will be available to us on reasonable terms, or at all. If we are not able to obtain the necessary financing, we may not be able to consummate a substantial acquisition or investment and execute our growth strategy. In addition, if we consummate one or more significant acquisitions in which the consideration consists, in whole or in part, of our ordinary shares or American Depositary Shares ("ADSs") representing our ordinary shares, our shareholders may suffer immediate dilution of their interests in us or the value of their interests in us, or may suffer future dilution if we issue exchangeable or convertible debt to finance a significant acquisition.

Future acquisitions or investments may also require us to incur contingent liabilities, amortization expenses related to intangible assets and impairment of goodwill, any of which could have a material adverse effect on our operating results and financial condition. In addition, we may knowingly enter into an acquisition that will have a dilutive impact on our earnings per share.

If we are unable to develop or maintain our relationships with existing and new distributors and strategic partners, our business and financial results could be materially adversely affected.

An important element of our market strategy involves developing our indirect sales, implementation and support channels, which includes our global network of partners, distributors, resellers and other strategic partners. We have agreements in place with many distributors, dealers and resellers to market and sell our offerings across the business lines and geographies in which we operate. Our financial results could be materially adversely affected if our agreements with distribution channel partners or our other strategic partners were terminated, if our relationship with our distribution channel partners or our other strategic partners were to deteriorate, or if the financial condition of such partners were to weaken.

In addition, we depend on our channel partners globally to comply with applicable regulatory requirements. To the extent that they fail to do so, that could have a material adverse effect on our business, operating results, and financial condition.

The execution of our growth strategy also depends on our ability to create new alliances and enter into strategic partnerships with certain market players, including technology providers. Additionally, as our market opportunities change and we grow our business and expand in certain markets and territories, our dependency on particular distribution channels and strategic partners may increase or we may need to create new strategic partnerships and alliances to address changing market needs. We may not be successful in maintaining, creating or expanding these channels and partnerships, which may negatively impact the development of our business, our growth, gross margins and results of operations.

We may also develop dependency on certain strategic partners, and to the extent that we have to find alternatives in the market, our development efforts and business may be negatively impacted. Also, these partnerships and alliances are typically not exclusive and our partners may also offer products and services of our competitors or may compete with us directly. If we are not successful at creating and maintaining strategic partnerships under favorable terms, we may lose sales opportunities, customers and market share, which may have a material adverse effect on our business and results of operations.

Risks Relating to Our Offerings and Operations

Customers' move to communication channels other than voice could materially and adversely affect the success of our voice solutions.

Our voice solutions currently generate, and in recent years have generated, a significant portion of our revenues, and we will continue to rely on the sales of our voice solutions and recurring revenues, such as subscription and maintenance services, in the next several years. The trend of enterprise customers moving from voice to other means of communication with the enterprise (such as self-service, e-mail, messaging applications, social media and chat), may result in a reduction in the demand for our voice platform and applications. Although we have expanded our product portfolio to adjust to such changing demands in alternative communication channels, there can be no assurance that customers will adopt our solution for other communication channels to compensate for such possible decline in voice solutions. Therefore, a significant decline in the voice solutions market may have a material adverse effect on revenues generated from our voice solutions. In addition, changes in regulations could reduce the need for voice recording, which would reduce the demand for our voice recording solutions. Any of the above may have a material adverse effect on our business, financial condition or results of operations.

Some of our enhanced services are dependent on leased network connectivity lines, and a significant disruption or change in these services could adversely affect our business.

A significant portion of our cloud offering is provided to customers through a dedicated network of equipment we own that is connected through leased network connectivity lines based on Internet protocol with capacity dedicated to us. We also move a portion of our voice long distance service over this dedicated network.

We lease network connectivity lines and space at co-location facilities for our equipment from third-party suppliers. These co-location facilities represent the backbone of our dedicated network. If any of these suppliers is unable or unwilling to provide or, if we desire, expand their current levels of service to us, the services we offer to customers may be adversely affected. We may not be able to obtain substitute services from other providers at reasonable or comparable prices or in a timely fashion. Any resulting disruptions in the services we offer that are provided over our dedicated network would likely result in customer dissatisfaction and adversely affect our operations. Furthermore, pricing increases by any of the suppliers we rely on for our dedicated network could adversely affect our results of operations if we are unable to pass-through such pricing increases.

We rely on multiple internet service providers to provide our customers and their clients with connectivity to our cloud contact center software. While we have multiple redundancies and backups, a failure by these service providers to provide reliable services could cause us to lose customers and subject us to claims for credits or damages.

We depend on internet service providers to provide uninterrupted and error-free service through their telecommunications networks. We exercise little control over these third-party providers, which increases our vulnerability to problems with the services they provide, including failures relating to internet accessibility in general. When problems occur, it may be difficult to identify the source of the problem. Service disruption or outages, even if not caused by our products or services, may result in loss of market acceptance of our offerings and any necessary remedial actions may force us to incur significant costs and expenses, such as payments of credits or damages to affected customers.

We rely on third-party network service providers to originate and terminate public switched telephone network calls, and thus significant failures in these networks could harm our operations.

For our business in the unified communications market, we leverage the infrastructure of third-party network service providers to provide telephone numbers, public switched telephone network call termination and origination services, and local number portability for our customers rather than deploying our own network throughout the United States. If any of these network service providers ceases operations or otherwise terminate the services that we depend on, the delay in switching our technology to another network service provider, if available, could have an adverse effect on our business, financial condition or operating results.

Sale of software applications and a multi-product offering may require significant resources and delay our recognition of revenues.

Sale of software applications and a multi-product offering may be complex, and require, among other things, customization and implementation, and be subject to a prolonged sale process. These factors could result in a delay in revenue recognition and adversely affect our results of operations.

A significant portion of our business relies on software applications. We cannot guarantee that our customers' adoption of software applications will meet our expectation and planning. As a result, certain applications may not reach the critical mass in sales and revenues necessary to offset the high cost of developing and maintaining such applications, which could negatively affect our results of operation.

We rely on software from third parties. If we lose the right to use that software, we will have to spend additional capital to redesign our existing software to adhere to new third-party providers or develop new software.

We integrate and utilize various third-party software products as components of our products and solutions to enhance their functionality. Our business could be disrupted if functional versions of these software products were either no longer available to us or no longer made available to us on commercially reasonable terms. Also, in the event that any of these third-party vendors is unable to meet our requirements in a timely manner or that our relationship with any such vendor is terminated, we may experience disruption in our business until an alternative source of supply can be obtained. Any disruption, or any other interruption in a vendor's ability to provide components to us, could result in delays in making product deliveries or inability to deliver, which could have a material adverse effect on our business, financial condition and results of operations.

In addition, some of our third-party vendors use proprietary technology and software code that could require significant redesign of our products in the case of a change in vendor. If we lost the right to use such third-party software, we would be required to spend additional capital to either redesign our software to function with alternate third-party software or develop these components ourselves. As a result, we might be forced to limit the features available in our current or future products and solutions and the commercial release of our products and solutions could be delayed.

Undetected errors or malfunctions in our products or services could impact demand for our products and services, and we could face potential product liability claims directly impairing our financial results.

Despite extensive testing by us and by our customers, our products and services may include errors, defects, failures, bugs or other weaknesses that could result in unanticipated downtime for our customers, product returns, loss of or delay in market acceptance of our products and services, loss of competitive position, or claims by customers or others. In addition, our customers may inadvertently use our services in inadvertent ways that may cause a disruption in services for other customers attempting to use our services. Moreover, our customers could incorrectly implement or inadvertently misuse our products or services, which could result in client dissatisfaction and harm our reputation and brand. Correcting and repairing

such errors, failures or bugs could entail significant costs and could cause interruptions, delays or cessation of our products and services.

As our customers use our offerings for important aspects of their business, any errors, defects, disruptions in service or other performance problems could significantly damage our customers' businesses and ultimately harm our reputation. As a result, customers could elect not to renew our services or delay or withhold payment to us. We could also lose future sales or customers may make warranty or other liability claims against us, which may harm our business and adversely affect our results. In particular, some of our customers, including financial institutions, may suffer significant damages as a result of a failure of our solutions to perform their functions. The occurrence of any of these events could result in our inability to attract or retain customers, and adversely affect our revenues, financial condition and results of operations.

Although we attempt to limit any potential exposure through quality assurance programs, insurance and contractual terms, we cannot assure that we will be able to eliminate or successfully limit our liability for any failure of our solutions. Any product liability insurance we carry may not be sufficient to cover our losses resulting from any such product liability claims. The successful assertion of one or more large product liability claims against us could have a material adverse effect on our results of operations and financial condition.

We provide certain service level commitments to our customers, which could cause us to provide credits for future services if the stated service levels are not met for a given period and could adversely impact our revenue.

Our customer agreements for cloud services provide service level commitments. If we are unable to meet the stated service level commitments or suffer extended periods of unavailability for our service, including for reasons related to PaaS providers or other third parties, we may be contractually obligated to provide these customers with credits for future services, and in some cases refunds, or be liable for penalties. Our revenue could be adversely impacted if we suffer unscheduled downtime that exceeds the allowed downtimes under our agreements with our customers. Any such extended service outages could harm our reputation, revenue and operating results.

Risks Relating to Information and Product Security and Intellectual Property

If our security and cybersecurity measures or those of our third-party hosting facility providers, cloud computing platform providers, or third-party service partners are breached, and unauthorized access is obtained to customers' data, our data or our IT systems, our reputation may be harmed, and we may incur significant legal and financial exposure and liabilities.

Our products and services involve the storage and transmission of customers' and their end users' proprietary and other sensitive information, including financial information and other personally identifiable information. In addition, some of our customers use our products to compile and analyze highly sensitive or confidential information, and we may encounter such information or data when we perform service or maintenance functions for our customers. Security breaches could expose us to a risk of loss or unauthorized use of this information, litigation and possible liability. While we have security measures in place, we may from time to time be subject to security breaches, including as a result of intentional misconduct by computer hackers, employee error, malfeasance or otherwise and result in someone obtaining unauthorized access to our IT systems, our customers' data or our data, including our intellectual property and other confidential business information. In addition, while we have internal policies and procedures in connection with the performance of services involving our customers' confidential information, the perception or fact that any of our employees has improperly handled sensitive information of a customer or a customer's end user could negatively affect our business.

Cyber security attacks are becoming increasingly sophisticated and, in many cases, may not be identified until a security breach occurs. If we fail to recognize and deal with such security attacks and threats and if we fail to update our products and solutions and prevent such threatened attacks in real time to protect our customers' or other parties' sensitive information, whether retained in our systems or by our customers using our products and services, our business and reputation will be harmed. The costs of recognizing and addressing security attacks and threats and updating our products and solutions, may be significant.

Our offerings, including our cloud services, may be vulnerable to cyber-attacks, even if they do not contain defects. If there is a successful cyber-attack on one of our products or services, even absent a defect or error, it may also result in questions regarding the integrity of our offerings generally, which could cause adverse publicity and impair their market acceptance and could have a material adverse effect on our results or financial condition.

Third parties may attempt to breach our security measures or inappropriately take advantage of our solutions, including our cloud services, through computer viruses, electronic break-ins and other disruptions. Additionally, third parties may attempt to fraudulently induce employees or customers into disclosing sensitive information such as usernames, passwords or other information to gain access to our customers' data, our data or our systems. Furthermore, our customers may authorize third-party technology providers to access their customer data, and some of our customers may not have adequate security measures in place to protect their data that is stored on our services. Because we do not control our customers or third-party technology providers, or the processing of such data by third-party technology providers, we cannot ensure the integrity or security of such transmissions or processing. Malicious third parties may also conduct attacks designed to temporarily deny customers access to our services. Any security breach could result in a loss of confidence in the security of our services, damage our reputation, negatively impact our future sales, disrupt our business and lead to legal liability.

While we maintain insurance coverage to protect us against a broad range of risks, including in relation to security breaches and cyber security attacks, we could still be subject to risks of losses that might be beyond the limits, or outside the scope, of coverage of our insurance and that may limit or prevent indemnification under our insurance policies. This potential insufficiency of insurance coverage could result in an adverse effect on our business, financial position, profit, and cash flows.

Interruptions or delays in our services through security breaches, failures, or disruptions could impede on our ability to deliver services, harm our reputation and our relationships with customers and partners, adversely affect our results of operation and subject us to liability.

Any interruptions or delays to our services, whether as a result of error or security breaches, and whether accidental or willful, could harm our reputation and our relationships with customers and partners, subject us to liability, and adversely affect our business and results of operations. In the event of damage or interruption, our insurance policies may not adequately compensate us for any losses that we may incur.

We currently serve our customers using third-party data center hosting facilities and cloud computing platform providers. While we have security measures in place that are aligned with applicable industry standards, they may be breached due to third-party action, including intentional misconduct by computer hackers, employee error, malfeasance or otherwise, and result in someone obtaining unauthorized access to our or our third-party vendors' systems and infrastructure. Moreover, such facilities and platforms may be vulnerable to interruptions resulting from power or network connectivity issues, criminal acts and other misconduct. Occurrence of such damage or interruptions could result in disruptions in our services. Despite precautions such vendors are required to take, the occurrence of such damage or interruption or other unanticipated problems at these facilities, could result in lengthy interruptions in our services, subject us to liability and require the issuance of credits or payment of penalties pursuant to our customer agreements, and/or cause customers to terminate their subscriptions and adversely affect our attrition rates and our ability to attract new customers, all of which would reduce our revenues. Also, we may not be entitled to indemnification or to recoup any such loss or damage from such service providers, which may result in us bearing the burden of any such liability or losses.

In addition, we are also dependent on our computer databases, billing systems and accounting computer programs, network and computer hardware that houses these systems to effectively operate our business and market our services. Our customers may become dissatisfied by any failures of such systems that interrupt our ability to deliver our services. Therefore, significant disruption or failure in the operation of these systems could adversely affect our business and results of operations.

Furthermore, we provide some of our services through computer hardware that we own and that is currently located in third-party web hosting co-location facilities and data centers maintained and operated in various locations globally. Our hosting providers do not guarantee that our customers' access to our solutions will be uninterrupted, error-free or secure. Our operations depend on our providers' ability to protect their and our systems in their facilities against such damage or interruption. Our back-up computer hardware and systems may not have sufficient capacity to recover all data and services in the event of an outage occurring simultaneously at all facilities. In the event that our hosting arrangements are terminated, or there is a lapse of service or accidental or willful damage to such facilities, we could experience lengthy interruptions in our service as well as delays and/or additional expense in arranging new facilities and services. Any or all of these events could cause interruptions in our services.

We may face risks relating to inadequate intellectual property protection and liability resulting from infringement by our products or solutions of third-party proprietary rights.

Our success is dependent, to a significant extent, upon our proprietary technology. We currently hold 414 U.S. patents and 43 patents issued in additional countries covering substantially the same technology as the U.S. patents. We have 163 patent applications pending in the United States and other countries. We rely on a combination of patent, trade secret, copyright and trademark law, together with non-disclosure and non-competition agreements, as well as third-party licenses to establish and protect the technology used in our offerings. However, we cannot assure that such measures will be adequate to protect our proprietary technology, that competitors will not develop products with features based upon, or otherwise similar to our products, that third-party licenses will be available to us or that we will prevail in any proceeding instituted by us in order to enjoin competitors from selling similar products. In most of the areas in which we operate, third parties also have patents which could be found applicable to our technology and products. Such third parties may include competitors, as well as large companies, which heavily invest in their patent portfolios, regardless of their actual field of business. Although we believe that our products and solutions do not infringe upon the proprietary rights of third parties, we cannot assure that one or more third parties will not make a claim or that we will be successful in defending such claim.

We generally distribute our software products under license terms that restrict the use of our products and services by terms and conditions prohibiting unauthorized reproduction or transfer of the software products or proprietary technology or data. However, effective copyrights and other intellectual property rights protection may be inadequate or unavailable to us in every country in which our software products are available, and the laws of some foreign countries may not be as protective of intellectual property rights as those in the United States. Consequently, we may be unable to prevent our proprietary technology from being exploited abroad, which could affect our ability to expand to international markets or require costly efforts to protect our technology. Policing the unauthorized use of our products, trademarks and other proprietary rights is expensive, difficult and, in some cases, impossible. Litigation may be necessary in the future to enforce or defend our intellectual property rights, to protect our trade secrets or to determine the validity and scope of the proprietary rights of others. Such litigation could result in substantial costs and diversion of management resources, either of which could harm our business. Accordingly, despite our efforts, we may not be able to prevent third parties from infringing upon or misappropriating our intellectual property.

From time to time third parties allege or claim patent infringements. In defending ourselves against any such claims or actions we could be subject to substantial costs and diversion of management resources.

In addition, to the extent we are not successful in defending such claims, we may be subject to injunctions with respect to the use or sale of certain of our products or to liabilities for damages and may be required to obtain licenses which may not be available on reasonable terms. Any of these may have a material adverse impact on our business or financial condition.

We face risks relating to our use of certain "open source" software tools.

Certain of our software products contain open source code and we may use more open source code in the future. In addition, certain third-party software that we embed in our products contains open source code. Open source code is code that is covered by a license agreement that permits the user to liberally use, copy, modify and distribute the software without cost, provided that users and modifiers abide by certain licensing requirements. The original developers of the open source code provide no warranties on such code.

As a result of our use of open source software, we could be subject to suits by parties claiming ownership of what we believe to be open source code and we may incur expenses in defending claims that we did not abide by the open source code license. In addition, third-party licensors do not provide intellectual property protection with respect to the open source components of their products, and therefore we may not be indemnified by such third-party licensors in the event that we or our customers are held liable in respect of the open source software contained in such third-party software. If we are not successful in defending against any such claims that may arise, we may be subject to injunctions and/or monetary damages or be required to remove the open source code from our products. Such events could disrupt our operations and the sales of our offerings, which would negatively impact our revenues and cash flow.

Moreover, under certain conditions, the use of open source code to create derivative code may obligate us to make the resulting derivative code available to others at no cost. The circumstances under which our use of open source code would compel us to offer derivative code at no cost are subject to varying interpretations. If we are required to publicly disclose the source code for such derivative products or to license our derivative products that use an open source license, our previously proprietary software products may be available to others without charge. If this happens, our customers and our competitors may have access to our products without cost to them, which could harm our business.

We monitor our use of such open source code to avoid subjecting our products to conditions we do not intend. The use of such open source code, however, may ultimately subject some of our products to unintended conditions so that we are required to take remedial action that may divert resources away from our development efforts.

Risks Relating to Regulatory Environment

Privacy concerns, legislation and other regulations may limit the use and adoption of our offerings, adversely affect our business, increase compliance costs and expose us to increased liability.

Governments and other international organizations in various jurisdictions around the world (such as the legislative and regulatory institutions of the European Union) are adopting new laws, regulations and guidelines addressing data privacy and the processing (collection, storage, use, etc.) of personal information. These laws, regulations and guidelines may be inconsistent across jurisdictions and are subject to evolving and differing (sometimes conflicting) interpretations. In some cases, different sets of data privacy laws and regulations, such as the European Union's General Data Protection Directive ("GDPR"), Israeli Privacy Law and the regulations promulgated thereunder (the "Israeli Privacy Law"), local laws and regulations and certain state laws in the U.S. on privacy, data and related technologies, such as the California Consumer Privacy Act ("CCPA"), also govern the processing of personal information. While we invest in ensuring our compliance with applicable requirements, these and other requirements slow the pace at which we close sales or procurement transactions, restrict our ability to store, transfer and process data or, in some cases, impact our ability to offer some of our solutions and services for use in relation to data subjects that reside in certain locations or our customers' ability to deploy our solutions globally. Compliance with these regulatory requirements may be onerous, time consuming and expensive, especially where these requirements are inconsistent from jurisdiction to jurisdiction or where the jurisdictional reach of certain requirements is not clearly defined or seeks to reach across national borders.

Should we, or any party on our behalf, fail to comply with privacy legislation or procedures or other agreed security measures, we may incur substantive civil liability to government agencies, customers, shareholders and individuals whose privacy may have been compromised. As privacy legislation is increasing globally, and more government agencies are granted with authority to fine organizations for non-compliance with applicable data privacy laws and regulations, and require companies to take certain steps to remediate such non-compliance, we may find ourselves forced to pay damages penalties, fines, remediation costs, reimbursement of customer costs and other significant expenses due to our (or our subcontractors' or vendors') non-compliance with data privacy laws and regulations. Moreover, even the perception that the privacy of personal information that we process or control is not adequately protected or does not meet regulatory requirements could damage our reputation, inhibit sales of our products or services and could limit adoption of our offerings.

In addition to legal and regulatory requirements, we are contractually obligated to certain customers, and may in the future be expected by prospective customers, to meet certain information security certifications or other standards established by third parties, such as the ISO 27001:2013 on information security management certification. If we are unable to obtain or maintain these certifications or meet these standards, it could harm our business and subject us to liability.

Industry-specific regulation and other requirements and standards are evolving and unfavorable industry-specific laws, regulations, interpretive positions or standards could harm our business.

Our customers and potential customers conduct business in a variety of industries, including financial services and telecommunications. Regulators in certain industries have adopted and may in the future adopt regulations or interpretive positions regarding the use of cloud computing and other outsourced services. The costs of compliance with, and other burdens imposed by, industry-specific laws, regulations and interpretive positions may limit our customers' use and adoption of our services and reduce overall demand for our services. Compliance with these regulations may also require us to devote greater resources to support certain customers, which may increase costs and lengthen sales cycles. For example, some financial services regulators have imposed guidelines for use of cloud computing services that mandate specific controls or require financial services enterprises to obtain regulatory approval prior to outsourcing certain functions. If we are unable to comply with these guidelines or controls, or if our customers are unable to obtain regulatory approval to use our services where required, our business may be harmed. If in the future we are unable to achieve or maintain industry specific cour results.

Our revenues would be adversely affected if we fail to adapt our offerings to changes in rules and regulations applicable to the business of certain customers, such as rules and regulations regarding securities trading, broker sales compliance and anti-money laundering, which could have an impact on their need for our products and services.

In certain industries in which we operate, there may be regulations or guidelines for use of SaaS, hosting and cloudbased services that mandate specific controls or require enterprises to obtain certain approvals prior to outsourcing certain functions. In addition, we may be limited in our ability to transfer or outsource business to certain jurisdictions and may be limited in our ability to undertake development activity in certain jurisdictions, which may impede on our efficiency and adversely affect our business results of operations.

Changes in the legal and regulatory environment could materially and adversely affect our business, results of operations and financial condition.

Our business, results of operations and financial condition could be materially and adversely affected if laws, regulations or standards relating to our business and products, us or our employees (including labor laws and regulations) are changed or new ones are implemented. Such implemented laws and regulations include requirements in the United States, Europe, UK and other territories in relation to data privacy and protection, anti-bribery and anti-corruption, foreign investment, import and export, sanctions, labor, tax and environmental and social issues.

While we attempt to prepare in advance for such new or changed requirements and standards, we cannot assure that we will be successful in our efforts, that such changes will not negatively affect the demand for our products and services, or that our competitors will not be more successful or prepared than us.

Alternatively, any substantial changes resulting in a reduction in the implementation or elimination of rules and regulations that apply to a certain sector of our business, such as deregulation in the area of compliance, could result in a decrease in demand by customers, which could materially and adversely affect our business and results of operations.

Risks Relating to Our Financial Condition

Our quarterly results may be volatile at times, which could cause us to miss our forecasts.

We generally provide forecasts as to expected future revenues in the coming fiscal quarters and fiscal year. Our revenue and operating results can vary and have varied in the past, sometimes substantially, from one quarter to another. These forecasts are based on management estimation and expectations, our then-existing backlog and an analysis of assumptions and assessments that may not materialize or end up being inaccurate. We may not meet our expectations or those of industry analysts in a particular future quarter. Our quarterly operating results may be subject to significant fluctuations due to the following factors: the timing and size of customer orders, delays in issuance or shifting of customer orders (as often happens when customers postpone their buying decisions to the end of the budgetary year), variations in distribution channels, mix of products and services, new product introductions, competitive pressures and general economic conditions. It is difficult to predict the exact mix of products and services for any period, as well as within the product category between interaction-related platforms and related applications and transactional related platforms and applications. Changes in the mix of products and services our different business lines may significantly impact our revenues.

In addition, we derive a substantial portion of our sales through indirect channels, making it more difficult for us to predict revenues because we depend partially on estimates of future sales provided by third parties. Changes in our arrangements with our network of channel partners or in the products they offer, such as the introduction of new support programs for our customers, which combines support from our channel partners with back-end support from us, could affect the timing and volume of orders. Furthermore, our expense levels are based, in part, on our expectations as to future revenues. If our revenue levels are below expectations, our operating results are likely to be adversely affected, as most of our expenses are not variable in the short term.

Fluctuations in our results of operations may result from, among other things, our ability to retain and increase sales to existing customers, attract new customers and satisfy our customers' requirements, the timing and success of new product and solution introductions and enhancements or product initiation by our competitors, the purchasing and budgeting cycles of our customers and general economic, industry and market conditions. Additionally, as a high percentage of our expenses, particularly employee compensation and other overhead costs, are relatively fixed, a variation in the level of sales, especially at or near the end of any quarter, may have a material adverse impact on our quarterly operating results.

While seasonality and other factors mentioned above are common in the software and technology industry, this pattern should not be considered a reliable indicator of our future revenue or financial performance. Many other factors, including general economic conditions, may also have an impact on our business and financial results.

We face foreign exchange currency risks.

Exchange rate fluctuations affect our operations. We experience risks from fluctuations in the value of the NIS, EUR, GBP, INR and other currencies compared to the U.S. dollar, the functional currency in our financial statements. A significant portion of the expenses associated with our Israeli and Indian operations, including personnel and facilities related expenses, are incurred in NIS and INR, respectively, whereas most of our business and revenues are generated in dollars, and to a certain extent, in GBP, EUR and other currencies. If the value of the dollar decreases against these foreign currencies, our earnings may be negatively affected. As a result, we may experience an increase in the costs of our operations, as expressed in dollars, which could adversely affect our earnings.

We monitor foreign currency exposure and may use various instruments to preserve the value of sales transactions, expenses and commitments, however this cannot assure our full protection against risks of currency fluctuations that could affect our financial results. As part of our efforts to mitigate these risks, we use foreign currency hedging mechanisms, which may be ineffective in protecting us against adverse currency fluctuations and can also limit opportunities to profit from exchange rate fluctuations that would otherwise be favorable. For information on the market risks relating to foreign exchange, please see Item 11, "Quantitative and Qualitative Disclosures about Market Risk" in this annual report.

We currently benefit from local government programs as well as international programs and local tax benefits that may be discontinued or reduced, or may result in liabilities if underlying conditions are not met.

We derive and expect to continue to derive significant benefits from various programs, including Israeli tax benefits relating to our "Preferred Technology Enterprise" programs, and certain other grants and tax benefits, including grants from the Israel Innovation Authority (formerly known as the Office of the Chief Scientist of the Ministry of Economy) of the State of Israel (the "IIA"), for research and development.

To be eligible for tax benefits as a Preferred Technology Enterprise, we must continue to meet certain conditions. While we believe that we have met and continue to meet the conditions that entitle us to previously obtained Israeli tax benefits, there can be no assurance that we will in the future or that the Israeli Tax Authorities will agree.

To be eligible for IIA-related grants and benefits, we must continue to meet certain conditions, including conducting the research, development, manufacturing of products developed with such IIA grants in Israel, and providing the IIA with an undertaking that the know-how to be funded, and any derivatives thereof, is wholly-owned by us, upon its creation. In addition, we are prohibited from transferring to third parties the know-how developed with these grants without the prior approval of a governmental committee and, possibly, paying a fee. See Item 4, "Information on the Company—Research and Development" in this annual report, for additional information about IIA programs.

If the local and international grants, programs and benefits available to us or the laws, rules and regulations under which they were granted are eliminated or their scope is further reduced, or if we fail to meet the conditions of existing grants, programs or benefits and are required to refund grants or tax benefits already received (together with interest and certain inflation adjustments) or fail to meet the criteria for future Israeli Preferred Technology Enterprises, our business, financial condition and results of operations could be adversely affected.

Additional tax liabilities resulting from our global operations could materially adversely affect our results of operations and financial condition.

As a global corporation, we are subject to income, non-income and transactional tax regimes in Israel, the United States, India and various foreign jurisdictions, which are unsettled and may be subject to significant change. Our effective tax rate could be materially affected by changes in tax rulings, tax laws, regulations, administrative practices, principles, applicability of special tax regimes, or changes in interpretations of existing tax laws, including changes to the global tax framework, in the jurisdictions in which we do business. Such changes could come about as a result of economic, political, and other conditions. Additionally, our effective tax rate could be affected by changes in the mix of earnings in countries with differing statutory tax rates, changes in the valuations of our deferred tax assets and liabilities, tax implications of acquisitions, expansion into new territories, intercompany transactions, changes in foreign currency exchange rates, changes

in our stock price and uncertain tax positions. Although we believe that our provision for income taxes and our tax estimates are reasonable, tax authorities may disagree with certain positions we have taken. From time to time, we are subject to income and other tax audits in various jurisdictions, the timing of which is unpredictable. We regularly assess the likelihood of an adverse outcome resulting from these examinations to determine the adequacy of our tax accruals. While we believe we comply with applicable tax laws and have adequate balance sheet reserves related to tax positions, there can be no assurance that a governing tax authority will not have a different interpretation of the law and assess us with additional taxes. If we are assessed additional taxes, it could have a material adverse effect on our results of operations and financial condition.

In recent years we have seen tax law and regulatory changes in the U.S., EU, UK, India and other jurisdictions, including changes that may be impacted as a result of tax policy recommendations from organizations such as the Organization for Economic Co-operation and Development ("OECD"). Such legislative changes in one or more jurisdictions in which we operate may require us to change the manner in which we operate our business, may have implications on our tax liability and have a material adverse effect on our results of operations and financial condition.

In October 2015, the OECD published its final package of measures for reform of the international tax rules as a product of its Base Erosion and Profit Shifting ("BEPS") initiative, which was endorsed by the G20 finance ministers. Many of the initiatives in the BEPS package required and resulted in specific amendments to the domestic tax legislation of various jurisdictions and to existing tax treaties. We continuously monitor these developments. Although many of the BEPS measures have already been implemented or are currently being implemented globally (including, in certain cases, through adoption of the OECD's 'multilateral convention' to effect changes to tax treaties which entered into force on July 1, 2018 and through the EU's 'Anti-Tax Avoidance' Directives), it is still difficult in some cases to assess to what extent these changes would impact our tax liabilities in the jurisdictions in which we conduct our business or to what extent they may impact the way in which we conduct our business or our effective tax rate due to the unpredictability and interdependency of these potential changes. Further, for the past several years, the OECD has had a specific focus on the taxation implications of e-commerce business, generally referred by the OECD as the "digital economy." In January 2019 the OECD announced further work in continuation of the BEPS project, focusing on two "pillars." On October 8, 2021, 136 countries approved a statement known as the OECD BEPS Inclusive Framework, which builds upon the OECD's continuation of the BEPS project. The first pillar is focused on the allocation of taxing rights between countries for in-scope multinational enterprises, with an annual global turnover exceeding €20 billion and 10 percent profitability, that sell goods and services into countries with little or no local physical presence. The second pillar is focused on developing a global minimum tax rate of at least 15 percent applicable to in-scope multinational enterprises with an annual global turnover exceeding €750 million. Israel is one of the 136 jurisdictions which has agreed in principle to enforce the global minimum tax rate. The OECD will develop model rules for Pillar Two and the agreement calls for countries to bring it into law in 2022 so that it can take effect by 2023. Countries that have in recent years created national digital services taxes, such as India, will have to repeal them.

Adherence with Pillar Two may increase the cost of structuring and compliance as well as the cost of doing business internationally. Any changes to the taxation of our international activities may increase our worldwide effective tax rate and adversely impact our financial position and results of operations. Further, the prospective taxation by multiple jurisdictions of digital and e-commerce businesses could subject us to exposure to withholding, sales, VAT and/or other transaction taxes, in such jurisdictions where we currently or in the future may be required to report taxable transactions. The imposition of new laws requiring the registration for, collection of, and payment of such taxes, could result in substantial tax liabilities, create increased administrative burdens and costs, require us to change the manner in which we operate or otherwise adversely affect our business and results of operations.

The U.S. Tax Cuts and Jobs Act of 2017 (the "U.S. Tax Reform"), significantly changed how corporate business entities are taxed in the U.S. The application of the U.S. Tax Reform is subject to uncertainties. The U.S. Tax Reform includes certain provisions that have applied to us and that may change the valuations of our deferred tax assets and liabilities and may increase our overall tax liabilities. We have implemented certain steps to optimize our global tax structure, but there can be no assurance that our global tax liabilities would not increase as a result of the U.S. Tax Reform. In addition, due to the uncertainty involved in applying certain provisions of the U.S. Tax Reform to our group, we made reasonable estimates for the effects on our financial statements. The U.S. Treasury Department, the Internal Revenue Service and other standards-setting bodies may issue guidance on how the provisions of the U.S. Tax Reform will be applied that is different from our interpretation. The U.S. Tax Reform requires complex computations not previously required or produced, and significant judgments and assumptions in the interpretation of the law were made in producing our provisional estimates. As we continue our analyses, and interpret any additional guidance, it is possible that the final impact may differ from our current assessment of our business and effective income tax rate, and our profitability may be adversely affected.

Further, there are proposals to introduce further amendments to the U.S. federal tax regime, applicable to corporations. As of the date of filing, it remains unclear what legislation, if any, would be enacted. If the draft legislation

currently being discussed is enacted, it could create the potential for added volatility in our provision for income taxes and might have an adverse impact on our future income tax provision and tax rate.

We might recognize a loss with respect to our financial investments.

We invest most of our cash through a variety of financial investments. If the obligor of any of our financial investments defaults or undergoes reorganization in bankruptcy, we may lose a portion of such investment and our assets and income may decrease. In addition, a downturn in the credit markets or the downgrading of the credit rating of our investments could result in a reduction in the market value of our holdings and reduce the liquidity of our investments, which could require us to recognize a loss at the time of liquidation and would adversely affect our assets and income.

Our debt could adversely affect our financial condition and impact our business needs and plans.

We incurred indebtedness pursuant to the issuance of the Notes (as defined in Item 10, "Additional Information - Material Contracts - Notes and Indenture"). The debt incurred could have adverse consequences to our financial condition and business. For example, it could:

- increase our vulnerability to general adverse economic and industry conditions;
- make it more difficult for us to make strategic acquisitions;
- require us to dedicate a substantial portion of our cash flow from operations to payments on our debt, thereby limiting the availability of our cash flow to fund working capital, capital expenditures and other general corporate purposes;
- limit to some extent our flexibility in planning for, or reacting to, changes in our business and the industry in which we operate;
- limit to some extent our ability to borrow additional funds as needed; and
- restrict our ability to prepay the Notes or to pay cash upon exchanges of the Notes.

Our ability to fund planned capital expenditures and to maintain sufficient working capital will depend on our ability to continue to generate cash in the future. This is subject to general economic, financial, competitive, business, regulatory and other factors that may be beyond our control. We cannot assure that our business will continue to generate sufficient cash flow from operations or that future financing will be available to us in an amount sufficient to enable us to service our debt, or to fund our other liquidity needs or execute on our strategic plans.

If our cash flow and capital resources are insufficient to allow us to make scheduled payments on our debt, we may need to reduce or delay capital expenditures, sell assets, seek additional capital or restructure or refinance all or a portion of our debt on or before the maturity thereof, any of which could have a material adverse effect on our business, financial condition or results of operations. If we are unable to generate sufficient cash flow to repay our debt on favorable terms, it could significantly adversely affect our financial condition and the value of our outstanding debt. Our ability to restructure or refinance our debt will depend on the condition of the capital markets and our financial condition. A failure to comply with the provisions of our outstanding debt could result in events of default under such instruments, which could permit acceleration of our Notes.

Any required prepayment or exchange of our Notes, including as a result of an optional redemption, event of default or fundamental change triggering such right, would lower our current cash on hand such that we would not have those funds available for use in our business, which could adversely affect our operating results.

The accounting method for convertible debt securities that may be settled in cash, such as the Notes, may have a material effect on our reported financial results.

For our 2020 Notes (as defined in Item 10, "Additional Information - Material Contracts - Notes and Indenture"), on December 31, 2021, we irrevocably elected that all conversions occurring on or after December 31, 2021 will be settled pursuant to Combination Settlement (as defined in the 2020 Indenture) with a Specified Dollar Amount (as defined in the 2020 Indenture) no less than \$1,000 per \$1,000 principal amount of 2020 Notes. Generally, under this settlement method, the

conversion value corresponding to the principal amount will be converted in cash, and the conversion value over the principal amount will be settled, at the Company's election, in cash or shares or a combination thereof. Upon adoption of ASU No. 2020-06 on January 1, 2022, there will be an impact to earnings per share as a result of the adoption based on the if-converted method if the Company's share price will exceed the conversion price of the 2020 Notes. In addition, if such cash is not available, we may be required to sell other assets or enter into alternate financing arrangements at terms that may or may not be desirable.

If we fail to maintain effective internal controls over financial reporting and operations, it could have a material adverse effect on our business, operating results, and the price of our ordinary shares and ADSs.

Effective internal controls are necessary for us to provide reliable financial reports and prepare consolidated financial statements for external reporting purposes in accordance with U.S. GAAP and U.S. securities laws, as well as to effectively prevent material fraud. Because of inherent limitations, even effective internal control over financial reporting may not prevent or detect every misstatement. In addition, if we fail to maintain the adequacy of our internal controls, we may not be able to ensure that we can conclude on an ongoing basis that we have effective internal control over financial reporting more complex and we may require significantly more resources to ensure they remain effective. In addition, we may identify material weaknesses or significant deficiencies in our internal control over financial reporting. Failure to maintain effective internal control over financial entrol over financial reporting and operations could result in investigation or sanctions by regulatory authorities and could have a material adverse effect on our business and operating results, investor confidence in our reported financial information, and the market price of our ordinary shares and ADSs.

Current and future accounting pronouncements and other financial reporting standards and principles might have a significant impact on our financial position and negatively impact our financial results.

We prepare our consolidated financial statements in accordance with U.S. GAAP. These principles are subject to interpretation by the SEC and various bodies formed to interpret and create appropriate accounting principles. A change in these principles can have a significant effect on our reported results and may even retroactively affect previously reported transactions. Additionally, the adoption of new or revised accounting principles may require that we make significant changes to our systems, processes and controls. Changes resulting from these new standards may result in materially different financial results and may require that we change how we process, analyze and report financial information and that we change financial reporting controls.

We regularly monitor our compliance with applicable financial reporting standards and review new pronouncements and drafts thereof that are relevant to us. As a result of new standards, changes to existing standards and changes in their interpretation, we might be required to change our accounting policies.

This could lead to risks associated with our ability to react in a timely manner to new accounting pronouncements and financial reporting standards and unpredictable changes in interpretation of standards. Any one or more of these events could have an adverse effect on our business, financial position, and profit.

Risks Relating to our Securities

The market price of each of our ADSs, ordinary shares and the Notes is volatile and may decline.

Numerous factors, some of which are beyond our control, may cause the market price of our ADSs, ordinary shares and the Notes to fluctuate significantly. These factors include, among other things:

- Quarterly variations in our operating results;
- Changes in expectations as to our future financial performance, including financial estimates by securities;
- Perceptions of our company held by analysts and investors;
- Additions or departures of key personnel;
- Announcements related to dividends and share repurchase plans;

- Development of or disputes concerning our intellectual property rights;
- Announcements of technological innovations;
- Customer orders or new products and services by us or our competitors;
- Acquisitions or investments by us or by our competitors and partners;
- The exchangeability of the Notes for ADSs;
- Hedging or arbitrage trading activity involving ADSs by holders of the Notes;
- Modification of hedge positions by counterparties to the hedge transactions we entered into simultaneously with the issuance of the Notes, including the possible entry into or unwinding of derivative transactions with respect to the ADSs or the purchase or sale of the ADSs or other NICE securities in secondary market transactions;
- Currency exchange rate fluctuations;
- Earnings releases by us, our partners or our competitors;
- General financial, economic and market conditions;
- Political changes and unrest in regions, natural catastrophes;
- Market conditions in the industry and the general state of the securities markets, with particular emphasis on the technology and Israeli sectors of the securities markets; and
- General stock market volatility.

Our ADSs and ordinary shares are traded on different markets and this may result in price variations.

Our ADSs have been listed on The NASDAQ Stock Market since 1996 and our ordinary shares have been traded on the Tel Aviv Stock Exchange, or the "TASE," since 1991. Trading in our securities on these markets takes place in different currencies (our ADSs are traded in U.S. dollars and our ordinary shares are traded in New Israeli Shekels), and at different times (resulting from different time zones, different trading days and different public holidays in the United States and Israel). As a result, the trading prices of our securities on these markets could cause a decrease in the trading price of our securities on the other market.

Substantial future sales or the perception of sales of our ADSs or ordinary shares, or the exchange, or conversion of a substantial amount of Notes, or perception thereof, could cause the price of our ADSs or ordinary shares to decline.

Sales of substantial amounts of our ADSs or ordinary shares in the public market, or the perception that these sales could occur, could adversely affect the price of our ADSs and ordinary shares and could impair our ability to raise capital through the sale of additional shares. Such sales may also make it more difficult for us to sell equity or equity-related securities in the future at a time and at a desirable price.

Additionally, the issuance of ADSs upon future exchanges or conversions of the Notes for ADSs, or the perception that these exchanges or conversions may occur, could dilute shareholders and reduce the market price of the ordinary shares or ADSs. This could also impair NICE's abilities to raise additional capital through the sale of its securities.

The market prices of the ordinary shares and the ADSs, which may fluctuate significantly, will directly affect the market price for the Notes.

We expect that the market price of the ordinary shares and the ADSs will affect the market price of the Notes. This may result in greater volatility in the market price of the Notes than would be expected for non-exchangeable notes. The

market price of the ordinary shares and the ADSs will likely fluctuate in response to a number of factors, many of which are beyond our control. Holders who receive ADSs upon exchange of the Notes will therefore be subject to the risk of volatility and depressed prices of ADSs. In addition, we expect that the market price of the Notes will be influenced by yield and interest rates in the capital markets, our creditworthiness and the occurrence of certain events affecting us that do not require an adjustment to the exchange rate. Fluctuations in yield rates in particular may give rise to arbitrage opportunities based upon changes in the relative values of the Notes and ADSs. Any such arbitrage could, in turn, affect the market prices of ADSs and the Notes.

The fundamental change and make-whole fundamental change provisions of the Notes may delay or prevent an otherwise beneficial attempt to acquire our company.

The fundamental change prepayment rights of the noteholders under the Notes, which would allow noteholders to require that we prepay all or a portion of their Note upon the occurrence of a fundamental change, and the provisions under the Notes requiring an increase to the exchange rate for exchanges in connection with a make-whole fundamental change, in certain circumstances may delay or prevent an acquisition of NICE that would otherwise be beneficial to our shareholders.

It may be difficult to enforce a U.S. judgment against us and our officers and directors in Israel or the United States, or to serve process on our officers and directors.

Service of process upon us, our Israeli subsidiaries, directors and officers, and Israeli advisors, if any, named in this annual report, may be difficult to obtain within the United States. Additionally, it may be difficult to enforce civil liabilities under U.S. federal securities law in original actions instituted in Israel. Israeli courts may refuse to hear a claim based on a violation of U.S. securities laws because Israel is not the most appropriate forum to bring such a claim. In addition, even if an Israeli court agrees to hear a claim, it may determine that Israeli law and not U.S. law is applicable to the claim. If U.S. law is found to be applicable, the content of applicable U.S. law must be proved as a fact, which can be a time-consuming and costly process. Certain matters of procedure will also be governed by Israeli law. There is little binding case law in Israel addressing these matters.

Provisions of Israeli law may delay, prevent or otherwise impede a merger with, or an acquisition of, our company, which could prevent a change of control, even when the terms of such a transaction are favorable to us and our shareholders.

Israeli corporate law regulates mergers, requires tender offers for acquisitions of shares above specified thresholds, establishes a high ownership threshold to squeeze out minority shareholders in a full tender offer, requires special approvals for transactions involving directors, officers or significant shareholders and regulates other matters that may be relevant to these types of transactions.

Furthermore, Israeli tax considerations may make potential transactions unappealing to us or to our shareholders whose country of residence does not have a tax treaty with Israel exempting such shareholders from Israeli tax. These and other similar provisions could delay, prevent or impede an acquisition of us or our merger with another company, even if such an acquisition or merger would be beneficial to us or to our shareholders.

See Item 10, "Additional Information—Mergers and Acquisitions" in this annual report, for additional discussion regarding anti-takeover effects of Israeli law.

General Risk Factors

Conditions and changes in the local and global economic environments may adversely affect our business and financial results.

Adverse economic conditions in markets or regions in which we operate can harm our business. Our results of operations can be affected by adverse changes in local and global economic conditions, slowdowns, inflation, recessions and economic instability. To the extent that our business suffers as a result of such unfavorable economic and market conditions, our operating results may be materially adversely affected.

In particular, enterprises may reduce spending in connection with their contact centers, financial institutions may reduce spending in relation to trading floors and operational risk management (as IT-related capital expenditures are typically

lower priority in times of economic slowdowns), and our customers may prioritize other expenditures over our solutions. In addition, enterprises' ordering and payment patterns are influenced by market conditions and could cause fluctuations in our quarterly results. If any of the above occurs, and our customers or partners significantly reduce their spending or significantly delay or fail to make payments to us, our business, results of operations, and financial condition would be materially adversely affected.

In addition, our operations may be subject to the effects of the rising rate of inflation. If our costs were to become subject to significant inflationary pressures, we may not be able to fully offset such higher costs through price increases. Our inability or failure to do so could harm our business, financial condition and results of operations.

Disruption to the global economy could also result in a number of follow-on effects in addition to a slow-down in our business and increased costs, including a possible (i) negative impact on our liquidity, financial condition and share price, which may impact our ability to raise capital in the market, obtain financing and secure other sources of funding in the future on terms favorable to us, and (ii) decrease in the value of our assets that are deemed to be other than temporary, which may result in impairment losses.

We face risks relating to our global operations.

We sell our offerings throughout the world and intend to continue to increase our penetration of international markets. Our future results could be materially adversely affected by a variety of factors relating to international transactions, including:

- governmental controls and regulations, including import or export license requirements, trade protection measures, sanctions, telecommunication authorization and licenses and changes in tariffs;
- compliance with applicable international and local laws, regulations and practices, including those related to trade compliance, anticorruption, data privacy and protection, tax, labor, employee benefits, customs, currency restrictions and other requirements;
- disruptions in business operations of our customers due to local or national restrictions implemented to combat COVID-19;
- fluctuations in currency exchange rates;
- longer payment cycles in certain countries in our geographic areas of operations;
- potential adverse tax consequences, variations in effective income tax rates and tax policies among countries where we conduct business, including the complexities of foreign value added tax systems;
- political instability, armed conflicts, terrorism and security concerns, including instability and restrictions that result from the Russian invasion of Ukraine;
- reduced or limited protection for intellectual property rights in some countries; and
- general difficulties in managing our global operations.

Geopolitical risks, including those arising from political tension, terrorist activity or acts of civil or international hostility, are increasing. For instance, military conflict resulting from the Russian invasion of Ukraine, could result in geopolitical instability and adversely affect the global economy or specific markets. Such geopolitical risks could also lead to prolonged and significant supply chain disruption that may impact our customers, which could impact the demand for our products or services, and negatively affect our business and financial results.

Changes in the political or economic environments, business spending, and the availability and cost of capital in the countries in which we operate, especially in Israel and the U.S., including the impact of such changes on foreign currency rates and interest rates, and the impact of economic conditions on underlying demand for our products and services, could have a material adverse effect on our financial condition, results of operations and cash flow.

As a result of our global presence, especially in emerging markets, we face increasing challenges that could adversely impact our results of operations, reputation and business.

In light of our global presence, especially in emerging markets such as those in Asia, Eastern Europe and Latin America, we face a number of challenges in certain jurisdictions that provide reduced legal protection, including poor protection of intellectual property, inadequate protection against crime (including bribery, corruption and fraud) and breaches of local laws or regulations, unstable governments and economies, governmental actions that may inhibit the flow of goods and currency, challenges relating to competition from companies that already have a local presence in such markets and difficulties in recruiting sufficient personnel with appropriate skills and experience.

Local business practices in jurisdictions in which we operate, and particularly in emerging markets, may be inconsistent with international regulatory requirements, such as anti-corruption and anti-bribery laws and regulations (including the U.S. Foreign Corrupt Practices Act and the U.K. Bribery Act) to which we are subject. Although we implement policies and procedures designed to ensure compliance with these laws, we cannot guarantee that none of our employees, contractors, partners and agents, as well as those companies to which we outsource certain of our business operations, will not violate our policies or applicable law. Any such violation could have an adverse effect on our business and reputation and may expose us to criminal or civil enforcement actions, including penalties and fines.

Furthermore, the increased presence of our global operations in emerging markets, including outsourcing of certain operations to service providers in such markets (such as India and the Philippines), could impact the control over our operations, as well as create dependency on such external service providers. This method of operation may impact our business and adversely affect our results of operation.

Our business, facilities or operations could be adversely affected by events outside of our control, such as natural disasters or health epidemics.

Natural disasters or other unexpected events that adversely affect the business climate in any of our markets could have a material adverse effect on our business, financial condition and results of operations. Our business operations may be subject to interruption by natural disasters, fire, power shortages, telecommunications failures, pandemics and epidemics and other events beyond our control. Although we maintain disaster recovery and business continuity plans, such events could make it difficult or impossible for us to deliver our products and services to our customers, and could decrease the demand for our offerings.

The novel coronavirus (COVID-19) pandemic is continuing to impact our mode of operation, as well as the mode of operation of our customers, including the possible impact on our customers' buying decisions and sale cycles. Due to the COVID-19 pandemic, we have restricted our employee travel, shifted to work from home or a hybrid work model in most locations around the world and have changed other operating procedures. At this time, the extent and duration of the continued impact of the pandemic is unknown, and therefore we cannot predict how it may affect our future business, results of operations, financial condition and strategic plans.

We depend on our ability to recruit and retain qualified personnel.

In order to compete, we must recruit and retain executives and other key employees. Hiring and retaining qualified executives and other key employees is critical to our business, and competition for highly qualified and experienced managers in our industry is intense. There is no guarantee that additional key management members will not leave the Company, or if they do, that we will be able to identify and hire qualified replacements, or that the transition of new personnel will not cause disruption in our business.

In addition, due to our growth, or as a result of regular recruitment, we will be required to hire and integrate new employees. Recruiting and retaining qualified engineers and computer programmers to perform research and development and to commercialize our offerings, as well as qualified personnel to market and sell the offerings, are critical to our success. There can be no assurance that we will be able to successfully recruit and integrate new employees.

There is intense competition to recruit and retain highly skilled employees in the technology industry, which has increased due to recent market conditions and the millennial workforce continuing to value multiple company experiences over long tenure. In addition, we may not be able to offer current and potential employees a compensation package that is satisfactory in order to keep them within our employment. We have suffered from attrition in our workforce and such trend may continue in the near future.

In certain locations in which we have development centers, including low-cost countries such as India, the rate of attrition is high and could have a negative impact on our ability to retain our employees in such centers, timely develop our products and solutions and service our customers.

An inability to attract and retain highly qualified employees may have an adverse effect on our ability to develop new products and solutions and enhancements for our offerings and to successfully market such offerings, all of which would likely have a material adverse effect on our results of operations and financial position. Our success also depends, to a significant extent, upon the continued service of a number of key management, sales, marketing and development employees, the loss of any of whom could materially adversely affect our business, financial condition and results of operations.

Item 4. <u>Information on the Company.</u>

Item 4.A <u>History and Development of the Company.</u>

The story of NICE is one of continuous innovation driving strategic business transformations, consistently expanding our total addressable markets and becoming a leading provider in every segment in which we operate. NICE was founded on September 28, 1986, as Neptune Intelligent Computer Engineering Ltd., with the vision to digitize unstructured data previously captured using analog means. This digitization enabled a new era of capturing, storing, securing and managing large quantities of unstructured data, such as voice calls generated in trading floors, contact centers and air traffic control. On October 14, 1991, the Company was renamed NICE-Systems Ltd., expanding its mission to the Customer Service market, becoming a leading global provider of Workforce Optimization software applications, as well as adding solutions for the Public Safety sector. With the advancement in computing power, the increased quantity of available data and the growing need to generate meaningful business insight, NICE launched Interaction Analytics solutions - allowing organizations to quickly understand and operationalize their captured unstructured interaction data. In 2007, NICE acquired Actimize, a leader in Financial Crime and Compliance analytics solutions, and added real-time transaction data analytics with leading AI-based solutions to help prevent financial fraud and money laundering, transforming the company into an enterprise software analytics leader. Since 2014, NICE transformed into a leader in cloud, analytics, digital and Artificial Intelligence (sometimes referred to as "AI" in this annual report) through innovations and strategic acquisitions. In 2016, NICE acquired inContact, a leading provider of cloud contact center software and agent optimization tools, enabling the industry's first fully integrated and complete cloud contact center solution platform. Moving forward, NICE became an industry leader, helping organizations expand innovation with wide cloud functionalities, transform their business to be datadriven, and instill intelligence by infusing AI and analytics, all of which became NICE's core pillars. Since 2021, as consumer expectations dramatically shifted to digital, NICE extended the reach of its offering with a series of new offerings and acquisitions in the digital customer experience space, providing organizations with smart digital solutions to answer customers' needs wherever their journey begins and across multiple service channels. With these advanced technologies, NICE enables organizations to smartly manage their knowledge base, proactively initiate service, and provide guided journeys to consumers.

On June 6, 2016, the Company was renamed NICE Ltd., which is its legal and commercial name. Today, NICE is an enterprise software leader in cloud, analytics, digital and AI in both the Customer Engagement and Financial Crime and Compliance markets. Our solutions help organizations create extraordinary and trusted customer experiences, improve public safety and prevent financial crime. Our solutions are based on advanced cloud platforms that combine digital and omnichannel capabilities, advanced analytics, AI and smart automation.

NICE is a company limited by shares organized under the laws of the State of Israel. Our Israeli offices are located at 13 Zarchin Street, P.O. Box 690, Ra'anana 4310602, Israel (Tel. +972-9-775-3151). Our subsidiary, NICE Systems, Inc. has been appointed as our Agent for Service in the United States, and is located at 221 River Street, Hoboken, New Jersey 07030.

The Securities and Exchange Commission ("SEC") maintains an Internet site that contains reports, proxy and information statements, and other information regarding issues that file electronically with the SEC at http://www.sec.gov. Form 20-F, 6-Ks and other information is available on our website at https://www.nice.com/company/investors/.

Principal Capital Expenditures

In the last three fiscal years, our principal capital expenditures were the acquisition of other businesses and repurchases of our American Depositary Receipts ("ADR"). For information regarding our acquisitions and ADR share repurchases, please see Item 5, "Operating and Financial Review and Prospects – Recent Acquisitions," and "Operating and Financial Review and Prospects – Recent Acquisitions," and "Operating and Financial Review and Prospects – Recent Acquisitions information

regarding our ADR share repurchases, please also see Item 16E, "Purchases of Equity Securities by the Issuer and Affiliated Purchasers," in this annual report.

Item 4.B Business Overview

Breakdown of Revenues

For a breakdown of total revenues by products and services and by geographic markets for each of the last three years, please see Item 5, "Operating and Financial Review and Prospects – Results of Operation," in this annual report.

About NICE

NICE is a global enterprise software leader, providing cloud platforms for AI-driven digital business solutions that serve two main markets: Customer Engagement and Financial Crime and Compliance. Our core mission is to transform experiences to be extraordinary and trusted, and create frictionless and safe digital-first consumer reality, where every interaction is easy, effortless and instantaneous. Our solutions are used by organizations of all sizes and are offered in multiple delivery models, including cloud and on-premises.

In the Customer Engagement market, we enable organizations to transform experiences with solutions aimed at meeting consumers wherever they choose to begin their journey, providing digital-centric self-service capabilities, understanding consumers' journeys, creating smarter hyper-personalized connections and guiding seamless omnichannel interactions. We help organizations transform their workforce experience with solutions aimed at engaging employees, optimizing operations and automating processes.

In the Financial Crime and Compliance market, we protect financial services organizations and their customers' accounts and transactions, with solutions that identify risks and help prevent money laundering and fraud, as well as help ensure compliance in real-time.

NICE is at the forefront of several industry technological disruptions that have greatly accelerated in the last two years: the adoption of cloud platforms by organizations of all sizes and verticals, the shift of consumer and organizational preferences towards digital-centric services and experiences, the growing acceptance and adoption of AI, an increase in consumer self-service usage and the need to manage, optimize and engage a diverse and remote workforce while retaining and attracting top talents. Our suite of integrated portfolio solutions, based on our unique domain expertise, provide organizations engaged in customer experience, financial crime and public safety, with industry-leading agility and innovation that are essential for their success.

We rely on several key assets to drive our growth:

- Our market-leading cloud native open platforms for Customer Engagement and Financial Crime and Compliance, which natively embed analytics, automation, AI, and digital capabilities, and are protected by a broad array of patents.
- Our unique digital capabilities that are critical for organizations of all sizes and across all industries in dealing with the exponential adoption of digital communication by consumers.
- Our extensive portfolio of applications that allows our customers to benefit from a wide range of both cloud and on-premises solutions.
- Our broad array of proprietary technologies and algorithms in the domains of automation, analytics, machine learning, speech-to-text, natural language processing, personality-based routing and others.
- Our access to data for improving our algorithms through machine learning and AI, which relies on a combination of our extensive customer base, cloud deployments and domain expertise.
- Our solutions' coverage of all market segments, from small and mid-sized businesses to large scale Fortune 100 enterprises.

- The mission critical nature of our solutions to the operations of our customers and our cloud platforms that are essential for enabling a scalable and sustainable work-from-anywhere environment.
- Our market leadership, which makes us a well-recognized brand and creates top-of-mind awareness for our solutions in our areas of operation.
- Our large partner ecosystem that enables us to reach and serve a large number of customers across many countries.
- Our loyal customer base of more than 25,000 organizations in over 150 countries, across many industries, including 85 of the Fortune 100 companies.
- Our ability to quickly drive mainstream adoption for innovative solutions and new technologies and trends, which we introduce to the market through our direct sales force and distribution network.
- Our skilled employees and domain expertise in our core markets allow us to bring our customers the right solutions to address key business challenges and build strong customer partnerships.
- Our services, customer support and operations, which enable our customers to quickly enjoy the benefits of our solutions, with multiple deployment models in the cloud or on-premises throughout the world and support for full value realization and customer success.

Industry and Technology Trends

Following are the key cross-industry trends that we have identified as driving demand for our solutions:

- Organizations of all sizes are transitioning to open cloud platforms as the foundation for their applications to allow quick innovation cycles and business agility. Cloud platforms provide unified and integrated solutions that are all based on a shared framework of services, allowing for fast innovation, easy deployment, and flexible functionality. In recent years, we are seeing acceleration in cloud transformation while organizations are moving to an agile mode of operation to enable flexibility and lower operational costs.
- **Open cloud platforms are being adopted by organizations in order to enable seamless customizations and pre-built integrations**. Open cloud platforms enable an enhanced ecosystem of solution providers where third-party solutions can be easily added to extend the functionality of the platform to match customer or industry specific needs.
- Consumers from all generations are embracing digital at an exponential pace and prefer digital interactions. Consumers from all generations have been embracing digital at an exponential pace and prefer digital interactions. In order to remain competitive and meet consumer expectations, organizations need to provide customers with various digital means by which they prefer to interact with the organization. Digital transformation allows for quality, consistent and personalized experiences across channels, higher use of digital channels, more efficient end-to-end processes, faster response time and empowerment of employees and customers.
 - Artificial Intelligence and Automation are disrupting businesses across all industries. AI and automation are reshaping the way organizations are conducting their businesses across all organizational functions. They help with strategic decision-making by processing and analyzing data on a scale much larger and faster than any human could accomplish. Implementing AI and automation helps organizations sustain competitiveness and differentiation by proactively streamlining and automating complex business processes in smart ways, infusing real-time decisioning and predictive tools based on cognitive technologies, and generating meaningful and operationalized insight from vast amounts of data.

Customer engagement trends that are driving demand for our solutions:

• Increased use of newer digital channels as first choice by consumers for interaction with organizations. Newer Digital Channels comprise mainly messaging and social applications. The nature of these channels is different from voice and traditional digital channels (e.g., email, chat) due to the

asynchronous response times and ability to carry the conversation for extended periods of time. Over the course of the ongoing COVID-19 pandemic, the use of digital channels has substantially increased, and consumers of all ages show a preference for digital channels when interacting with organizations. Organizations need to make sure they offer these channels as a communication alternative and can provide an integrated and high-quality experience across these channels.

- **Consumer expectation for a holistic experience that is effortless, contextual and consistent across all touchpoints has become a standard requirement.** While consumers move constantly between devices and channels, their expectation is for consistent experiences that are keeping the interaction context across all communication channels and are seamlessly transitioned from one channel to another and can also communicate in different modalities simultaneously. With the growing number of channels and customer needs, organizations are expected to provide an end-to-end orchestration of customer journeys, engage with them at the very start, and provide all the flexibility to make the customer's journey easy and seamless, while maintaining a single view of the journey for analysis and optimization of the experience.
- Organizations rely more on predictive analytics and AI to further improve customer experience as well as the general performance of the contact center. Organizations are increasingly using AI to better understand each individual customer, including their behaviors, needs and preferences, and leverage these insights to proactively predict needs and initiate service before being contacted by customers. Front and back-office functions seek to employ analytics to better optimize their operations. These tools include, among others, cognitive engagement solutions, like interactive communications, predictive analytics and machine learning. Furthermore, smart and self-learning machines allow the enhancement of self-service, real-time guidance and analytics-based insights (including speech and text analytics), behavioral analytics and techniques focused on profiling, trending and pattern detection. As a result, organizations increasingly use these technologies to provide faster and more efficient customer service as well as drive specific business outcomes.
- **Conversational bots are being deployed to contain and deflect calls and interactions into self-service.** Organizations are looking for new and advanced digital means to improve customer satisfaction and reduce cost. Further development of intelligent bots will improve operational processes, ensure compliance with rules and regulations, increase flexibility in customer interactions with the contact center, as well as decrease error rate and wait time while providing a personalized experience. This technology will increase self-service channels containment and allow the human workforce to focus on more complex value-added services.
- Adoption of Robotic Process Automation (RPA) solutions keep growing in the contact center in order to increase agent efficiency and productivity while reducing costs. RPA helps to significantly reduce the number of manual and time-consuming tasks agents and employees need to perform, freeing them to spend time in added-value activities. RPA can be divided into unattended and attended automation. With unattended RPA, organizations are looking to fully automate back-office processes at scale with no human intervention. With attended RPA the bots can work as virtual assistants to agents, dramatically improving the work-from-anywhere contact center's workforce capabilities.
- As part of organizations' new reality, they need to enable their employees to work from anywhere and keep them highly engaged. To do that successfully, they are continually looking for ways to engage and motivate employees to ensure their productivity and satisfaction is maintained, regardless of their physical location. The new work environment creates new demands regarding planning, scheduling, evaluating, coaching and incentivizing employees. This requires organizations to manage their workforce in an agile and personalized manner that improves employees' performance and allows the same level of visibility, transparency, and productivity as they used to have when working from the office.
- **Growing digital evidence, disjointed systems, manual work processes and staffing challenges are all impacting the ability of government agencies to deliver on the promise of timely justice.** Government agencies of all types from police and first responders to prosecutors, public defenders and courts are looking to digital transformation as a way to overcome the challenges of digital evidence silos and disjointed work processes. Through digital transformation, stakeholders who rely on digital evidence can work smarter and more efficiently on their own, and better together.

With Emergency Communications becoming more complex, and staff turnover at an all-time high, digital transformation is becoming critical. Emergency communications managers waste their time handling manual, time-consuming tasks related to daily operations, quality Assurance, reporting, training, development, hiring, staff supervision and fulfilling emergency incident reproduction requests. Digitally transforming and automating quality assurance, incident reconstruction and performance metrics tracking frees up managers to spend more time engaging with and coaching staff.

Financial Crime and Compliance trends that are driving demand for our solutions:

- **The need to embed risk management controls into digital first strategies.** Financial services organizations are undergoing significant digital and analytics transformations to provide safer and more seamless customer access to accounts across all channels and enable safe and secure transactions. At the forefront of these initiatives is the need to improve customer experience. The realization that risk management is a critical component to the customer experience is helping drive demand for financial crime prevention and detection solutions across the customer lifecycle from onboarding to ongoing monitoring.
- **Preventing financial crime and ensuring stringent compliance with evolving regulatory environments.** Regulatory scrutiny of financial institutions continues to apply pressure on organizations to adopt more advanced regulatory compliance and risk management technology. Furthermore, regulators have been expanding their focus from the largest financial institutions to a broader market, including smaller banks and alternative financial service providers, and are creating increased demand for risk and compliance related solutions.
 - An unpredictable threat landscape environment. The growing number of data breaches and cyber security incidents put increasing amounts of personally identifiable information and sensitive data at risk of exposure. This information can be used to open accounts that can be used for laundering money, terrorist financing, account fraud, market manipulation, social engineering, and more. Such potential risks threaten an organization's reputation, as well as create large financial exposures due to both losses as well as fines. In addition, the large volumes of data, related to both internal and external threats, place an enormous operational burden on organizations. Having the ability to deploy advanced technologies such as machine learning and automation that helps address these threats, becomes increasingly critical to financial services organizations.
- An increasing need to control cost of compliance. The regulatory pressures and increasing threat landscape have driven an increase in the number of risk and compliance personnel, which in turn has dramatically increased the cost of compliance. Organizations are turning to technology to allow them to help control these costs without compromising their compliance adherence while continuing to lower their exposure to financial crime.
- **Financial institutions seek a single platform that aggregates and analyzes financial crime-related risk in one place.** The ever-expanding risk landscape and sophistication of financial criminals, as well as the need to keep costs in check, creates a growing need for a single view of different detection signals throughout the financial services organization. A single platform allows financial services organizations to analyze the data, act on it and present it in one dashboard to both operations and executives.
- **Process automation and machine learning are increasingly used to automate financial investigation tasks where it may not be necessary to have as much human involvement**. This frees up investigators from low value, high volume manual tasks so that they may better focus on more important and strategic tasks. This leads to better resource utilization, increased accuracy and productivity, and improved return on investment.
- **Financial institutions are being disrupted by digital players providing improved experiences and more personalized products and services**. Banking services and many other financial service organizations are being challenged by neo-banks, fintech companies and other digital players. To improve customer experiences, and compete against these digital players, financial institutions continue to invest heavily in digital capabilities. Consumers have increased expectations for faster and frictionless processes. In terms of risk, digital banking moves the consumer away from the branch creating new risks around identity verification, customer due diligence and general monitoring of consumer financial behavior. The

expectations for fast response times drive financial institutions to re-design their compliance processes to be able to respond in minutes rather than days or weeks, which in turn requires broader adoption of AI across the customer lifecycle.

Strategy

Our long-term strategy is to further establish our status as an industry leader in both the Customer Engagement and Financial Crime and Compliance market segments. In Customer Engagement, we will continue to leverage CXone, as well as our large customer base, to continue our leadership in the CX market. We will continue to expand our digital reach through a series of strategic product-launches, fueled by organic developments and acquisitions, whereby we intend to become a true digital powerhouse.

We will continue to evolve as one of the leading custom-built AI players in the CX market, and become the standard for any self-service deployment, with both our own end-to-end self-service offering, as well as full integration with any third party solutions.

In our Financial Crime and Compliance business, we will continue to build our leadership with the full launch of Xsight to take our enterprise offering and market to the cloud, and we will further enhance Xceed to be the best mid-market suite. We will leverage the massive digital banking transformation to enlarge our addressable market, by launching new solutions, re-positioning NICE as the leader for managing risk in the digital banking era.

Empowering organizations to lead by adapting to change

We intend to continue leading the market by leveraging several major industry trends and evolving our offering to meet our customers' current and future needs while focusing on key strategic pillars:

- **Cloud Foundation** we provide cloud-native open platforms for our Customer Engagement and Financial Crime and Compliance offerings. This allows our customers to facilitate adoption of cloud infrastructure to accelerate innovation and reduce integration, implementation and operational efforts.
- **Digital** we enable businesses to deliver digital-first omnichannel experiences, responding to consumer needs on their preferred channel of choice wherever their experience journey begins, including the ability to service customers across multiple digital channels, provide secure digital banking and help public safety organizations shift to digital interaction and digital evidence environments.
- **AI** we accelerate business transformation with AI-embedded natively across our platforms, making our applications and business processes smarter. Our domain expertise, advanced technology, and pre-built AI models create industry-leading solutions for all our market segments.
- **Data** recognizing the power of data, we consider data as a key component and a strategic asset across our portfolio and leverage it for creating frictionless experiences for consumes. We manage our customer data with security and compliance measures while leveraging it to operationalize data insights, to equip our customers with a data-driven approach to manage their business, improve performance and identify customer insights.

Strengthening our market leadership

Our brand, global reach, financial resources, extensive domain expertise and ability to deliver a wide array of solutions for large, as well as small and mid-sized organizations, will further anchor our market-leading position.

We plan to continue to develop our open cloud platforms for the Customer Engagement and Financial Crime and Compliance markets to enable unified integrated solutions that offer fast innovation and quick time to value. These platforms allow us to deepen our direct relationships with our customers, nurture our partner ecosystem and create new growth opportunities.

In our Customer Engagement business, we will continue to be a leader in the CCaaS market with CXone, our customer experience cloud platform that enables rapid innovation, agility and scalability, and we take our offering to the next level with the introduction of our Customer eXperience Interactions (CXi) framework. CXi is a comprehensive portfolio of

solutions and is based on CXone and Enlighten AI, our purpose-built AI for the Customer Experience market. With CXi we provide a broad suite of digital, analytics and AI-infused integrated applications for customer service. Alongside our existing offering, we plan to lead in new product categories, as we introduce novel solutions and enter additional market segments. We will continue to extend our leading market position for cloud contact center solutions, catering to organizations of all sizes and replacing legacy on-premises infrastructure players. We will also continue to enable our customers to extend our solutions through innovative third-party solutions via our DEVone dedicated partner ecosystem that our customers can self-select through our platform's CXexchange application marketplace. Our Evidencentral cloud digital transformation platform allows public safety, law enforcement and criminal justice agencies to transform to the digital age, managing response, investigation and prosecution digitally and embedding analytics and AI throughout the entire criminal justice process, enabling agencies to leverage data to the fullest and work together collaboratively to enhance public safety.

In our Financial Crime and Compliance business, we will continue to expand our offerings across market segments by providing new and enhanced solutions that protect financial services organizations and their customers earlier in the customer lifecycle and by infusing more AI across our portfolio of solutions. With our X-Sight cloud platform, we provide open, scalable and flexible solutions with the broad financial crime and compliance coverage to the top tier of the market. We launched X-Sight DataIQ, which orchestrates the aggregation of data from multiple sources, delivering real-time accurate customer intelligence. Continued innovations on X-Sight will further cement our leading market position. With Xceed, we provide fully packaged anti-money laundering (AML) and fraud coverage and solutions to the mid-market, enabling smaller organizations to realize greater protection with quick time to value. Xceed is expected to enable further growth with midmarket financial institutions. In the Financial Crime and Compliance business, our solutions are infused with Always on AI, our multi-layered approach that injects AI, machine learning, automation, natural language processing and other advanced technologies throughout the financial crime and compliance value chain. This allows financial services organizations to merge innovative and patented technologies to seamlessly connect data and apply AI to turn raw data into financial crime intelligence to fuel analytic precision and detect and prevent financial crimes. These offerings enable us to add value to our existing customers, as well as expand our reach and open-up new opportunities, considerably increasing our total addressable market.

Helping our customers transform to the cloud

Our leading cloud platforms and domain expertise, along with our flexible maturity models, enable our customers to adopt cloud solutions and migrate to the cloud at the pace that matches their needs and preferences.

To support all of our customers and the different pace of their cloudification migration, we intend to continue offering our solutions in a variety of delivery models, which enable us to be flexible in effectively addressing our customers' needs.

Continuing to offer our full solutions portfolio to our existing customer base

One of our main assets is our growing customer base. We believe there are many opportunities to expand, up-sell and cross-sell within our existing customer base. This includes increasing our customers' exposure to the full breadth of our portfolio. We continue to provide our customers with new benefits by expanding the offering they already use, adding new products and migrating our customers to the cloud.

Continuing organic innovation and development, while also pursuing acquisitions

We intend to continue investing in innovation and development and continue to augment our organic growth with additional acquisitions that will broaden our product and technology portfolio, expand our presence in selected verticals, adjacent markets and geographic areas, broaden our customer base, and increase our distribution channels.

Maximizing the synergies across our businesses

At NICE, we value and promote a synergetic approach to our platforms and solutions (e.g., sharing information, knowhow, and design practices in transitioning to native cloud platforms across Customer Engagement and Financial Crime and Compliance). We will continue leveraging our solutions' common cloud architectures as well as methodologies of capturing and analyzing massive amounts of structured and unstructured data, providing real-time insight and driving process automation. Maximizing these synergies and cooperation between our business areas is a key pillar of our corporate strategy.

We have several joint offerings across our business segments and combined go-to-market efforts. We will continue leveraging our extensive complementary domain expertise, technological know-how, capabilities and development, in order to grow our business through additional cross-sell and up-sell opportunities.

Increasing our footprint in select geographical regions

As part of our growth strategy, we are expanding our business in select regions globally, where we can further grow and establish our presence in less penetrated, growing markets. We are doing this by leveraging our existing offering and growing partner ecosystem, in both the Customer Engagement business as well as the Financial Crime and Compliance business. We continue to expand our international partner network.

Expanding our global partnerships

As part of our growth strategy, we are investing in expanding relationships with global go to market partners that we believe can accelerate our growth while ensuring the success of our customers. In addition, as part of our open platforms, we are enabling the success of our technology partners while providing a wider coverage and complementing our product offerings to bring unique value to our customers.

Customer Engagement Business Strategy

Our strategy is to continue leading the CCaaS market, to go beyond the contact center, and expand the boundaries of CCaaS to win the overall customer experience market by attempting to fundamentally reinvent the way in which consumers interact with organizations. We are driving a new customer experience standard by intelligently meeting customers wherever they choose to begin their journey, enabling resolution through data driven self-service and preparing agents to successfully resolve any need event. We intend to achieve this by:

- Offering CXone, the global leading unified cloud customer experience platform that combines guided journey orchestration for voice and digital channels, IVR, advance digital capabilities, self-service, bots, proactive conversational AI, knowledge management, agent assist tools, Customer Journey Analytics, leading Workforce Engagement Management solutions and automation.
- Expanding our capabilities to provide holistic digital and self-service throughout the entire customer journey, starting at the very beginning on search, apps and other digital doorsteps, through self-service and engagement with the contact center through voice or digital enabling customer service organizations to provide a true omnichannel service experience across all touchpoints.
- Infusing analytics, AI and automation into every element of our Customer Engagement offerings to enable predictive and proactive service, workforce augmentation and automation. We leverage insights from extensive number of interactions, with hundreds of purpose-built CX models to create frictionless customer experiences that are smarter and faster.
- Enabling our customers to deploy AI-driven intelligent conversational bots to provide self-service and assisted service capabilities, which improve customer experience as well as reduce the cost to service consumers.
- Providing agents with unique digital functionalities and capabilities including digital collaboration, agent assist, knowledge management and automation to prepare them for delivering the best service.
- Empowering our customers' workforce through an agile Workforce Engagement Management (WEM) platform that helps organizations dynamically forecast and schedule the complex multi-channel digital native workforce, understand individual employees' preferences, needs and actions to drive motivation and reduce attrition through providing flexibility.
- Leading cloud transformation across the entire Customer Engagement portfolio for all market segments and regions to enable rapid innovation, enhance flexibility and agility, and lower operational costs.

- Offering our customers the ability to extend our solutions through innovative third-party solutions provided by our DEVone dedicated partner ecosystem. Our customers can self-select these third-party solutions from our platform's CXexchange application marketplace.
- Increasing our mid-market presence through transforming to CCaaS and further becoming a strategic vendor for large enterprises with enhanced data and AI innovation, as well as our CXone offering, enabling them to adapt to changing realities.
- Extending our public safety offering to the PSAP to support next generation digital emergency communication, ensuring compliance and enabling enhanced digital evidence collection and investigation
- Offering a leading unified cloud-based Digital Evidence Management and Investigation platform, Evidencentral, that integrates and consolidates all forms of evidence information data and media from police records and dispatch management systems.

Financial Crime and Compliance Business Strategy

We plan to continue extending our market leading position and our addressable market, while further supporting the move to the cloud by financial institutions. We also plan to leverage our capabilities to facilitate both better financial crime protection and to help our customers realize cost reductions. We intend to achieve this by focusing on:

- Delivering integrated Financial Crime and Compliance solutions that help financial services organizations identify risks faster and earlier throughout all phases of the customer lifecycle.
- Expanding our market reach within the mid-tier banks and financial institutions with our Xceed native cloud and AI platform, which provides AML and Fraud solutions in a packaged SaaS offering to smaller organizations, enabling them to benefit from the capabilities previously only afforded to large organizations.
- Expanding X-Sight, our cloud-native AI platform and solutions for the top tiers of the market to further strengthen and grow our market leadership position. X-Sight combines data and analytics agility and provides us the ability to cross-sell solutions. Our cloud platform leverages data, AI, machine learning, advanced automation, and other technologies to help customers reduce the cost of operations, while increasing their adherence to compliance and preventing financial crime.
- Expanding X-Sight AI, our data driven, machine learning, analytics managed service or do-it-yourself environment to help further optimize analytic models and develop new analytics by leveraging insights from our market-wide view of transactions and known fraud and regulatory compliance issues.
- Offering X-Sight DataIQ, our orchestration and aggregation engine that seamlessly connects to multiple premium and public data sources, turning raw data into the data intelligence to fight financial crimes.
- Expanding the X-Sight Marketplace, an ecosystem of innovative third-party partners where our customers can select complementary offerings to extend our platforms and products.
- Offering our solutions to verticals outside of the traditional financial services, such as technology, gaming, energy, insurance, industry regulators, government agencies, as well as to fintech and alternative payments providers.
- Continuing to cross-sell and up-sell into our existing customer base around the world.
- Expanding our sales channels with world-class systems integrators, consultancies, core banking providers, and other regional reseller firms to identify additional significant opportunities.
- Increasingly selling holistic solutions, combining Financial Crime and Compliance offerings with Customer Engagement offerings.

I. Offering Overview - Customer Engagement

Creating extraordinary customer and employee experiences becomes even more critical in times of change. With customer service needs becoming more urgent and demanding, organizations are required to adapt new operating models to increase their flexibility and maintain agility. These dynamics are challenging organizations to differentiate themselves through efficient, effective and high-quality customer experiences that are digital, including agent-assisted and self-help channels, consistent and personalized across all touch points. In addition, organizations must find ways to generate business insights, better understand and predict customer intent and create smarter customer connections. They need to accomplish these objectives while containing operational costs and adhering to regulations.

CXone is our leading CX platform that provides the benefits of a modern native cloud architecture and delivers a complete suite of customer service applications through our CXi offering and leading standalone capabilities for self-service, WEM, analytics and digital. This multipath approach enables organizations to leverage CXone in many ways, such as a complete open suite, an open suite integrated with third-party Automatic Contact Distributor (ACD) or hybrid, combining native applications with existing premise recording and ACD systems.

Our comprehensive portfolio of solutions empowers organizations to transform customer and employee experiences by understanding consumer journeys, creating smarter hyper-personalized connections, managing seamless omnichannel interactions and providing digital-centric self-service capabilities. Using industry-leading AI and analytics capabilities, NICE helps organizations transform their workforce experience with solutions aimed at engaging employees, optimizing operations, and automating processes.

Our Platform and Solutions' Core Capabilities:

Our **Cloud Native Open P**latform, CXone, transforms customer service to provide an exceptional customer and agent experiences in today's fast paces digital environment. It opens new possibilities for employees to work from anywhere and use a single, consolidated interface –from any location – with a common view of operational performance and each customer's journey ultimately creating an elevated customer experience. With predictive analytics and embedded artificial intelligence, it empowers teams to resolve issues faster, personalize each experience and forge deeper loyalty with each customer. CXone supports customer service organizations of all sizes and geographic locations – from small single sites, to distributed remote agents, to global enterprises. As a modern, cloud native open platform, CXone allows organizations to compete on innovation and routinely transform experiences with speed and sophistication, overcoming expensive and lengthy innovation and product cycles, and eliminating complex integrations by having a unified modern architecture with automatic upgrades. CXone scales securely, deploys quickly, and serves customers globally. We offer easy customization through hundreds of RESTful APIs and our DEVone developer program, plus CXexchange marketplace with pre-built integrations from ecosystem partners. CXone enables multi-national organizations to deliver service with confidence from a single instance, and includes a broad level of certifications, including PCI Level 1, HIPAA, SOC2, SOX, FedRAMP, Cybersecurity Essentials, IRAP, and others.

Our custom-built **AI engine for CX**, Enlighten, is embedded across our entire platform and suite of applications. It uses historical data to understand CX needs, behaviors and different types of characteristics, analyzes every interaction and allows proactive identification of needs and the ability to act on them in real time. Enlighten AI also leverages conversational data from employee-assisted interactions to discover automation opportunities for self-service. It guides agents in real-time to reduce friction, keeping them informed and prepared, connecting people on a personal level to optimize outcomes, and redefining the quality and coaching process to be based on agents' soft skill behaviors measured on all interactions.

Our **Digital-Entry Points** solutions enable organizations to prioritize digital transformation as an urgent initiative in order to adapt to the changing needs of the current environment and deliver smart service on the consumers' channel of choice. NICE enables organizations to address their consumers' needs right at the digital doorstep of their journey, such as online search and mobile apps. We provide knowledge management tools to drive knowledge at any point of the consumers' journey, starting with search, and then guide them in real-time on their channel of choice through an interactive conversation, and proactively reach-out to customers, based on analyzing their needs.

Our **Journey Orchestration** solutions empower organizations to connect and route customers across their entire journey in a seamless, consistent, and smart way by combining digital channels, self-service, and voice. We deliver service over more than 30 supported digital channels, including social media and messaging channels, with the ease of adding new channels. Customers can seamlessly and effortlessly move between channels, while providing the customer with a full context and a sense of a single consistent journey, as well as a single view of the experience to the organization. We create highly personalized interaction experiences by matching the most appropriate agent or bot to deal with the customer's request, connecting them using real time AI-based routing.

Our **Smart Self Service** solutions empower organizations to build intelligent automated conversations based on data that indicates what customers need and how they express these needs and deliver the right resolution. Our smart self service allows organizations to design data-driven, personalized self-service interactions, using NICE's purpose-built Enlighten AI Experience Optimization engine, to identify customer needs and automate the right conversations, resulting in fast and satisfying resolutions. This profound understanding of consumers' needs also enables organizations to proactively engage with their consumers to resolve their issues before they occur. We provide the most intelligent bots that are able to comprehend human conversations through a powerful conversational AI platform that learns and improves over time.

Our solutions and tools designed for the **Prepared Agent** enable contact center agents to be engaged in real-time, knowledgeable, and empowered, so they can create the most hyper-personalized, unique interactions that increase customer satisfaction and resolve issues quickly. We ensure agents have the right content and context delivered to them through smart knowledge management that is available in real-time. We guide and alert agents in real time to specific behavioral insights so they can take immediate action to improve resolution, and increase employee potential with personalized virtual attendant to guide them through next-best-action and robotic automation that complete mundane and manual processes for them.

Our **Complete Performance** solutions help capture, understand, analyze and continuously improve all elements that impact customer experiences. We enable organizations to record structured and unstructured customer interaction and transaction data on any channel, in a secure and compliant way, forecast the complex staffing needs across all channels and automate intraday schedules with AI-based Workforce Management suite, while empowering agents with mobility and notifications to engage and maintain their desired work-life balance, taking into consideration their personal attributes and preferences. We drive better agent behaviors with a leading Quality Management, embedded with our AI engine, custom-built for CX, to consistently measure agent soft skills and customer satisfaction indicators in real time. We analyze all interactions, across all channels, to identify areas for performance improvement, then take the relevant actions for making these improvements happen, operationalizing analytics-based insights into daily business processes. We provide employees with a comprehensive Performance Management solution, creating a consolidated view for agent measurements, driving engagements with gamification capabilities and persona-based coaching for constant improvement. Real-time guidance and automation solutions guide agents to the next-best behavior and next-best action they need to take within or post-interaction, and obtain customer feedback to analyze their conversations and journeys to identify points of friction and optimize their experience.

NICE Evidencentral - Our digital evidence management platform for public safety emergency communications, law enforcement and criminal justice helps agencies improve incident response, accelerate investigations, streamline evidence disclosure, enhance digital collaboration with justice partners, and restore transparency and public trust.

II. Offering Overview - Financial Crime and Compliance

Enabling trusted financial transactions is critical during the digital banking era and is increasingly challenging for financial services organizations. To stay competitive, organizations are providing more digital channels and more products and services to acquire and retain customers, all of which need to be monitored for fraud and regulatory compliance. With criminals, organized crime rings, and armies of cyber bots attacking digital payments and banking channels while also scamming individuals and corporations, preventing fraud without customer friction and detecting and predicting money laundering is more complex than ever. In addition, adhering to capital markets compliance regulations in the current work from home environment has also become more complex.

Surveilling trades across all asset classes for market manipulation is not enough, Today, organizations need to monitor employee and trader communications and other activities to detect and predict potential foul play. These demands and market dynamics coupled with consumers' desire for frictionless digital transactions require organizations to transform and modernize their financial crime programs.

Organizations need to be agile to effectively adapt to ensure regulatory compliance, ward off new threats, provide excellent customer experiences and grow the business, all while protecting their organization, safeguarding their customers, and ensuring the integrity of the financial services industry.

NICE Actimize provides the market-leading AI-based platforms and applications for fighting financial crime and ensuring compliance, with proven capabilities for real-time and cross-channel fraud prevention, anti-money laundering and capital markets compliance, and enterprise-wide investigation and case management.

Our Platforms' and Solutions' Core Capabilities

- Our cloud platform for the high-end of the market, X-Sight, is an open and flexible AI-cloud platform for Financial Crime and Compliance, enabling top-tier financial services organizations to leverage market-leading solutions and services that meet their sophisticated and unique needs with security scalability and speed. X-Sight provides global customers with immediate access to new innovations removing expensive and lengthy system integrations and product lifecycles by leveraging the unified modern cloud architecture with automatic upgrades. We offer configuration and customization through RESTful APIs and available services and leverage elastic cloud computing for massive scalability, so the largest global financial institutions have the flexibility to customize their controls and financial crime programs to meet their unique needs.
- Our cloud platform for the mid-market, Xceed, brings together powerful AI, data intelligence, machine learning, and insights for comprehensive AML and fraud prevention for small and mid-sized organizations. The solutions on Xceed provide the protection that larger organizations receive but are packaged and connect directly with core banking providers for smaller organizations to realize immediate value.
- Our cloud platforms provide financial services organizations with the agility required to quickly adapt to changing regulatory and threat landscapes. With machine learning, predictive analytics, and embedded AI, organizations are able to be proactive and prevent crime faster, leading to higher customer satisfaction, lower losses, and reduced risk of regulatory enforcement action or reputational damage. Our platforms and solutions enable organizations to have a more comprehensive understanding of their customers' activities and risk as well as the organization's risk exposure.
- **Our data intelligence** solutions enable organizations to turn raw data into comprehensive actionable intelligence to prevent and detect financial crimes and enable better and faster decisions. With seamless access to industry data and our X-Sight Marketplace ecosystem of complementary partner offerings, our solutions deliver comprehensive real-time intelligence to fuel analytics and enrich investigations.
- Our AI and Analytics innovative technologies, our deep domain expertise, and the insights we receive across the industry, provide rich intelligence to our solutions. This allows us to provide market leading solutions to our customers, addressing numerous business use cases across risk domains and coverage areas. All Financial Crime and Compliance solutions are infused with Always on AI, our multi-layered approach that injects AI, machine learning, automation, Natural Language Processing, and other advanced technologies throughout the financial crime and compliance value chain. This provides financial services organizations with innovative and patented technologies which fuel automation and analytic precision to detect and prevent financial crimes in real-time.
- Our complete coverage solutions prevent money laundering and fraud while helping enable organizations to adhere to capital markets compliance and anti-money laundering compliance regulations. With broad coverage for compliance with regulations and financial crime risks including account takeover, social engineering scams and many others, the solutions include hundreds of out-of-the-box engineered models for current risk topologies across global regulatory regimes as well as emerging risk types including cryptocurrencies and cannabis-related risks to name a couple. Organizations gain holistic coverage to reduce risk, mitigate losses and protect their organizations and customers.
- Our intelligent investigations solutions serve hundreds of thousands of analysts and investigators across the globe enabling them to make better, faster decisions. The rich and robust, purpose-built solutions include out of the box workflows and audits for the regulated industry to intelligently route alerts and cases and track all activity for quick, accurate and transparent investigations. With built-in automation and interactive visual displays, organizations can empower their teams with comprehensive intelligence to optimize efficiency.
- Our **Self-Service** solutions provide organizations with customization and self-development capabilities powered by RESTful APIs and intuitive tools for 24/7 access to smart self-service.

Strategic Alliances

We sell our Customer Engagement and Financial Crime and Compliance platforms and solutions worldwide, primarily directly to customers and indirectly through selected partners to better serve our global customers. We partner with companies in a variety of sales channels, including service providers, system integrators, consulting firms, distributors, value-added resellers and complimentary technology vendors. These partners form a vital network for selling and supporting our solutions and platforms. We have established a cross-organization business partner program to support our ever-growing ecosystem, providing a full range of tools and benefits to help promote the NICE offerings and drive mutual revenue growth and success.

Our strategic technology partnerships ensure full integration with the NICE offerings, delivering value added capabilities that enable them to provide our customers with an improved set of solutions and services.

Our DEVone program, comprising more than 180 partners, allows third-party software providers to integrate with our CXone platform and extend its functionality, while our Actimize X-Sight Marketplace platform hosts market leading vendors in the AML and Fraud domains that complement the Financial Crime and Compliance solution suite.

Our newly established Evidencentral Marketplace is the first open, digital evidence management ecosystem of technology vendors designed to make it simpler and faster for Emergency Communications, Law Enforcement and Criminal Justice agencies to bring evidence together, accelerate case building, unearth hidden evidence and address evidence disclosure challenges.

Professional Service and Support

The NICE Professional Services and Support organization enables our customers to derive sustainable business value from our solutions.

The Professional Service and Support offerings include a variety of services - both standalone and bundled with our products - to enable our customers to create sustained business value. We address all stages of the technology lifecycle, including defining requirements, planning, design, implementation, customization, optimization, proactive maintenance and ongoing support.

Enabling Value

Solution Delivery optimizes solution delivery to our customers and enables them to achieve their specific business and organizational goals, on time and on budget. NICE solutions are delivered by certified project managers, technical experts, and application specialists. We follow a proven methodology that includes business discovery to map solutions to business processes.

Value Realization Services (VRS) ensure quick, deep and sustained adoption of the NICE solutions. These services enable our customers to leverage the features and functionalities of our solutions to drive immediate & long-term results, aligned to their specific business case, accelerating their return on investment. The services are specifically designed to address the top short and long-term business concerns we heard through working with hundreds of customers across the globe. VRS teams work with customers during all phases of solution implementation – before, during and after go-live. We begin working with customer teams as soon as the project is kicked off, when the solution goes live, and for months after the solution is implemented. Our experience has shown that our customers benefit greatly from access to NICE VRS resources once they begin using the solution. This post-implementation engagement allows us to build skill and ownership within customer teams, embed changes within the customer organization and determine ROI from the solution.

Managed Services empowers organizations to meet short term objectives, such as reducing handle time or improving sales rates, along with achieving long term goals such as customer retention. Our team of experienced practitioners work with customers, guiding the process of collecting interactions, prioritizing subjects to study, conducting analysis and most importantly, developing plans that put the results of the analysis into action.

Customer Education Services provide users with the necessary knowledge and skills to operate NICE solutions and to leverage their capabilities to meet customer needs. These services are offered both before and after the deployment of NICE solutions.

Sustaining Value

Customer Success means working hand-in-hand with our customers to identify areas where they can maximize business value and minimize complications, ensuring continued delivery of business benefits.

Cloud Operations ensure that solutions deployed on the NICE cloud run optimally and allow more seamless software upgrades, maximizing availability, performance and quality, while ensuring the security of customer information. This is delivered by using sophisticated proprietary utilities and automations that operate in a proactive manner, providing the means to avoid impacting customer and business operations. This includes: Cloud architecture teams that design cloud service delivery and operation architectures; Cloud Security teams help ensure that we set and meet the required Security certifications; Cloud Infrastructure teams that manage both virtual and physical infrastructure requirements; Cloud DevOps teams that implement the utilities and automations while working with our product development teams to optimize our solutions for the cloud environment; and the 7X24 Cloud Application Support teams that monitor and manage the solutions for our customers, ensuring world class up-time, performance, scalability and security. The NICE Cloud utilizes multiple underlying technologies to give our customers many paths to the cloud – these include Physical Data Centers and Public Cloud providers such as AWS and Azure. NICE maintains multiple Cloud Certifications including SOC 2 Type II – Applications; HITRUST; ISO:27001 and PCI.

Customer Support and Maintenance responds to customer requests for support on a 24/7 basis, using advanced tools and methodologies. NICE offers flexible service level agreements to meet our customers' needs. Our solutions are generally sold with a warranty for repairs of software defects or malfunctions. Software maintenance includes an enhancement program with (in the majority of cases) an ongoing delivery of "like-for-like" upgrade releases, service packs and hot fixes. NICE also offers a Technical Account Management service or TAM. The TAM is a designated manager responsible for escalation management and overall customer care services.

Proactive Maintenance addresses issues before they can significantly impact our customers' businesses. These offerings include:

- Advanced Services Technical experts perform system-level audits to ensure ongoing compliance with operational specifications as well as specific product customizations tailored to the requirements of the customer.
- Application Performance Services A 24/7 function that proactively monitors NICE-hosted and customer-premises environments with triage, resolution and escalation of system alarms.

Managed Technical Services (Technical and Operation) – NICE offers a suite of managed technical and operation services that enable the customer to fully outsource all necessary responsibilities and functions required in order to manage the NICE solutions. This service includes dedicated onsite and remote support engineers, system management, system operation, updates and upgrades.

Manufacturing and Source of Supplies

Many of our solutions are software-based and are deployed by open cloud platform and standard commercial servers.

There is a small portion of our products that have certain hardware elements that are based primarily on standard commercial off-the-shelf components and utilize proprietary in-house developed circuit cards and algorithms, digital processing techniques and software. These products are IT-grade compatible.

We manufacture those of our products that contain hardware elements through subcontractors. Our manufacturers provide turnkey manufacturing solutions including order receipt, purchasing, manufacturing, testing, configuration, inventory management and delivery to customers for all of our product lines. NICE is entitled to, and exercises, various control mechanisms and supervision over the entire production process. In addition, the manufacturer of a significant portion of such products, which is a subsidiary of a global electronics manufacturing service provider, is obligated to ensure the readiness of a back-up site in the event that the main production site is unable to operate as required. We believe these outsourcing agreements provide us with a number of cost advantages due to such manufacturer's large-scale purchasing power and greater supply chain flexibility.

Some of the components we use have a single approved manufacturer while others have two or more alternatives for supply. In addition, we maintain an inventory for some of the components and subassemblies in order to limit the potential for interruption. We also maintain relationships directly with some of the more significant manufacturers of our components. Although certain components and subassemblies we use in our existing products are purchased from a limited number of suppliers, we believe that we can obtain alternative sources of supply in the event that such suppliers are unable to meet our requirements in a timely manner.

We have qualified for and received the ISO-9001:2015 quality management, as well as the ISO 27001:2013 information security management, ISO 27701:2019 privacy management and ISO 14001:2015 environmental management certifications.

Research and Development

We believe that the development of new products and solutions and the enhancement of existing products and solutions are essential to our future success. Therefore, we intend to continue to devote substantial resources to research and new product development, and to continuously improve our systems and design processes in order to reduce the cost of our products. Our research and development efforts have been financed through our internal funds and through some programs sponsored through the government of Israel.

We believe our research and development effort has been an important factor in establishing and maintaining our competitive position.

We participate in programs funded by the IIA to develop generic technology relevant to the development of our products. Such programs are approved pursuant to the Law for the Encouragement of Industrial Research and Development, 1984 (the "Research and Development Law"), and the regulations promulgated thereunder. We were eligible to receive grants constituting between 30% and 55% of certain research and development expenses relating to these programs. Some of these programs were approved as programs for companies with large research and development activities and some of these programs are in the form of membership in certain Magnet consortiums. Accordingly, the grants under these programs are not required to be repaid by way of royalties. However, the restrictions of the Research and Development Law described below apply to these programs.

The Research and Development Law generally requires that the product incorporating know-how developed under an IIA-funded program be manufactured in Israel. However, upon the approval of the IIA (or notification in the event set forth below, as the case may be), some of the manufacturing volume may be performed outside of Israel, provided that the grant recipient pays royalties at an increased rate, which may be substantial, and the aggregate repayment amount is increased). Following notification to the IIA (and provided the IIA did not object), up to 10% of the grant recipient's approved Israeli manufacturing volume, measured on an aggregate basis, may be transferred out of Israel, subject to payment of the increased royalties referenced above.

The Research and Development Law also provides that know-how developed under an approved research and development program may not be transferred to third parties without the approval of the IIA. Such approval is not required for the sale or export of any products resulting from such research or development. The IIA, under special circumstances, may approve the transfer of IIA-funded know-how outside Israel, including, in the event of a sale of the know-how, provided that the grant recipient pays to the IIA a portion of the sale price, which portion will not exceed six times the amount of the grants received plus interest (or three times the amount of the grant recipient in Israel after the transfer).

The Research and Development Law imposes reporting requirements with respect to certain changes in the ownership of a grant recipient. The law requires the grant recipient, to notify the IIA of any change in control of the recipient, or a change in the holdings of the means of control of the recipient that results in becoming an interested party (including a 5% shareholder) directly in the recipient. Further, if the interested party is non-Israeli, it requires the party to undertake to the IIA to comply with the Research and Development Law.

Intellectual Property

We currently rely on a combination of trade secret, patent, copyright and trademark law, together with nondisclosure and non-compete agreements, to establish and/or protect the technology used in our systems. We currently hold 414 U.S. patents and 43 patents issued in additional countries covering substantially the same technology as the U.S. patents. We have 163 patent applications pending in the United States and other countries. We believe that the improvement of existing products and the development of new products are important in establishing and maintaining a competitive advantage. We believe that the value of our products is dependent upon our proprietary software and hardware continuing to be "trade secrets" or subject to copyright or patent protection. We generally enter into non-disclosure and non-compete agreements with our employees and subcontractors. However, there can be no assurance that such measures will protect our technology, or that others will not develop a similar technology or use technology in products competitive with those offered by us. In most of the areas in which we operate, third parties also have patents which could be found applicable to our technology and products. Such third parties may include competitors, as well as large companies, which invest millions of dollars in their patent portfolios, regardless of their actual field of business. Although we believe that our products do not infringe upon the proprietary rights of third parties, there can be no assurance that one or more third parties will not make a claim or that we will be successful in defending such claim.

In addition, to the extent we are not successful in defending such claims, we may be subject to injunctions with respect to the use or sale of certain of our products or to liabilities for damages and may be required to obtain licenses which may not be available on reasonable terms.

We own the following trademarks and/or registered trademarks in different countries: Actimize, Actimize logo, NICE Adaptive WFO, NICE WFM, NICE Voice of the Customer, NICE Work Force Management, NICE Incentive Compensation, NICE Real Time Solutions, NICE Trading Recording, NICE Uptivity, NICE Air, NICE Communication Surveillance, Customer Engagement Analytics, Decisive Moment, Fizzback, IEX, inContact, inContact Logo, NICE inContact, Insight from Interactions, Intent. Insight. Impact., Last Message Replay, Mirra, NICE, NICE Analyzer, NICE Engage, NICE Engage Platform, NICE Interaction Management, NICE Sentinel, NICE Inform, NICE Inform Lite, NICE Performance Compliance, NICE Inform Media Player, NICE Inform Verify, NICE Logo, NICE Perform, NICE Incentive Compensation Management, NICE Real Time Solutions, NICE Trading Recording, NICE Proactive Compliance, NICE Seamless, NICE Security Recording, NICE SmartCenter, NICE, NiceLog, Nexidia, Nexidia ((!)) Logo, Nexidia Interaction Analytics, Nexidia Advanced Interaction Analytics, Nexidia Search Grid, Neural Phonetic Speech Analytics, Own the Decisive Moment, Scenario Replay, Syfact, Syfact Investigator, TotalView, inContact Cloud Center Solutions, Supervisor on-the-go, VAAS, Voice as a Service, Personal Connection, InTouch, Echo, inCloud, CXone, CXone Logo, NICE inContact CXone, NICE Perform Compliance, NICE Performance Management, inContact Automatic Contact Distributor, inContact Personal Connection, inContact Interactive Voice Response, inContact Work Force Management, Mattersight, Mattersight Logo, Mattersight See What Matters and Chemistry of Conversation, Net Promoter, Satmetrix, NPX, NPS, Fraudmap, Guardian Analytics, Evidence Lake, Alacra, Free your business, Resolve, Brand Embassy and Hiperos, ContactEngine, ContactEngine Logo, GoMoxie and MindTouch.

Seasonality

In previous years the majority of our business operated under an on-premises enterprise software model, which was characterized, in part, by uneven business cycles throughout the year, with a significant portion of customer orders received in the fourth quarter of each calendar year. This was due primarily to year-end capital purchases by customers and holiday season spending. In recent years, our business has been shifting more and more to the cloud, which is characterized by more evenly distributed business, which balances the impact of being heavily weighted towards the fourth quarter. We believe that this trend will continue in the near future. While seasonal factors such as these are common in the software and technology industry, this pattern should not be considered a reliable indicator of our future revenue or financial performance. Many other factors, including general economic conditions, also have an impact on our business and financial results. See "Risk Factors" under Item 3, "Key Information" of this annual report for a more detailed discussion of factors which may affect our business and financial results.

Regulation

Data Privacy and Cyber-Related Security Restrictions

We are subject to applicable data privacy and cyber-related security restrictions in countries in which our customers and their end-users are located, including the United States, Israel and the EU, mostly in relation to our SaaS, hosting and cloud offering, as well as other outsourced services. With heightened privacy concerns and regulations, failure to comply with the applicable legislation, procedures and security measures may result in significant financial penalties. For more information on privacy and security related concerns and legislation, including the GDPR, see also Item 3 "Key Information -Risk Factors" in this annual report. We are also subject to domestic data privacy laws, such as the Israeli Privacy Law, CCPA and the United Kingdom Data Protection Act 2018. We are evaluating the business impact of compliance with the constantly changing data privacy laws and regulations.

As part of our effort to comply with such regulations and mitigate any future risks related to data privacy and cybersecurity, we have adopted certain internal policies and procedures such as our Information Security Policies, Cyber & Information Security Incident Response Policies, Business Continuity Plans, Risk Assessment Procedures and Vendor Management Policies. These internal policies and procedures are intended to address our business and operational practices as well as our customers' information security concerns, and to avoid or mitigate the risks associated with our information assets and those of our customers. In addition, we received the ISO 27001:2013 information security management certification, ISO 27701:2019 privacy management and SOC2 Type II, PCI, Hitrust and FedRamp certifications were provided to the relevant business lines (as required). Furthermore, we continually evaluate our policies and procedures in light of the regulations related to cyber-security and our customers' needs.

Trade Compliance

As a company with global operations, we may be subject to laws as well as international treaties and conventions controlling imports, exports, re-export and transfer of goods, services and technology. These include import and customs laws, export controls, trade embargoes and economic sanctions, restrictions on sales to parties that are listed on (or are owned or controlled by one or more parties listed on) denied party watch lists and anti-boycott measures.

We are subject to applicable export control regulations in countries from which we export goods and services, including the United States, Israel, European Union and the United Kingdom. Such regulations may apply with respect to product components that are developed or manufactured in, or shipped from, the United States, Israel, European Union and the United Kingdom (including as a result of Brexit), or with respect to certain content contained in our products. There are restrictions that apply to software products that contain encryption functionality. In the event that our products and services are subject to such controls and restrictions, we may be required to obtain an export license or authorization and comply with other applicable requirements pursuant to such regulations or may be restricted from exporting certain products and services to certain countries or to sanctioned parties.

European Environmental Regulations

Our European activities require us to comply with the Directive 2011/65/EU of the European Parliament and of the Council on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment and the Commission Delegated Directive (EU) 2015/863 (together "RoHS"). RoHS provides, among other things, that producers of electrical and electronic equipment may not place new equipment containing certain materials, in amounts exceeding certain maximum concentration values, on the market in the EU. We are also required to comply with Regulation (EC) 1907/2006 of the European Parliament and of the Council Registration, Evaluation, Authorisation and Restriction of Chemicals ("REACH", SVHC-205), which requires producers to manage the risks from chemicals used in their products and to provide safety information on the substances found in their products.

Our products meet the requirements of the RoHS and REACH directives, and we are making every effort in order to maintain compliance, without adversely affecting the quality and functionalities of our products. If we fail to maintain compliance, including by reason of failure of our suppliers to comply, we may be restricted from conducting certain business in the EU, which could adversely affect our results of operations.

Our European activities also require us to comply with Directive 2012/19/EU of the European Parliament on Waste Electrical and Electronic Equipment ("WEEE"). The WEEE directive covers the labeling, recovery and recycling of IT/ Telecommunications equipment, electrical and electronic tools, monitoring and control instruments and other types of equipment, devices and items, and we have set up the operational and financial infrastructure required for collection and recycling of WEEE, as stipulated in the WEEE directive, including product labeling, registration and the joining of compliance schemes. We are taking and will continue to take all requisite steps to ensure compliance with this directive. If we fail to maintain compliance, we may be restricted from conducting certain business in the EU, which could adversely affect our results of operations.

Similar regulations have been, or are being, formulated in other parts of the world. We may be required to comply with other similar programs that are enacted outside Europe in the future.

Environmental, Social and Governance (ESG) Report

NICE is guided by a deep commitment to social contribution, environmental sustainability and corporate citizenship that is ingrained in our core values. For further information on our ESG strategy and performance, you may access our full ESG Report, which is located on our Corporate Responsibility webpage at https://www.nice.com/company/corporate-responsibility. The contents of our ESG Report and related supplemental information (including information on our website) are not incorporated by reference into this Annual Report on Form 20-F or in any other report or document we file with the SEC.

Competition

We believe that our solutions have several competitive advantages (as set forth above in "Our Solutions" section in this Item 4, "Information on the Company – Business Overview") as well as their scale, performance and accuracy, comprehensiveness and broad functionality.

We are leaders in the Customer Engagement space. We compete against WFO players such as Aspect, Calabrio, Genesys and Verint. In the CCaaS market, which is a part of the Contact Center Infrastructure market that is still mainly held by traditional on-premises players, we compete against Avaya, Cisco, Five9, Genesys and TalkDesk, as well as other niche vendors. We also compete against certain Unified Cloud Communications vendors (UCaaS), such as 8x8 and Vonage, which offer basic CCaaS capabilities, and certain digital engagement vendors, such as LivePerson, which offer digital engagement and self-service capabilities for contact centers. In addition, we are seeing some CRM companies that provide a subset functionality of our broader offerings.

We are leaders in the Financial Crime and Compliance space. We compete against niche vendors that provide one subset of functionality to protect against a specific risk and against vendors that provide a more comprehensive offering. Such vendors include BAE Systems, FICO, NASDAQ Smarts, Oracle and SAS Institute.

Item 4.C Organizational Structure

The following is a list of our significant subsidiaries and other subsidiaries, including the name and country of incorporation or residence. Each of our subsidiaries listed below is wholly owned by us.

Name of Subsidiary	Country of Incorporation or Residence
NICE Systems Australia PTY Ltd.	Australia
inContact Bolivia S.R.L.	Bolivia
NICE Systems Technologies Brasil LTDA	Brazil
NICE Systems Canada Ltd.	Canada
NICE Systems China Ltd.	China
NICE France S.A.R.L.	France
NICE Systems GmbH	Germany
NICE APAC Ltd.	Hong Kong
NICE Systems Kft	Hungary
NICE Interactive Solutions India Private Ltd.	India
NICE Technologies Ltd.	Ireland
Actimize Ltd.	Israel
NICE Enterprise Ltd.	Israel
NICE Japan Ltd.	Japan
NICE Technologies Mexico S.R.L.	Mexico
NICE Netherlands B.V.	Netherlands
NICE inContact Philippines Inc.	Philippines
NICE Systems (Singapore) Pte. Ltd.	Singapore
NICE Switzerland AG	Switzerland
Actimize UK Limited	United Kingdom
Brand Embassy Ltd.	United Kingdom
Contact Engine Limited	United Kingdom
NICE Systems Technologies UK Limited	United Kingdom
NICE Systems UK Ltd.	United Kingdom
Actimize Inc.	United States
Alacra LLC	United States
Contact Engine Inc.	United States
inContact Inc.	United States
Mattersight Corporation	United States
Moxie Software Inc.	United States
Nexidia Inc.	United States
NICE Systems Inc.	United States
NICE Systems Latin America, Inc.	United States
NICE Systems Technologies Inc.	United States

Item 4.D Property, Plants and Equipment

Our executive offices and engineering, research and development operations are located in Ra'anana, Israel. The offices occupy approximately 250,627 square feet, with an annual rent and maintenance fee of approximately \$8.3 million in 2021 and thereafter, paid in NIS and linked to the Israeli consumer price index. The lease for these offices in our Ra'anana facilities will expire in October 2022 and we intend to extend the lease for an additional term. The terms of the extension may differ from the terms of the current lease, including a reduction in the size of the offices we lease.

We have leased various other offices and facilities in several other countries. Our headquarters in each region consist of the following facilities:

- Our North American headquarters in Hoboken, New Jersey, occupies approximately 60,000 square feet. We consolidated our North American locations into this one office location in November 2016, and we sub-leased our two former facilities in New Jersey and New York for the remainder of their respective lease terms through 2023 and 2021, respectively;
- Our EMEA headquarters in London, occupies approximately 22,500 square feet (of which 5,543 square feet are sub-leased for a term ending in 2023); and
- Our APAC headquarters in Singapore occupies approximately 8,000 square feet.

We also have additional material leased facilities, consisting of the following:

- Americas facilities located in
 - Salt Lake City, Utah an office that occupies approximately 128,000 square feet; and
 - Additional offices are located in Colorado, Texas, Ohio and California.
 - APAC facilities include an office space located in Pune, India, which occupies approximately 135,000 square feet and includes a research and development and service center. There are also additional APAC offices located in Manila and Tokyo.

We believe that our existing facilities are adequate to meet our current needs and substantially adequate to meet our foreseeable future needs.

Item 4A. <u>Unresolved Staff Comments</u>.

None.

Item 5. <u>Operating and Financial Review and Prospects</u>.

The following discussion and analysis of our financial condition and results of operations should be read in conjunction with our consolidated financial statements and the related notes and other financial information included elsewhere in this annual report. This discussion contains certain forward-looking statements that involve risks, uncertainties and assumptions. As a result of many factors, including those set forth under Item 3, "Key Information - Risk Factors" and elsewhere in this annual report, our actual results may differ materially from those anticipated in these forward-looking statements. For more information about forward-looking statements, see the "Preliminary Note" that immediately follows the Table of Contents of this annual report.

Overview

NICE is a global enterprise software leader, providing cloud platforms for AI-driven digital business solutions that serve two main markets: Customer Engagement and Financial Crime and Compliance. Our core mission is to transform experiences to be extraordinary and trusted, and create frictionless and safe digital-first consumer reality, where every interaction is easy, effortless and instantaneous. Our solutions are used by organizations of all sizes and are offered in multiple delivery models, including cloud and on-premises.

In the Customer Engagement market, we enable organizations to transform experiences with solutions aimed at meeting consumers wherever they choose to begin their journey, providing digital-centric self-service capabilities, understanding consumers' journeys, creating smarter hyper-personalized connections and guiding seamless omnichannel interactions. We help organizations transform their workforce experience with solutions aimed at engaging employees, optimizing operations and automating processes.

In the Financial Crime and Compliance market, we protect financial services organizations and their customers' accounts and transactions, with solutions that identify risks and help prevent money laundering and fraud, as well as help ensure compliance in real-time.

NICE is at the forefront of several industry technological disruptions that have greatly accelerated in the last two years: the adoption of cloud platforms by organizations of all sizes and verticals, the shift of consumer and organizational preferences towards digital-centric services and experiences, the growing acceptance and adoption of AI, an increase in consumer self-service usage and the need to manage, optimize and engage a diverse and remote workforce while retaining and attracting top talents. Our suite of integrated portfolio solutions, based on our unique domain expertise, provide organizations engaged in customer experience, financial crime and public safety, with industry-leading agility and innovation that are essential for their success.

We rely on several key assets to drive our growth:

- Our market-leading cloud native open platforms for Customer Engagement and Financial Crime and Compliance, which natively embed analytics, automation, AI, and digital capabilities, and are protected by a broad array of patents.
- Our unique digital capabilities that are critical for organizations of all sizes and across all industries in dealing with the exponential adoption of digital communication by consumers.
- Our extensive portfolio of applications that allows our customers to benefit from a wide range of both cloud and on-premises solutions.
- Our broad array of proprietary technologies and algorithms in the domains of automation, analytics, machine learning, speech-to-text, natural language processing, personality-based routing and others.
- Our access to data for improving our algorithms through machine learning and AI, which relies on a combination of our extensive customer base, cloud deployments and domain expertise.
- Our solutions' coverage of all market segments, from small and mid-sized businesses to large scale Fortune 100 enterprises.

- The mission critical nature of our solutions to the operations of our customers and our cloud platforms that are essential for enabling a scalable and sustainable work-from-anywhere environment.
- Our market leadership, which makes us a well-recognized brand and creates top-of-mind awareness for our solutions in our areas of operation.
- Our large partner ecosystem that enables us to reach and serve a large number of customers across many countries.
- Our loyal customer base of more than 25,000 organizations in over 150 countries, across many industries, including 85 of the Fortune 100 companies.
- Our ability to quickly drive mainstream adoption for innovative solutions and new technologies and trends, which we introduce to the market through our direct sales force and distribution network.
- Our skilled employees and domain expertise in our core markets allow us to bring our customers the right solutions to address key business challenges and build strong customer partnerships.
- Our services, customer support and operations, which enable our customers to quickly enjoy the benefits of our solutions, with multiple deployment models in the cloud or on-premises throughout the world and support for full value realization and customer success.

COVID-19 Update

Due to the COVID-19 pandemic, we have restricted our employee travel, shifted to work from home in locations around the world and have changed other operating procedures. We have taken and will continue to take certain precautionary actions to minimize impact to our business and our employees. To the extent possible, we are taking action to reopen office locations around the world and allow our employees to work in a hybrid work model. In addition, we have and will continue to monitor and take actions to abide with all federal, state and local regulatory requirements. The continued duration and spread of the COVID-19 virus cannot be predicted. In this respect, see also the discussion under Item 3.D. "Risk Factors – General Risk Factors – Our business, facilities or operations could be adversely affected by events outside of our control, such as natural disasters or health epidemics." We will continue to drive uninterrupted business continuity in our operations while we closely track developments and may take further actions based on regulatory mandates, or that we determine are in the best interests of our employees, customers, partners, suppliers, and shareholders.

Recent Acquisitions

From time to time we complete acquisitions and investments. Some of them are not considered material to our business and operations. During 2021, we completed three acquisitions for a total consideration of approximately \$154.2 million, and during 2020, we completed three acquisitions for a total consideration of approximately \$164.6 million. For additional information see Note 1b to our Consolidated Financial Statements included elsewhere in this annual report.

The acquisitions were accounted for by the acquisition method of accounting, and, accordingly, the purchase price was allocated to the assets acquired and liabilities assumed based on their respective fair values. The results of operations related to each acquisition are included in our consolidated statements of income from the date of acquisition.

Critical Accounting Policies and Estimates

We prepare our consolidated financial statements in accordance with U.S. GAAP.

Certain accounting policies require that we apply significant judgment in determining the appropriate assumptions for calculating financial estimates. By their nature, these judgments will be subject to an inherent degree of uncertainty. Our judgments are based upon our management's historical experience, terms of existing contracts,

observance of trends in the industry, information provided by our customers and information available from other outside sources, as appropriate.

We believe that the accounting policies discussed below are critical to our financial results and to the understanding of our past and future performance, as these policies relate to the more significant areas involving management's estimates and assumptions. We consider an accounting estimate to be critical if: (1) it requires us to make assumptions because information was not available at the time or it included matters that were highly uncertain at the time we were making our estimate and (2) changes in the estimate could have a material impact on our financial condition or results of operations.

Revenue Recognition. We generate revenues from sales of cloud, service and software products, which include software license, SaaS, network connectivity, hosting, support and maintenance, implementation, configuration, project management, consulting and training, and software licenses. We sell our cloud, products and services directly through our sales force and indirectly through a global network of distributors, system integrators and strategic partners, all of whom are considered end-users.

We recognize revenues in accordance with ASC No. 606, "Revenue from Contracts with Customers" ("ASC 606"). Under this standard, we recognize revenues when a customer obtains control of promised goods or services in an amount that reflects the consideration that we expect to receive in exchange for those goods or services. To determine revenue recognition for contracts that are within the scope of this standard, we perform the following five steps:

1) Identify the contract(s) with a customer

A contract with a customer exists when (i) there is an enforceable contract with the customer that defines each party's rights regarding the goods or services to be transferred and identifies the payment terms related to these goods or services; (ii) the contract has commercial substance; and (iii) we determine that collection of substantially all consideration for goods or services that are transferred is likely based on the customer's intent and ability to pay the promised consideration. We apply judgment in determining the customer's ability and intent to pay, which is based on a variety of factors, including the customer's historical payment experience.

2) Identify the performance obligations of the contract

We enter into contracts that may include multiple performance obligations. We account for individual products and services separately if they are distinct - i.e., if a product or service is separately identifiable from other items in the contract and if a customer can benefit from it on its own or with other resources that are readily available to the customer.

3) Determine the transaction price

The transaction price is determined based on the consideration to which we will be entitled in exchange for transferring goods or services to the customer.

Payment terms and conditions vary by contract type. In instances where the timing of revenue recognition differs from the timing of invoicing, we generally do not include a significant financing component in our contracts since our sale prices are not subject to billing terms and the purpose of our contracts is not to receive financing from, or provide financing to, customers. In addition, we elected to apply the practical expedient to not adjust the promised amount of consideration for the effects of a significant financing component if we expects, at contract inception, that the period between when we transfers a promised good or service to a customer and when the customer pays for that good or service will be one year or less.

Revenue is measured based on the consideration specified in a contract with a customer, excluding taxes assessed by a governmental authority that are both imposed on and concurrent with a specific revenue-producing transaction, that we collect from a customer. We enter into contracts that can include various combinations of products and services, which are generally capable of being distinct and accounted for as separate performance obligations.

4) Allocate the transaction price to the performance obligations of the contract

We allocate the transaction price to each performance obligation identified based on its relative standalone selling price ("SSP") out of the total consideration of the contract.

We use judgment in determining the SSP. If the SSP is not observable through standalone transactions, we estimate the SSP by taking into account available information such as geographic or regional specific factors, internal costs, profit objectives, and internally approved pricing guidelines related to the performance obligations.

We typically establishes a SSP range for our products and services, which is reassessed on a periodic basis or when facts and circumstances change. SSP for products and services can evolve over time due to changes in NICE pricing practices that are influenced by intense competition, changes in demand for products and services, and economic factors, among others.

For products for which the SSP cannot be determined based on observable prices given that the same products are sold for a broad range of amounts (i.e., the selling price is highly variable), the SSP included in a contract with multiple performance obligations is determined by applying a residual approach whereby all other performance obligations within a contract are first allocated a portion of the transaction price based upon their respective SSPs, with any residual amount of transaction price allocated to these product revenues.

5) Recognize revenue when (or as) the entity satisfies a performance obligation

We derive our cloud revenues from subscription services, which are comprised of subscription fees from granting customers access to the our cloud platforms, network connectivity and/or services fees for deployment of certain cloud platforms.

Revenue from subscription services is recognized either ratably over the contract period or based on usage, and revenue from network connectivity is based on customer call usage and is recognized in the period the call is initiated and services fees for deployment are amortized over average customer life.

Revenue from software license, support and maintenance services are recognized at the time the related performance obligation is satisfied by transferring the promised product or service to the customer. Software license revenues are recognized at the point in time when the software license is delivered and the customer obtains control of the asset. Support and maintenance service revenues are recognized ratably over the term of the underlying maintenance contract term. Renewals of maintenance contracts create new performance obligations that are satisfied over the term with the revenues recognized ratably over the period of the renewal.

Professional services revenues, except fees for deployment of certain cloud platforms, are recognized as services are performed.

Impairment of Long-Lived Assets. Our long-lived assets include goodwill, property and equipment and identifiable other intangible assets that are subject to amortization.

Goodwill represents the excess of the purchase price in a business combination over the fair value of the net tangible and intangible assets acquired. Under ASC 350, "Intangible - Goodwill and Other" ("ASC 350"), goodwill is not amortized, but rather is subject to an annual impairment test. ASC 350 requires goodwill to be tested for impairment at the reporting unit level at least annually or between annual tests in certain circumstances and written down when impaired. Goodwill is tested for impairment by comparing the fair value of the reporting unit with its carrying value.

In 2020 we adopted ASU 2017-04. Therefore, if we determine that it is more likely than not that the fair value of a reporting unit is less than its carrying value, then the we prepares a quantitative analysis to determine whether the carrying value of reporting unit exceeds its estimated fair value. If the carrying value of a reporting unit exceeds its estimated fair value. If the amount of this excess, in accordance with the guidance in FASB Accounting Standards Update ("ASU") No. 2017-04, Intangibles - Goodwill and Other (Topic 350), Simplifying the Test for Goodwill Impairment.

During the fourth quarter of each of the fiscal years ended December 31, 2019, 2020 and 2021, we performed a qualitative assessment for our reporting units and concluded that the qualitative assessment did not result in a more

likely than not indication of impairment, and therefore no further impairment testing was required. Accordingly, no impairment charge was recognized during any of such fiscal years.

Income Taxes. To prepare our consolidated financial statements, we estimate our income taxes in each of the jurisdictions in which we operate, and in certain of these jurisdictions, our income taxes are calculated based on our assumptions as to our entitlement to various benefits under the applicable tax laws in the jurisdiction. The entitlement to such benefits depends upon our compliance with the terms and conditions set out in these laws.

We account for income taxes in accordance with ASC 740, "Income Taxes." This topic prescribes the use of the liability method whereby deferred tax asset and liability account balances are determined based on differences between financial reporting and tax bases of assets and liabilities, and are measured using the enacted tax rates and laws that will be in effect when the differences are expected to reverse. We provide a valuation allowance, if necessary, to reduce deferred tax assets to the amount that is more likely than not to be realized. Deferred tax assets and deferred tax liabilities are presented under long-term assets and long-term liabilities, respectively.

We implement a two-step approach to recognize and measure uncertain tax positions. The first step is to evaluate the tax position taken or expected to be taken in a tax return by determining if the weight of available evidence indicates that it is more likely than not that, on an evaluation of the technical merits, the tax position will be sustained on audit, including resolution of any related appeals or litigation processes. The second step is to measure the tax benefit as the largest amount that is more than 50% (cumulative basis) likely to be realized upon ultimate settlement.

We classify interest and penalties on income taxes (which includes uncertain tax positions) as taxes on income.

Business Combination. We apply the provisions of ASC 805, "Business Combination," and we allocate the fair value of purchase consideration to the tangible assets acquired, liabilities assumed and intangible assets acquired based on their estimated fair values. The excess of the fair value of purchase consideration over the fair values of these identifiable assets and liabilities is recorded as goodwill. When determining the fair values of assets acquired and liabilities assumed, management makes significant estimates and assumptions, especially with respect to intangible assets. Significant estimates in valuing certain intangible assets include, but are not limited to, future expected cash flows from customer relationships, acquired technology and acquired trademarks from a market participant perspective, useful lives and discount rates. Management's estimates of fair value are based upon assumptions believed to be reasonable, but which are inherently uncertain and unpredictable and, as a result, actual results may differ from estimates. Acquisition-related expenses are recognized separately from the business combination and are expensed as incurred.

Stock-based Compensation. We account for stock-based compensation in accordance with ASC 718, "Compensation - Stock Compensation" ("ASC 718"), which requires the measurement and recognition of stock base compensation expense based on estimated fair values for all share-based payment awards made to employees and directors. ASC 718 requires companies to estimate the fair value of equity-based payment awards on the date of grant using an option-pricing model and account for forfeitures as they occur.

We recognize compensation expenses for the value of our awards, which have graded vesting, based on the accelerated attribution method over the requisite service period of each of the awards.

We estimate the fair value of stock options granted using the Black-Scholes-Merton option-pricing model, which requires a number of assumptions: the expected volatility is based upon actual historical stock price movements; the expected term of options granted is based upon historical experience and represents the period of time that options granted are expected to be outstanding; the risk-free interest rate is based on the yield from U.S. Federal Reserve zero-coupon bonds with an equivalent term; and the expected dividend rate (an annualized dividend yield) is based on the per share dividend declared by our Board of Directors.

We measure the fair value of restricted stock based on the market value of the underlying shares at the date of grant. The fair value of certain performance share units with market-based performance conditions granted under the employee equity plan was estimated on the grant date using the Monte Carlo valuation methodology.

Marketable Securities. We account for investments in debt securities in accordance with ASC 320, "Investments - Debt and Equity Securities" and ASC No. 326, "Financial Instruments - Credit Losses". Management determines the appropriate classification of our investments in debt securities at the time of purchase and re-evaluates such determinations at each balance sheet date.

Marketable securities classified as "available-for-sale" ("AFS") are carried at fair value, based on quoted market prices. Unrealized gains and losses are reported in a separate component of shareholders' equity in accumulated other comprehensive income, net of taxes. Gains and losses are recognized when realized, on a specific identification basis, in our consolidated statements of income.

For each reporting period, we evaluate whether declines in fair value below carrying value are due to expected credit losses, as well as our ability and intent to hold the investment until a forecasted recovery occurs, in accordance with ASC 326. Allowance for credit losses on AFS debt securities are recognized as a charge in financial expenses (income), net, on the consolidated statements of income, and any remaining unrealized losses, net of taxes, are included in accumulated other comprehensive income (loss). In 2021 and 2020, no credit losses were recorded.

In each of 2021 and 2020, we classified all our securities with maturities beyond 12 months as current assets under the caption marketable securities on the consolidated balance sheet. These securities are available to support current operations and we may sell these debt securities prior to their stated maturities.

Exchangeable Senior Notes. We apply ASC 815 "Derivative and Hedging" ("ASC 815") and ASC 470 "Debt" ("ASC 470"). Under these standards, we separately account for the liability and equity components of convertible debt instruments that may be settled in cash in a manner that reflects our nonconvertible debt borrowing rate. The liability component at issuance is recognized at fair value, based on the fair value of a similar instrument that does not have a conversion feature. The equity component is based on the excess of the principal amount of the debentures over the fair value of the liability component, after adjusting for an allocation of debt issuance costs, and is recorded as additional paid in capital in excess of par. Debt discounts are amortized as additional non-cash interest expense over the expected life of the debt. We allocated the total issuance costs incurred to the liability and equity components of the convertible senior notes based on the same proportions as the proceeds from the notes.

On December 31, 2021, the Company entered into the First Supplemental Indenture to the 2017 Indenture (the "First Supplemental Indenture"). In accordance with the First Supplemental Indenture, the Company irrevocably elected Cash Settlement for the principal and any premium due upon conversion (as defined in the 2017 Indenture) to apply to all conversions of 2017 Notes with an Exchange Date (as defined in the 2017 Indenture) that occurs on or after December 31, 2021. As a result, the 2017 Notes are no longer subject to the cash conversion guidance and the conversion option is bifurcated as a derivative subsequent to the change in terms as described above and reclassified from equity to liability at an amount equal to the fair value of the conversion option at that date. Differences in the amount previously recognized in equity and the fair value of the conversion option at the date of reclassification are accounted for in equity. Subsequent changes in fair value of the derivative are reflected in financial income (expenses).

Recently Adopted Accounting Standards

In October 2021, the FASB issued ASU No. 2021-08, Business Combination (Topic 805): Accounting for Contract Assets and Liabilities from Contracts with Customers, which requires an acquirer to recognize and measure contract assets and liabilities acquired in a business combination in accordance with Revenue from ASC 606 rather than adjust them to fair value at the acquisition date. We early adopted ASU 2021-08 in the fourth quarter of 2021, retroactively applying it to all business combinations since January 1, 2021. The adoption did not have a material effect on our consolidated financial statements.

In December 2019, the FASB issued ASU 2019-12, Income Taxes (Topic 740): Simplifying the Accounting for Income Taxes. This standard simplifies the accounting for income taxes by eliminating certain exceptions to the guidance in Topic 740 related to the approach for intra-period tax allocation, the methodology for calculating income taxes in an interim period and the recognition of deferred tax liabilities for outside basis differences. The new guidance also simplifies aspects of the accounting for franchise taxes and enacted changes in tax laws or rates and clarifies the accounting for transactions that result in a step-up in the tax basis of goodwill and allocating consolidated income taxes to separate financial statements of entities not subject to income tax. The adoption of ASU 2019-12 did not have a significant impact on our consolidated financial statements.

Recently Issued Accounting Standards Not Yet Adopted

In August 2020, the FASB issued ASU 2020-06, which simplifies the guidance on the issuer's accounting for convertible debt instruments by removing the separation models for (1) convertible debt with a cash conversion feature and (2) convertible instruments with a beneficial conversion feature. As a result, entities will not separately present in equity an embedded conversion feature in such debt. Instead, they will account for a convertible debt instrument wholly as debt, unless certain other conditions are met. The elimination of these models will reduce reported interest expense and increase reported net income for entities that have issued a convertible instrument that was within the scope of those models before the adoption of ASU 2020-06. ASU 2020-06 also requires that the effect of potential share settlement be included in the diluted EPS calculation when an instrument may be settled in cash or share. This amendment removes current guidance that allows an entity to rebut this presumption if it has a history or policy of cash settlement. Furthermore, ASU 2020-06 requires the application of the if-converted method for calculating diluted earnings per share, the treasury stock method will be no longer available. The provisions of ASU 2020-06 are applicable for fiscal years beginning after December 15, 2021, with early adoption permitted no earlier than fiscal years beginning after December 15, 2020 . Upon adoption of ASU No. 2020-06, the Company will no longer record the conversion feature of our 2020 Notes in equity. Instead, the Company will combine the previously separated equity component with the liability component, which together is classified as debt, thereby eliminating the subsequent amortization of the debt discount as interest expense. Similarly, the portion of issuance costs previously allocated to equity will be reclassified to debt and amortized as interest expense. Accordingly, the Company expects to record as of January 1, 2022 an increase to retained earnings of approximately \$8.8 million, a decrease to additional paid-in capital of \$28.8 million, an increase to long-term debt of \$25 million, a decrease to deferred tax liabilities of \$3.9 million, and an increase in debt issuance costs of \$0.8 million. There will be an impact to earnings per share as a result of the adoption based on the if-converted method if the our share price will exceed the conversion price of the 2020 Notes (For additional information on the 2020 Notes, see Item 10, "Additional Information - Material Contracts - Notes and Indenture" in this report).

Results of Operations

The following table sets forth our selected consolidated statements of income for the years ended December 31, 2020 and 2021, expressed as a percentage of total revenues (totals may not add up due to rounding).

	2021	2020
Revenue:		
Cloud	53.0 %	47.2 %
Services	34.4	41.7
Product	12.6	11.1
	100.0	100.0
Cost of revenue:		
Cloud	21.4	20.6
Services	9.9	12.1
Product	1.2	1.3
	32.5	34.0
Gross profit	67.5	66.0
Operating expenses:		
Research and development, net	14.1	13.2
Selling and marketing	27.9	27.0
General and administrative	11.7	11.0
Total operating expenses	53.7	51.2
Operating income	13.8	14.8
Financial expenses and other, net	1.2	0.3
Income before taxes	12.5	14.4
Taxes on income	2.2	2.5
Net income	10.4	11.9

Comparison of Years Ended December 31, 2020 and 2021

For a comparison of our results for the years ended 2020 and 2019, please refer to Item 5 in our annual report on Form 20-F for the year ended 2020, filed with the SEC on March 23, 2021.

Our revenues increased by approximately \$273.1 million, or 17%, from \$1,648.0 million in the year ended December 31, 2020 to \$1,921 million in the year ended December 31, 2021. The increase consisted of a \$224.7 million increase in Customer Engagement revenue and an \$48.5 million increase in Financial Crime and Compliance revenue.

The revenue growth of our Customer Engagement business segment in 2021 is mainly attributed to the increased demand for our cloud platform CXone including the ongoing expansion of our customer base and further penetration into both large organizations and the mid-market as well as expanded usage by our existing customer base.

The revenue increase in our Financial Crime and Compliance business segment in 2021 is primarily attributed to additional product revenue and the increased adoption of our cloud platforms X-Sight and Xceed by our customers.

	Ye	ars Ended (In mi	ember 31, 1s)	Percentage Change
		2021	2020	2021-2020
Cloud revenue	\$	1,018.6	\$ 777.3	31.0 %
Service revenue		660.1	687.5	(4.0)
Product revenue		242.4	183.2	32.4
Total revenue	\$	1,921.1	\$ 1,648.0	16.6 %

Our cloud revenue in 2021 increased by 31.0%, or \$241.3 million, to \$1,018.6 million compared to \$777.3 million in 2020, mainly due to an increase in the Customer Engagement segment from growing demand for our CXone cloud platform including ongoing penetration in the mid-market with further adoption at the high end of the market. In addition, CXone growth resulted from both new customers and expansion from existing customers as well as growing adoption of our cloud solutions in the Financial Crime and Compliance segment. Revenue derived from our cloud platforms accounted for 53.0% of our total revenue in 2021, supporting our trend of increasing Cloud sales and shifting our On-Premises business into Cloud.

Our service revenue in 2021 decreased by 4.0%, or \$27.4 million, to \$660.1 million compared to \$687.5 million in 2020, mainly due to a decrease in maintenance revenue as a growing number of our existing on-premise customers transition to our cloud-based solutions.

Our product revenue in 2021 increased by 32.4%, or \$59.3, to \$242.4 million compared to \$183.2 million in 2020, as demand picked up in 2021 compared to the slowdown of on-premise purchases experienced during the outbreak of COVID in 2020.

Revenue by Region

	Yea	ars Ended (In mi	,	Percentage Change
		2021	2020	2021-2020
United States, Canada and Central and South America ("Americas")	\$	1,566.8	\$ 1,353.3	15.8 %
Europe, the Middle East and Africa ("EMEA")		240.0	184.5	30.0
Asia-Pacific ("APAC")		114.3	110.2	3.7
Total revenues	\$	1,921.1	\$ 1,648.0	16.6 %

Revenue in Americas increased in 2021 by 15.8%, or \$213.5 million, to \$1,566.8 million compared to \$1,353.3 million in 2020, mainly due to increased demand for our solutions delivered via our cloud platforms, primarily CXone.

Revenue in EMEA increased in 2021 by 30.0%, or \$55.5 million, to \$240.0 million compared to \$184.5 million in 2020, primarily attributed to the increase in CXone cloud platform sales and product revenue.

Revenue in APAC increased in 2021 by 3.7%, or \$4.1 million, to \$114.3 million compared to \$110.2 million in 2020. Increase in revenue in 2021 is primarily attributed to the increase in the Customer Engagement segment of our cloud and product revenue.

Cost of Revenue

	Yea	rs Ended (In m	ember 31, ns)	Percentage Change
		2021	2020	2021-2020
Cost of cloud revenue	\$	410.7	\$ 340.0	20.8 %
Cost of service revenue		191.1	199.8	(4.3)
Cost of product revenue		22.6	22.2	2.2
Total cost of revenue	\$	624.4	\$ 562.0	11.1 %

Our cost of cloud revenue in 2021 increased by \$70.7 million, or 20.8% compared to 2020, and decreased as a percentage of cloud revenue. The increase is primarily due to an increase in our cloud sales. The decrease as percentage of revenue is primarily due to increased scale in our cloud business in 2021.

Our cost of service revenue in 2021 decreased by \$8.7 million, or 4.3%, compared to 2020 and remained stable as a percentage of service revenue.

Our cost of product revenue in 2021 increased by \$0.4 million, or 2.2%, compared to 2020 and decreased as a percentage of product revenue compared to 2020, mainly due to increased scale in our product business in 2021.

Gross Profit

	Years	Ended De	ecember 31,	Percentage
		(In milli	ons)	Change
	20	21	2020	2021-2020
Gross profit on cloud revenue	\$ 60	98.0 \$	437.3	39.0 %
as a percentage of cloud revenue	4	59.7 %	56.3 %	
Gross profit on service revenue	40	58.9	487.7	(3.9)
as a percentage of service revenue	Ĩ	71.0 %	70.9 %	
Gross profit on product revenue	2	19.8	161.0	36.5
as a percentage of product revenue	9	90.8 %	87.9 %	_
Total gross profit	\$ 1,29	96.7 \$	1,086.1	19.4 %
as a percentage of total revenue	(57.5 %	65.9 %	

Our cloud gross profit was \$608.0 in 2021 compared to \$437.3 in 2020, representing an increase of \$170.7 million, or 39.0%. Our cloud gross profit as percentage of cloud revenue increased to 59.7% in 2021 compared to 56.3% in 2020. The increase in cloud gross profit and margin is mainly attributed to scaling in our cloud business and efficiencies in our internal operations.

Our services gross profit was \$468.9 in 2021 compared to \$487.7 in 2020, representing a decrease of \$18.8 million, or 3.9%, which is mainly attributed to a decrease in maintenance revenue as a growing number of our existing on-premise customers transition to our cloud-based solutions. As a percentage of service revenue, our services gross profit was 71.0% in 2021 compared to 70.9% in 2020.

Our product gross profit was \$219.8 in 2021 compared to \$161.0 in 2020, representing an increase of \$58.8 million, or 36.5%, which is mainly attributed to an increase in product revenue in 2021. Our product gross margin increased to 90.8% in 2021 compared to 87.9% in 2020, mainly due to increased scale in our product business during 2021.

Expenses

Percentage

	1	cars Enucu	Det	emper 51,	1 el centage
		(In m	illio	ns)	Change
		2021		2020	2021-2020
Research and development, net	\$	271.2	\$	218.2	24.3 %
Selling and marketing		536.2		445.1	20.5 %
General and administrative		225.4		180.7	24.7 %
Total operating expenses	\$	1,032.8	\$	844.0	22.4 %

Vears Ended December 31

Research and Development, Net. Net research and development expenses increased by \$53.0 million to \$271.2 million in 2021 compared to \$218.2 million in 2020, and represented 14.1% and 13.2% of revenues in 2021 and 2020, respectively. The increase in research and development expenses is attributed mainly to an increase in headcount, which we effected to further drive innovation in our solutions in order to support and expand our cloud business.

Selling and Marketing Expenses. Selling and marketing expenses increased by \$91.1 million to \$536.2 million in 2021 compared to \$445.1 million in 2020, which represented 27.9% and 27.0% of total revenues in 2021 and in 2020, respectively. The increase in selling and marketing expenses is attributed primarily to increases in sales commissions as a result of an increase in bookings as well as an increase in marketing costs related to lead generation and driving ongoing expansion in brand recognition.

General and Administrative Expenses. General and administrative expenses in 2021 were \$225.4 million compared to \$180.7 million in 2020, which represented 11.7% of total revenues in 2021, as compared to 11.0% of total revenues in 2020. The increase in general and administrative expenses is attributed primarily to an increase in stock-based compensation costs driven mainly by a higher fair value of employee equity awards resulting from the increase in our stock price and an increase in welfare costs.

Financial Expenses and Other, net

	Yea	rs Ended D	ecember 31,	Percentage
		(In mill	ions)	Change
	20)21	2020	2021-2020
Financial expenses and other, net		23.3	4.	9 375.5 %

Financial Expense and Other, net. Financial expenses and other, net, increased by \$18.4 million to \$23.3 million in 2021 compared to \$4.9 million in 2020. The increase in financial expenses and other, net is attributable primarily to the loss in respect of our debt extinguishment (early conversion 1.25% Exchangeable Senior Notes due 2024) and decrease in investment portfolio interest income due to lower interest rate environment.

Taxes on Income. Total tax expenses were \$41.4 million in 2021 and \$40.8 million in 2020. Our effective tax rate was 17.2% in 2021 and 2020.

The increase in 2021 of \$0.6 million in tax expenses is mainly due to our increased profitability. We were able to maintain our effective tax rate consistent at 17.2%, by taking active measures.

The majority of our income in Israel continues to benefit from reduced tax rates, which was 12% in 2021 and 2020, pursuant to our Preferred Technology Enterprise programs, as discussed in Note 13 of our consolidated financial statements under the caption "Taxes on Income".

Net Income. Net income increased by \$2.9 million to \$199.2 million in 2021 compared to \$196.3 million in 2020. The increase in 2021 resulted primarily from an increase in our revenue and gross profit, partially offset by higher operating and financial expenses.

Liquidity and Capital Resources

To date, we have financed our operations, acquisitions and the repurchase of our equity, primarily through cash generated from our operating activities as well as through debt financing in the form of convertible Notes.

As of December 31, 2021, we had \$1,424.75 million of cash equivalents and in short-term marketable investments, which included \$378.66 million in cash and cash equivalents, and \$1,046.09 million in short-term marketable investments. We believe our existing cash and cash equivalents will be sufficient to meet our working capital and capital expenditure needs for at least the next 12 months.

We plan to continue to finance our operations in the future primarily through sales of our solutions, most notably our cloud platforms. Our future capital requirements will depend on many factors including our growth rate, continuing market acceptance of our solutions, client retention, our ability to gain new clients, the timing and extent of spending to support research and development efforts, the expansion of sales and marketing activities and personnel, the introduction of new and enhanced offerings, and the impact of the COVID-19 pandemic on these or other factors. We may also acquire or invest in complementary businesses, technologies and intellectual property rights, which may increase our use of cash and future capital requirements, both to pay acquisition costs and to support our combined operations.

We continually evaluate our capital needs and may decide to raise additional capital to fund the growth of our business and future acquisitions and investments, through public or private equity offerings or through additional debt financing. Access to additional capital may not be available or on favorable terms.

Cash Flows

Generally, we invest our excess cash in highly liquid investment grade securities. As of December 31, 2021, we had \$1,424.8 million of cash and cash equivalents and short-term investments, as compared to \$1,463.9 million at December 31, 2020.

Cash provided by operating activities was \$461.8 million and \$480.3 million in 2021 and 2020, respectively. Net cash from operations in 2021 consisted primarily of net income of \$199.2 million, adjusted for non-cash activities such as depreciation and amortization of \$184.1 million, stock-based compensation of \$153.0 million as well as working capital changes derived from an increase in deferred revenues of \$30.8 million, an increase in accrued expenses and other liabilities of \$64.2 million, a decrease in deferred taxes of \$39.3 million and an increase in trade receivables of \$85.8 million. Net cash from operations in 2020 consisted primarily of net income of \$196.3 million, adjusted for non-cash activities such as depreciation and amortization of \$182.0 million, stock-based compensation of \$101.7 million as well as working capital changes derived from an increase in deferred revenues of \$63.2 million, an increase in accrued expenses and other liabilities of \$14.9 million, a decrease in deferred taxes of \$33.2 million and a increase in accrued expenses in accrued expenses and other liabilities of \$14.9 million, a decrease in deferred taxes of \$33.2 million and a decrease in trade receivables of \$22.2 million.

Net cash used in investing activities was \$261.5 million and \$465.1 million in 2021 and 2020, respectively. In 2021, net cash used in investing activities consisted primarily of payments for acquisitions of three companies in the aggregate amount of \$142.8 million (total consideration of \$154.2 less \$11.4 cash held by the acquire), net investment in marketable securities and short-term bank deposits of \$51.5 million and purchase of property, equipment of \$24.8 million and capitalization of internal use software costs of \$42.4 million. In 2020, net cash used in investing activities consisted primarily of payment for acquisitions of three companies in the aggregate amount of \$147.3 million, net investment in marketable securities and short-term bank deposits of \$254.5 million and purchase of property, equipment of \$24.2 million, net investment in marketable securities and short-term bank deposits of \$254.5 million and purchase of property, equipment of \$24.2 million, net investment in marketable securities and short-term bank deposits of \$254.5 million and purchase of property, equipment of \$24.2 million.

Net cash provided by (used in) financing activities was \$(261.8) million and \$196.8 million in 2021 and 2020, respectively.

In 2021, net cash used in financing activities was attributed primarily to repayment of long term debt in the amount of \$177.3 million, repurchase of our ordinary shares of \$73.2 million and the purchase of subsidiaries' shares from non-controlling interest of \$14 million which were offset by proceeds from the issuance of shares upon the exercise of options of \$4.4 million. In 2020, net cash provided by financing activities was attributed primarily to the proceeds from issuance of exchangeable notes of \$451.4 and the proceeds from issuance of shares upon exercise of

options of \$8.9 million, which were mainly offset by repayment of debt of \$215 million and proceeds from issuance of shares upon exercise of options of \$8.9 million.

Contractual and Other Obligations

December 31, 2021 (in thousands).
Payments Due by Period

Set forth below are our material contractual obligations and other commercial commitments as of

			rayı	ne	its Due by P	eric	a		
Contractual Obligations	Total	L	less than 1 year		1- 3 years		3-5 years	N	Iore than 5 years
Debt obligations, including estimated interest *	\$ 866,005	\$	63,176	\$	342,829	\$	460,000	\$	
Operating Leases	131,466		22,766		26,241		19,443		63,016
Unconditional Purchase Obligations	\$ 96,054	\$	46,326	\$	42,269	\$	7,397	\$	62
Severance Pay**	\$ 16,494								
Total Contractual Cash Obligations	\$ 1,110,019	\$	132,268	\$	411,339	\$	486,840	\$	63,078
Uncertain Income Tax Positions ***	\$ 77,047								

* Debt obligations includes senior exchangeable notes. The principal balances of the senior exchangeable notes are reflected in the payment periods in the table above based on their respective contractual maturities assuming no conversion. However, the 2017 notes are exchangeable as of January 1, 2020, and as such the value of these senior exchangeable notes is included within current liabilities on our consolidated balance sheets. See Note 15 to our consolidated financial statements included elsewhere in this Annual Report for further details.

- ** Severance pay relates to accrued obligations to employees as required under applicable labor laws. These obligations are payable only upon termination, retirement or death of the respective employees.
- *** Uncertain income tax positions under ASC 740 are due upon settlement and we are unable to reasonably estimate the ultimate amount or timing of settlement. See Note 13(k) of our consolidated financial statements for further information regarding our liability under ASC 740.

		Amoun	t of Commitmer	nt Expiration Pe	er Period
Other Commercial Commitments	Total Amounts Committed	Less than 1 year	1- 3 years	3- 5 years	More than 5 years
Guarantees	\$ 4,016	\$ 3,606	\$ 410	\$ —	\$

Research and Development and Intellectual Property

For information on our research and development policies and intellectual property, please see "Research and Development" and "Intellectual Property" under Item 4, "Information on the Company" in this annual report.

Trend Information

For additional information on trends in our industry, please see Item 4, "Information on the Company—Business Overview—Industry and Technology Trends" in this annual report.

For additional information on trends, uncertainties, demands, commitments or events that may have a material effect on revenue, please see Item 3, "Key Information—Risk Factors" in this annual report.

Item 6. Directors, Senior Management and Employees.

Item 6A. Directors and Senior Management.

The following tables set forth, as of March 20, 2022, the name, age and position of each of our directors and executive officers and, in regard to our directors, any of the committees of our board of directors on which they serve and whether any such director is an outside director:

Name	Age	Position	Audit Committee Member	Compensation Committee Member	Internal Audit Committee Member	Mergers and Acquisitions Committee Member	Nominations Committee Member	Outside Director*
David Kostman	57	Chairman of the Board of Directors	X			Х	X	
Rimon Ben- Shaoul	77	Director	X			Х		
Dan Falk	77	Director	X	X	X	Х	X	X
Yocheved Dvir	69	Director	X	X	Х			Х
Yehoshua Ehrlich	72	Director				х		
Leo Apotheker	68	Director		X		X		
Joe Cowan	73	Director		X		X		
Zehava Simon	63	Director	X	X	X			X

Members of the Board of Directors

* See Item 6, "Directors, Senior Management and Employees—Board Practices— Outside Directors."

Members of Management

Age Position 46 Chief Executive Officer 56 Chief Financial Officer 51 President, WCX - Workforce Engagement & Customer 61 Chief Executive Officer, NICE Actimize
51 President, WCX - Workforce Engagement & Customer Experience
Experience
51 Chief Executive Officer, NICE Actimize
,
52 Chief Executive Officer, NICE inContact
51 President of NICE Americas
63 President of NICE EMEA
54 President of NICE APAC
51 Vice President, Head of NICE India
46 Executive Vice President, Human Resources
49 Corporate Vice President, General Counsel and Corporate Secretary
45 Corporate VP Finance
51 46 49

David Kostman has served as one of our directors since 2001 (with the exception of the period between June 2007 and July 2008), and as our Chairman of the Board since February 2013. Mr. Kostman is currently co-CEO and board member of Outbrain, Inc. and serves on the board of directors of ironSource Ltd. and Tivit S.A. Mr. Kostman is also a former board member of publicly traded Retalix Ltd. (acquired by NCR). From 2006 until 2008, Mr. Kostman was a Managing Director in the investment banking division of Lehman Brothers, heading the Global Internet Group. From April 2003 until July 2006, Mr. Kostman was Chief Operating Officer and then Chief Executive Officer of Delta Galil USA, a subsidiary of publicly traded Delta Galil Industries Ltd. From 2000 until 2002, Mr. Kostman was President of the International Division and Chief Operating Officer of publicly traded VerticalNet Inc. Prior to that Mr. Kostman worked in the investment banking divisions of Lehman Brothers and privatizations. Mr. Kostman holds a Bachelor's degree in Law from Tel Aviv University and a Master's degree in Business Administration from INSEAD.

Rimon Ben-Shaoul has served as one of our directors since September 2001. Between 2001 and 2005, Mr. Ben-Shaoul has served as Co-Chairman, President, and Chief Executive Officer of Koonras Technologies Ltd., a technology investment company controlled by LEADER Ltd., an Israeli holding company. Since 2002 Mr. Ben-Shaoul serves as Chairman of Grand AutoMotive LLP. Mr. Ben-Shaoul also served as a director of MIND C.T.I. Ltd., BVR Systems Ltd. and several private companies. In addition, he served as the President and Chief Executive Officer of Polar Communications Ltd., which manages media and communications investments. Mr. Ben-Shaoul also served as the Chairman of T.A.T Technologies Ltd., a public company listed on NASDAQ and TASE. Between 1997 and 2001, Mr. Ben-Shaoul was the President and Chief Executive Officer of Clal Industries and Investments Ltd., one of the largest holding companies in Israel with substantial holdings in the high-tech industry. During that time, Mr. Ben-Shaoul also served as Chairman of the Board of Directors of Clal Electronics Industries Ltd., Fundtech Ltd., Creo Products, Inc. and Nova Measuring Instruments Ltd. From 1985 to 1997, Mr. Ben-Shaoul was President and Chief Executive Officer of Clal Instruments Ltd. From Mr. Ben-Shaoul holds a Bachelor's degree in Economics and Statistics and a Master's degree in Business Administration, both from Tel-Aviv University.

Dan Falk has served as one of our outside directors since 2001. From 1999 to 2000, Mr. Falk was President and Chief Operating Officer of Sapiens International Corporation N.V. From 1985 to 1999, Mr. Falk served in various positions in Orbotech Ltd., the last of which were Chief Financial Officer and Executive Vice President. From 1973 to 1985, he served in several executive positions in the Israel Discount Bank. Mr. Falk also serves on the board of directors of Ormat Technologies Inc., and until recently served on the board of directors of each of Attunity Ltd. and Orbotech Ltd. Mr. Falk holds a Bachelor's degree in Economics and Political Science and a Master's degree in Business Administration, both from the Hebrew University, Jerusalem.

Yocheved Dvir has served as one of our outside directors since January 2008. Since 2000, Ms. Dvir has served as a strategic advisor in business development affairs to multiple companies and initiatives. Ms. Dvir also serves on the board of directors of Menorah Insurance Company and its subsidiary, Xenia Venture Capital and Endey Med. She recently served on the boards of Alrov Real Estate, Visa Cal, Trendline Business Information & Communications Ltd., Israel Corporation Ltd., ECI Telecom Ltd., Strauss Industries Ltd., Phoenix Holding and Phoenix Insurance Co. Between 1990 and 2000, Ms. Dvir served as a Senior Vice President of the Migdal Group. Ms. Dvir joined the Migdal Group in 1981 and, until late 2000, held a number of senior financial and managerial positions, including Head of the Group's Economics Department (1986-1988), Head of the Group's Corporate Office from 1989 to 1992, Head of the Group's Strategic Development Division and Marketing Array and Risk Manager in 2000. Ms. Dvir holds a Bachelor's degree in Economics and Statistics from the University of Jerusalem.

Yehoshua (Shuki) Ehrlich has served as one of our directors since September 2012. Mr. Ehrlich is an active social investor, serving as Chairman of "Committed to Give", a group formed by Israeli social investors for promoting philanthropy in Israel and several other social organizations. Mr. Ehrlich also serves as a board member of the American Joint Distribution Committee and a board member of AfterDox, an angels' investment group. Between the years 2000 and 2010, Mr. Ehrlich served as Managing Director at Giza Venture Capital, where he focused on the communications, enterprise software and information technology sectors. Additionally, Mr. Ehrlich had a fifteen-year career with Amdocs, a public software company specializing in billing, CRM, order management systems for telecommunications and Internet service providers. In his last role at Amdocs, Mr. Ehrlich served as Senior Vice President of Business Development. Mr. Ehrlich holds a Bachelor of Science in Mathematics and Computer Science from the Tel Aviv University.

Leo Apotheker has served as one of our directors since August 2013. Mr. Apotheker is the Co-Chief Executive Officer of Burgundy Technology Acquisition Corp. Mr. Apotheker was the Managing Partner and co-founder of Efficiency Capital SAS, a growth capital advisory firm, from 2012 to 2014. From 2010 to 2011, Mr. Apotheker served as Chief Executive Officer of Hewlett Packard. From 2008 to 2010, he served as Chief Executive Officer of SAP AG. In addition, he is currently chairman of the board of Syncron AB, a member of the board of Schneider SE, and a member of the board of MercuryGate, P2 Energy Services and Taulia Inc. Mr. Apotheker also previously served as the chairman of the board of Unit4, a leading Dutch software company. Mr. Apotheker holds a Bachelor's degree in Economics and International Relations from the Hebrew University of Jerusalem.

Joe Cowan has served as one of our directors since August 2013. From October 2013 until September 2017, Mr. Cowan was the CEO and director of Epicor. Since January 2021 Mr. Cowan has been a director of Drishti Technologies, Inc. and of Auburn University Foundation. Since September 2016 Mr. Cowan has been a director of ChannelAdvidsor, Inc. and since January 2019 the Chairman of the Board of SAI Global a private company owned by Baring Private Equity Asia. During 2013, Mr. Cowan also served as President of DataDirect Networks, Inc. From 2010 until 2013, Mr. Cowan served as the Chief Executive Officer and President of Online Resources Corp. During 2009, he served as an Operating Executive and Consultant at Vector Capital. From 2007 to 2009, Mr. Cowan served as the Chief Executive Officer of Interwoven Inc. From 2004 to 2006, Mr. Cowan served as the President and Chief Executive Officer of Manugistics Inc. and Manugistics Group Inc. Prior to that, Mr. Cowan served in various senior executive positions, including as the Chief Operating Officer of Baan Co. NV and Avantis GOB NV. He has been a Director of DataDirect Networks, Inc. between 2011 and February 2013. Mr. Cowan has also served on the boards of various publicly traded companies, including ChannelAdvidsor Inc., Interwoven Inc., Online Resources Corporation, Manugistics Group Inc. and Blackboard Inc., as well as several private companies. Mr. Cowan holds an M.S. degree in Electrical Engineering from Arizona State University and holds a B.S. degree in Electrical Engineering from Arizona State University and holds a B.S. degree in Electrical Engineering from Arizona State University and holds a B.S. degree in Electrical Engineering from Arizona State University and holds a B.S. degree in Electrical Engineering from Arizona State University and holds a B.S. degree in Electrical Engineering from Arizona State University and holds a B.S. degree in Electrical Engineering from Arizona State University and holds a B.S. degree in Electrical Engineering from Arizona St

Zehava Simon has served as one of our outside directors since July 2015. Ms. Simon served as a Vice President of BMC Software Inc. from 2000 until 2013, most recently as Vice President of Corporate Development. From 2002 to 2011, Ms. Simon also served as Vice President and General Manager of BMC Software in Israel. Prior to that, Ms. Simon held various positions at Intel Israel, which she joined in 1982, including acting as leader of Finance and Operations and Business Development for Intel in Israel. Ms. Simon is currently a board member of Audiocodes Ltd. and Nova Measurements, both public companies traded on NASDAQ and TASE. Ms. Simon is a former member of the board of directors of Insightec Ltd., M-Systems Ltd. (acquired by SanDisk Corp.), Tower Semiconductor Ltd. and Amiad Water Systems, a public company traded on the London Stock Exchange. Ms. Simon holds a B.A. in Social Sciences from the Hebrew University, Jerusalem, a law degree (LL.B.) from the Interdisciplinary Center in Herzliya and an M.A. in Business and Management from Boston University.

Barak Eilam has served as Chief Executive Officer since April 2014. In his previous position with NICE, Mr. Eilam was President of our American division from July 2012 to March 2014. Prior to that, Mr. Eilam was the head of sales and the general manager of the Enterprise Group in the Americas. From 2007 to 2009, Mr. Eilam founded and served as the general manager of the NICE Interaction Analytics Global Business Unit. Mr. Eilam has also served in a variety of executive positions within NICE, managing different aspects of the business in product development, sales and product management. Before joining NICE in 1999, Mr. Eilam was an officer for an elite intelligence unit in the Israeli defense forces. Mr. Eilam holds a Bachelor's degree in Electrical and Electronics Engineering from Tel Aviv University.

Beth Gaspich has served as our Chief Financial Officer since October 2016. Ms. Gaspich joined NICE as CFO of the Financial Crime and Compliance division NICE Actimize in September 2011, where she was responsible for finance, legal and business operations. Prior to joining NICE, she was Chief Financial Officer for Archive Systems, Inc., a privately held document management software provider. She also served as Vice President of Finance at RiskMetrics Group, Inc., a cloud-based risk management software company. Ms. Gaspich was one of the founding members of RiskMetrics Group and assisted in taking the company through a successful public offering on the NYSE in January 2008. Prior to that, Ms. Gaspich held several other senior positions throughout her career at large global financial institutions, including JP Morgan and Price Waterhouse. Ms. Gaspich holds a B.A. in Accounting from the University of Missouri.

Barry Cooper has been with NICE since March 2011 and serves as our President, WCX - Workforce Engagement & Customer Experience as of January 2019. From May 2016 until December 2018, he served as our Chief Operating Officer (COO). Prior to serving as COO, Mr. Cooper served as Vice President, Business Operations for APAC from March 2011 until June 2013, and as of July 2013 and until assuming the role of COO, he served as Executive Vice President, Professional Services and Cloud. Prior to joining NICE, Mr. Cooper was a Management Consultant at Accenture; the Head of Customer Service, IT and Billing at Time Telekom, Malaysia; and Vice President of Professional Services, APAC for CSG Systems, later Converse. Mr. Cooper holds a First Class Bachelor of Computer Science and Mathematics with Honors from Salford University in the United Kingdom.

Craig Costigan has served as NICE Actimize CEO since November 2018. From 2016 to 2018, he served as President of Capital Markets & Credit at Fidelity National Information Services Inc. (FIS), where he managed a team of approximately 4,000 staff worldwide, overseeing risk, compliance, credit, security finance, securities processing and market data solutions and services for over 2,000 banks, broker dealers, investment firms, hedge funds, insurance companies and clients in the financial market. Prior to that, Mr. Costigan served as President of the Risk, Compliance and Global Securities Business at SunGard. Mr. Costigan holds a BS in Economics from Northeastern University.

Paul Jarman has served as NICE inContact CEO since November 2016 and served as inContact CEO from January 2005 until we acquired inContact. From December 2002 until becoming CEO in January 2005, Mr. Jarman served as inContact's President. Prior to December 2002, he served as inContact's Executive Vice President. Mr. Jarman was instrumental in guiding inContact from its roots in telecommunications to its strategic offering of cloud-based contact center solutions and has been a part of every major enhancement the company has made since 1997. Mr. Jarman led inContact's listing on NASDAQ. Prior to joining inContact, he was an executive with HealthRider, Inc. Mr. Jarman holds a Bachelor of Science degree in Accounting from the University of Utah.

Yaron Hertz has served as our President of NICE Americas since 2017. Mr. Hertz joined NICE in 2007 as part of the Actimize acquisition by NICE. Prior to his current position, Mr. Hertz served as the head of sales for NICE Actimize in the Americas. Prior to joining Actimize, Mr Hertz severed as Head of Partner and Channel development for RSA Security. In addition, Mr. Hertz has extensive experience in senior leadership position, and he served as VP of Business Development in Cyota. Mr. Hertz is a former attorney and holds an LLB from the University of Northumbria in Newcastle, England.

John O'Hara has served as our President of NICE EMEA since January 2016. Prior to joining NICE, Mr. O'Hara served as President at Pitney Bowes Software where he ran the fastest growing division of Pitney Bowes. Prior to that, Mr. O'Hara served in senior level management positions at Microsoft UK and Pivotal Corporation, a leader in CRM for mid-market enterprises. Mr. O'Hara also spent 11 years at Lotus Development Group and IBM serving in various roles, including General Manager, International Business Development Group, European Sales Director, Director Global Accounts and Managing Director Lotus UK. Mr. O'Hara holds a Bachelor of Science degree in Chemistry from the University of Wales Institute of Science and Technology, Wales and a Master of Science degree from the University of Manchester, UK.

Darren Rushworth has severed as our President of NICE APAC since 2017. Mr. Rushworth's career spans over 30 years in the IT industry of which the past 21 years have been in the Asia Pacific Region. Prior to joining NICE, Mr. Rushworth held the role of Managing Director of Singapore for SAP Asia Pacific and he also led SAP's Philippine and Emerging Market operations. Prior to that, Mr. Rushworth held multiple leadership roles at Oracle including VP Applications Sales APAC, VP Channels and VP Oracle Direct APAC.

Awan Roy has served as our Vice President, Head of NICE India GTC since March 2021. From 2007 to 2020 Mr. Roy served as Sr Director, R&D and India Site Head at Varian Medical Systems where he established the India center, growing it into a global Center of Excellence for Infrastructure and Informatics software. Prior to that, Mr. Roy served as Sr Manager at Siemens Healthineers where he led the development of several medical software products and platforms. Mr. Roy holds a Bachelor's degree in Computer Science from the University of Delhi and a Masters' degree in Computer Science from Devi Ahilya Vishwavidyalaya.

Shiri Neder has served as our Executive Vice President, Human Resource since February 2018. Prior to joining NICE, Ms. Neder was the Corporate Vice President, Head of Human Resources at Nova Measuring Instruments. Prior to that, Ms. Neder worked at Amdocs as Vice President, Human Resources for the Product and Delivery organizations and served as head of Amdocs' Talent Development organization. In addition, Ms. Neder has held positions at Microsoft where she established the Human Resources function for the Telecom division as well as served as Regional Senior Human Resources Manager for the EMEA region. Ms. Neder holds a B.A. in Social Science and an M.A. in Law from Bar Ilan University.

Tali Mirsky has served as our Corporate Vice President, General Counsel and Corporate Secretary since March 2018. From 2010 to early 2018, she served as Global Vice President of Legal Affairs and Corporate Secretary at Frutarom Industries Ltd., where she led the company's M&A transactions in addition to managing the company's legal department and handling all legal matters and corporate and securities related items. Prior to that, Ms. Mirsky served as Vice President, General Counsel and Corporate Secretary of Alvarion, led Business and Legal Affairs at Nicast and Midbar Tech and was an associate with Naschitz Brandes & Co law office. She holds an LL.B. in Law and Business Administration from IDC, Herzliya and is admitted to practice law in Israel.

Keren Farag-Krygier has served as our Corporate Vice President Finance since June 2019. Prior to joining NICE, she was Chief Financial Officer for Matomy Media Group, a public traded company, traded on both the London and Tel Aviv Stock Exchanges, where she was responsible for all finance, investor relations, M&A and business operation activities. In her previous position with Matomy, she served as Vice President of Finance and led the company's successful IPO on the London Stock Exchange. Prior to that, Ms. Farag-Krygier held several senior positions within finance organizations. Ms. Farag-Krygier is a Certified Public Accountant (CPA) and holds a B.A. in Accounting and Economics from Ben-Gurion University and a M.B.A in Business Administration from Tel-Aviv University.

There are no family relationships between any of the directors or executive officers named above.

Item 6B. <u>Compensation</u>.

(a) Aggregate Executive Compensation

The aggregate compensation paid to or accrued on behalf of all our directors and executive officers as a group of 20 persons during 2021 consisted of approximately \$8.95 million in salary, fees, bonus, commissions and directors' fees and approximately \$0.19 million in amounts set aside or accrued to provide pension, retirement or similar benefits, but excluding amounts we expended for automobiles made available to our officers, expenses (including business travel, professional and business association dues and expenses) reimbursed to our officers and other fringe benefits commonly reimbursed or paid by companies in Israel or the United States.

Our compensation policy for our executive management team, as approved by our shareholders, following the recommendation of our compensation committee and approval by our Board of Directors (as amended, the "Compensation Policy"), is annually reviewed and approved by our Board of Directors, as is any bonus payment made under the policy.

We have a performance-based bonus plan for our executive management team. The plan is based on our overall performance, the particular unit performance, individual performance and the results of the customer satisfaction survey conducted annually. The measurements can change from year to year, based on a combination of financial parameters, including revenues, booking and operating income. The plan is reviewed and approved by our compensation committee and Board of Directors annually, as is any bonus payment under the plan.

During 2021, our officers and directors received, in the aggregate, (i) options to purchase 77,050 ordinary shares, which include 53,474 options with an exercise price equal to the par value of the ordinary shares (the "par value options"), and (ii) 243,400 restricted share units, under our equity-based compensation plans. The options (other than the par value options) have a weighted average price of \$232.2 and all options will expire six years after the date of grant. The restricted shares units are granted at par value of the ordinary shares.

Pursuant to the requirements of the Israeli Companies Law, 5759–1999 (the "Israeli Companies Law"), remuneration of our directors requires shareholder approval. Compensation and reimbursement for outside directors (as described below) is statutorily determined pursuant to the Israeli Companies Law. Effective as of July 1, 2015, our shareholders approved the payment to each of our non-executive directors, including outside directors, of an annual fee of \$40,000 and a meeting attendance fee of \$1,500 for each Board meeting attended (whether in person or through media), and \$1,000 for each Board committee meeting attended (whether in person or through media) (in each case paid in U.S. dollars or in NIS based on the exchange rate on July 1, 2015), subject to additional value added tax, as applicable.

On July 9, 2015, at our 2015 annual general meeting of shareholders, following the recommendation of our compensation committee and approval by our Board of Directors, our shareholders approved an amended Compensation Policy for directors and officers. In addition, our shareholders approved a special annual cash fee for the Chairman of the Board in the amount of NIS 450,000 (equivalent to approximately \$140,000). The special annual fee is subject to adjustment for changes in the Israeli consumer price index after September 2012. At the Company's 2021 annual general meeting, following the recommendation of our compensation committee and approval by our Board of Directors, our shareholders reapproved our Compensation Policy, as further discussed below in Item 10, "Additional Information. – Approval of Office Holder Compensation" in this annual report.

(b) Individual Compensation of Covered Executives

The following describes the compensation of our five most highly compensated executive officers in 2021, based on the total of salary costs, bonus cost and equity costs for equity granted and expensed by the Company in 2021 ("Covered Executives").

The compensation specified below is broken down into the following components (all amounts specified below are in terms of cost to the Company, as recorded in our financial statements, and U.S. dollar amounts indicated for Salary, Bonus Costs and Equity Costs are in thousands of dollars):

- (1) <u>Salary Costs</u>. Salary Costs include gross salary, benefits and perquisites, including those mandated by applicable law which may include, to the extent applicable to each Covered Executive, payments, contributions and/or allocations for pension, severance, vacation, travel and accommodation, car or car allowance, medical insurances and risk insurances (e.g., life, disability, accidents), phone, convalescence pay, relocation, payments for social security, and other benefits consistent with the Company's guidelines.
- (2) <u>Bonus Costs</u>. Bonus Costs represent bonuses granted to the Covered Executive with respect to the year ended December 31, 2021, paid in accordance with the Company's performance-based bonus plan or as detailed below.
- (3) <u>Equity Costs</u>. Represents the expense recorded in our financial statements for the year ended December 31, 2021, with respect to equity granted in 2021 and in previous years (if applicable). For assumptions and key variables used in the calculation of such amounts, see Note 14b of our audited consolidated financial statements.
 - i. **Barak Eilam CEO.** Salary Costs \$1,010; Bonus Costs \$1,650; Equity Costs \$10,712 expense recorded in 2021 for equity granted in 2021 and \$6,814 expense recorded in 2021 for equity granted in previous years.
 - Paul Jarman CEO, NICE inContact. Salary Costs \$495; Bonus Costs \$704; Equity Costs \$2,638 expense recorded in 2021 for equity granted in 2021 and \$2,824 expense recorded in 2021 for equity granted in previous years.
 - iii. Craig Costigan NICE Actimize CEO. Salary Costs \$427; Bonus Costs \$825; Equity Costs \$2,051 expense recorded in 2021 for equity granted in 2021 and \$1,401 expense recorded in 2021 for equity granted in previous years.
 - iv. Yaron Hertz President of NICE America. Salary Costs \$463; Bonus Costs \$781; Equity Costs \$1,906 expense recorded in 2021 for equity granted in 2021 and \$1,347 expense recorded in 2021 for equity granted in previous years.
 - v. **Barry Cooper President, WCX Workforce Engagement & Customer Experience.** Salary Costs \$464; Bonus Costs \$748; Equity Costs \$1,906 expense recorded in 2021 for equity granted in 2021 and \$1,397 expense recorded in 2021 for equity granted in previous years.

Item 6C. <u>Board Practices</u>

Corporate Governance Practices

We are incorporated in Israel and therefore are subject to various corporate governance practices under the Israeli Companies Law, relating to such matters as outside directors, the internal audit committee, the internal auditor and approvals of interested party transactions. These matters are in addition to the ongoing listing conditions of the NASDAQ and other relevant provisions of U.S. securities laws. Under applicable NASDAQ rules, a foreign private issuer may generally follow its home country rules of corporate governance in lieu of comparable NASDAQ requirements, except for certain matters such as composition and responsibilities of the audit committee and the independence of its members. For further information, see Item 16G, "Corporate Governance" of this annual report.

General Board Practices

Our articles of association provide that the number of directors serving on the Board shall be not less than three but shall not exceed thirteen. Our directors, other than outside directors, are elected at the annual shareholders meeting to serve until the next annual meeting or until their earlier resignation, death, bankruptcy, incapacity or removal by an extraordinary resolution of the general shareholders meeting. Directors may be re-elected at each annual shareholders' meeting. The Board may appoint additional directors (whether to fill a vacancy or create new directorships) to serve until the next annual shareholders meeting, provided, however, that the Board shall have no obligation to fill any vacancy unless the number of directors is less than three.

The Board may, subject to the provisions of the Israeli Companies Law, appoint a committee of the Board and delegate to such committee all or any of the powers of the Board, as it deems appropriate. Notwithstanding the foregoing and subject to the provisions of the Israeli Companies law, the Board may, at any time, amend, restate or cancel the delegation of any of its powers to any of its committees. The Board has appointed an internal audit committee under the Israeli Companies Law that has three members, an audit committee that has five members, a compensation committee that has five members, a nominations committee that has two members and a mergers and acquisitions committee that has six members. In addition, from time to time the Board may appoint an ad hoc committee for certain purposes, such as the review, negotiation and recommendation of approval of M&A transactions. We do not have, nor do our subsidiaries have, any service contracts granting to the directors any benefits upon termination of their service as Board members.

Outside Directors

Except as discussed below, under the Israeli Companies Law companies incorporated under the laws of Israel whose shares have been offered to the public in or outside of Israel are required to appoint at least two "outside" directors. Pursuant to regulations under the Israeli Companies Law that took effect in April 2016, a NASDAQ-listed company that does not have a controlling shareholder is entitled to opt out of the provisions of the Israeli Companies Law requiring at least two outside directors and certain related requirements, so long as the company complies with the SEC regulations and NASDAQ listing rules regarding independent directors and the composition of the audit and compensation committees. In December 2016, our shareholders approved amendments to our articles of association, pursuant to which our Board of Directors may elect to opt out of such requirements for appointment of outside directors (together the "2016 Relief Amendments"). At this time, our Board of Directors has not made an election to opt out of such requirements.

Outside directors are required to possess professional qualifications as set out in regulations promulgated under the Israeli Companies Law. The Israeli Companies Law provides that a person may not be appointed as an outside director if (i) such person or person's relative or affiliate has, at the date of appointment, or had at any time during the two years preceding such date, any affiliation with the company, a controlling shareholder thereof or their respective affiliates; or (ii) in a company that does not have a 25% shareholder, such person has an affiliation with any person who, at the time of appointment, is the chairman, the chief executive officer, the chief financial officer or a 5% shareholder of the company. In general, the term "affiliation" includes: an employment relationship; a business or professional relationship maintained on a regular basis; control; and service as an office holder.

No person may serve as an outside director if the person's position or other activities create or may create a conflict of interest with the person's responsibilities as an outside director or may otherwise interfere with the person's ability to serve as an outside director. Until the lapse of two years from termination of office, a company or its controlling shareholder may not give any direct or indirect benefit to the former outside director.

Outside directors are to be elected by a majority vote at a shareholders' meeting, provided that either:

- the majority of shares voted at the meeting shall include at least a majority of the shares of non-controlling shareholders present at the meeting and voting on the matter (without taking into account the votes of the abstaining shareholders); or
- the total number of shares of non-controlling shareholders voted against the election of the outside directors does not exceed two percent of the aggregate voting rights in the company.

The initial term of an outside director is three years and may be extended for up to two additional three-year terms. Thereafter, he or she may be reelected by our shareholders for additional periods of up to three years each only if the internal

audit committee and the Board of Directors confirm that, in light of the outside director's expertise and special contribution to the work of the Board of Directors and its committees, the reelection for such additional period is beneficial to the company. Reelection of an outside director may be effected through one of the following mechanisms: (1) the Board of Directors proposed the reelection of the nominee and the election was approved by the shareholders in the same manner required to appoint outside directors for their initial term; or (2) one or more shareholders holding one percent or more of a company's voting rights or the outside director proposed the reelection of the nominee, and the reelection is approved by a majority of the votes cast by the shareholders of the company, excluding the votes of controlling shareholders and those who have a personal interest in the matter as a result of their relations with the controlling shareholders, provided that the aggregate votes cast in favor of the reelection by such non-excluded shareholders constitute more than two percent of the voting rights in the company. An outside director may be removed only in a general meeting, by the same percentage of shareholders as is required for electing an outside director, or by a court, and in both cases only if the outside director ceases to meet the statutory qualifications for appointment or if he or she has violated the duty of loyalty to us. Unless we actually adopt the applicable relief provided under the 2016 Relief Amendments, each committee of the Company's Board of Directors which is empowered to exercise any of the Board's powers is required to include at least one outside director, provided that each of the internal audit committee and compensation committee must include all of the outside directors. At this time, our Board of Directors has not made an election to opt out of such requirements.

An outside director is entitled to compensation as provided in regulations adopted under the Israeli Companies Law and is otherwise prohibited from receiving any other compensation, directly or indirectly, from the company. In accordance with such regulations, our shareholders approved that our outside directors are to receive compensation equal to that paid to the other members of the Board of Directors. For further information, please see Item 6, "Directors, Senior Management and Employees—Compensation" in this annual report.

Financial and Accounting Expertise

Pursuant to the Israeli Companies Law, our Board of Directors has determined that at least one member of our Board of Directors must be an "accounting and financial expert." The Israeli Companies Law requires that all outside directors must be "professionally qualified." Under applicable NASDAQ rules, each member of our audit committee must be financially literate and at least one of the members must have experience or background that results in such member's financial sophistication. Our Board of Directors has determined that each of Dan Falk and Yocheved Dvir is an "accounting and financial expert" for purposes of the Israeli Companies Law and is financially sophisticated for purposes of applicable NASDAQ rules. See also Item 16A, "Audit Committee Financial Expert" in this annual report.

Independent Directors

Under the rules of the NASDAQ, a majority of our directors are required to be "independent" as defined in applicable NASDAQ rules. All of our directors satisfy the respective independence requirements of NASDAQ.

In addition, our Articles of Association provide that, if we do not have a shareholder that holds 25% or more of our issued and outstanding share capital, a majority of the directors must be "independent" as defined in the Israeli Companies Law and the regulations promulgated thereunder. If we have a shareholder that holds 25% or more of our issued and outstanding share capital, then at least one third of the directors must be "independent." All of our directors satisfy the respective independence requirements of the Israeli Companies Law. The qualifications for independent directors under the Israeli Companies Law are similar to those for outside directors, as described above under "Outside Directors", including the nine-year term limit and the ability to extend such term beyond nine years upon the approval of our internal audit committee and Board of Directors.

Internal Audit Committee

The Israeli Companies Law requires public companies to appoint an internal audit committee. The role of the internal audit committee under the Israeli Companies Law is to examine flaws in the management of the company's business in consultation with the internal auditors and the independent accountants, and to propose remedial measures to the Board. The internal audit committee also reviews interested party transactions for approval as required by law, including approval of the remuneration of a director in any capacity, which also requires Board, compensation committee and shareholder approval. The internal audit committee also assesses our internal audit system and the performance of our internal auditor and oversees the implementation and enforcement of our compliance program. Under the Israeli Companies Law, an internal audit committee must consist of at least three directors, including all of the outside directors. The members of the internal audit

committee must satisfy certain independence standards under the Israeli Companies Law, and the chairman of the internal audit committee must be an outside director. The following may not serve as members of the internal audit committee: the chairman of the Board of Directors, any director employed by the company or by its controlling shareholder or by an entity controlled by the controlling shareholder, a director who regularly provides services to the company or to its controlling shareholder, any director who derives most of its income from the controlling shareholder and a controlling shareholder or any relative of a controlling shareholder. Pursuant to the 2016 Relief Amendments, the Company may elect to opt out of the composition and attendance rules set with respect to the internal audit committee under the Israeli Companies Law, so long as the Company complies with the SEC regulations and NASDAQ listing rules regarding the composition and attendance rules in that respect. At this time, our Board of Directors has not made an election to opt out of such requirements.

All of the current members of our internal audit committee (presently comprised of Yocheved Dvir (Chairman), Dan Falk and Zehava Simon) meet these qualifications.

Internal Auditor

Under the Israeli Companies Law, the Board of Directors must appoint an internal auditor, proposed by the internal audit committee. The role of the internal auditor is to examine, among other matters, whether the company's activities comply with the law and orderly business procedures. Under the Israeli Companies Law, the internal auditor may be an employee of the company but may not be an interested party or office holder, or a relative of any interested party or office holder and may not be a member of the company's independent accounting firm or its representative. We have appointed an internal auditor in accordance with the requirements of the Israeli Companies Law.

Audit Committee

The NASDAQ rules require that the audit committee of a listed company be composed of at least three directors, each of whom is (i) independent; (ii) does not receive any compensation (except for board fees) from the company; (iii) is not an affiliated person of the company or any subsidiary; and (iv) has not participated in the preparation of the company's (or a current subsidiary's) financial statements during the past three years. All of the current members of our audit committee (presently comprised of Rimon Ben-Shaoul (Chairman), David Kostman, Dan Falk, Yocheved Dvir and Zehava Simon) meet the NASDAQ standards described above.

Our audit committee has adopted a charter specifying the committee's purpose and outlining its duties and responsibilities which include, among other things, (i) appointing, retaining and compensating the company's independent auditor, subject to Board of Directors and shareholder approval, (ii) pre-approving all services of the independent auditor, (iii) reviewing the annual audited financial statements and quarterly financial statements and the content of our earnings press releases, and (iv) overseeing our accounting and financial reporting processes and the audits of our financial statements. Our audit committee is also authorized to act as our "qualified legal compliance committee." As such, our audit committee will be responsible for investigating reports made by attorneys appearing and practicing before the SEC in representing us, of perceived material violations of U.S. federal or state securities laws, breaches of fiduciary duty or similar material violations of U.S. law by us or any of our agents.

We believe we currently meet the applicable NASDAQ requirements with respect to our Audit Committee and we intend to continue to take all actions as may be necessary for us to maintain our compliance with applicable NASDAQ requirements with respect to our Audit Committee.

Compensation Committee

As required by NASDAQ rules, our compensation committee approves the compensation of our executive officers. The compensation committee is also authorized to approve the grant of stock options and other securities to eligible grantees under our benefit plans pursuant to guidelines adopted by our Board of Directors. However, grants of stock options and other securities to our executive officers also require approval of our Board of Directors. Under the Israeli Companies Law, the Board of Directors of a public company must establish a compensation committee. Pursuant to the 2016 Relief Amendments, the Company may elect to opt out of the relevant composition and attendance rules set under the Israeli Companies Law, and to comply with the SEC regulations and NASDAQ listing rules that apply to the composition and attendance rules of a compensation committee. At this time, our Board of Directors has not made an election to opt out of such requirements and we have continued to comply with the Israeli Companies Law with respect to the composition and attendance rules of a compensation committee, as our compensation committee consists of at least three directors who satisfy the independence

qualifications detailed above in "Internal Audit Committee", and the chairman of the compensation committee is an outside director.

Under the Israeli Companies Law, the role of the compensation committee is to recommend to the Board of Directors, for ultimate shareholder approval by a special majority, a policy governing the compensation of office holders based on specified criteria, to review modifications to the Compensation Policy from time to time, to review its implementation and to approve the actual compensation terms of office holders prior to the approval thereof by the Board of Directors.

Pursuant to the NASDAQ rules, our compensation committee is required to consist of at least two members, with all members of the compensation committee required to be independent, unless we elect to take advantage of the exemption provided to foreign private issuers to comply with home country practice instead of the listing rules of exchanges such as NASDAQ. At this time, our Board of Directors has not made an election to opt out of such requirements. The determination of whether a director is independent takes into account all factors relevant to whether a director has a relationship with the Company which would be material to such director's ability to be independent from management in connection with carrying out the duties of a compensation committee member. Factors required for consideration in making this determination specifically include (i) the source of compensation of such director (including any consulting, advisory or other compensatory fee paid to such director) and (ii) whether such director is affiliated with the Company or one of its affiliates or subsidiaries. Pursuant to the NASDAQ rules, we are also required to have a compensation committee charter, which, among other things, must set forth the scope of the compensation committee's responsibilities and how they will be carried out, as well as grant the compensation committee the power to retain compensation advisers following consideration of certain factors that may be indicative of a conflict of interest by the compensation adviser in rendering compensation advice.

Our Board of Directors adopted a compensation committee charter that includes the requirements of the NASDAQ rules. However, the charter provides that if there is any conflict between the responsibilities and requirements set forth therein and either the Israeli Companies Law or the Compensation Policy, the latter will govern. For information regarding the Compensation Policy, see Item 10, "Additional Information – Memorandum and Articles of Association – Approval of Office Holder Compensation" in this annual report.

We do not believe that there are any existing conflicts between the compensation committee charter and either of the Israeli Companies Law or the Compensation Policy. However, if any such conflict should develop such that we are no longer in compliance with the requirements of the NASDAQ rules, we intend to utilize the foreign private issuer exemption described above with respect to such requirement, and in accordance with the NASDAQ rules we will disclose the practice that we follow in lieu of the applicable NASDAQ requirement in our future annual reports.

All of the current members of the compensation committee (presently comprised of Dan Falk (chairman), Yocheved Dvir, Joe Cowan, Leo Apotheker and Zehava Simon) satisfy the respective independence requirements of both the NASDAQ rules and the Israeli Companies Law.

Nominations Committee

As required by NASDAQ rules, our nominations committee recommends candidates for election to our Board of Directors pursuant to a written charter. Both of the current members of this committee (David Kostman and Dan Falk) are independent directors.

Mergers and Acquisitions Committee

Our Board of Directors has delegated powers with respect to the review and recommendation of mergers and acquisitions and related investments and transactions, which are then subject to approval by the Board of Directors. The committee also has limited authority to approve mergers and acquisitions for consideration up to a certain amount. All of the current members of this committee (presently comprised of David Kostman (chairman), Dan Falk, Rimon Ben Shaoul, Yehoshua Ehrlich, Leo Apotheker and Joe Cowan) are independent directors.

Item 6D. <u>Employees.</u>

As of December 31, 2021, we had 7,102 employees worldwide, which represented an increase of approximately 11.3% from December 31, 2020, resulting from both organic and non-organic growth.

The following table sets forth the number of our full-time employees at the end of each of the last three fiscal years as well as the main category of activity and geographic location of such employees:

	At December 31,		
Category of Activity	2021	2020	2019
Customer Support*	2,603	2,391	2,344
Sales and Marketing	1,471	1,363	1,294
Research and Development	2,303	1,949	1,695
General and Administrative	725	680	663
Total	7,102	6,383	5,996
Geographic Location			
Americas	3,112	2,899	2,751
EMEA	1,480	1,389	1,395
APAC	2,510	2,095	1,850
Total	7,102	6,383	5,996

* Including the number of employees designated under "Operations" in our previous annual reports.

We also utilize temporary employees in various activities. On average, we employed 45 temporary employees and obtained services from 1,030 consultants (not included in the numbers set forth above) during 2021.

Our future success will depend in part upon our ability to attract and retain highly skilled and qualified personnel. Although competition for such personnel is generally intense, we believe that adequate personnel resources are currently available to meet our requirements.

We are not a party to any collective bargaining agreement with our employees or with any labor organization in substantially all jurisdictions where we operate. However, we are subject to certain labor related statutes and certain provisions of collective bargaining agreements between the Histadrut (General Federation of Labor in Israel) and the Coordinating Bureau of Economic Organizations (including the Industrialists' Association of Israel) that apply to our Israeli employees by order of the Israeli Ministry of Labor and Welfare. These statutes and provisions principally deal with the length of the work day and the work week, minimum wages, insurance coverage of work-related accidents, determination of severance pay and the provisions of other employment matters. Israeli law generally requires the payment of severance pay by employers upon an employee's death, retirement or termination of employment by the employer without due cause. We currently fund our ongoing severance payment obligations in Israel by making monthly payments to approved severance funds or insurance policies. For more information please see Note 2p of our consolidated financial statements. In addition, according to the National Insurance Law, Israeli employers and employees are required to pay predetermined sums to the National Insurance Institute, an organization similar to the U.S. Social Security Administration. These contributions entitle the employees to benefits in periods of unemployment, work injury, maternity leave, disability, reserve military service and bankruptcy or winding-up of the employer and also include payments for national health insurance. The payments to the National Insurance Institute varies between 7.05%-19.6% of an employee's salary (up to a certain cap as determined from time to time by the law), of which the employee contributes approximately 3.5%-12.0% and the employer contributes approximately 3.55%-7.6%.

In addition, we pay severance benefits to our employees located elsewhere in accordance with local laws and practices of the countries in which they are employed, including our U.S. based employees pursuant to the U.S. Federal Department labor legislation and requirements and local state regulations.

Employment Agreements

We have employment agreements with our officers. Pursuant to these employment agreements, each party may terminate the employment without cause by giving a 30, 60 or 90 day prior written notice (six to twelve months in case of certain senior officers). In addition, we may terminate such agreement for cause with no prior notice. The agreements generally include non-competition and non-disclosure provisions, although the enforceability of non-competition provisions in employment agreements may be limited under applicable law.

Item 6E. Share Ownership.

As of March 20, 2022, our directors and executive officers then-serving beneficially owned an aggregate of 491,557 ordinary shares, including options and restricted share units to purchase ordinary shares that were vested on such date or that are scheduled to vest within 60 days thereafter, or approximately 0.8% of our outstanding ordinary shares. The options and restricted share units have an average exercise price of \$54.66 per share and the options will expire between 2022 and 2027. No individual director or executive officer beneficially owns 1% or more of our outstanding ordinary shares.

The following is a description of each of our equity plans under which awards were outstanding as of March 20, 2022.

2016 Share Incentive Plan

In February 2016 the Company adopted the 2016 Share Incentive Plan (the "2016 Plan"). The Company adopted the 2016 Plan to provide incentives to employees, directors, consultants and/or contractors by rewarding performance and encouraging behavior that will improve the Company's profitability.

Under the 2016 Plan, the Company's employees, directors, consultants and/or contractors may be granted any equity-related award, including: any type of an option to acquire the Company ordinary shares; share appreciation right; share and/or restricted share award ("RSA"); restricted stock unit ("RSU") and/or other share unit; and/or other share-based award and/or other right or benefit under the 2016 Plan, including any such equity-related award that is a performance-based award (each an "Award").

Generally, under the terms of the 2016 Plan, unless determined otherwise by the administrator of the 2016 Plan, 25% of an Award granted becomes exercisable on the first anniversary of the date of grant and 6.25% becomes exercisable once every quarter during the subsequent three years. Specifically with respect to RSUs and options granted with an exercise price equal to the nominal value of an ordinary share ("par value options"), unless determined otherwise by the Board of Directors, 25% of the RSUs and the par value options granted become vested on each of the four consecutive annual anniversaries following the date of grant. Certain executive officers are entitled to acceleration of vesting of Awards in the event of a change of control, subject to certain conditions. Awards with a vesting period expire six years after the date of grant. The maximum number of shares that may be subject to Awards granted under the 2016 Plan is calculated each calendar year as 3% of the Company's issued and outstanding share capital as of December 31 of the preceding calendar year. Such amount is reset for each calendar year. Awards are non-transferable except by will or the laws of descent and distribution.

Options granted under the 2016 Plan are granted at an exercise price equal to the average of the closing prices of one ADR as quoted on the NASDAQ market during the 30 consecutive calendar days preceding the date of grant, unless determined otherwise by the administrator of the 2016 Plan (including par value options in some cases).

The Company's Board of Directors also adopted an addendum to the 2016 Plan for Awards granted to residents of Israel (the "Addendum") and resolved to elect the "Capital Gains Route" (as defined in Section 102(b)(2)) of the Israeli Income Tax Ordinance-5721-1961 ("Tax Ordinance") for the grant of Awards to Israeli grantees. There is also a U.S. addendum under the 2016 Plan that applies to non-qualified stock options for purposes of U.S. tax laws.

The 2016 Plan is generally administered by our Board of Directors and compensation committee, which determine the grantees under the 2016 Plan and the number of Awards to be granted. As of March 20, 2022, options and restricted share units to purchase 2,417,910 ordinary shares were outstanding under the 2016 Plan at a weighted average exercise price of \$9.80.

Guardian Analytics, Inc. 2006 Stock Plan

In 2006, Guardian Analytics, Inc. ("Guardian Analytics") adopted the Guardian Analytics, Inc. 2006 Stock Plan (the "Guardian Plan"), to attract and retain Guardian Analytics' employees and consultants (which includes its directors and advisors), and to align the interests of such recipients with the interests of Guardian Analytics' shareholders.

Pursuant to the terms of the Guardian Analytics' acquisition agreement, we assumed and converted Guardian Analytics' stock options originally granted under the Guardian Plan into stock options of NICE.

As of March 20, 2022, assumed Guardian Analytics' stock options to purchase 4,560 shares of NICE were outstanding under the Guardian Plan, at a weighted average exercise price of \$32.98. We have registered, through the filing of a registration statement on Form S-8 with the SEC under the Securities Act, 5,823 ordinary shares for issuance under the Guardian Plan.

Nexidia Inc. 2005 Stock Incentive Plan

In 2005, Nexidia adopted the Nexidia Inc. 2005 Stock Incentive Plan (the "Nexidia Plan"), to attract and retain Nexidia's employees, directors, consultants and advisors and to align the interests of such recipients with the interests of Nexidia's shareholders.

Pursuant to the terms of the Nexidia acquisition agreement, we assumed and converted Nexidia's stock options and restricted stock units originally granted under the Nexidia Plan into stock options and restricted stock units of NICE, respectively.

As of March 20, 2022, assumed Nexidia options to purchase 3,332 shares of NICE were outstanding under the Nexidia Plan, at a weighted average exercise price of \$3.83. We have registered, through the filing of a registration statement on Form S-8 with the SEC under the Securities Act, 173,860 ordinary shares for issuance under the Nexidia Plan.

inContact, Inc. 2008 Equity Incentive Plan

In 2008, inContact adopted the inContact, Inc. 2008 Equity Incentive Plan, as subsequently amended in June 14, 2012 (as amended, the "inContact Plan") to enhance inContact's ability to attract and retain those employees, officers, directors and consultants who are expected to make important contributions to inContact and any of its subsidiaries and to align the interests of such recipients with the interests of inContact's shareholders.

Pursuant to the terms of the inContact acquisition agreement, we assumed and converted inContact's stock options, restricted stock awards and restricted stock units originally granted under the inContact Plan into stock options, restricted stock awards and restricted stock units of NICE, respectively.

As of March 20, 2022, assumed inContact options and restricted share units to purchase 2,939 shares of NICE were outstanding under the inContact Plan, at a weighted average exercise price of \$40.98. We have registered, through the filing of a registration statement on Form S-8 with the SEC under the Securities Act, 476,114 ordinary shares for issuance under the inContact Plan.

Item 7. Major Shareholders and Related Party Transactions

Major Shareholders

The following table sets forth certain information with respect to the beneficial ownership of our ordinary shares, with respect to each person known to us to be the beneficial owner of 5% or more of our outstanding ordinary shares, reported as of March 20, 2022. None of our shareholders has any different voting rights than any other shareholder.

Name and Address	Number of Shares	Percent of Shares Beneficially Owned ⁽¹⁾
Capital Research Global Investors	7,498,472 (2)	11.8 %
BlackRock, Inc.	5,117,706 (3)	8.1 %
Artisan Partners Limited Partnership	3,703,032 (4)	5.8 %

(1) Based upon 63,437,655 ordinary shares issued and outstanding as of March 20, 2022.

(2) The information is based upon a Schedule 13G filed with the SEC by Capital Research Global Investors ("CRGI") on February 11, 2022. CRGI reported that more than 5% of the shares were owned on behalf of EuroPacific Growth Fund.

- (3) The information is based upon a Schedule 13G filed with the SEC by BlackRock, Inc. on February 1, 2022.
- (4) The information is based upon a Schedule 13G filed with the SEC by Artisan Partners Limited Partnership on February 4, 2022.

On February 9, 2022, FMR LLC filed a Schedule 13G/A with the SEC reporting that they are no longer a beneficial owner of 5% or more of our outstanding ordinary shares.

On February 10, 2022, Janus Henderson Group plc filed a Schedule 13G/A with the SEC reporting that they are no longer a beneficial owner of 5% or more of our outstanding ordinary shares.

As of March 20, 2022, we had 48 registered ADS holders of record in the United States, with our ADS holders holding in total approximately 63% of our outstanding ordinary shares, as reported by JPMorgan Chase Bank, N.A., the depositary for our ADSs.

To our knowledge, we are not directly or indirectly owned or controlled by another corporation or by any foreign government and there are no arrangements that might result in a change in control of our company.

Related Party Transactions

None.

Item 8. <u>Financial Information</u>.

Consolidated Statements and Other Financial Information

See Item 18, "Financial Statements" in this annual report.

Legal Proceedings

From time to time we or our subsidiaries may be involved in legal proceedings and/or litigation arising in the ordinary course of our business. While the outcome of these matters cannot be predicted with certainty, we do not believe they, individually or in the aggregate, will have a material effect on our business, consolidated financial position, results of operations, or cash flows.

Dividends

We do not have any plans at this time to make any future dividend payments. Payment of future dividends, if any, will be at the discretion of our Board of Directors and will depend on various factors, such as our statutory profits, financial condition, operating results and current and anticipated cash needs. In the event cash dividends are declared by us, we may decide to pay such dividends in Israeli currency. Under current Israeli regulations, any cash dividend in Israeli currency paid in respect of ordinary shares purchased by non-residents of Israel with non-Israeli currency may be freely repatriated in such non-Israeli currency, at the rate of exchange prevailing at the time of conversion. For more information regarding the taxation implications of the dividend plan, see "Item 10 - Additional Information - Taxation" of this annual report.

Significant Changes

There are no significant changes that occurred since December 31, 2021, except as otherwise disclosed in this annual report and in the annual consolidated financial statements included in this annual report.

Item 9. <u>The Offer and Listing.</u>

Trading in the ADSs

Our ADSs have been quoted on the NASDAQ Stock Market under the symbol "NICEV" from our initial public offering in January 1996 until April 7, 1999, and thereafter under the symbol "NICE." Prior to that time, there was no public market for our ordinary shares in the United States. Each ADS represents one ordinary share.

JPMorgan Chase Bank, N.A. is the depositary for our ADSs. Its address is 4 New York Plaza, Floor 12, New York, New York 10004.

Trading in the Ordinary Shares

Our ordinary shares have been listed on the Tel-Aviv Stock Exchange, or TASE, since 1991 under the symbol "NICE.TA." Our ordinary shares are not listed on any other stock exchange and have not been publicly traded outside Israel (other than through ADSs, as noted above).

Item 10. Additional Information.

Memorandum and Articles of Association

Organization and Register

We are a company limited by shares organized in the State of Israel under the Israeli Companies Law. We are registered with the Registrar of Companies of the State of Israel and have the company number 52-0036872.

Objectives and Purposes

Our objectives and purposes include a wide variety of business purposes, including all kinds of research, development, manufacture, distribution, service and maintenance of products in all fields of technology and engineering and to engage in any other kind of business or commercial activity. Our objectives and purposes are set forth in detail in Section 2 of our memorandum of association.

Directors

Our articles of association provide that the number of directors serving on the Board shall be not less than three but shall not exceed thirteen. As discussed above in Item 6, "Directors, Senior Management and Employees – Board Practices – Outside Directors," in December 2016, our shareholders approved amendments to our articles of association, pursuant to which our Board of Directors may elect to opt out of such requirements and we would not be required to have outside directors serve on our Board of Directors. At this time, our Board of Directors has not made an election to opt out of such requirements. Our directors, other than outside directors, are elected at the annual shareholders meeting to serve until the next annual meeting or until their earlier death, resignation, bankruptcy, incapacity or removal by resolution of the general shareholders meeting. Directors may be re-elected at each annual shareholders' meeting. The Board may appoint additional directors (whether to fill a vacancy or create new directorship) to serve until the next annual shareholders meeting, provided, however, that the Board shall have no obligation to fill any vacancy unless the number of directors is less than three. Our officers serve at the discretion of the Board.

The Board of Directors may meet and adjourn its meetings according to the Company's needs but must meet at least once every three months. A meeting of the Board may be called at the request of any two directors. The quorum required for a meeting of the Board consists of a majority of directors who are lawfully entitled to participate in the meeting and vote thereon. The adoption of a resolution by the Board requires approval by a simple majority of the directors present at a meeting in which such resolution is proposed. In lieu of a Board meeting, a resolution may be adopted if all of the directors lawfully entitled to vote thereon consent not to convene a meeting.

Subject to the Israeli Companies law, the Board may appoint a committee of the Board and delegate to such committee all or any of the powers of the Board, as it deems appropriate. Under the Israeli Companies Law, the Board of Directors must appoint an internal audit committee comprised of at least three directors. The function of the internal audit committee is to review irregularities in the management of the Company's business and recommend remedial measures. The committee is also required, under the Israeli Companies Law, to approve certain related party transactions and to assess our internal audit system and the performance of our internal auditor. Notwithstanding the foregoing, the Board may, at any time, amend, restate or cancel the delegation of any of its powers to any of its committees. The Board has appointed an internal audit committee which has three members, an audit committee which has five members, a compensation committee which has six members. For more information on the Company's committees, please see Item 6, "Directors, Senior Management and Employees—Board Practices" in this annual report.

Fiduciary Duties of Officers

The Israeli Companies Law codifies the fiduciary duties that "office holders," including directors and executive officers, owe to a company. An office holder's fiduciary duties consist of a duty of care and a duty of loyalty. The duty of loyalty includes avoiding any conflict of interest between the office holder's position in the company and his personal affairs, avoiding any competition with the company, avoiding exploiting any business opportunity of the company in order to receive personal advantage for himself or others, and revealing to the company any information or documents relating to the company's affairs which the office holder has received due to his position as an office holder.

Approval of Certain Transactions

The Israeli Companies Law requires that an office holder of a company promptly disclose any personal interest that he or she may have and all related material information known to him or her, in connection with any existing or proposed transaction by the company. In addition, if the transaction is an extraordinary transaction as defined under Israeli law, the office holder must also disclose any personal interest held by the office holder's spouse, siblings, parents, grandparents, descendants, spouse's descendants and the spouses of any of the foregoing. In addition, the office holder must also disclose any interest held by any corporation in which the office holder is a 5% or greater shareholder, director or general manager or in which he or she has the right to appoint at least one director or the general manager. An extraordinary transaction is defined as a transaction not in the ordinary course of business, not on market terms, or that is likely to have a material impact on the company's profitability, assets or liabilities.

In the case of a transaction which is not an extraordinary transaction, after the office holder complies with the above disclosure requirement, only Board approval is required unless the articles of association of the company provide otherwise. The transaction must not be adverse to the company's interest. Furthermore, if the transaction is an extraordinary transaction,

then, in addition to any approval stipulated by the articles of association, it also must be approved by the company's internal audit committee and then by the Board of Directors, and, under certain circumstances, by a meeting of the shareholders of the company. An office holder who has a personal interest in a transaction that is considered at a meeting of the Board of Directors or the internal audit committee generally may not be present at the deliberations or vote on this matter, unless the chairman of the Board or chairman of the internal audit committee, as the case may be, determined that the presence of such person is necessary to present the transaction to the meeting. If a majority of the directors have a personal interest in an extraordinary transaction with the company, shareholder approval of the transaction is required.

It is the responsibility of the audit committee to determine whether or not a transaction should be deemed an extraordinary transaction. In addition, the audit committee must also establish (i) procedures for the consideration of any transaction with a controlling shareholder, even if it is not extraordinary, such as a competitive process with third parties or negotiation by independent directors, and (ii) approval requirements for controlling shareholder transactions that are not negligible.

The Israeli Companies Law applies the same disclosure requirements to a controlling shareholder of a public company, which includes a shareholder that holds 25% or more of the voting rights if no other shareholder owns more than 50% of the voting rights in the company. Extraordinary transactions with a controlling shareholder or in which a controlling shareholder has a personal interest, and the terms of management fees of a controlling shareholder or compensation of a controlling shareholder who is an office holder, require the approval of the audit committee, the Board of Directors and the shareholders of the company by simple majority; provided that either such majority vote must include at least a simple majority of the shareholders who have no personal interest in the transaction and are present at the meeting (without taking into account the votes of the abstaining shareholders), or that the total shareholdings of those who have no personal interest in the transaction who vote against the transaction represent no more than two percent of the voting rights in the company. Any such extraordinary transactions not involving management fees or employment terms) the internal audit committee approves that a longer term is reasonable under the circumstances.

In addition, under the Israeli Companies Law, a private placement of securities requires approval by the Board of Directors and the shareholders of the company if it will cause a person to become a controlling shareholder or if:

- the securities issued amount to 20% or more of the company's outstanding voting rights before the issuance;
- some or all of the consideration is other than cash or listed securities or the transaction is not on market terms; and
- the transaction will increase the relative holdings of a shareholder that holds 5% or more of the company's outstanding share capital or voting rights or that will cause any person to become, as a result of the issuance, a holder of more than 5% of the company's outstanding share capital or voting rights.

According to the Company's articles of association, certain resolutions, such as resolutions regarding mergers and windings up, require approval of the holders of 75% of the shares represented at the meeting and voting thereon.

Approval of Office Holder Compensation

Under the Israeli Companies Law, we are required to adopt a compensation policy, recommended by the compensation committee, and approved by the Board of Directors and the shareholders, in that order, at least once every three years. The shareholder approval requires a majority of the votes cast by shareholders, excluding any controlling shareholder and those who have a personal interest in the matter (similar to the threshold described above). Our Compensation Policy was recently reapproved by our shareholders at our 2021 annual general meeting. In general, all office holders' terms of compensation – including fixed remuneration, bonuses, equity compensation, retirement or termination payments, indemnification, liability insurance and the grant of an exemption from liability - must comply with the Company's Compensation Policy. Although NASDAQ rules generally require shareholder approval when an equity-based compensation plan is established or materially amended, as a foreign company we follow the aforementioned requirements of the Israeli Companies Law.

In addition, the compensation terms of directors, the chief executive officer, and any employee or service provider who is considered a controlling shareholder generally must be approved separately by the compensation committee, the Board of Directors and the shareholders of the company, in that order. Notwithstanding, a company's compensation committee and board of directors are permitted to approve the compensation terms of a chief executive officer or of a director, without convening a general meeting of shareholders, provided however, that such terms: (1) are not more beneficial than such officer's former terms or than the terms of his predecessor, or are essentially the same in their effect; (2) are in line with the Compensation Policy; and (3) are brought for shareholder approval at the next general meeting of shareholders.

The compensation terms of other officers require the approval of the compensation committee and the Board of Directors. An amendment of existing compensation terms of an office holder who is not a director, if the compensation committee determines that the amendment is not material, requires the approval of the compensation committee only. Pursuant to regulations promulgated under the Israeli Companies Law, an amendment of the existing compensation terms of office holders who are subordinate to the chief executive officer, if the amendment is not material and the changes are in line with the existing Compensation Policy, requires only the chief executive officer's approval. Under our Compensation Policy, our Chief Executive Officer is authorized to approve non-material changes to the compensation terms of office holders subordinated to him, without seeking the approval of the compensation committee.

The Compensation Policy sets forth the guidelines for the compensation of our office holders. It is tailored to ensure a compensation which balances performance targets and time horizons through rewarding business results and long-term performance. The Compensation Policy requires that compensation of our officer holders include a mix of fixed amounts (such as annual based salaries), variable performance-based components (such as performance-based cash incentive compensation), and long term incentive components (such as long-term equity-based compensation, including performancebased equity). Pursuant to the Compensation Policy, performance-based compensation granted may be based on our overall performance, the particular unit performance, individual performance and the results of the customer satisfaction survey conducted annually. Our Compensation Policy includes applicable clawback provisions.

Duties of Shareholders

Under the Israeli Companies Law, a shareholder has a duty to act in good faith towards the company and other shareholders and to refrain from abusing his or her power in the company including, among other things, voting in a general meeting of shareholders on the following matters:

- any amendment to the articles of association;
- an increase of the company's authorized share capital;
- a merger; or
- approval of interested party transactions which require shareholder approval.

In addition, any controlling shareholder, any shareholder who knows that it possesses power to determine the outcome of a shareholder vote and any shareholder who, pursuant to the provisions of a company's articles of association, has the power to appoint or prevent the appointment of an office holder in the company, is under a duty to act with fairness towards the company. The Israeli Companies Law does not describe the substance of this duty but provides that a breach of his duty is tantamount to a breach of fiduciary duty of an officer of the company.

Exemption, Insurance and Indemnification of Directors and Officers

Exemption of Office Holders

Under the Israeli Companies Law, an Israeli company may not exempt an office holder from liability for breach of his duty of loyalty but may exempt in advance an office holder from liability to the company, in whole or in part, for a breach of his duty of care (except in connection with distributions), provided the articles of association of the company allow it to do so. Our articles of association do not allow us to do so.

Office Holder Insurance

Our articles of association provide that, subject to the provisions of the Israeli Companies Law, including the receipt of all approvals as required therein or under any applicable law, we may enter into an agreement to insure an office holder for any responsibility or liability that may be imposed on such office holder in connection with an act performed by such office holder in such office holder's capacity as an office holder of us with respect to each of the following:

- a violation of his duty of care to us or to another person;
- a breach of his duty of loyalty to us, provided that the office holder acted in good faith and had reasonable grounds to assume that his act would not prejudice our interests;
- a financial obligation imposed upon him for the benefit of another person;
- a payment which the office holder is obligated to make to an injured party as set forth in Section 52(54)(a)(1)(a) of the Israeli Securities Law, 5728-1968, as amended (the "Securities Law") and Litigation Expenses (as defined below) that the office holder incurred in connection with a proceeding under Chapters H'3, H'4 or I'1 of the Securities Law; and
- any other event, occurrence or circumstance in respect of which we may lawfully insure an office holder.

Indemnification of Office Holders

Our articles of association provide that, subject to the provisions of the Israeli Companies Law, including the receipt of all approvals as required therein or under any applicable law we may indemnify an office holder with respect to any liability or expense for which indemnification may be provided under the Israeli Companies Law, including the following liabilities and expenses, provided that such liabilities or expenses were imposed upon or incurred by such office holder in such office holder's capacity as an office holder of us:

- a monetary liability imposed on or incurred by an office holder pursuant to a judgment in favor of another person, including a judgment imposed on such office holder in a settlement or in an arbitration decision that was approved by a court of law;
- reasonable Litigation Expenses, expended by the office holder as a result of an investigation or proceeding instituted against him by a competent authority, provided that such investigation or proceeding concluded without the filing of an indictment against him and either (A) concluded without the imposition of any financial liability in lieu of criminal proceedings or (B) concluded with the imposition of a financial liability in lieu of criminal proceedings but relates to a criminal offense that does not require proof of criminal intent (*mens rea*) or in connection with a financial sanction;
- "conclusion of a proceeding without filing an indictment" in a matter in which a criminal investigation has been instigated and "financial liability in lieu of a criminal proceeding," have the meaning ascribed to them under the Israeli Companies Law. The term "Litigation Expenses" shall include, without limitation, attorneys' fees and all other costs, expenses and obligations paid or incurred by an office holder in connection with investigating, defending, being a witness or participating in (including on appeal), or preparing to defend, be a witness or participate in any claim or proceeding relating to any matter for which indemnification may be provided;
- reasonable Litigation Expenses, which the office holder incurred or with which the office holder was charged by a court of law, in a proceeding brought against the office holder, by the Company, on its behalf or by another person, or in a criminal prosecution in which the office holder was acquitted, or in a criminal prosecution in which the office holder was convicted of an offense that does not require proof of criminal intent (*mens rea*);
- a payment which the office holder is obligated to make to an injured party as set forth in Section 52(54)(a)(1)(a) of the Securities Law, and Litigation Expenses that the office holder incurred in connection with a proceeding under Chapters H'3, H'4 or I'1 of the Securities Law; and

• any other event, occurrence or circumstance in respect of which we may lawfully indemnify an office holder.

The foregoing indemnification may be procured by us (a) retroactively and (b) as a commitment in advance to indemnify an office holder, provided that, in respect of the first bullet above, such commitment shall be limited to (A) such events that in the opinion of the Board of Directors are foreseeable in light of our actual operations at the time the undertaking to indemnify is provided, and (B) to the amounts or criterion that the Board of Directors deems reasonable under the circumstances; and further provided that such events and amounts or criterion are set forth in the undertaking to indemnify, and which shall in no event exceed, in the aggregate, the greater of: (i) 25% of our shareholder's equity at the time of the indemnification or (ii) 25% of our shareholder's equity at the end of fiscal year of 2010.

We have undertaken to indemnify our directors and officers pursuant to applicable law and we have obtained directors' and officers' liability insurance for the benefit of our directors and officers.

Limitations on Exemption, Insurance and Indemnification

The Israeli Companies Law provides that a company may not exempt or indemnify an office holder, or enter into an insurance contract, which would provide coverage for any monetary liability incurred as a result of any of the following:

- a breach by the office holder of his duty of loyalty unless, with respect to insurance coverage or indemnification, the office holder acted in good faith and had a reasonable basis to believe that the act would not prejudice the company;
- a breach by the office holder of his duty of care if the breach was done intentionally or recklessly (other than if solely done in negligence);
- any act or omission done with the intent to derive an illegal personal benefit; or
- a fine, civil fine or ransom levied on an office holder, or a financial sanction imposed upon an office holder under Israeli Law.

Required Approvals

In addition, under the Israeli Companies Law, any exemption of, indemnification of, or procurement of insurance coverage for, our office holders must be approved by our audit committee and our Board of Directors and, if the beneficiary is the chief executive officer or a director, by our shareholders. We have obtained such approvals for the procurement of liability insurance covering our officers and directors and for the grant of indemnification letters to our officers and directors.

Rights of Ordinary Shares

Our ordinary shares confer upon our shareholders the right to receive notices of, and to attend, shareholder meetings, the right to one vote per ordinary share at all shareholders' meetings for all purposes, and to share equally, on a per share basis, in such dividends as may be declared by our Board of Directors; and upon liquidation or dissolution, the right to participate in the distribution of any surplus assets of the Company legally available for distribution to shareholders after payment of all debts and other liabilities of the Company. All ordinary shares rank *pari passu* in all respects with each other. Our Board of Directors may, from time to time, make such calls as it may think fit upon a shareholder in respect of any sum unpaid in respect of shares held by such shareholder which is not payable at a fixed time, and each shareholder shall pay the amount of every call so made upon him (and of each installment thereof if the same is payable in installments).

Meetings of Shareholders

An annual general meeting of our shareholders shall be held once in every calendar year at such time and at such place either within or without the State of Israel as may be determined by our Board of Directors.

Our Board of Directors may, whenever it thinks fit, convene a special general meeting at such time and place, within or without the State of Israel, as may be determined by the Board of Directors. Special general meetings may also be convened upon shareholder request in accordance with the Israeli Companies Law and our articles of association.

The quorum required for a meeting of shareholders consists of at least two shareholders present in person or by proxy who hold or represent between them at least 25% of the outstanding voting shares, unless otherwise required by applicable rules. Although NASDAQ generally requires a quorum of 33-1/3%, we have an exception under the NASDAQ rules and follow the generally accepted business practice for companies in Israel, which have a quorum requirement of 25%. A meeting adjourned for lack of a quorum generally is adjourned to the same day in the following week at the same time and place or any time and place as the chairman may designate with the consent of a majority of the voting power represented at the meeting and voting on the matter adjourned. At such reconvened meeting the required quorum consists of any two members present in person or by proxy.

Mergers and Acquisitions

A merger of the Company shall require the approval of the holders of a majority of 75% of the voting power represented at the annual or special general meeting in person or by proxy or by written ballot, as shall be permitted, and voting thereon in accordance with the provisions of the Israeli Companies Law. Upon the request of a creditor of either party of the proposed merger, the court may delay or prevent the merger if it concludes that there exists a reasonable concern that as a result of the merger, the surviving company will be unable to satisfy the obligations of any of the parties to the merger. In addition, a merger may not be completed unless at least (i) 50 days have passed from the time that the requisite proposal for the merger has been filed by each party with the Israeli Registrar of Companies and (ii) 30 days have passed since the merger was approved by the shareholders of each party.

The Israeli Companies Law also provides that an acquisition of shares of a public company must be made by means of a tender offer if, as a result of the acquisition, the purchaser would become a 25% or greater shareholder of the company and there is no existing 25% or greater shareholder in the company. An acquisition of shares of a public company must be made by means of a tender offer if, as a result of the acquisition, the purchaser would hold more than 45% of the company and there is no existing shareholder of more than 45% in the company. These requirements do not apply if the acquisition (i) occurs in the context of a private placement by the company and resulted in the acquirer becoming a 25% shareholder of the company and resulted in the acquirer becoming a 25% shareholder of the company and resulted in the acquirer becoming a greater than 45% shareholder of the company and resulted in the acquirer becoming a greater than 45% shareholder of the company and resulted in the acquirer becoming a greater than 45% shareholder of the company and resulted in the acquirer becoming a greater than 45% shareholder of the company is outstanding shares, regardless of how many shares are tendered by shareholders. The tender offer may be consummated only if (i) at least 5% of the company's outstanding shares whose holders objected to the offer.

If as a result of an acquisition of shares the acquirer will hold more than 90% of a company's outstanding shares, the acquisition must be made by means of a tender offer for all of the outstanding shares. If as a result of a full tender offer the acquirer would own more than 95% of the outstanding shares, then all the shares that the acquirer offered to purchase will be transferred to it. The law provides for appraisal rights if any shareholder files a request in court within six months following the consummation of a full tender offer, but the acquirer is entitled to stipulate that tendering shareholders forfeit their appraisal rights. If as a result of a full tender offer the acquirer would own 95% or less of the outstanding shares, then the acquirer may not acquire shares that will cause his shareholding to exceed 90% of the outstanding shares.

Material Contracts

Notes and Indenture

2020 Notes and Indenture

On August 27, 2020, we issued \$400 million aggregate principal amount of 0% Convertible Senior Notes due 2025 (the "2020 Notes") and on September 4, 2020, we issued an additional \$60 million of the 2020 Notes pursuant to the exercise of the initial purchasers' option. The 2020 Notes are general unsecured obligations of the Company. The sale of the 2020 Notes generated net proceeds of approximately \$451 million. The 2020 Notes were issued pursuant to an indenture (the "2020 Indenture") between us and U. S. Bank National Association, as trustee (the "Trustee").

The 2020 Notes do not bear regular interest, and the principal amount of the 2020 Notes does not accrete. The 2020 Notes will mature on September 15, 2025, unless earlier prepaid, redeemed or converted, and are not redeemable at our option prior to September 21, 2023, except in the event of certain tax law changes. We may redeem for cash all or any portion of the 2020 Notes, at our option, on or after September 21, 2023 if the last reported sale price of the ADSs has been at least

130% of the conversion price then in effect for at least 20 trading days (whether or not consecutive) during any 30 consecutive trading day period (including the last trading day of such period) ending on, and including, the trading day immediately preceding the date on which we provide notice of redemption. In the case of any redemption, the redemption price will be equal to 100% of the principal amount of the 2020 Notes to be redeemed, plus accrued and unpaid special interest, if any, to, but excluding, the redemption date. A holder may convert its 2020 Notes at its option at any time prior to the close of business on the business day immediately preceding June 15, 2025 in the event certain conditions are met during set periods. On or after June 15, 2025, until the close of business on the second scheduled trading day immediately preceding the maturity date, a holder may convert its 2020 Notes at any time.

Upon conversion, we, at our election, can pay or deliver (i) cash, (ii) ADSs or (iii) a combination thereof. The conversion rate will initially be 3.3424 ADSs per \$1,000 principal amount of 2020 Notes (equivalent to an initial conversion price of approximately \$299.19 per ADS). The conversion rate will be subject to adjustment in some events. In addition, following certain corporate events that occur prior to the maturity date or our delivery of a notice of redemption, the Company will under certain circumstances, increase the conversion rate for a holder who elects to convert its 2020 Notes in connection with such a corporate event or to convert its 2020 Notes called for redemption in connection with such notice of redemption, as the case may be.

If we undergo a fundamental change, holders of the 2020 Notes will have the right to require us to repurchase all or a portion of their 2020 Notes upon the occurrence of a fundamental change (as defined in the 2020 Indenture) at a cash repurchase price equal to 100% of the principal amount of the 2020 Notes to be repurchased, plus any accrued and unpaid interest, if any, to, but excluding the fundamental change repurchase date.

On December 31, 2021, the Company irrevocably elected that all conversions occurring on or after December 31, 2021 will be settled pursuant to Combination Settlement (as defined in the 2020 Indenture) with a Specified Dollar Amount (as defined in the 2020 Indenture) no less than \$1,000 per \$1,000 principal amount of 2020 Notes. Generally, under this settlement method, the conversion value corresponding to the principal amount will be converted in cash, and the conversion value over the principal amount will be settled, at the Company's election, in cash or shares or a combination thereof.

2017 Notes and Indenture

On January 18, 2017, NICE Systems Inc., a wholly owned subsidiary of the Company ("NICE Systems"), issued \$287.5 million aggregate principal amount of the 1.25% Exchangeable Senior Notes due 2024 (the "2017 Notes together with the 2020 Notes, the "Notes"). The 2017 Notes are the general unsecured obligations of NICE Systems, guaranteed by us. The sale of the Notes generated net proceeds of approximately \$260.1 million. The 2017 Notes were issued pursuant to an indenture (the "2017 Indenture", and collectively with the 2020 Indenture, the "Indenture(s)") among us, NICE Systems and the Trustee.

The 2017 Notes bear interest at a fixed rate of 1.25% per year, payable semiannually in arrears on January 15 and July 15 of each year, beginning on July 15, 2017. The 2017 Notes will mature on January 15, 2024, unless earlier prepaid, redeemed or exchanged, and are not redeemable at NICE Systems' option prior to their maturity date, except in the event of certain tax law changes. In the event certain conditions are met during set periods, the conditional exchange feature of the 2017 Notes may be triggered, meaning that holders of 2017 Notes are entitled at their option to exchange the 2017 Notes at any time during such specified periods. As disclosed in Note 15 to our consolidated financial statements, the conditional exchange feature of the 2017 Notes was previously triggered and the 2017 Notes are currently exchangeable at the option of the holders.

Subject to satisfaction of certain conditions and during certain periods as aforementioned, at the option of the holders the 2017 Notes are exchangeable for (at our election) (i) cash, (ii) ADSs or (iii) a combination thereof. The exchange rate was initially set at 12.0260 ADSs per \$1,000 principal amount of 2017 Notes (equivalent to an initial exchange price of approximately \$82.96 per ADS). The exchange rate is subject to adjustment in some events. In addition, following certain corporate events that occur prior to the maturity date or NICE Systems' delivery of a notice of tax redemption, in certain circumstances NICE Systems will increase the exchange rate for a holder who elects to exchange its 2017 Notes in connection with such a corporate event or tax redemption, as the case may be.

If we or NICE Systems undergo a fundamental change (as defined in the Indenture), holders may require NICE Systems to prepay for cash all or part of their 2017 Notes at a prepayment price equal to 100% of the principal amount of the 2017 Notes to be prepaid, plus accrued and unpaid interest, if any, to, but excluding, the fundamental change prepayment date.

The Indentures contain customary events of default, including a default in the payment of principal or interest when due, default in compliance with the covenants set forth therein, and certain events of bankruptcy, insolvency or reorganization.

On December 31, 2021, the Company entered into the First Supplemental Indenture to the 2017 Indenture (the "First Supplemental Indenture"). In accordance with the First Supplemental Indenture, the Company irrevocably elected Cash Settlement (as defined in the 2017 Indenture) to apply to all conversions of 2017 Notes with an Exchange Date (as defined in the 2017 Indenture) that occurs on or after December 31, 2021.

Exchange Controls

Holders of ADSs are able to convert dividends and liquidation distributions into freely repatriable non-Israeli currencies at the rate of exchange prevailing at the time of repatriation, pursuant to regulations issued under the Currency Control Law, 5738–1978, provided that Israeli income tax has been withheld by us with respect to amounts that are being repatriated to the extent applicable or an exemption has been obtained.

Our ADSs may be freely held and traded pursuant to the General Permit and the Currency Control Law. The ownership or voting of ADSs by non-residents of Israel are not restricted in any way by our memorandum of association or articles of association or by the laws of the State of Israel, except subjects of a country deemed an "enemy country" under Israeli legislation or persons or individuals on weapon of mass destruction or terror sanctions lists.

Taxation

The following is a discussion of Israeli and United States tax consequences material to our shareholders. The discussion is not intended, and should not be construed, as legal or professional tax advice and does not exhaust all possible tax considerations.

Holders of our ADSs should consult their own tax advisors as to the United States, Israeli or other tax consequences of the purchase, ownership and disposition of our ADSs, including, in particular, the effect of any foreign, state or local taxes.

Israeli Tax Considerations

The following is a summary of both the general corporate tax laws applicable to companies in Israel, with special reference to their effect on us; and a discussion of the material tax consequences to purchasers of our ordinary shares or ADSs related to our domicile in Israel. This summary does not discuss all the aspects of Israeli tax law that may be relevant to a particular investor in light of his or her personal investment circumstances or to some types of investors subject to special treatment under Israeli law. To the extent that the discussion is based on new tax legislation which has not been subject to judicial or administrative interpretation, we cannot assure that the views expressed in the discussion will be accepted by the appropriate tax authorities or the courts. The discussion is not intended, and should not be construed, as a legal or professional tax advice and is not exhaustive of all possible tax considerations.

General Corporate Taxation in Israel

Generally, Israeli companies are subject to corporate tax on taxable income, including capital gains, at the rate of 23% for 2020 and 2021 tax years and thereafter. However, the effective tax rate payable by a company that is eligible for tax benefits under the Israeli Law for the Encouragement of Capital Investments -1959, and in particular the 12% rate under the Preferred Technology Enterprise regime (as discussed below), may be considerably less.

We are permitted to measure our Israeli taxable income in U.S. dollars pursuant to regulations published by the Israeli Minister of Finance, which provide the conditions for doing so. We believe that we meet, and will continue to meet, the necessary conditions and as such, we measure our results for tax purposes based on the U.S. dollar/NIS exchange rate on December 31 of the relevant tax year.

Tax Benefits under the Israeli Law for the Encouragement of Capital Investments, 1959, as amended.

Pursuant to the Israeli Law for Encouragement of Capital Investments-1959 (the "Investments Law") and its various amendments, under which both the Company and its Israeli subsidiary have been granted "Approved Enterprise" status, we have derived and expect to continue to derive significant tax benefits relating to our "Approved, Privileged, and Preferred

Enterprise" programs for which we were eligible up to and including the 2016 tax year, and relating to Preferred Technological Enterprise program for the 2017 and subsequent tax years. To be eligible for these tax benefits, one must continue to meet certain conditions. In the event we are considered as having failed to comply with these conditions, in whole or in part, the eligibility for the benefits may be canceled and we may be required to refund the relevant amount, including interest and inflation adjustments. As of December 31, 2021, we believe that we are in compliance with all the conditions required by the Investments Law.

In December 2016, the Israeli Knesset passed a number of changes to the Investments Law. These changes became retroactively effective beginning January 1, 2017, following promulgation of Regulations by the Finance Ministry in May 2017 to implement the "Nexus Principles" based on OECD guidelines published as part of the Base Erosion and Profit Shifting (BEPS) project. The Regulations provide rules for implementation of the tax regime, that applies to both the Company and its Israeli subsidiary, effective from the 2017 tax year and onwards.

Benefits under the "Preferred Technology Enterprise" regime, effective for 2017 and subsequent tax years, include:

- A reduced 12% corporate tax rate (or 7.5% for entities located in Development Area A) on qualifying income deriving from eligible intellectual property ("Preferred Technology Income"), subject to a number of base conditions being fulfilled, including a minimal amount or ratio of annual R&D expenditure and R&D employees, as well as having at least 25% of annual income derived from export.
- A 12% capital gains tax rate on the sale of a preferred intangible asset to a foreign affiliated enterprise, provided that the asset was initially purchased from a foreign resident at an amount of NIS 200 Million or more.
- A withholding tax rate of 20% for dividends paid from Preferred Technology Income (with an exemption from such withholding tax applying to dividends paid to an Israeli company). Such rate may be reduced to 4% on dividends paid to a foreign resident company, subject to certain conditions regarding percentage of foreign ownership of the distributing entity.

The effective tax rate applying to our Preferred Technology Enterprise is calculated based on the Nexus Principals introduced by the OECD, taking into account eligible and ineligible R&D expenses incurred by us, as prescribed in the Regulations.

Income from sources other than the Preferred Technology Income are taxable at regular corporate tax rates of 23% for 2020, 2021 and subsequent years.

Full details regarding our Preferred and Preferred Technology Enterprises may be found in Note 13(a)(1) of our consolidated financial statements.

Tax Benefits and Grants for Research and Development

Israeli tax law allows, under specified conditions, a tax deduction for expenditures, including capital expenditures, for the year in which they are incurred. These expenses must relate to scientific research and development projects and must be approved by the relevant Israeli government ministry, determined by the field of research, and the research and development must be conducted for the promotion of the company and carried out by or on behalf of the company seeking such deduction. However, the amount of such deductible expenses shall be reduced by the sum of any funds received through government grants for the financing of such scientific research and development projects. Expenditures not so approved, but otherwise qualifying for deduction, are deductible over a three-year period.

Tax Benefits under the Law for the Encouragement of Industry (Taxes), 1969

Under the Law for the Encouragement of Industry (Taxes), 1969 (the "Industry Encouragement Law"), Industrial Companies (as defined below) are entitled to the following tax benefits, among others:

• deductions over an eight-year period for purchases of know-how and patents;

- deductions over a three-year period of expenses involved with the issuance and listing of shares on a stock market; and
- the right to elect, under specified conditions, to file a consolidated tax return with other related Israeli Industrial Companies.

Eligibility for benefits under the Industry Encouragement Law is not subject to receipt of prior approval from any governmental authority. Under the Industry Encouragement Law, an "Industrial Company" is defined as a company that is an Israeli resident for tax purposes and at least 90% of the income of which (other than income from certain government loans), in any tax year, is derived from an "Industrial Enterprise" that is located in Israel and owned by such company.

An "Industrial Enterprise" is defined as an enterprise whose major activity in a given tax year is industrial production activity. We believe that we currently qualify as an Industrial Company within the definition of the Industry Encouragement Law. No assurance can be given that we will continue to qualify as an Industrial Company or that the benefits described above will be available in the future.

Taxation of Holders of Ordinary Shares

The following discussion refers to the tax consequences to holders of our ordinary shares. However, the same tax treatment would apply to holders of our ADSs.

Capital Gains Tax on Sales of Our Ordinary Shares

Israeli law generally imposes a capital gains tax on the sale of any capital assets by residents of Israel, as defined for Israeli tax purposes, and on the sale of assets located in Israel, including shares in Israeli companies, by both residents and non-residents of Israel, unless a specific exemption is available or unless a tax treaty between Israel and the shareholder's country of residence provides otherwise. The Tax Ordinance distinguishes between real gain and inflationary surplus. The inflationary surplus is a portion of the total capital gain equivalent to the increase of the relevant asset's purchase price attributable to an increase in the Israeli consumer price index, or, under certain circumstances, a foreign currency exchange rate, between the date of purchase and the date of sale. The real gain is the excess of the total capital gain over the inflationary surplus.

Taxation of Israeli Residents

Israeli individuals are generally subject to a tax rate of 25% on capital gains derived from the sale of shares, whether listed on a stock market or not, unless such shareholder is considered a "significant shareholder" at any time during the 12month period preceding such sale (i.e., such shareholder holds directly or indirectly, including jointly with others, at least 10% of any means of control in the company), in which case the tax rate will be 30%. Individuals who are subject to tax in Israel are also subject to an additional income surtax at a rate of 3% on annual taxable income exceeding a certain threshold (NIS 647,640 for 2021, linked to the annual change in the Israeli Consumer Price Index). For this purpose, taxable income will include taxable capital gains from the sale of our shares and taxable income from dividend distributions.

Israeli companies are subject to the corporate tax rate on capital gains derived from the sale of listed shares.

Different tax rates may apply to dealers in securities and shareholders who acquired their shares prior to an initial public offering.

Taxation of Non-Israeli Residents

Both individual and corporate non-Israeli residents are generally exempt from Israeli capital gains tax on any gains derived from the sale of shares publicly traded on the TASE provided such gains did not derive from a permanent establishment of such shareholders in Israel. Non-Israeli residents are also exempt from Israeli capital gains tax on any gains derived from the sale of shares of Israeli companies publicly traded on a recognized stock market outside of Israel, provided such shareholders did not acquire their shares prior to the issuer's initial public offering and that the gains did not derive from a permanent establishment of such shareholders in Israel. However, non-Israeli corporations will not be entitled to such exemption if Israeli residents (i) have a controlling interest of more than 25% in such non-Israeli corporation; or (ii) are the

beneficiaries of or are entitled to 25% or more of the revenues or profits of such non-Israeli corporation, whether directly or indirectly.

In addition, the sale, exchange or disposition of our ordinary shares by a U.S. resident individual or corporate shareholder (for purposes of the U.S.-Israel Tax Treaty), and who holds ordinary shares as a capital asset, is also exempt from Israeli capital gains tax under the U.S.-Israel Tax Treaty unless either (i) the U.S. resident shareholder holds, directly or indirectly, shares representing 10% or more of our voting power during any part of the 12-month period preceding such sale; (ii) the capital gains arising from such sale are attributable to a permanent establishment of the shareholder located in Israel; or (iii) such U.S. resident shareholder is an individual and was present in Israel for 183 days or more during the relevant taxable year. If the above conditions are not met, the U.S. resident would be subject to Israeli tax, to the extent applicable. However, under the U.S.-Israel Tax Treaty, the gain would be treated as foreign source income for United States foreign tax credit purposes and such U.S. resident would be permitted to claim a credit for such taxes against the United States federal income tax imposed on such sale, exchange or disposition, subject to the limitations under the United States federal income tax laws applicable to foreign tax credits.

Taxation of Dividends Paid on our Ordinary Shares

Taxation of Israeli Residents

Israeli resident individuals are generally subject to Israeli income tax on the receipt of dividends paid on our ordinary shares, other than bonus shares (share dividends) or stock dividends. The tax rate applicable to such dividends is 25% or 30% for a shareholder that is considered a significant shareholder at any time during the 12-month period preceding such distribution. Dividends paid out of profits sourced from ordinary income are subject to withholding tax at the rate of 25%. Dividends paid from income derived from our Approved and Privileged Enterprises are subject to withholding tax at the rate of 15%. Dividends paid as of January 1, 2014 from income derived from our Preferred Enterprise and Preferred Technology Enterprise will be subject to withholding tax at the rate of 20%. We cannot assure that we will designate the profits that are being distributed in a way that will reduce shareholders' tax liability. For information with respect to the applicability of Income Surtax on distribution of dividends, please see "Capital Gains Tax on Sales of Our Ordinary Shares" and "Taxation of Israeli Residents" above in this Item 10.

Dividend distributions to Israeli resident corporations are generally not subject to a withholding tax.

Taxation of Non-Israeli Residents

Non-residents of Israel, both companies and individuals, are generally subject to Israeli income tax on the receipt of dividends paid on our ordinary shares, at the aforementioned rates applicable to Israeli residents, which tax will be withheld at source, unless a different rate is provided in a treaty between Israel and the shareholder's country of residence.

Under the U.S.-Israel Treaty, the maximum Israeli withholding tax on dividends paid by us is 25%. The U.S.-Israel Tax Treaty further provides for a 12.5% Israeli dividend withholding tax rate on dividends paid by an Israeli company to a U.S. corporation owning at least 10% or more of such Israeli company's issued voting power for, in general, the part of the tax year which precedes the date of payment of the dividend and the entire preceding tax year. The lower 12.5% rate applies only to dividends paid from regular income (and not derived from an Approved, Privileged Preferred Enterprise or Preferred Technological Enterprise) in the applicable period and does not apply if the company has more than 25% of its gross income derived from certain types of passive income (if the conditions mentioned above are met, dividends from income of an Approved, Privileged Preferred Enterprise or Preferred Technological Enterprise are subject to a 15% withholding tax rate under the U.S.-Israel Tax Treaty). Residents of the United States generally will have withholding tax in Israel deducted at source. They may be entitled to a credit or deduction for United States federal income tax purposes in the amount of the taxes withheld, subject to detailed rules contained in United States tax statutes, rules and regulations.

An individual or corporate non-resident of Israel who has dividend income derived from or accrued in Israel, from which tax was withheld at source, is generally exempt from the duty to file tax returns in Israel with respect to such income, provided that (i) such income was not derived from a business conducted in Israel by the taxpayer, (ii) the taxpayer has no other taxable sources of income in Israel with respect to which a tax return is required to be filed in Israel; and (iii) the taxpayer is not obligated to pay income surtax in Israel.

U.S. Federal Income Tax Considerations

The following is a summary of the material U.S. Federal income tax consequences that apply to U.S. holders (defined below) who hold ADSs as capital assets for tax purposes. This summary is based on the U.S. Internal Revenue Code of 1986, as amended (the "Code"), existing final, temporary and proposed regulations thereunder, judicial decisions and published positions of the Internal Revenue Service and the U.S.-Israel income tax treaty in effect as of the date of this annual report, all of which are subject to change at any time (including changes in interpretation), possibly with retroactive effect. On December 22, 2017, the United States enacted the U.S. Tax Reform which alters significantly the U.S. Federal income tax system, generally beginning in 2018. Given the complexity of this new law, U.S. holders should consult their own tax advisors regarding its potential impact on the U.S. Federal income tax consequences to them in light of their particular circumstances.

This summary is also based in part on representations by JPMorgan Chase Bank, N.A., the depositary for our ADSs, and assumes that each obligation under the Deposit Agreement between us and JPMorgan Chase Bank, N.A. and any related agreement will be performed in accordance with its terms.

This summary does not address all U.S. Federal income tax matters that may be relevant to a particular prospective holder or all tax considerations that may be relevant with respect to an investment in ADSs.

This summary does not address tax considerations applicable to a holder of an ADS that may be subject to special tax rules including, without limitation, the following:

- dealers or traders in securities, currencies or notional principal contracts;
- financial institutions;
- insurance companies;
- real estate investment trusts;
- banks;
- investors subject to the alternative minimum tax;
- tax-exempt organizations;
- regulated investment companies;
- investors that actually or constructively own 10 percent or more of our voting shares;
- investors that will hold the ADSs as part of a hedging or conversion transaction or as a position in a straddle or a part of a synthetic security or other integrated transaction for U.S. Federal income tax purposes;
- investors that are treated as partnerships or other pass-through entities for U.S. Federal income tax purposes and persons who hold the ADSs through partnerships or other pass-through entities;
- investors whose functional currency is not the U.S. dollar; and
- expatriates or former long-term residents of the United States.

This summary does not address the effect of any U.S. Federal taxation other than U.S. Federal income taxation. In addition, this summary does not include any discussion of state, local or foreign taxation or the indirect effects on the holders of equity interests in a holder of an ADS.

You are urged to consult your own tax advisor regarding the foreign and U.S. Federal, state and local and other tax consequences of an investment in ADSs.

For purposes of this summary, a "U.S. holder" is a beneficial owner of ADSs that is, for U.S. Federal income tax purposes:

- an individual who is a citizen or a resident of the United States;
- a corporation (or other entity taxable as a corporation for U.S. federal income tax purposes) created or organized in or under the laws of the United States or any political subdivision thereof;
- an estate whose income is subject to U.S. Federal income tax regardless of its source; or
- a trust if:
 - (a) a court within the United States is able to exercise primary supervision over administration of the trust; and
 - (b) one or more United States persons have the authority to control all substantial decisions of the trust.

If an entity that is classified as a partnership for U.S. federal tax purposes holds ADSs, the U.S. federal income tax treatment of its partners will generally depend upon the status of the partners and the activities of the partnership. Entities that are classified as partnerships for U.S. federal tax purposes and persons holding ADSs through such entities should consult their own tax advisors.

In general, if you hold ADSs, you will be treated as the holder of the underlying shares represented by those ADSs for U.S. Federal income tax purposes. Accordingly, no gain or loss will be recognized if you exchange ADSs for the underlying shares represented by those ADSs.

U.S. Taxation of ADSs

Distributions

Subject to the discussion under "Passive Foreign Investment Companies" below, the gross amount of any distribution, including the amount of any Israeli taxes withheld from these distributions (see "Israeli Tax Considerations"), actually or constructively received by a U.S. holder with respect to ADSs will be taxable to the U.S. holder as a dividend to the extent of our current and accumulated earnings and profits as determined under U.S. Federal income tax principles. Distributions in excess of earnings and profits will be non-taxable to the U.S. holder to the extent of, and will be applied against and reduce, the U.S. holder's adjusted tax basis in the ADSs. Distributions in excess of earnings and profits and such adjusted tax basis will generally be taxable to the U.S. holder as a capital gain from the sale or exchange of property. We do not maintain calculations of our earnings and profits under U.S. Federal income tax principles. If we do not report to a U.S. holder the portion of a distribution that exceeds earnings and profits, the distribution will generally be taxable as a dividend even if that distribution would otherwise be treated as a non-taxable return of capital or as a capital gain under the rules described above. The amount of any distribution of property other than cash will be the fair market value of that property on the date of distribution. The U.S. holder will not, except as provided by Sections 245 and 245A of the Code, be eligible for any dividends received deduction in respect of the dividend otherwise allowable to corporations.

Under the Code, certain dividends received by non-corporate U.S. holders will be subject to a maximum income tax rate of 20%. This reduced income tax rate is only applicable to dividends paid by a "qualified foreign corporation" that is not a "passive foreign investment company" and only with respect to shares held by a qualified U.S. holder (i.e., a non-corporate holder) for a minimum holding period (generally 61 days during the 121-day period beginning 60 days before the exdividend date). We should be considered a qualified foreign corporation because (i) we are eligible for the benefits of a comprehensive tax treaty between Israel and the U.S., which includes an exchange of information program; and (ii) the ADSs are readily tradable on an established securities market in the U.S. In addition, based on our current business plans, we do not expect to be classified as a "passive foreign investment company" (see "Passive Foreign Investment Companies" below). Accordingly, dividends paid by us to individual U.S. holders on shares held for the minimum holding period should be eligible for the reduced income tax rate. In addition to the income tax on dividends discussed above, certain non-corporate U.S. holders will also be subject to the 3.8% Medicare tax on dividends as discussed below under "Medicare Tax on Uncarned Income".

The amount of any distribution paid in a currency other than U.S. dollars (a "foreign currency") including the amount of any withholding tax thereon, will be included in the gross income of a U.S. holder in an amount equal to the U.S. dollar value of the foreign currencies calculated by reference to the exchange rate in effect on the date of receipt, regardless of whether the foreign currencies are converted into U.S. dollars. If the foreign currencies are converted into U.S. dollars on the date of receipt, a U.S. holder generally should not be required to recognize foreign currency gain or loss in respect of the dividend. If the foreign currencies received in the distribution are not converted into U.S. dollars on the date of receipt, a U.S. holder will have a basis in the foreign currencies equal to its U.S. dollar value on the date of receipt. Any gain or loss on a subsequent conversion or other disposition of the foreign currencies will be treated as ordinary income or loss.

Generally, dividends received by a U.S. holder with respect to ADSs will be treated as foreign source income for the purposes of calculating that holder's foreign tax credit limitation. Subject to certain conditions and limitations, any Israeli taxes withheld on dividends at the rate provided by the U.S.-Israel tax treaty may be deducted from taxable income or credited against a U.S. holder's U.S. Federal income tax liability. The limitation on foreign taxes eligible for the U.S. foreign tax credit is calculated separately with respect to various categories of income, including "passive" income and "general" income. The rules relating to foreign tax credits and the timing thereof are complex. U.S. holders should consult their own tax advisors regarding the availability of a foreign tax credit under their particular situation.

Sale or Other Disposition of ADSs

If a U.S. holder sells or otherwise disposes of its ADSs, gain or loss will be recognized for U.S. Federal income tax purposes in an amount equal to the difference between the amount realized on the sale or other disposition and such holder's adjusted tax basis in the ADSs. Subject to the discussion below under the heading "Passive Foreign Investment Companies," such gain or loss generally will be a capital gain or loss and will be a long-term capital gain or loss if the holder had held the ADSs for more than one year at the time of the sale or other disposition. Long-term capital gains realized by individual U.S. holders generally are subject to a lower marginal U.S. Federal income tax rate (currently up to 20%) than the marginal tax rate on ordinary income. In addition to the income tax on gains discussed above, certain non-corporate U.S. holders will also be subject to the 3.8% Medicare tax on net gains as discussed below under "Medicare Tax on Unearned Income". Under most circumstances, any gain that a holder recognizes on the sale or other disposition of ADSs will be U.S. sourced for purposes of the foreign tax credit limitation and any recognized losses will be allocated against U.S. source income.

If a U.S. holder receives foreign currency upon a sale or exchange of ADSs, gain or loss, if any, recognized on the subsequent sale, conversion or disposition of such foreign currency will be ordinary income or loss, and will generally be income or loss from sources within the United States for foreign tax credit limitation purposes. However, if such foreign currency is converted into U.S. dollars on the date received by the U.S. holder, the U.S. holder generally should not be required to recognize any gain or loss on such conversion.

A U.S. holder who holds shares through an Israeli stockbroker or other Israeli intermediary may be subject to Israeli withholding tax on any capital gain recognized if the U.S. holder does not obtain approval of an exemption from the Israeli Tax Authorities or claim any allowable refunds or reductions. U.S. holders are advised that any Israeli tax paid under circumstances in which an exemption from (or a refund of or a reduction in) such tax was available will not give rise to a deduction or credit for foreign taxes paid for U.S. federal income tax purposes. If applicable, U.S. holders are advised to consult their Israeli stockbroker or intermediary regarding the procedures for obtaining an exemption or reduction.

Medicare Tax on Unearned Income

Certain U.S. holders that are individuals, estates or trusts are required to pay an additional 3.8% tax on all or a portion of their "net investment income," which includes dividends and net gains from the sale or other dispositions of ADSs (other than ADSs held in a trade or business).

Passive Foreign Investment Companies

For U.S. Federal income tax purposes, we will be considered a passive foreign investment company ("PFIC") for any taxable year in which either 75% or more of our gross income is *passive* income, or at least 50% of the average value of all of our assets for the taxable year produce or are held for the production of passive income. For this purpose, passive income includes dividend, interest, royalty, rent, annuity and the excess of gain over losses from the disposition of assets which produce passive income. If we were determined to be a PFIC for U.S. Federal income tax purposes, highly complex rules would apply to U.S. holders owning ADSs. Based on our estimated gross income, the average value of our gross assets and the nature of our business, we do not believe that we will be classified as a PFIC in the current taxable year. Our status in any taxable year will depend on our assets and activities in each year and because this is a factual determination made annually at the end of each taxable year, there can be no assurance that we will not be considered a PFIC for any future taxable year. If we were treated as a PFIC in any year during which a U.S. holder owns ADSs, certain adverse tax consequences could apply. Given our current business plans, however, we do not expect that we will be classified as a PFIC in future years.

You are urged to consult your own tax advisor regarding the possibility of us being classified as a PFIC and the potential tax consequences arising from the ownership and disposition (directly or indirectly) of an interest in a PFIC.

Backup Withholding and Information Reporting

Payments of dividends with respect to ADSs and the proceeds from the sale, retirement, or other disposition of ADSs made by a U.S. paying agent or other U.S. intermediary will be reported to the IRS and to the U.S. holder as may be required under applicable U.S. Treasury regulations. We, or an agent, a broker, or any paying agent, as the case may be, may be required to withhold tax (backup withholding), currently at the rate of 24%, if a non-corporate U.S. holder that is not otherwise exempt fails to provide an accurate taxpayer identification number and comply with other IRS requirements concerning information reporting. Certain U.S. holders (including, among others, corporations and tax-exempt organizations) are not subject to backup withholding. Any amount of backup withholding withheld may be used as a credit against your U.S. Federal income tax liability provided that the required information is timely furnished to the IRS. U.S. holders should consult their tax advisors as to their qualification for exemption from backup withholding and the procedure for obtaining an exemption.

Foreign Asset Reporting

Certain U.S. Holders who are specified individuals or specified domestic entities are required to report information relating to an interest in our ADSs on IRS Form 8938 (Statement of Specified Foreign Financial Assets), subject to certain exceptions (including an exception for shares held in accounts maintained by financial institutions). U.S. Holders are encouraged to consult their tax advisors regarding their information reporting obligations, if any, with respect to their ownership and disposition of our ADSs.

Documents on Display

We are subject to certain of the information reporting requirements of the Securities and Exchange Act of 1934, as amended. As a foreign private issuer we are exempt from the rules and regulations under the Securities Exchange Act prescribing the furnishing and content of proxy statements, and our officers, directors and principal shareholders are exempt from the reporting and "short-swing" profit recovery provisions contained in Section 16 of the Securities Exchange Act, with respect to their purchase and sale of our shares. In addition, we are not required to file reports and financial statements with the SEC as frequently or as promptly as U.S. companies whose securities are registered under the Securities Exchange Act. NASDAQ rules generally require that companies send an annual report to shareholders prior to the annual general meeting, however we rely upon an exception under the NASDAQ rules and follow the generally accepted business practice for companies in Israel. Specifically, we file annual reports on Form 20-F, which contain financial statements audited by an independent accounting firm, electronically with the SEC and post a copy on our website. We also furnish to the SEC quarterly reports on Form 6-K containing unaudited financial information after the end of each of the first three quarters.

The SEC maintains a website that contains reports, proxy and information statements and other information regarding registrants that file electronically with the SEC, and our SEC reports can be viewed or downloaded there. The address of this web site is http://www.sec.gov. In addition, information that we furnish or file with the SEC, including annual reports on Form 20-F, current reports on Form 6-K, proxy and information statements and any amendments to, or exhibits included in, those reports are available to be viewed or download, free of charge, on our website at http://www.nice.com as soon as reasonably practicable after such materials are filed or furnished with the SEC. Information contained, or that can be accessed through, our website does not constitute a part of this annual report and is not incorporated by reference herein, and we have included our website address in this annual report solely for informational purposes.

Item 11. Quantitative and Qualitative Disclosures About Market Risk.

General

Market risks relating to our operations result primarily from weak economic conditions in the markets in which we sell our products and changes in interest and exchange rates. To manage the volatility related to the latter exposure, we may enter into various derivative transactions. Our objective is to reduce, where it is deemed appropriate to do so, fluctuations in earnings and cash flows associated with changes in currency exchange rates. It is our policy and practice to use derivative financial instruments only to manage such exposures. We do not use financial instruments for trading purposes and we are not a party to any leveraged derivative.

Foreign Currency Exchange Risk

We conduct our business primarily in U.S. dollars but also in the currencies of Israel, the U.K., the E.U. and India as well as other currencies. Thus, we are exposed to foreign exchange fluctuations, primarily in NIS, GBP, EUR and INR. We monitor foreign currency exposure and from time to time we may use various instruments to preserve the value of sale transactions and commitments, however, this cannot assure us protection against risks of currency fluctuations. For more information regarding foreign currency related risks, please refer to Item 3, "Key Information—General Risks Relating to Our Business" of this annual report. We use currency forward contracts and option contracts in order to protect against the increase in value of forecasted non-dollar currency cash flows and to hedge future anticipated payments.

As of December 31, 2021, we had outstanding currency forward contracts to hedge payroll, facilities expenses and lease obligations, denominated in NIS, INR and PHP, in the total amount of approximately \$171 million. The fair value of those contracts was approximately \$4.99 million. These transactions were for a period of up to one year.

The following table details the balance sheet exposure (i.e., the difference between assets and liabilities) in our main foreign currencies, as of December 31, 2021, against the relevant functional currency.

					Fun	ctional	currer	ncies				
		(In U.S. dollars in millions)										
	USD		GBP		CAI)	MXN		AUD		SGD	
Foreign currencies												
USD	\$	_	\$	(11)	\$	(0.5)	\$	3	\$	4	\$	1
GBP	\$	8	\$	_	\$	_	\$	_	\$	_	\$	
EUR	\$	21	\$	13	\$		\$	_	\$	_	\$	
CAD	\$	14	\$		\$		\$		\$		\$	
AUD	\$	4	\$		\$		\$		\$		\$	
MXN	\$	12	\$		\$		\$		\$		\$	
CHF	\$		\$		\$		\$		\$		\$	
JPY	\$	7	\$		\$		\$	—	\$	_	\$	
INR	\$	(5)	\$		\$		\$	_	\$	_	\$	
SGD	\$	(2)	\$		\$	_	\$	_	\$	_	\$	
HKD	\$	(4)	\$		\$		\$	_	\$	_	\$	
NIS	\$	(10)	\$		\$	_	\$	_	\$	_	\$	
PHP	\$	(5)	\$		\$		\$		\$		\$	
BRL	\$	2	\$		\$		\$	_	\$	_	\$	
Other currencies	\$	(2)	\$		\$		\$		\$	_	\$	_

The table below presents the fair value of firmly committed transactions for lease obligations denominated in currencies other than the functional currency:

		(In U.S. dollars in millions)								
	Ne	w Israeli Shekel	Other c	urrencies		Total				
Less than 1 year	\$	6	\$	3	\$	9				
1-3 years	\$	2	\$	5	\$	6				
3-5 years	\$	1	\$	3	\$	4				
Over 5 years	\$	_	\$	2	\$	3				
Total	\$	9	\$	13	\$	22				

Interest Rate Risk

We are subject to interest rate risk on our investments and on our borrowings.

On August 24, 2020, we issued \$460.0 million aggregate principal amount of 0% Exchangeable Senior Notes due 2025.

On January 18, 2017, we issued \$287.5 million aggregate principal amount of 1.25% Exchangeable Senior Notes due 2024.

Our outstanding debt obligations, the corresponding interest rates, currency and repayment schedules as of December 31, 2021, are set forth in the table below in U.S. dollar equivalent terms (in millions).

Currency	Amount	Interest rate	2022	2023	2024	2025	2026	2027 & thereafter
				(In mill	lions)			
Fixed Rate:								
USD	\$ 863.1	0%-1.25%	\$ 63.1		\$ 340.0	\$ 460.0		
Total:	\$ 863.1		<u>\$ 63.1</u>		\$ 340.0	\$ 460.0		
Debt issuance costs, net of amortization	(6.8)			-				
Unamortized discount	(31.1)							
Total:	\$ 825.2							

Our investments are exposed to market risk due to fluctuations in interest rates, which may affect our interest income and the fair market value of our marketable securities portfolio.

Our marketable securities portfolio consists of investment-grade corporate debentures, U.S. Government agencies and U.S. treasuries. As of December 31, 2021, 91.8% of our portfolio was in such securities and the remainder was in dollar deposits.

We invest in dollar deposits with U.S. banks, European banks, Israeli banks and money market funds. As of December 31, 2021, 8.2% of our portfolio was in such deposits. Since these investments are for short periods, interest income is sensitive to changes in interest rates.

The weighted average duration of the securities portfolio, as of December 31, 2021, is 1.66 years. The securities in our marketable securities portfolio are rated generally as A+ according to Standard and Poor's rating or A1, according to

Moody's rating. Securities representing 2.6% of the marketable securities portfolio are rated as AAA; securities representing 21.1% of the marketable securities portfolio are rated as AA; securities representing 68.6% of the marketable securities portfolio are rated as A; securities representing 1.4% of the marketable securities portfolio are rated as BBB+ securities representing 1.4% of the marketable securities portfolio are rated as BBB and securities representing 1.1% of the marketable securities portfolio are rated as BBB- and BB after being downgraded during 2020.

		Amortiz	zed Cost		Estimated fair value						
	Up to 1 year	1-3 years	4-7 years	Total	Up to 1 year	1-3 years	4-7 years	Total			
Corporate debentures	269.4	615.0	128.2	1,012.6	270.4	614.0	126.5	1,010.9			
U.S. treasuries	10.9	3.8		14.7	11.0	3.9		14.8			
U.S. government agencies	_	16.0		16.0	_	15.8		15.8			
Total	280.3	634.8	128.2	1,043.3	281.4	633.7	126.5	1,041.6			

The table below presents the fair value of marketable securities which are subject to risk of changes in interest rate, segregated by maturity dates (in U.S. dollars, in millions):

Other risks and uncertainties that could affect actual results and outcomes are described in Item 3, "Key Information – Risk Factors" in this annual report.

Item 12. Description of Securities Other than Equity Securities.

American Depositary Shares and Receipts

Set forth below is a summary of certain provisions in relation to charges and other payments under the Deposit Agreement, as amended, among NICE, JPMorgan Chase Bank, N.A. as depositary (the "Depositary"), and the owners and holders from time to time of ADRs issued thereunder (the "Deposit Agreement"). A summary of rights of holders and additional terms contained in the Deposit Agreement has been filed as Exhibit 2.3 to this Annual Report. These summaries are not complete and are qualified in their entirety by the Deposit Agreement, a form of which has been filed as Exhibit 1 to the Registration Statement on Form F-6 (Registration No. 333-203623) filed with the SEC on April 24, 2015.

Charges of the Depositary

The Depositary may charge each person to whom ADSs are issued, including, without limitation, issuances against deposits of shares, issuances in respect of share distributions, rights and other distributions, issuances pursuant to a stock dividend or stock split declared by us or issuances pursuant to a merger, exchange of securities or any other transaction or event affecting the ADSs or deposited securities, and each person surrendering ADSs for withdrawal of deposited securities or whose ADSs are cancelled or reduced for any other reason, \$0.05 for each ADS issued, delivered, reduced, cancelled or surrendered, as the case may be. The Depositary may sell (by public or private sale) sufficient securities and property received in respect of a share distribution, rights or other distribution prior to such deposit to pay such charge.

The following additional charges shall be incurred by the ADR holders, by any party depositing or withdrawing shares or by any party surrendering ADSs or to whom ADSs are issued (including, without limitation, issuance pursuant to a stock dividend or stock split declared by us or an exchange of stock regarding the ADSs or the deposited securities or a distribution of ADSs), whichever is applicable:

- a fee of \$1.50 per ADR for transfers of certificated or direct registration ADRs;
- a fee of up to \$0.05 per ADS for any cash distribution made pursuant to the Deposit Agreement;
- a fee of up to \$0.05 per ADS per calendar year (or portion thereof) for services performed by the Depositary in administering the ADRs (which fee may be charged on a periodic basis during each calendar year and shall be assessed against holders of ADRs as of the record date or record dates set by the Depositary during each calendar year and shall be payable in the manner described in the next succeeding provision);

- a fee for the reimbursement of such fees, charges and expenses as are incurred by the Depositary or any of its agents (including, without limitation, the custodian and expenses incurred on behalf of holders in connection with compliance with foreign exchange control regulations or any law or regulation relating to foreign investment) in connection with the servicing of the shares or other deposited securities, the sale of securities (including, without limitation, deposited securities), the delivery of deposited securities or otherwise in connection with the Depositary's or its custodian's compliance with applicable law, rule or regulation (which fees and charges shall be assessed on a proportionate basis against holders as of the record date or dates set by the Depositary and shall be payable at the sole discretion of the Depositary by billing such holders or by deducting such charge from one or more cash dividends or other cash distributions);
- stock transfer or other taxes and other governmental charges;
- cable, telex and facsimile transmission and delivery charges incurred at the request of an ADR holder in connection with the deposit or delivery of shares;
- transfer or registration fees for the registration of transfer of deposited securities on any applicable register in connection with the deposit or withdrawal of deposited securities;
- in connection with the conversion of foreign currency into U.S. dollars, the fees, expenses and other charges charged by JPMorgan Chase Bank, N.A. or its agent (which may be a division, branch or affiliate) so appointed in connection with such conversion; and
- fees of any division, branch or affiliate of the Depositary utilized by the Depositary to direct, manage or execute any public or private sale of securities under the deposit agreement.

The Depositary may generally refuse to provide services until it is reimbursed applicable amounts, including stock transfer or other taxes and other governmental charges, and is paid its fees for applicable services.

The fees and charges an ADR holder may be required to pay may vary over time and may be changed by us and by the Depositary. Our ADR holders will receive prior notice of the increase in any such fees and charges.

We will pay all other charges and expenses of the Depositary and any agent of the Depositary (except the custodian) pursuant to agreements from time to time between us and the Depositary. The charges described above may be amended from time to time by agreement between us and the Depositary.

Fees paid by the Depositary

Our Depositary has agreed to reimburse us for certain expenses we incur that are related to establishment and maintenance of the ADR program upon such terms and conditions as we and the Depositary may agree from time to time. The Depositary may make available to us a set amount or a portion of the Depositary fees charged in respect of the ADR program or otherwise upon such terms and conditions as we and the Depositary may agree from time to time.

During 2021, we received a payment in the amount of approximately \$1.1 million from the Depositary as reimbursement for expenses we incurred in 2021 in relation to the maintenance and administration of the ADR program.

PART II

Item 13. Defaults, Dividend Arrearages and Delinquencies.

None.

Item 14. <u>Material Modifications to the Rights of Security Holders and Use of Proceeds</u>.

None.

Item 15. <u>Controls and Procedures</u>.

Disclosure Controls and Procedures

An evaluation was performed under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, of the effectiveness of NICE's disclosure controls and procedures (as defined in Rule 13a-15(e) under the Securities Exchange Act of 1934, as amended) as of the end of the period covered by this report. Based on that evaluation, our Chief Executive Officer (principal executive officer) and Chief Financial Officer (principal financial officer) concluded that NICE's disclosure controls and procedures were effective as of such date.

Management's Annual Report on Internal Control over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over our financial reporting, as such term is defined in Rule 15d-15(f) under the Securities Exchange Act. Our internal control over our financial reporting system was designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements and even when determined to be effective can only provide reasonable assurance with respect to financial statements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Our management assessed the effectiveness of our internal control over financial reporting as of December 31, 2021. Our management based its assessment on criteria established in Internal Control-Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). Based on this assessment, our management has concluded that, as of December 31, 2021, our internal control over financial reporting is effective.

Attestation Report of the Independent Registered Public Accounting Firm

Our independent registered public accounting firm, Kost, Forer, Gabbay & Kasierer, a member of EY Global independently assessed the effectiveness of our internal control over financial reporting and has issued an attestation report, which is included under Item 18 on page F-4 of this annual report.

Changes in Internal Control Over Financial Reporting

There were no changes in our internal control over financial reporting that occurred during the period covered by this annual report that have materially affected, or that are reasonably likely to materially affect, our internal control over financial reporting.

Item 16A. <u>Audit Committee Financial Expert.</u>

Our Board of Directors has determined that each of Dan Falk and Yocheved Dvir meets the definition of an audit committee financial expert, as defined in Item 407 of Regulation S-K and is independent under the applicable regulations.

Item 16B. <u>Code of Ethics</u>.

We have adopted a Code of Ethics and Business Conduct (the "Code of Ethics") that applies to our principal executive and financial officers, and that also applies to all of our employees. If we make any substantive amendments to the Code of Ethics or grant any waiver from a provision of this code to our chief executive officer, principal financial officer or corporate controller, we will either disclose the nature of such amendment or waiver on our website or in our annual report on Form 20-F.

The Code of Ethics, among other things, summarizes the principles of our Anti-Bribery and Corruption Policy. We have zero tolerance for bribery and corruption and are committed to complying with applicable laws and regulations relating to the fight against bribery and corruption.

The Code of Ethics, and our separate Anti-Bribery and Corruption Policy, is available on our website: www.nice.com. Written copies are available upon request without charge.

Item 16C. <u>Principal Accountant Fees and Services</u>.

Fees Paid to Independent Auditors

Fees billed or expected to be billed by Kost, Forer, Gabbay & Kasierer, a member of EY Global, and other members of EY Global for professional services for each of the last two fiscal years were as follows:

Services Rendered	2021	Fees	20	020 Fees
Audit (1)	\$	994	\$	968
Audit-related (2)	\$	72	\$	247
Tax (3)	\$	576	\$	520
Total	\$	1,642	\$	1,735

- (1) Audit fees refer to audit services for each of the years shown in this table which include fees associated with the annual audit for each of 2020 and 2021 (including an audit in each such year in accordance with section 404 of the Sarbanes-Oxley Act), certain procedures regarding our quarterly financial results submitted on Form 6-K, consultations concerning financial accounting and various accounting issues and performance of local statutory audits.
- (2) Audit-related fees relate to assurance and associated services that traditionally are performed by the independent auditor, which include due diligence investigations and audit services related to other statutory or regulatory filings, mainly those related to mergers and acquisitions.
- (3) Tax fees refer to professional services rendered by our auditors, which include tax compliance, tax advice on actual or contemplated transactions, tax consulting associated with transfer pricing.

Policies and Procedures

Our audit committee has adopted a policy and procedures for the pre-approval of audit and non-audit services rendered by our external auditors, Kost, Forer, Gabbay & Kasierer, a member of EY Global. The policy, which is designed to ensure that such services do not impair the independence of our auditors, requires pre-approval from the audit committee on an annual basis for the various audit and non-audit services that may be performed by our auditors. If a type of service, that is to be provided by our auditors, has not received such general pre-approval, it will require specific pre-approval by our audit committee. Any proposed services exceeding pre-approved cost levels or budgeted amounts will also require specific pre-approval by our audit functions defined in Section 201 of the Sarbanes-Oxley Act of 2002 or the rules of the SEC, and also considers whether proposed services are compatible with the independence of the public auditors.

Item 16D. Exemptions from the Listing Standards for Audit Committees.

Not applicable.

Item 16E. Purchases of Equity Securities by the Issuer and Affiliated Purchasers.

Period	(a) Total number of shares purchased	(b) Average price paid per share	(c) Total number of shares purchased as part of publicly announced plans or programs	(d) Maximum number (or approximate dollar value) of shares that may yet be purchased under the plans or programs
		(In dollars, excep	t share amounts)	
January 1 - January 31				214,732,630
February 1 - February 28	51,845	263.39	51,845	201,077,161
March 1 - March 31	134,817	225.89	134,817	170,623,988
April 1 - April 30	1,507	225.54	1,507	170,284,099
May 1 - May 31				170,284,099
June 1 - June 30	483	221	483	170,177,361
July 1 - July 31				170,177,361
August 1 - August 31	7,901	274	7,901	168,014,231
September 1 - September 30	7,451	293	7,451	165,831,088
October 1 - October 31	18,227	266	18,227	160,977,967
November 1 - November 30	66,949	285.30	66,949	141,877,478
December 1 - December 31	1,091	291.98	1,091	141,558,928
Total	290,271	252.09	290,271	

During 2021, we repurchased our ordinary shares as described in the table below.

On January 10, 2017, we announced that our Board of Directors authorized a program to repurchase up to \$150 million of our issued and outstanding ordinary shares and ADRs, which was fully exhausted during Q1 2021. On February 12, 2020, our Board of Directors authorized an additional program to repurchase up to \$200 million of our issued and outstanding ordinary shares and ADRs, which commenced following completion of the prior program from 2017. Repurchases may be made from time to time in the open market or in privately negotiated transactions in accordance with applicable securities laws and regulations. The timing and amount of the repurchase transactions will be determined by management and may depend on a variety of factors including market conditions, alternative investment opportunities and other considerations.

These programs do not obligate us to acquire any particular amount of ordinary shares and ADRs and each program may be modified or discontinued at any time without prior notice.

Item 16F. Change in Registrant's Certifying Accountant.

None.

Item 16G. <u>Corporate Governance</u>.

We follow the Israeli Companies Law, the relevant provisions of which are summarized in this annual report, rather than comply with the NASDAQ requirements relating to: (i) the quorum for shareholder meetings (see Item 10, "Additional Information – Memorandum and Articles of Association – Meetings of Shareholders" in this annual report); (ii) shareholder approval with respect to issuance of securities under equity-based compensation plans (see Item 10, "Additional Information – Memorandum and Articles of Association – Approval of Certain Transactions" and "Approval of Office Holder Compensation" in this annual report); and (iii) sending annual reports to shareholders (see Item 10, "Additional Information – Documents on Display" in this annual report).

Item 16H. <u>Mine Safety Disclosure</u>.

Not Applicable.

Item 16I. Disclosure Regarding Foreign Jurisdictions that Prevent Inspections.

Not Applicable.

PART III

Item 17. <u>Financial Statements</u>.

Not Applicable.

Item 18. <u>Financial Statements</u>.

See pages F-1 through F-55 of this annual report attached hereto.

Item 19. <u>Exhibits</u>.

Exhibit No.	Description
	Amended and Restated Memorandum of Association, as approved on December 21, 2006 (English
<u>1.1</u>	translation) (filed as Exhibit 1.1 to NICE Ltd.'s Annual Report on Form 20-F filed with the SEC on June 13, 2007, and incorporated herein by reference).
	Amended and Restated Articles of Association, as amended on December 21, 2016 (filed as Exhibit 1.2 to
<u>1.2</u>	NICE Ltd.'s Annual Report on Form 20-F filed with the SEC on April 21, 2017, and incorporated herein by
	reference).
	Form of Share Certificate (filed as Exhibit 4.1 to Amendment No. 1 to NICE Ltd.'s Registration Statement
2.1	on Form F-1 (Registration No. 333-99640) filed with the SEC on December 29, 1995, and incorporated
	herein by reference).
<u>2.2</u>	Form of Deposit Agreement including Form of ADR Certificate (filed as Exhibit 1 to NICE Ltd.'s Registration Statement on Form F-6 (Registration No. 333-203623) filed with the SEC on April 24, 2015,
<u>2.2</u>	and incorporated herein by reference).
2.2	Description of Securities (filed as Exhibit 2.3 to NICE's Annual Report on Form 20-F filed with the SEC on
<u>2.3</u>	April 6, 2020, and incorporated herein by reference).
4.1	NICE Ltd. 2016 Share Incentive Plan (filed as Exhibit 4.3 to NICE's Annual Report on Form 20-F filed with
<u>4.1</u>	the SEC on March 23, 2016, and incorporated herein by reference).
1.0	NICE Ltd.'s Executives & Directors Compensation Policy (filed as Annex A in Exhibit 99.1 of NICE's
<u>4.2</u>	Immediate Report on Form 6-K filed with the SEC on March 23, 2021, and incorporated herein by reference).
	inContact, Inc. 2008 Equity Incentive Plan (filed as Exhibit 4.4 to NICE Ltd.'s Registration Statement on
4.3	Form S-8 (Registration No. 333-191176) filed with the SEC on November 15, 2016, and incorporated herein
	by reference).
	Nexidia Inc. 2005 Stock Incentive Plan (filed as Exhibit 4.4 to NICE-Systems Ltd.'s Registration Statement
<u>4.4</u>	on Form S-8 (Registration No. 333-191176) filed with the SEC on March 23, 2016, and incorporated herein by reference).
4.6	Guardian Analytics, Inc. 2006 Stock Plan (filed as Exhibit 4.4 to NICE Ltd.'s Registration Statement on Form S-8 (Registration No. 333-249186), filed with the SEC on October 1, 2020, and incorporated herein by
<u></u>	reference).
4.7	2017 Indenture, dated January 18, 2017 (filed as Exhibit 4.16 to NICE Ltd.'s Annual Report on Form 20-F
<u>/</u>	filed with the SEC on April 21, 2017, and incorporated herein by reference).
<u>4.8</u>	2020 Indenture, dated August 27, 2020 (filed as Exhibit 4.14 to NICE Ltd.'s Annual Report on Form 20-F filed with the SEC on March 23, 2021, and incorporated herein by reference).
0.1	List of significant subsidiaries.
<u>8.1</u>	
<u>12.1</u>	Certification by the Chief Executive Officer of NICE Ltd., pursuant to Section 302 of the Sarbanes-Oxley Act 2002.
	Certification by the Chief Financial Officer of NICE Ltd., pursuant to Section 302 of the Sarbanes-Oxley Act
<u>12.2</u>	of 2002.
12.1	Certification by the Chief Executive Officer of NICE Ltd., pursuant to 18 U.S.C. Section 1350, as adopted
<u>13.1</u>	pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
<u>13.2</u>	Certification by the Chief Financial Officer of NICE Ltd., pursuant to 18 U.S.C. Section 1350, as adopted
	pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
<u>15.1</u>	Consent of Kost, Forer, Gabbay & Kasierer, a member of EY Global.
	The following financial information from NICE Ltd.'s Annual Report on Form 20-F for the year ended December 31, 2021, formatted in Inline XBRL ("iXBRL"): (i) Consolidated Balance Sheets at December 31,
101	2021 and 2020; (ii) Consolidated Statements of Income for the years ended December 31, 2021, 2020 and
101	2019; (iii) Statements of Changes in Shareholders' Equity and Comprehensive Income for the years ended
	December 31, 2021, 2020 and 2019; (iv) Consolidated Statements of Cash Flows for the years ended December 31, 2021, 2020 and 2019; and (v) Notes to Consolidated Financial Statements.
	Determore 51, 2021, 2020 and 2017, and (v) notes to consolidated i inalitial Statements.

NICE LTD. AND ITS SUBSIDIARIES

CONSOLIDATED FINANCIAL STATEMENTS

AS OF DECEMBER 31, 2021

IN U.S. DOLLARS

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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Shareholders and the Board of Directors of

NICE Ltd.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of NICE Ltd. and its subsidiaries (the "Company") as of December 31, 2021 and 2020, the related consolidated statements of income, comprehensive income, changes in shareholders' equity and cash flows for each of the three years in the period ended December 31, 2021, and the related notes (collectively referred to as the "Consolidated Financial Statements"). In our opinion, the Consolidated Financial Statements present fairly, in all material respects, the financial position of the Company at December 31, 2021 and 2020, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2021, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2021, based on criteria established in Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) and our report dated April 5, 2022 expressed an unqualified opinion thereon.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matter

The critical audit matter communicated below is a matter arising from the current period audit of the financial statements that was communicated or required to be communicated to the audit committee and that: (1) relates to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective or complex judgments. The communication of the critical audit matter does not alter in any way our opinion on the Consolidated Financial Statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing separate opinion on the critical audit matter or on the accounts or disclosures to which it relates.



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Revenue Recognition

Description the Matter

How

Addressed

in

Matter

Audit

of

As described in Note 2 to the Consolidated Financial Statements, the Company generates revenues mainly from licensing its software products and services, including cloud-based services. The Company enters into contracts with customers that often include promises to transfer multiple products and services, which are accounted for separately if they are distinct performance obligations. In such contracts, the transaction price is then allocated to the distinct performance obligations on a relative standalone selling price basis and revenue is recognized when control of the distinct performance obligation is transferred. Revenues from cloud-based services are recognized either ratably over the contract period or based on usage, as applicable.

The accounting for contracts with multiple elements which include a software license requires the company to exercise significant judgment in determining revenue recognition for these contracts and includes: (a) identification and determination of whether products and services are considered distinct performance obligations that should be accounted for separately based on the terms and conditions of the relevant agreements, (b) determination of stand-alone selling prices for each distinct performance obligation that are not sold separately. For products that are not sold separately, directly observable data is generally not available, which requires the Company to make significant assumptions regarding the stand-alone selling prices of the related performance obligations based on, among others, geographic or regional specific factors and internally approved pricing guidelines, and (c) the pattern of transferring control (i.e., timing of when revenue is recognized) for each distinct performance obligation. For cloud-based revenues recognized based on usage, the processing and recognition of revenue are highly automated and involves capturing and pricing significant volumes of data.

Given these factors, the related audit effort in evaluating management's judgments in determining revenue recognition for these customer contracts was extensive and required a high degree of auditor judgment.

We We obtained an understanding, evaluated the design and tested the operating effectiveness of the the Company's process and controls to identify and determine the distinct performance obligations, the Our relative standalone selling price for each performance obligation and the determination of the timing of revenue recognition.

Our audit procedures included, among others, evaluating the methodology and reasonableness of management's assumptions used for the estimate of stand-alone selling prices on a sample basis for products and services that are not sold separately.

For a sample of customers, we: (1) obtained and read contract source documents, including master agreements, and other documents that were part of the agreement, (2) tested management's identification of significant terms for completeness, including the identification and determination of distinct performance obligations, (3) tested management's calculations of revenue and the associated timing of revenue recognition, and (4) we involved IT professionals with specialized skill and knowledge to assist in testing certain internal controls over the Company's revenue process, including controls over the capture related usage transactional information through the Company's IT systems. On a sample basis, we tested usage and observed that usage attributes such as duration and type of service were captured in the relevant IT systems.

/s/ KOST FORER GABBAY & KASIERER A Member of Ernst & Young Global We have served as the Company's auditor since 1995. Tel-Aviv. Israel April 5, 2022



REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Shareholders and the Board of Directors of NICE Ltd.

Opinion on Internal Control over Financial Reporting

We have audited NICE Ltd. and its subsidiaries internal control over financial reporting as of December 31, 2021, based on criteria established in Internal Control - Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) (the COSO criteria). In our opinion, NICE Ltd. and its subsidiaries (the Company) maintained, in all material respects, effective internal control over financial reporting as of December 31, 2021, based on the COSO criteria.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheets of the Company as of December 31, 2021 and 2020, the related consolidated statements of income, comprehensive income, changes in shareholders' equity and cash flows for each of the three years in the period ended December 31, 2021, and the related notes and our report dated April 5, 2022 expressed an unqualified opinion thereon.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting included in the accompanying Management's Report on Internal Control over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects.

Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control Over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.



Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ KOST FORER GABBAY & KASIERER A Member of Ernst & Young Global

Tel-Aviv, Israel April 5, 2022

CONSOLIDATED BALANCE SHEETS

U.S. dollars in thousands (except share and per share data)

		31,		
		2021		2020
ASSETS				
CURRENT ASSETS:				
Cash and cash equivalents	\$	378,656	\$	442,267
Short-term investments		1,046,095		1,021,613
Trade receivables (net of allowance for credit losses of \$9,927 and \$12,197 at December 31, 2021 and 2020, respectively)		395,583		303,100
Debt hedge option		292,940		
Prepaid expenses and other current assets		184,604		175,340
Total current assets		2,297,878		1,942,320
LONG-TERM ASSETS:				
Prepaid expenses and other long-term assets		224,445		153,660
Property and equipment, net		145,654		137,785
Deferred tax assets		55,246		32,735
Operating lease right-of-use assets		85,055		97,162
Other intangible assets, net		295,378		366,003
Goodwill		1,606,756		1,503,252
Total long-term assets		2,412,534		2,290,597
Total assets	\$	4,710,412	\$	4,232,917

CONSOLIDATED BALANCE SHEETS

U.S. dollars in thousands (except share and per share data)

		Decem	ber	31,
		2021		2020
LIABILITIES AND SHAREHOLDERS' EQUITY				
CURRENT LIABILITIES:				
Trade payables	\$	36,121	\$	33,132
Deferred revenues and advances from customers	Ŧ	330,459	+	311,851
Current maturities of operating leases		19,514		22,412
Debt		395,946		259,881
Accrued expenses and other liabilities		487,547		417,174
		,.		,
Total current liabilities		1,269,587		1,044,450
LONG-TERM LIABILITIES:				26.205
Deferred revenues and advances from customers		66,606		36,295
Accrued severance pay		16,494		16,229
Deferred tax liabilities		7,429		32,109
Debt		429,267		421,337
Operating leases		81,185		92,262
Other long-term liabilities		1,885		1,751
Total long-term liabilities		602,866		599,983
		002,000		577,705
COMMITMENTS AND CONTINGENT LIABILITIES				
SHAREHOLDERS' EQUITY:				
Share capital-				
Ordinary shares of NIS 1 par value:				
Authorized: 125,000,000 shares at December 31, 2021 and 2020; Issued: 74,774,827 and 74,774,827 shares at December 31, 2021 and 2020, respectively; Outstanding:				
63,476,860 and 63,050,434 shares at December 31, 2021 and 2020, respectively		18,961		18,961
Additional paid-in capital		1,817,710		1,681,587
Treasury shares at cost – 11,297,967 and 11,724,393 Ordinary shares at December 31, 2021 and 2020, respectively		(625,810)		(574,364)
Accumulated other comprehensive loss		(39,739)		(16,662)
Retained earnings		1,653,963		1,454,388
Total attributable to Nice Ltd's shareholders		2,825,085		2,563,910
Non-controlling interests		12,874		24,574
		12,074		27,377
Total shareholders' equity		2,837,959		2,588,484
Total liabilities and shareholders' equity	\$	4,710,412	\$	4,232,917

CONSOLIDATED STATEMENTS OF INCOME

U.S. dollars in thousands (except share and per share data)

	Year ended December 31,					
		2021		2020		2019
Revenue:						
Cloud	\$	1,018,624	\$	777,331	\$	595,748
Services		660,083		687,532		709,064
Product		242,443		183,153		269,100
Total revenue		1,921,150		1,648,016		1,573,912
Cost of revenue:						
Cloud		410,671		339,985		289,852
Services		191,137		199,803		218,990
Product		22,648		22,164		22,926
Total cost of revenue		624,456		561,952		531,768
Gross profit		1,296,694		1,086,064		1,042,144
Operating expenses:						
Research and development, net		271,187		218,182		193,718
Selling and marketing		536,192		445,102		441,687
General and administrative		225,406		180,733		168,022
Total operating expenses		1,032,785		844,017		803,427
Operating income		263,909		242,047		238,717
Financial expenses and other, net		23,290		4,859		4,444
Income before taxes on income		240,619		237,188		234,273
Taxes on income		41,396		40,842		48,369
Net income		199,223		196,346		185,904
			<i>ф</i>		¢	
Basic earnings per share	\$	3.15	\$	3.13	\$	2.99
Diluted earnings per share	\$	2.98	\$	2.98	\$	2.88
Weighted average number of shares (in thousands) used in computing:						
Basic earnings per share		63,189		62,710		62,120
Diluted earnings per share		66,896		65,956		64,661

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

U.S. dollars in thousands

	 I	Year ended December 31,	
	2021	2020	2019
Net income	\$ 199,223 \$	196,346	\$ 185,904
Change in foreign currency translation adjustment	 (7,402)	4,998	2,458
Available-for-sale investments:			
Change in net unrealized gains (losses)	(13,368)	11,249	6,260
Less - reclassification adjustment for net gains realized and included in net income	(1,403)	(2,095)	(467)
Net change (net of tax effect of \$2,012, \$(1,246) and \$(913))	 (14,771)	9,154	5,793
Cash flow hedges:			
Change in unrealized gains	5,024	4,954	5,495
Less - reclassification adjustment for net (losses) realized and included in net income	 (5,928)	(2,469)	(429)
Net change (net of tax effect of \$123, \$(339) and \$(691))	 (904)	2,485	5,066
Total other comprehensive income (loss)	(23,077)	16,637	13,317
Comprehensive income	\$ 176,146 \$	212,983	\$ 199,221

STATEMENTS OF CHANGES IN SHAREHOLDERS' EQUITY

U.S. dollars in thousands

	Share capital	Additional paid-in capital	Treasury shares	Accumulated other comprehensive loss	Retained earnings	Non- controlling Interest	Total shareholders' equity
Balance as of January 1, 2021	\$ 18,961	\$ 1,681,587	\$ (574,364)	\$ (16,662)	\$ 1,454,388	\$ 24,574	\$ 2,588,484
Stock-based compensation	—	156,373		—	—	—	156,373
Issuance of treasury shares under share-based compensation plan (717,500 ordinary shares)	_	(17,194)) 21,618	_	_	_	4,424
Treasury shares purchase			(73,064)	_			(73,064)
Other comprehensive income				(23,077)			(23,077)
Equity component of convertible notes, net of issuance costs and deferred tax		75	_	_	_	_	75
Equity awards assumed for acquisitions	_	183	_	_	_	_	183
Purchase of subsidiaries' shares from non-controlling, net	_	(3,314)) —	_	_	(9,594)	(12,908)
Dividends Paid to non- controlling interest	_	_	_	_	_	(1,754)	(1,754)
Net income attributable to Nice Shareholders	_	_	_	_	199,575	_	199,575
Net loss attributable to non- controlling interests	_			_		(352)	(352)
Balance as of December 31, 2021	<u>\$ 18,961</u>	<u>\$ 1,817,710</u>	<u>\$ (625,810)</u>	<u>\$ (39,739)</u>	\$ 1,653,963	<u>\$ 12,874</u>	\$ 2,837,959

STATEMENTS OF CHANGES IN SHAREHOLDERS' EQUITY

U.S. dollars in thousands

	Share capital	Additional paid-in capital		Treasury shares		cumulated other nprehensive loss	Retained earnings	Non- controlling Interest	sh	Total areholders' equity
Balance as of January 1, 2020	\$ 18,961	\$ 1,568,035	\$	(554,146)	\$	(33,299)	\$ 1,257,715	\$ —	\$	2,257,266
Stock-based compensation		103,464					—			103,464
Issuance of treasury shares under share- based compensation plan (915,710 ordinary shares)	_	(19,266)		28,131		_	_	_		8,865
Treasury shares purchased		_		(48,349)			_			(48,349)
Non-controlling interests related to acquisition	_	_		_		_	_	24,901		24,901
Other comprehensive income						16,637	—			16,637
Equity component of convertible notes, net of issuance costs and deferred tax	_	28,816					_			28,816
Equity awards assumed for acquisitions		538					—			538
Net income attributable to Nice Shareholders	_	_		_		_	196,673	_		196,673
Net loss attributable to non-controlling interests	_							(327)		(327)
Balance as of December 31, 2020	\$ 18,961	\$ 1,681,587	<u>\$</u>	(574,364)	<u></u>	(16,662)	\$ 1,454,388	\$ 24,574	<u>\$</u>	2,588,484

STATEMENTS OF CHANGES IN SHAREHOLDERS' EQUITY

U.S. dollars in thousands

		Share capital	Additional paid-in capital	Treasury shares	ccumulated other mprehensive loss	Retained earnings	sh	Total areholders' equity
Balance as of January 1, 2019	\$	18,849	\$ 1,499,986	\$ (527,417)	\$ (46,616)	\$ 1,071,811	\$	2,016,613
Exercise of share options		112	1,907					2,019
Stock-based compensation			82,033	—				82,033
Issuance of treasury shares under share-based compensation plan (556,655 ordinary shares)			(15,891)	19,300				3,409
Treasury shares purchased		—		(46,029)		_		(46,029)
Other comprehensive loss					13,317	_		13,317
Net income	_	—				185,904		185,904
Balance as of December 31, 2019	\$	<u>18,961</u>	\$ 1,568,035	\$ (554,146)	\$ (33,299)	\$ 1,257,715	\$	2,257,266

CONSOLIDATED STATEMENTS OF CASH FLOWS

U.S. dollars in thousands

	I		
	 2021	2020	2019
Cash flows from operating activities:			
Net income	\$ 199,223 \$	196,346 \$	185,904
Adjustments required to reconcile net income to net cash provided by operating activities:			
Depreciation and amortization	184,092	182,026	173,230
Stock-based compensation	153,030	101,667	80,864
Accrued severance pay, net	597	1,323	(1,964)
Amortization of premium and discount and accrued interest on marketable securities	11,867	(633)	(53)
Deferred taxes, net	(39,316)	(33,241)	(12,208)
Changes in operating assets and liabilities:	(/ / /		,
Trade receivables, net	(85,778)	22,245	(29,863)
Prepaid expenses and other current assets	(79,624)	(80,665)	(76,180)
Trade payables	(389)	4,094	777
Accrued expenses and other liabilities	64,179	14,875	31,730
Operating lease right-of-use assets	15,075	18,167	19,104
Deferred revenues	30,770	63,202	13,810
Operating lease liabilities	(18,011)	(19,569)	(18,839)
Amortization of discount on long-term debt	14,469	13,297	9,236
Loss in respect of debt extinguishment	13,969	_	
Other	 (2,337)	(2,828)	(1,390)
Net cash provided by operating activities	 461,816	480,306	374,158
Cash flows from investing activities:			
Purchase of property and equipment	(24,771)	(24,186)	(27,293)
Purchase of investments	(322,129)	(583,115)	(619,060)
Proceeds from investments	270,645	328,593	362,713
Payments for business acquisitions, net of cash acquired	(142,804)	(147,261)	(25,972)
Capitalization of internal use software costs	(42,440)	(39,098)	(34,679)
Net cash used in investing activities	 (261,499)	(465,067)	(344,291)

CONSOLIDATED STATEMENTS OF CASH FLOWS

U.S. dollars in thousands

		2021		2020		2019
Cash flows from financing activities:						
Proceeds from issuance of shares upon exercise of options		4,426		8,865		5,428
Purchase of treasury shares		(73,180)		(48,272)		(47,276)
Dividends paid to non-controlling interest		(1,754)				—
Capital lease payments				(177)		(816)
Purchase of subsidiaries shares from non-controlling interest		(14,000)				
Proceeds from issuance of exchangeable senior notes, net				451,421		
Repayment of debt		(177,308)		(215,000)		_
Net cash provided by (used in) financing activities		(261,816)		196,837		(42,664)
Effect of exchange rate changes on cash		(2,112)		1,868		(979)
Net change in cash and cash equivalents		(63,611)		213,944		(13,776)
Cash and cash equivalents at the beginning of the year		442,267		228,323		242,099
Cash and cash equivalents at the end of the year	\$	378,656	\$	442,267	\$	228,323
Supplemental disclosure of cash flows activities:						
Cash paid during the year for:						
Income taxes		97,258		83,251		65,200
Interest	\$	688	\$	7,829	\$	11,493
Non-cash activities:						
Increase in accrued expenses and other liabilities with respect to purchase						
of treasury shares	\$	4	\$	112	\$	35
Debt	\$	292,940	\$		\$	
	φ	292,940	φ		φ	

U.S. dollars in thousands (except share and per share data)

NOTE 1:- GENERAL

a. General:

The Company is a global enterprise software leader, providing cloud platforms for AI-driven digital business solutions that serve two main markets: Customer Engagement and Financial Crime and Compliance. The Company's core mission is to transform experiences to be extraordinary and trusted, and create frictionless and safe digital-first consumer reality, where every interaction is easy, effortless and instantaneous. The Company's solutions are used by organizations of all sizes and are offered in multiple delivery models, including cloud and on-premises.

In the Customer Engagement market, the Company enables organizations to transform experiences with solutions aimed at meeting consumers wherever they choose to begin their journey, providing digitalcentric self-service capabilities, understanding consumers' journeys, creating smarter hyper-personalized connections and guiding seamless omnichannel interactions. The Company helps organizations transform their workforce experience with solutions aimed at engaging employees, optimizing operations and automating processes.

In the Financial Crime and Compliance market, the Company protects financial services organizations and their customers' accounts and transactions, with solutions that identify risks and help prevent money laundering and fraud, as well as help ensure compliance in real-time.

The Company is at the forefront of several industry technological disruptions that have greatly accelerated in the last two years: the adoption of cloud platforms by organizations of all sizes and verticals, the shift of consumer and organizational preferences towards digital-centric services and experiences, the growing acceptance and adoption of AI, an increase in consumer self-service and the need to manage, optimize and engage a diverse and remote workforce while retaining and attracting top talents. The Company's suite of integrated portfolio solutions, based on our unique domain expertise, provide organizations engaged in customer experience, financial crime and public safety, with industry-leading agility and innovation that are essential for their success.

- b. Acquisitions:
 - 1. Acquisitions in 2021:
 - a. On June 17, 2021, the Company completed the acquisition of ContactEngine Limited ("ContactEngine"), a leading AI automation provider for customer self-service. The Company acquired ContactEngine for a total consideration of \$94,897.

Upon consummation of the acquisition, ContactEngine became a wholly-owned subsidiary of the Company. The acquisition was accounted for as a business combination. As of the acquisition date the Company preliminarily recorded core technology, customer relationships, customer backlog and goodwill in amounts of \$20,558; \$3,279; \$5,493 and \$69,593, respectively. The estimated useful life of the core technology, customer relationships, and customer backlog is five years, six years and two years, respectively.

Goodwill generated from this business combination is attributed to synergies between the Company's and ContactEngine's respective products and services. The goodwill is not deductible for income tax purposes.

The results of ContactEngine's operations have been included in the consolidated financial statements since June 17, 2021. Pro forma results of operations related to this acquisition have not been prepared because they are not material to the Company's consolidated financial statements.

U.S. dollars in thousands (except share and per share data)

NOTE 1:- GENERAL (Cont.)

b. During 2021, the Company acquired certain additional companies, which were accounted for as business combinations for a total consideration of \$59,317. The financial results of those acquired companies are included in the Company's consolidated financial statements from their respective acquisition dates. The results from these acquisitions individually and in aggregate, were not material to the Company's consolidated financial statements. The Company preliminary recorded \$20,036 of identifiable intangible assets based on their estimated fair values, and \$38,590 of residual goodwill, from these acquisitions.

The preliminary fair value of assets acquired and liabilities assumed from acquisitions, completed during 2021, were based upon preliminary calculations and valuations, and the estimates and assumptions for these acquisitions are subject to change as the Company obtains additional information during the respective measurement periods (up to one year from the respective acquisition dates).

- 2. Acquisitions in 2020:
 - a. On August 18, 2020 the Company completed the acquisition of Guardian Analytics, Inc. ("Guardian Analytics"), a leading AI cloud-based financial crime risk management solution provider. The Company acquired Guardian Analytics for total consideration of \$113,921.

Upon acquisition, Guardian Analytics became a wholly-owned subsidiary of the Company. The acquisition was accounted for as a business combination. As of the acquisition date, the Company preliminarily recorded core technology, customer relationships, customer backlog and goodwill in amounts of \$38,341; \$6,659; \$1,028 and \$65,888, respectively. The estimated useful life of the core technology, customer relationships, and customer backlog is six years, eight years and two years, respectively.

Goodwill generated from this business combination is attributed to synergies between the Company's and Guardian Analytics' respective products and services. The goodwill is not deductible for income tax purposes.

The results of Guardian Analytics' operations have been included in the consolidated financial statements since August 18, 2020. Pro forma results of operations related to this acquisition have not been prepared because they are not material to the Company's consolidated financial statements.

b. During 2020, the Company acquired certain additional companies (in one of them the Company acquired 50.1% of the share capital (the "2020 Subsidiary") of the company), which were accounted for as business combinations for a total consideration of \$50,686. The financial results of those acquired companies are included in the Company's consolidated financial statements from their respective acquisition dates. The results from these acquisitions individually and in aggregate were not material to the Company's consolidated financial statements. The Company preliminary recorded \$22,968 of identifiable intangible assets based on their estimated fair values, and \$54,869 of residual goodwill. The preliminary fair value of the non-controlling interest on the acquisition date was approximately \$24,985. As of December 2021, the Company holds 70.1% of the 2020 Subsidiary. See Note 2aa.

The estimated fair value of assets acquired and liabilities assumed from acquisitions completed during 2020 were based upon preliminary calculations and valuations. These estimates were finalized during 2021 as part of the measurement period. See Note 8 regarding changes made during 2021.

3. Acquisitions in 2019:

During 2019, the Company acquired certain companies accounted for as a business combination and an asset acquisition (see also Note 2z). The financial results of the acquired companies are included in the

U.S. dollars in thousands (except share and per share data)

NOTE 1:- GENERAL (Cont.)

Company's consolidated financial statements from their respective acquisition dates. The results from each of these companies were not individually material to the Company's consolidated financial statements. In the aggregate, the total purchase price for these acquisitions was approximately \$26,671. The Company recorded \$15,683 of identifiable intangible assets, based on their estimated fair values, and \$14,480 of residual goodwill.

4. Acquisitions related costs:

During 2021, 2020 and 2019, acquisition related costs amounted to \$1,761, \$1,720 and \$720, respectively, and were included in general and administrative expenses.

NOTE 2:- SIGNIFICANT ACCOUNTING POLICIES

The consolidated financial statements were prepared in accordance with United States Generally Accepted Accounting Principles ("U.S. GAAP").

a. Use of estimates:

The preparation of the consolidated financial statements in conformity with U.S. GAAP requires management to make estimates, judgments and assumptions. The Company's management believes that the estimates, judgments and assumptions used are reasonable based upon information available at the time they are made. These estimates, judgments and assumptions can affect the reported amounts of assets and liabilities at the dates of the financial statements, and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

b. Financial statements in United States dollars:

The currency of the primary economic environment in which the operations of NICE Ltd. and certain subsidiaries are conducted is the U.S. dollar ("dollar"); thus, the dollar is the functional currency of NICE Ltd. and certain subsidiaries.

NICE Ltd. and certain subsidiaries' transactions and balances denominated in dollars are presented at their original amounts. Non-dollar transactions and balances have been remeasured to dollars in accordance with ASC 830, "Foreign Currency Matters". All transaction gains and losses from remeasurement of monetary balance sheet items denominated in non-dollar currencies are reflected in the statements of income as financial income or expenses, as appropriate.

For those subsidiaries whose functional currency has been determined to be a non-dollar currency, assets and liabilities are translated at year-end exchange rates and statement of income items are translated at average exchange rates prevailing during the year. Such translation adjustments are recorded as a separate component of accumulated other comprehensive income (loss) in shareholders' equity.

c. Principles of consolidation:

The consolidated financial statements incorporate the financial statements of the Company and all of its subsidiaries. Intercompany transactions and balances have been eliminated upon consolidation.

d. Cash equivalents:

Cash equivalents are short-term unrestricted highly liquid investments that are readily convertible into cash, with original maturities of three months or less at acquisition.

U.S. dollars in thousands (except share and per share data)

NOTE 2:- SIGNIFICANT ACCOUNTING POLICIES (Cont.)

e. Marketable securities:

The Company accounts for investments in debt securities in accordance with ASC 320, "Investments - Debt Securities" and ASC No. 326, "Financial Instruments - Credit Losses". Management determines the appropriate classification of its investments in debt securities at the time of purchase and re-evaluates such determinations at each balance sheet date.

Marketable securities classified as "available-for-sale" ("AFS") are carried at fair value, based on quoted market prices. Unrealized gains and losses are reported in a separate component of shareholders' equity in accumulated other comprehensive income, net of taxes. Gains and losses are recognized when realized, on a specific identification basis, in the Company's consolidated statements of income.

For each reporting period, the Company evaluates whether declines in fair value below carrying value are due to expected credit losses, as well as the Company's ability and intention to hold the investment until a forecasted recovery occurs, in accordance with ASC 326. Allowance for credit losses on AFS debt securities are recognized as a charge in financial expenses (income), net, on the consolidated statements of income, and any remaining unrealized losses, net of taxes, are included in accumulated other comprehensive income (loss). In 2020 and 2019, no other-than-temporary impairment were recorded. As of December 31, 2021, no credit losses have been recorded.

The Company classifies all securities with maturities beyond 12 months as current assets under the caption marketable securities on the consolidated balance sheet. These securities are available to support current operations and the company may sell these debt securities prior to their stated maturities.

f. Property and equipment, net:

Property and equipment are stated at cost, net of accumulated depreciation. Depreciation is calculated using the straight-line method over the estimated useful lives of the assets, at the following annual periods ranges:

	Years
Computers and peripheral equipment	3 - 5
Internal use software	3
Office furniture and equipment	4 - 14
Leasehold improvements	Over the lease term or the estimated useful life of the improvements, whichever is shorter

g. Internal use software costs:

The Company capitalizes development costs incurred during the application development stage that are related to internal use technology that supports its cloud services. Under ASC 350-40, internal-use software is included in property and equipment, net in the consolidated balance sheets. Capitalization of such costs begins when the preliminary project stage is complete and ceases at the point in which the project is substantially complete and is ready for its intended purpose. Costs incurred in the process of software production are charged to expenses as incurred.

h. Other intangible assets, net:

Other intangible assets are amortized over their estimated useful lives using the straight-line method, at the following annual periods ranges:

U.S. dollars in thousands (except share and per share data)

NOTE 2:- SIGNIFICANT ACCOUNTING POLICIES (Cont.)

	Years
Core technology	4 - 8
Customer relationships	3 - 8
Trademarks	2 - 12
Customer backlog	2 - 3

i. Impairment of long-lived assets:

The Company's long-lived assets and identifiable intangibles that are subject to amortization are reviewed for impairment in accordance with ASC 360, "Property, Plant, and Equipment" whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. Impairment indicators include any significant changes in the manner of the Company's use of the assets and significant negative industry or economic trends.

Upon determination that the carrying value of a long-lived asset may not be recoverable based upon a comparison of aggregate undiscounted projected future cash flows to the carrying amount of the asset, an impairment charge is recorded for the excess of the carrying amount over fair value. In 2021, 2020 and 2019, no impairment charges were recognized.

j. Goodwill:

Goodwill represents the excess of the purchase price in a business combination over the fair value of the net tangible and intangible assets acquired. Under ASC 350, "Intangible - Goodwill and Other" ("ASC 350"), goodwill is not amortized, but rather is subject to an annual impairment test. In 2020 the Company adopted ASU 2017-04. Therefore, if the Company determines that it is more likely than not that the fair value of a reporting unit is less than its carrying value, then the Company prepares a quantitative analysis to determine whether the carrying value of reporting unit exceeds its estimated fair value. If the carrying value of a reporting unit exceeds its estimated fair value, the Company recognizes an impairment of goodwill for the amount of this excess, in accordance with the guidance in FASB Accounting Standards Update ("ASU") No. 2017-04, Intangibles - Goodwill and Other (Topic 350), Simplifying the Test for Goodwill Impairment, which the Company adopted as of January 1, 2020.

The impairment test compares carrying values of the reporting units to their respective estimated fair values. If the carrying value exceeds the fair value, then the Company recognizes impairment of goodwill for the amount of this excess. For each of the three years in the period ended December 31, 2021, 2020 and 2019, no impairment was identified.

k. Exchangeable senior notes:

The Company applies ASC 815, "Derivative and Hedging" ("ASC"), and ASC 470, "Debt" ("ASC 470"). Under these standards, the Company separately accounts for the liability and equity components of convertible debt instruments that may be settled in cash in a manner that reflects the Company's nonconvertible debt borrowing rate. The liability component at issuance is recognized at fair value, based on the fair value of a similar instrument that does not have a conversion feature. The equity component is based on the excess of the principal amount of the debentures over the fair value of the liability component, after adjusting for an allocation of debt issuance costs, and is recorded as paid-in capital in excess of par.

Debt discounts are amortized as additional non-cash interest expense over the expected life of the debt. The Company allocated the total issuance costs incurred to the liability and equity components of the convertible senior notes based on the same proportions as the proceeds from the notes.

On December 31, 2021, the Company entered into the First Supplemental Indenture to the 2017 Indenture (the "First Supplemental Indenture"). In accordance with the First Supplemental Indenture, the Company

U.S. dollars in thousands (except share and per share data)

NOTE 2:- SIGNIFICANT ACCOUNTING POLICIES (Cont.)

irrevocably elected cash settlement for the principal and any premium due upon conversion to apply to all conversions of notes issued under the 2017 Indenture (the "2017 Notes") with an exchange date (as defined in the 2017 Indenture) on or after December 31, 2021. As a result, the 2017 Notes are no longer subject to the cash conversion guidance and the conversion option is bifurcated as a derivative subsequent to the change in terms as described above and reclassified from equity to liability at an amount equal to the fair value of the conversion option at that date. Differences in the amount previously recognized in equity and the fair value of the conversion option at the date of reclassification are accounted for in equity. Subsequent changes in fair value of the derivative are reflected in financial income (expenses). See Note 15 for further details.

1. Revenue recognition:

The Company generates revenues from sales of cloud, service, and software products, which include software license, SaaS, network connectivity, hosting, support and maintenance, implementation, configuration, project management, consulting and trainings. The Company sells its cloud, products and services directly through its sales force and indirectly through a global network of distributors, system integrators and strategic partners, all of whom are considered end-users.

The Company recognizes revenues in accordance with ASC No. 606, "Revenue from Contracts with Customers" ("ASC 606"). Under the standard, the Company recognizes revenue when its customer obtains control of promised goods or services in an amount that reflects the consideration that the Company expects to receive in exchange for those goods or services. To determine revenue recognition for contracts that are within the scope of the standard, the Company performs the following five steps:

1) Identify the contract(s) with a customer

A contract with a customer exists when (i) there is an enforceable contract with the customer that defines each party's rights regarding the goods or services to be transferred and identifies the payment terms related to these goods or services; (ii) the contract has commercial substance; and (iii) the Company determines that collection of substantially all consideration for goods or services that are transferred is probable based on the customer's intent and ability to pay the promised consideration. The Company applies judgment in determining the customer's ability and intent to pay, which is based on a variety of factors, including the customer's historical payment experience.

2) Identify the performance obligations of the contract

The Company enters into contracts that can include multiple performance obligations. The Company accounts for individual products and services separately if they are distinct – i.e., if a product or service is separately identifiable from other items in the contract and if a customer can benefit from it on its own or with other resources that are readily available to the customer.

3) Determine the transaction price

The transaction price is determined based on the consideration to which the Company will be entitled in exchange for transferring goods or services to the customer.

Payment terms and conditions vary by contract type. In instances where the timing of revenue recognition differs from the timing of invoicing, the Company determines its contracts generally to not include a significant financing component since the Company's selling prices are not subjected to billing terms nor is its purpose to receive financing from its customers or to provide customers with financing. In addition, the Company elected to apply the practical expedient to not adjust the promised amount of consideration for the effects of a significant financing component if the Company expects, at contract inception, that the period between when the Company will transfer a promised good or service to a customer and when the customer will pay for that good or service will be one year or less.

U.S. dollars in thousands (except share and per share data)

NOTE 2:- SIGNIFICANT ACCOUNTING POLICIES (Cont.)

Revenue is measured based on the consideration specified in a contract with a customer, excluding taxes assessed by a governmental authority that are both imposed on and concurrent with a specific revenue-producing transaction, that are collected by the Company from a customer.

4) Allocate the transaction price to the performance obligations in the contract

The Company allocates the transaction price to each performance obligation identified based on its relative standalone selling price ("SSP") out of the total consideration of the contract.

The Company uses judgment in determining the SSP. If the SSP is not observable through standalone transactions, the Company estimates the SSP taking into account available information such as geographic or regional specific factors, internal costs, profit objectives, and internally approved pricing guidelines related to the performance obligations.

The Company typically establishes a SSP range for its products and services, which is reassessed on a periodic basis or when facts and circumstances change. SSP for products and services can evolve over time due to changes in the Company's pricing practices that are influenced by intense competition, changes in demand for products and services, and economic factors, among others.

For a product where the SSP cannot be determined based on observable prices, given the same products are sold for a broad range of amounts (that is, the selling price is highly variable), the SSP included in a contract with multiple performance obligations is determined by applying a residual approach whereby all other performance obligations within a contract are first allocated a portion of the transaction price based upon their respective SSPs, with any residual amount of transaction price allocated to these product revenues.

5) Recognize revenue when (or as) the entity satisfies a performance obligation

The Company derives its cloud revenues from subscription services, which are comprised of subscription fees from granting customers access to the Company's cloud platforms, network connectivity and services fees for deployment of certain cloud platforms.

Revenue from subscription services is recognized either ratably over the contract period or based on usage, revenue from network connectivity is based on customer call usage and is recognized in the period the call is initiated, and services fees for deployment are amortized over average customer life.

Revenue from software licenses, support and maintenance services are recognized at the time the related performance obligation is satisfied by transferring the promised product or service to the customer. Software license revenues are recognized at the point in time when the software license is delivered and the customer obtains control of the asset. Support and maintenance service revenues are recognized ratably over the term of the underlying maintenance contract term. Renewals of maintenance contracts create new performance obligations that are satisfied over the term with the revenues recognized ratably over the period of the renewal.

Professional services revenues, except fees for deployment of certain cloud platforms, are recognized as services are performed.

Deferred revenues, which represent a contract liability, represent unrecognized fees collected mostly for maintenance, cloud and professional services. Deferred revenues are recognized as (or when) the Company performs under the contract. The amount of revenues recognized in the period that was included in the opening deferred revenues balance was approximately \$215,805 for the year ended December 31, 2021.

U.S. dollars in thousands (except share and per share data)

NOTE 2:- SIGNIFICANT ACCOUNTING POLICIES (Cont.)

As of December 31, 2021, the aggregate amount of the total transaction price allocated in contracts with original duration greater than one year of the remaining performance obligations was approximately \$1,773,182. For performance obligations which are recognized over time, based on usage, the Company elected to disclose only the contractual minimum attributed to these performance obligations, as part of the remaining performance obligation disclosure.

As of December 31, 2021, the Company expects to recognize the majority of the revenue of remaining performance obligations over the next 24 months. Such remaining performance obligations represent unsatisfied or partially unsatisfied performance obligations pursuant to ASC 606. The Company has elected the optional exemption, which allows for the exclusion of the amounts for remaining performance obligations that are part of contracts with an original expected duration of one year or less.

m. Costs to Obtain Contracts:

The Company capitalizes certain sales commission as costs of obtaining a contract when they are incremental and if they are expected to be recovered. The Company applies judgment in estimating the amortization period by taking into consideration customer contract terms, history of renewals, expected length of customer relationship, as well as the useful life of the underlying technology and products. Amortization of sales commission expenses are included in Selling and Marketing expenses in the accompanying consolidated statements of income. For costs that the Company would have capitalized and amortized over one year or less, the Company has elected to apply the practical expedient and expense these contract costs as incurred. Commission expense for the years 2021, 2020 and 2019 were \$130,466, \$100,219 and \$92,468, respectively.

n. Research and development costs:

Research and development costs (net of grants and capitalized expenses) incurred in the process of software production are charged to expenses as incurred.

o. Income taxes:

To prepare the consolidated financial statements, the Company estimates its income taxes in each of the jurisdictions in which it operates, and in certain of these jurisdictions, it is calculated based on the Company's assumptions as to its entitlement to various benefits under the applicable tax laws in the jurisdiction. The entitlement to such benefits depends upon the Company's compliance with the terms and conditions set out in these laws.

The Company accounts for income taxes in accordance with ASC 740, "Income Taxes". ASC 740 prescribes the use of the liability method whereby deferred tax asset and liability account balances are determined based on differences between financial reporting and tax bases of assets and liabilities and are measured using the enacted tax rates and laws that will be in effect when the differences are expected to reverse. The Company provides a valuation allowance, if necessary, to reduce deferred tax assets to the amount that is more likely than not to be realized. Deferred tax assets and deferred tax liabilities are presented under long-term assets and long-term liabilities, respectively.

The Company implements a two-step approach to recognize and measure uncertain tax positions. The first step is to evaluate the tax position taken or expected to be taken in a tax return by determining if the weight of available evidence indicates that it is more likely than not that, on an evaluation of the technical merits, the tax position will be sustained on audit, including resolution of any related appeals or litigation processes. The second step is to measure the tax benefit as the largest amount that is more than 50% (on a cumulative basis) likely to be realized upon ultimate settlement.

The Company classifies interest and penalties on income taxes (which includes uncertain tax positions) as taxes on income.

U.S. dollars in thousands (except share and per share data)

NOTE 2:- SIGNIFICANT ACCOUNTING POLICIES (Cont.)

p. Non-royalty grants:

Non-royalty bearing grants from the Government of Israel for funding research and development projects are recognized at the time the Company is entitled to such grants on the basis of the related costs incurred and recorded as a deduction from research and development expenses.

q. Concentrations of credit risk:

Financial instruments that potentially subject the Company to concentrations of credit risk consist principally of cash and cash equivalents, trade receivables, marketable securities and foreign currency derivative contracts.

The Company's cash and cash equivalents are invested in deposits and money market funds, mainly in dollars with major international banks. Deposits in the U.S. may be in excess of insured limits and are not insured in other jurisdictions. Generally, these deposits may be redeemed upon demand and therefore bear minimal risk.

The Company's trade receivables are derived from sales to customers generated from a multitude of markets in countries around the world. The Company performs ongoing credit evaluations of its customers and insures some of its receivables with a credit insurance company. A general allowance for credit losses is provided, based on the length of time the receivables are past due.

The Company's marketable securities include investment in corporate debentures, U.S. Treasuries and U.S. government agencies. The Company's investment policy limits the amount that the Company may invest in any one type of investment per minimum credit rating or specific issuer, thereby reducing credit risk concentrations.

The Company enter into foreign currency forward and option contracts intended to protect cash flows resulting from payroll and facilities related expenses against the volatility in value of forecasted non-dollar currency. The derivative instruments hedge a portion of the Company's non-dollar currency exposure. See Note 10 for additional information.

r. Severance pay:

The Israeli Severance Pay Law-1963 (the "Severance Pay Law") generally requires payment of severance pay upon dismissal of an employee or upon termination of employment in certain circumstances. The Company makes ongoing deposits into Israeli employees' pension plans to fund their severance liabilities. According to Section 14 of the Severance Pay Law, the Company deposits for employees employed by the Company since May 1, 2009 are made in lieu of the Company's severance liability, therefore no obligation is provided for in the financial statements. Severance pay liabilities for employees employed by the Company prior to May 1, 2009, as well as employees with special contractual arrangements, are provided for in the financial statements based upon the latest monthly salary multiplied by the number of years of employment.

Severance pay expenses for 2021, 2020 and 2019 amounted to \$8,810, \$9,649 and \$7,656, respectively.

The Company also has other liabilities for severance pay in other jurisdictions.

The Company has multiple 401(k) defined contribution plans covering certain employees in the U.S. All eligible employees may elect to contribute a portion of their eligible compensation, generally not greater than an annual contribution of \$19.5 in 2021 and 2020, and \$19 in 2019 (for certain employees over 50 years of age the maximum annual contribution was \$26 per year in 2021 and 2020 and \$25 in 2019) of their total annual compensation to the plan through salary deferrals, subject to IRS limits. The Company, at its discretion, matches 50% of employee contributions to the plan up to a limit of 6-8% of their eligible

U.S. dollars in thousands (except share and per share data)

NOTE 2:- SIGNIFICANT ACCOUNTING POLICIES (Cont.)

compensation. In the years 2021, 2020 and 2019, the Company recorded an expense for all matching contributions in the amount of \$9,366; \$8,893 and \$8,068, respectively.

s. Leases

The Company elected to combine its lease and non-lease components for car leases and to not recognize a lease liability and a right-of-use ("ROU") asset on the balance sheet for leases with a term of twelve months or less. The Company recognizes the associated lease payments in the consolidated statements of income on a straight-line basis over the lease term.

Under Topic 842, the Company determines if an arrangement is a lease at inception. ROU assets and lease liabilities are recognized at commencement date based on the present value of remaining lease payments over the lease term. For this purpose, the Company considers only payments that are fixed and determinable at the time of commencement. As most of the Company leases do not provide an implicit rate, the Company uses its incremental borrowing rate based on the information available at commencement date in determining the present value of lease payments. The incremental borrowing rate is estimated to approximate the interest rate on a collateralized basis with similar terms and payments. The ROU asset is recorded net of any lease incentives received. The lease terms may include options to extend or terminate the lease when it is reasonably certain that the Company will exercise such options. The Company's lease agreements may contain variable costs such as common area maintenance, insurance, real estate taxes or other costs. Variable lease costs are expensed as incurred on the consolidated statements of income.

t. Basic and diluted net earnings per share:

Basic net earnings per share are computed based on the weighted average number of ordinary shares outstanding during each year. Diluted net earnings per share are computed based on the weighted average number of ordinary shares outstanding during each year plus dilutive potential equivalent ordinary shares considered outstanding during the year, in accordance with ASC 260, "Earnings per Share".

As further described in Note 15, the Company entered into an exchangeable note hedge transaction and warrants transaction in 2017. While the exchangeable note hedge transaction is anti-dilutive and as such is not included in the computation of diluted earnings per share, the warrants transaction had a dilutive effect, and as such, was included in the computation of the diluted earnings per share. The number of shares related to the outstanding exchangeable note hedge transaction is 3,457,475.

Since it is the Company's intention and ability to settle the convertible senior notes issued in 2017 in cash, the potential issuance of shares related to these notes does not have a dilutive effect on the shares. In addition, on December 31, 2021, the Company entered into the First Supplemental Indenture according to which the Company irrevocably elected cash settlement for the principal and any premium due upon conversion to apply to all conversions of the 2017 Notes issued under the 2017 Notes with an exchange date (as defined in the 2017 Indenture) on or after December 31, 2021. As a result, the 2017 Notes do not have a dilutive effect.

On December 31, 2021, the Company irrevocably elected to settle the principal of the convertible senior notes issued in 2020 in cash. As a result, the Company will use the treasury stock method for calculating any potential dilutive effect on diluted net income per share, if applicable. The conversion premium will have a dilutive impact on diluted net income per share only when the average market price of an ordinary share for a given period exceeds the conversion price of \$299.19 per share. As a result, 1,537,504 shares underlying the conversion option of the convertible senior notes issued in 2020 are not considered in the calculation of diluted net income per share in either 2020 or 2021, as the effect would be anti-dilutive.

The weighted average number of shares related to outstanding anti-dilutive options excluded from the calculations of diluted net earnings per share was \$4,754; \$2,295 and \$4,921 for the years 2021, 2020 and 2019, respectively.

U.S. dollars in thousands (except share and per share data)

NOTE 2:- SIGNIFICANT ACCOUNTING POLICIES (Cont.)

u. Accounting for stock-based compensation:

The Company accounts for stock-based compensation in accordance with ASC 718, "Compensation - Stock Compensation" ("ASC 718"), which requires the measurement and recognition of stock base compensation expenses based on estimated fair values for all share-based payment awards made to employees and directors. ASC 718 requires companies to estimate the fair value of equity-based payment awards on the date of grant using an option-pricing model.

The Company recognizes compensation expenses for the value of its awards, which have graded vesting, based on the accelerated attribution method over the requisite service period of each of the awards. The Company accounts for forfeitures as they occur.

The Company estimates the fair value of stock options granted using the Black-Scholes-Merton optionpricing model, which requires a number of assumptions: the expected volatility is based upon actual historical stock price movements; the expected term of options granted is based upon historical experience and represents the period of time that options granted are expected to be outstanding; the risk-free interest rate is based on the yield from U.S. Federal Reserve zero-coupon bonds with an equivalent term; and the expected dividend rate (an annualized dividend yield) is based on the per share dividend declared by the Company's Board of Directors.

The Company measures the fair value of restricted stock based on the market value of the underlying shares at the date of grant. The fair value of certain performance share units with market-based performance conditions granted under the employee equity plan was estimated on the grant date using the Monte Carlo valuation methodology.

v. Fair value of financial instruments:

The Company applies ASC 820, "Fair Value Measurements and Disclosures" ("ASC 820") for valuing financial instruments. Under this standard, fair value is defined as the price that would be received to sell an asset or paid to transfer a liability (i.e., the "exit price") in an orderly transaction between market participants at the measurement date. The Company measures its investments in money market funds classified as cash equivalents, marketable securities and its foreign currency derivative contracts at fair value.

In determining fair value, the Company uses various valuation approaches. ASC 820 establishes a hierarchy for inputs used in measuring fair value that maximizes the use of observable inputs and minimizes the use of unobservable inputs by requiring that the most observable inputs be used when available. Observable inputs are inputs that market participants would use in pricing the asset or liability developed based on market data obtained from sources independent of the Company. Unobservable inputs are inputs that reflect the Company's assumptions about the assumptions market participants would use in pricing the asset or liability developed based or liability developed based on the best information available in the circumstances.

The hierarchy is broken down into three levels based on the inputs as follows:

- Level 1 Valuations based on quoted prices in active markets for identical assets that the Company has the ability to access. Since valuations are based on quoted prices that are readily and regularly available in an active market, valuation of these products does not entail a significant degree of judgment.
- Level 2 Valuations based on one or more quoted prices in markets that are not active or for which all significant inputs are observable, either directly or indirectly.
- Level 3 Valuations based on inputs that are unobservable and significant to the overall fair value measurement.

U.S. dollars in thousands (except share and per share data)

NOTE 2:- SIGNIFICANT ACCOUNTING POLICIES (Cont.)

The availability of observable inputs can vary from investment to investment and is affected by a wide variety of factors, including, for example, the type of investment, the liquidity of markets and other characteristics particular to the transaction. To the extent that valuation is based on models or inputs that are less observable or unobservable in the market, the determination of fair value requires more judgment and the investments are categorized as Level 3.

The Company's marketable securities, exchangeable senior notes and foreign currency derivative contracts are classified within Level 2 (see Notes 3, 10 and 15).

The carrying amounts of cash and cash equivalents, short-term bank deposits, trade receivables and trade payables approximate their fair value due to the immediate or short-term maturities of these financial instruments.

w. Legal contingencies:

The Company is currently involved in various claims and legal proceedings. The Company reviews the status of each matter and assesses its potential financial exposure. If the potential loss from any claim or legal proceeding is considered probable and the amount can be reasonably estimated, the Company accrues a liability for the estimated loss.

x. Advertising expenses:

Advertising expenses are charged to expense as incurred. Advertising expenses for the years 2021, 2020 and 2019 were \$31,575; \$14,134 and \$16,040, respectively.

y. Treasury shares:

The Company repurchases its ordinary shares from time to time on the open market or in other transactions and holds such shares as treasury shares. The Company accounts for the cost to repurchase treasury shares as a reduction of shareholders' equity. The Company reissues treasury shares under the stock purchase plan, upon exercise of options and upon vesting of restricted stock units ("RSU"). Reissuance of treasury shares is accounted for in accordance with ASC 505-30 in which gains are credited to additional paid-in capital and losses are charged to additional paid-in capital to the extent that previous net gains are included therein and otherwise to retained earnings.

z. Business combination:

The Company applies the provisions of ASC 805, "Business Combination", and allocates the fair value of purchase consideration to the tangible assets acquired, liabilities assumed, and intangible assets acquired based on their estimated fair values. The excess of the fair value of purchase consideration over the fair values of these identifiable assets and liabilities is recorded as goodwill. When determining the fair values of assets acquired and liabilities assumed, management makes significant estimates and assumptions, especially with respect to intangible assets.

Significant estimates in valuing certain intangible assets include, but are not limited to, future expected cash flows from customer relationships, acquired technology and acquired trademarks from a market participant perspective, useful lives and discount rates. Management's estimates of fair value are based upon assumptions believed to be reasonable, but which are inherently uncertain and unpredictable and, as a result, actual results may differ from estimates. Acquisition-related expenses are recognized separately from the business combination and are expensed as incurred.

U.S. dollars in thousands (except share and per share data)

NOTE 2:- SIGNIFICANT ACCOUNTING POLICIES (Cont.)

aa. Non-controlling interests

The consolidated financial statements include the Company's accounts and the accounts of the Company's wholly- and majority-owned subsidiaries. Non-controlling interest positions of the Company's consolidated entities are reported as a separate component of consolidated equity from the equity attributable to the Company's shareholders.

In case of an increase in ownership of a subsidiary, the carrying amount of the non-controlling interest is adjusted to reflect the controlling interest's increased ownership interest in the subsidiary's net assets. Any difference between the consideration paid by the Company to a non-controlling interest holder (or contributed by the Company to the net assets of the subsidiary) and the adjustment to the carrying amount of the non-controlling interest in the subsidiary is recognized directly in equity and attributable to the controlling interest. In 2021, the Company acquired an additional 20% in the 2020 Subsidiary for a total consideration of approximately \$14,000.

ab. Comprehensive income:

The Company accounts for comprehensive income in accordance with ASC 220, "Comprehensive Income". Comprehensive income generally represents all changes in shareholders' equity during the period except those resulting from investments by, or distributions to, shareholders. Other comprehensive income for the Company relates to gains and losses on hedging derivative instruments, unrealized gains and losses on available for sale marketable securities and changes in foreign currency translation adjustments.

The following tables show the components of accumulated other comprehensive income, net of taxes, as of December 31, 2021, 2020 and 2019:

	Year ended December 31, 2021								
	gair ma	realized 1s (losses) on rketable curities	gair on (realized 1s (losses) cash flow 1edges	cu tra	Foreign rrency anslation justment		Total	
Beginning balance	\$	13,285	\$	4,836	\$	(34,783)	\$	(16,662)	
Other comprehensive income before reclassifications		(13,368)		5,024		(7,402)		(15,746)	
Amounts reclassified from accumulated other comprehensive loss		(1,403)		(5,928)		_		(7,331)	
Net current-period other comprehensive income		(14,771)		(904)		(7,402)		(23,077)	
Ending balance	\$	(1,486)	\$	3,932	\$	(42,185)	\$	(39,739)	

U.S. dollars in thousands (except share and per share data)

NOTE 2:- SIGNIFICANT ACCOUNTING POLICIES (Cont.)

	Year ended December 31, 2020								
	lo ma	realized sses on rketable curities	gain on c	realized 1s (losses) cash flow 1edges	cu tr	Foreign ırrency anslation ljustment		Total	
Beginning balance	\$	4,131	\$	2,351	\$	(39,781)	\$	(33,299)	
Other comprehensive loss before reclassifications		11,249		4,954		4,998		21,201	
Amounts reclassified from accumulated other comprehensive income (loss)		(2,095)		(2,469)				(4,564)	
Net current-period other comprehensive loss		9,154		2,485		4,998		16,637	
Ending balance	\$	13,285	\$	4,836	\$	(34,783)	\$	(16,662)	

	Year ended December 31, 2019								
	lo ma	realized sses on rketable curities	ga	Unrealized ins (losses) 1 cash flow hedges	cu tra	Foreign rrency anslation justment		Total	
Beginning balance	\$	(1,662)	\$	(2,715)	\$	(42,239)	\$	(46,616)	
Other comprehensive loss before reclassifications		6,260		5,495		2,458		14,213	
Amounts reclassified from accumulated other comprehensive income (loss)		(467)		(429)		_		(896)	
Net current-period other comprehensive loss		5,793		5,066		2,458		13,317	
Ending balance	\$	4,131	\$	2,351	\$	(39,781)	\$	(33,299)	

ac. Recently adopted accounting standards:

In October 2021, the FASB issued ASU No. 2021-08, Business Combination (Topic 805): Accounting for Contract Assets and Liabilities from Contracts with Customers, which requires an acquirer to recognize and measure contract assets and liabilities acquired in a business combination in accordance with revenue from ASC 606 rather than adjust them to fair value at the acquisition date. The Company adopted ASU 2021-08 in the fourth quarter of 2021, retroactively applying it to all business combinations since January 1, 2021. The adoption did not have a material effect on the Company consolidated financial statements.

In December 2019, the FASB issued ASU 2019-12, Income Taxes (Topic 740): Simplifying the Accounting for Income Taxes. This standard simplifies the accounting for income taxes by eliminating certain exceptions to the guidance in Topic 740 related to the approach for intra-period tax allocation, the methodology for calculating income taxes in an interim period and the recognition of deferred tax liabilities for outside basis differences. The new guidance also simplifies aspects of the accounting for franchise taxes and enacted changes in tax laws or rates and clarifies the accounting for transactions that result in a step-up in the tax basis of goodwill and allocating consolidated income taxes to separate financial statements of entities not subject to income tax. The Company's adoption of ASU 2019-12 did not have a significant impact on the Company's consolidated financial statements.

ad. Recently issued accounting standards, not yet adopted:

In August 2020, the FASB issued ASU 2020-06, which simplifies the guidance on the issuer's accounting for convertible debt instruments by removing the separation models for (1) convertible debt with a cash conversion feature and (2) convertible instruments with a beneficial conversion feature. As a result, entities will not separately present in equity an embedded conversion feature in such debt. Instead, they will account for a convertible debt instrument wholly as debt, unless certain other conditions are met. The elimination of

U.S. dollars in thousands (except share and per share data)

NOTE 2:- SIGNIFICANT ACCOUNTING POLICIES (Cont.)

these models will reduce reported interest expense and increase reported net income for entities that have issued a convertible instrument that was within the scope of those models before the adoption of ASU 2020-06. ASU 2020-06 also requires that the effect of potential share settlement be included in the diluted earnings per share calculation when an instrument may be settled in cash or share. This amendment removes current guidance that allows an entity to rebut this presumption if it has a history or policy of cash settlement. Furthermore, ASU 2020-06 requires the application of the if-converted method for calculating diluted earnings per share; the treasury stock method will be no longer available. The provisions of ASU 2020-06 are applicable for fiscal years beginning after December 15, 2021, with early adoption permitted no earlier than fiscal years beginning after December 15, 2020.

Upon adoption of ASU No. 2020-06, the Company will no longer record as equity the conversion feature of its 2020 Notes. Instead, the Company will combine the previously separated equity component with the liability component, which together will be classified as debt, thereby eliminating the subsequent amortization of the debt discount as interest expense. Similarly, the portion of issuance costs previously allocated to equity will be reclassified to debt and amortized as interest expense. Accordingly, the Company expects to record as of January 1, 2022 an increase to retained earnings of approximately \$8,750, a decrease to additional paid-in capital of \$28,816, an increase to long-term debt of \$24,757, a decrease to deferred tax liabilities of \$3,930, and an increase in debt issuance costs of \$761. Further, if the Company's share price will exceed the conversion price of \$299.19 of the 2020 Notes, then there will be an impact to earnings per share for the dilution impact above the conversion price as a result of the adoption based on the if-converted method.

NOTE 3:- SHORT-TERM INVESTMENTS

Short-term investments include marketable securities in the amount of \$1,041,589 and \$1,012,282 as of December 31, 2021 and 2020, respectively and short-term bank deposits in the amounts of \$4,506 and \$9,332 as of December 31, 2021 and 2020, respectively.

The following table summarizes amortized costs, gross unrealized gains and losses and estimated fair values of available-for-sale marketable securities as of December 31, 2021 and 2020:

	Amortiz	zed cost	Gross u		Gross unrealized gains			Gross un los		lized	Estimated fair valu (Level 2 within the fair value hierarchy		
	Decem	ber 31,		Decem	December 31, December 31,				December 31,				
	2021	2020		2021		2020	2021		2020		2021	2020	
Corporate debentures	\$ 1,012,615	\$ 973,029	\$	3,883	\$	15,016	\$	(5,560)	\$	(343)	\$1,010,939	\$ 987,702	
U.S. Treasuries	14,658	17,613		156		418					14,815	18,031	
U.S. Government Agencies	16,005	6,546	_			3		(169)		_	15,835	6,549	
	<u>\$1,043,278</u>	<u>\$ 997,188</u>	\$	4,039	\$	15,437	\$	(5,729)	\$	(343)	\$1,041,589	\$1,012,282	

The scheduled maturities of available-for-sale marketable securities as of December 31, 2021 are as follows:

	A	Amortized cost	Estimated Fair value
Due within one year	\$	280,261	\$ 281,365
Due after one year through five years		763,017	 760,224
	\$	1,043,278	\$ 1,041,589

U.S. dollars in thousands (except share and per share data)

NOTE 3:- SHORT-TERM INVESTMENTS (Cont.)

Investments with continuous unrealized losses for less than 12 months and 12 months or greater and their related fair values as of December 31, 2021 and 2020 are as indicated in the following tables:

					Decembe	r 31,	, 2021				
	Investme continuous losses for l mo	ealized	Investments with continuous unrealized losses for 12 months or greater					Total Investments with continuous unrealized losses			
	Fair value		realized losses		Fair value	Uı	nrealized losses		Fair value	Ur	nrealized losses
Corporate debentures	\$ 494,731	\$	(4,413)	\$	156,840	\$	(1,147)	\$	651,571	\$	(5,560)
U.S. Treasuries											_
U.S. Government Agencies	 15,835		(169)		—				15,835		(169)
	\$ 510,566	<u>\$</u>	(4,582)	\$	156,840	\$	(1,147)	\$	667,406	\$	(5,729)

					Decembe	r 31	, 2020					
	Investments with continuous unrealized losses for less than 12 months				Investments with continuous unrealized losses for 12 months or greater				Total Investments with continuous unrealized losses			
	Fair value	-	realized losses		Fair value	U	nrealized losses		Fair value	Uı	nrealized losses	
Corporate debentures	\$ 194,587	\$	(337)	\$	8,590	\$	(6)	\$	203,177	\$	(343)	
U.S. Treasuries	2,936								2,936		_	
U.S. Government Agencies	 						_					
	\$ 197,523	\$	(337)	\$	8,590	\$	(6)	\$	206,113	\$	(343)	

NOTE 4:- PREPAID EXPENSES AND OTHER CURRENT ASSETS

	Decem	ıber 31,
	2021	2020
Government authorities	\$ 93,505	\$ 81,012
Interest receivable	4,992	5,829
Prepaid expenses	76,709	81,459
Other	9,398	7,040
	\$ 184,604	\$ 175,340

U.S. dollars in thousands (except share and per share data)

NOTE 5:- PREPAID EXPENSES AND OTHER LONG-TERM ASSETS

		December 31,				
		2021		2020		
Deferred commission costs	\$	138,343	\$	94,087		
Severance pay fund		13,180		13,511		
Prepaid expenses		66,882		39,875		
Other		6,039		6,187		
	<u>\$</u>	224,445	\$	153,660		

NOTE 6:- PROPERTY AND EQUIPMENT, NET

	December 31,				
	2021		2020		
Cost:					
Computers and peripheral equipment	\$ 207,843	\$	192,898		
Internal use software	191,697		145,914		
Office furniture and equipment	6,585		10,417		
Leasehold improvements	56,835		56,976		
	462,960		406,205		
Accumulated depreciation:					
Computers and peripheral equipment	162,487		147,618		
Internal use software	109,501		75,743		
Office furniture and equipment	3,529		6,733		
Leasehold improvements	41,789		38,326		
	 317,306		268,420		
Depreciated cost	\$ 145,654	\$	137,785		

Depreciation expense totaled \$65,411, \$67,892 and \$60,174 for the years ended December 31, 2021, 2020 and 2019, respectively.

The Company recorded a reduction of \$12,322 and \$22,355 to the cost and accumulated depreciation of fully depreciated equipment and leasehold improvements no longer in use for the years ended December 31, 2021 and 2020, respectively.

U.S. dollars in thousands (except share and per share data)

NOTE 7:- OTHER INTANGIBLE ASSETS, NET

a. Definite-lived other intangible assets:

	December 31,			
	2021 2020			
Original amounts:				
Core technology	\$ 665,555	\$	635,250	
Customer relationships, backlog and distribution network	288,755		269,717	
Trademarks	44,440		44,440	
	998,750		949,407	
Accumulated amortization:				
Core technology	428,880		353,558	
Customer relationships, backlog and distribution network	246,609		207,165	
Trademarks	 27,883		22,681	
	703,372		583,404	
Other intangible assets, net	\$ 295,378	\$	366,003	

- b. Amortization expense amounted to \$118,681, \$114,134 and \$113,056 for the years ended December 31, 2021, 2020 and 2019, respectively.
- c. Estimated amortization expense:

For the year ended December 31,		
2022	\$	106,566
2023		85,026
2024		65,680
2025		19,302
2026		15,189
Thereafter		3,615
	<u>\$</u>	295,378

U.S. dollars in thousands (except share and per share data)

NOTE 8:- GOODWILL

Following the Company's acquisitions in 2021 and 2020, as described in Note 1b, the changes in the carrying amount of goodwill allocated to reportable segments for the years ended December 31, 2021 and 2020 are as follows:

	Year ended December 31, 2021						
		Customer			Financial Crime and Compliance	Total	
As of January 1, 2021		\$	1,153,023	\$	350,229	\$	1,503,252
Acquisitions (*)			108,183		(427)		107,756
Functional currency translation adjustments			(4,057)		(195)		(4,252)
As of December 31, 2021		\$	1,257,149	\$	349,607	\$	1,606,756

(*) Including adjustment of \$427 resulting from finalization of purchase price allocations with respect to 2020.

	Year ended December 31, 2020						
		Financia Customer Crime ar Engagement Complian					Total
As of January 1, 2020		\$	1,114,680	\$	263,738	\$	1,378,418
Acquisitions			35,034		85,723		120,757
Functional currency translation adjustments			3,309		768		4,077
As of December 31, 2020		\$	1,153,023	\$	350,229	\$	1,503,252

NOTE 9:- ACCRUED EXPENSES AND OTHER LIABILITIES

		December 31,			
	2	021	2020		
Payroll and related expenses	\$	232,578 \$	190,274		
Accrued expenses		112,856	95,951		
Government authorities		140,443	127,129		
Other		1,670	3,820		
	\$	487,547 \$	417,174		

U.S. dollars in thousands (except share and per share data)

NOTE 10:- DERIVATIVE INSTRUMENTS

The Company's risk management strategy includes the use of derivative financial instruments to reduce the volatility of earnings and cash flows associated with changes in foreign currency exchange rates.

ASC 815, "Derivatives and Hedging" ("ASC 815"), requires the Company to recognize all of its derivative instruments as either assets or liabilities on the balance sheet at fair value. The accounting for changes in the fair value (i.e., gains or losses) of a derivative instrument depends on whether it has been designated and qualifies as part of a hedging relationship and further, on the type of hedging relationship. For those derivative instruments that are designated and qualify as hedging instruments, an entity must designate the hedging instrument, based upon the exposure being hedged, as a fair value hedge, cash flow hedge or a hedge of a net investment in a foreign operation.

Gains and losses on derivatives instruments that are designated and qualify as a cash flow hedge (i.e., hedging the exposure to variability in expected future cash flows that are attributable to a particular risk), are recorded in accumulated other comprehensive income (loss) and reclassified into in the same accounting period in which the designated forecasted transaction or hedged item affects earnings.

The Company entered into option and forward contracts to hedge a portion of anticipated New Israeli Shekel ("NIS"), Indian Rupee ("INR") and Philippine peso ("PHP") payroll and benefit payments as well as facilities related payments. These derivative instruments are designated as cash flow hedges, as defined by ASC 815 and accordingly are measured at fair value. These transactions are effective and, as a result, gain or loss on the derivative instruments are reported as a component of accumulated other comprehensive income (loss) and reclassified as payroll expenses, facility expenses or finance expenses, respectively, at the time that the hedged income/expense is recorded.

	Notional amount		Fair (Level 2 within hiera	n the fair value
	Decer	nber 31,	Decem	ber 31,
	2021	2020	2021	2020
Option contracts to hedge payroll				
expenses INR		15,733		795
Option contracts to hedge lease obligations				
expenses INR		901		46
Forward contracts to hedge payroll				
expenses NIS	125,884	67,652	4,164	4,807
expenses INR	42,562	7,866	798	168
expenses PHP	705	1,623	(5)	3
Forward contracts to hedge lease obligations				
expenses INR	1,451	451	30	10
	<u>\$ 170,602</u>	<u>\$ 94,226</u>	<u>\$ 4,987</u>	<u>\$ 5,829</u>

The Company currently hedges its exposure to the variability in future cash flows for a maximum period of one year. As of December 31, 2021, the Company expects to reclassify all of its unrealized gains and losses from accumulated other comprehensive income to earnings during the next twelve months.

U.S. dollars in thousands (except share and per share data)

NOTE 10:- DERIVATIVE INSTRUMENTS (Cont.)

The fair value of the Company's outstanding derivative instruments at December 31, 2021 and 2020 is summarized below:

		Fair value of derivativ instruments			
			Decem	ber	31,
	Balance sheet line item		2021		2020
Derivative assets:					
Foreign exchange option contracts	Prepaid expenses and other current assets	\$		\$	841
Foreign exchange forward contracts	Prepaid expenses and other current assets		4,992		4,988
Derivative liabilities:					
Foreign exchange forward contracts	Accrued expenses and other liabilities	<u>\$</u>	(5)	<u>\$</u>	

The effect of derivative instruments in cash flow hedging relationship on income and other comprehensive income for the years ended December 31, 2021, 2020 and 2019 is summarized below:

	0	other	com	iin (loss) reco prehensive i t of tax (effe	ncoi	me
		Year	Ene	ded Decembe	er 31	l,
		2021		2020		2019
Derivatives in foreign exchange cash flow hedging relationships:						
Forward contracts	\$	4,993	\$	5,901	\$	2,108
Option contracts		31		(947)		3,387
	\$	5,024	\$	4,954	\$	5,495

Derivatives in foreign exchange cash flow hedging relationships for the years ended December 31, 2021, 2020 and 2019 is summarized below:

		Amount of gain (loss) reclassified from othe comprehensive income into income (expenses), net of tax (effective portion)			n)		
	Statements of income line item		2021	EII	led Decembe 2020	<u>r 5</u>	2019
Option contracts to hedge payroll and facility expenses	Cost of revenues and operating expenses	\$	(771)	\$	(490)	\$	320
Forward contracts to hedge payroll and facility expenses	Cost of revenues, operating expenses and financial expenses		(5,157)		(1,979)		(749)
		\$	(5,928)	\$	(2,469)	\$	(429)

U.S. dollars in thousands (except share and per share data)

NOTE 11:- LEASES

The Company has entered into various non-cancelable operating lease agreements for certain office spaces and motor vehicles. The leases have original lease periods expiring between 2021 and 2037. The Company does not assume renewals in its determination of the lease term unless the renewals are considered as reasonably assured at lease commencement.

The operating lease cost for the year ended December 31, 2021 was \$23,461.

Supplemental cash flow information related to leases was as follows:

	ear ended ember 31, 2021
Cash payments related to operating lease	\$ 25,612
New right-of-use assets obtained in exchange for operating lease obligations	\$ 561

Maturities of lease liabilities were as follows:

	Operat Lease	ing es
2022	\$ 22	2,766
2023	14	4,695
2024	1	1,546
2025	(9,910
2026	9	9,533
Thereafter	6.	3,016
Total lease payments	13	1,466
Less imputed interest	(30	0,767)
Total	\$ 100	0,699

Supplemental balance sheet information related to leases was as follows:

	Year ended December 31, 2021
Current maturities of operating leases	19,514
Long-term operating leases	81,185
Total operating lease liabilities	\$ 100,699
Weighted-average remaining operating lease term	10.94
Weighted-average discount rate of operating leases	5.45 %

U.S. dollars in thousands (except share and per share data)

NOTE 12:- COMMITMENTS AND CONTINGENT LIABILITIES

a. Commitments:

The Company is also obligated under certain agreements with its suppliers to purchase licenses and hosting services. These non-cancelable obligations as of December 31, 2021 are \$96,054.

b. Legal proceedings:

From time to time the Company or its subsidiaries may be involved in legal proceedings and/or litigation arising in the ordinary course of business. While the outcome of these matters cannot be predicted with certainty, the Company does not believe it will have a material effect on its consolidated financial position, results of operations, or cash flows.

c. Bank Guarantees:

The Company obtained bank guarantees as of December 31, 2021 of \$4,016, primarily in connection with office lease agreements.

NOTE 13:- TAXES ON INCOME

- a. Israeli taxation:
 - 1. Corporate tax:

Commencing 2012, NICE Ltd. and its Israeli subsidiary elected the Preferred Enterprise regime to apply under the Law for the Encouragement of Capital Investments (the "Investment Law"). The election is irrevocable.

In December 2016, the Israeli Knesset passed a number of changes to the Investments Law regimes. These changes came into law in May 2017, retroactively effective beginning January 1, 2017, upon the passing into law of Regulations promulgated by the Finance Ministry to implement the "Nexus Principles" based on OECD guidelines published as part of the Base Erosion and Profit Shifting (BEPS) project. Such Regulations provide rules for implementation of the new beneficial Preferred Technology Enterprise tax regime.

The Company believes it qualifies as a Preferred Technology Enterprise and accordingly is eligible for a tax rate of 12% on its preferred technology income, as defined in such regulations, beginning from tax year 2017 and onwards. The Company expects that it will continue to qualify as a Preferred Technology Enterprise in subsequent tax years.

Income not eligible for Preferred Enterprise or Preferred Technology Enterprise benefits is taxed at the regular corporate tax rate, which remains 23% in 2021 (23% in 2020 and 2019 as well).

Prior to 2012, most of NICE Ltd. and its Israeli subsidiary's income was exempt from tax or subject to reduced tax rates under the Investment Law. Upon distribution of exempt income, the distributing company was subject to reduced corporate tax rates ordinarily applicable to such income under the Investment Law. Currently, income subjected to a reduced tax rate under the Preferred Enterprise and Preferred Technology Enterprise Regime will be freely distributable as dividends, subject to a 20% withholding tax (or lower, under an applicable tax treaty). However, upon the distribution of a dividend from such Preferred Income to an Israeli company, no withholding tax will be imposed

U.S. dollars in thousands (except share and per share data)

NOTE 13:- TAXES ON INCOME (Cont.)

In September 2013, and pursuant to a temporary Israeli government tax relief, the Company made an election to pay reduced corporate tax on undistributed exempt income, generated under the Investment Law and accumulated by the company until December 31, 2011 and be entitled to distribute a dividend, without being required to pay additional corporate tax, from such income. NICE Ltd. duly released its and its Israeli subsidiary's tax-exempted income through 2011. In addition, under this election the Company was required to make and complete certain qualified investments in Israeli "industrial projects" (as defined in the Law), by December 31, 2018, which the Company believes it has done. In December 2020, in the context of a multi-year settlement with the Israeli Tax Authorities, the Israeli subsidiary paid a reduced corporate tax rate on its 2012 tax-exempted earnings. Further to the 2013 election and recent 2020 settlement, neither NICE Ltd. nor its Israeli subsidiary would have a tax liability upon future distributions of any previously tax-exempted earnings.

2. Foreign Exchange Regulations:

Under the Foreign Exchange Regulations, NICE Ltd. and its Israeli subsidiary calculate their tax liability in U.S. Dollars according to certain orders. The tax liability, as calculated in U.S. Dollars, is translated into NIS according to the exchange rate as of December 31st of each year.

3. Tax benefits under the Israeli Law for the Encouragement of Industry (Taxation), 1969:

NICE Ltd. and its Israeli subsidiary believe they each currently qualify as an "Industrial Company" as defined by the Investment Law and, as such, are entitled to certain tax benefits including deduction of public offering expenses in three equal annual installments and amortization of cost of purchased knowhow and patents for tax purposes over 8 years.

b. Income taxes on non-Israeli subsidiaries:

Non-Israeli subsidiaries are taxed according to the tax laws in their respective country of residence. The Company's consolidated tax rate depends on the geographical mix of where its profits are earned. In 2021, the Company's U.S. subsidiaries are subject to combined federal and state income taxes of approximately 24.8% and its subsidiaries in the U.K. and India are subject to corporation tax at a rate of approximately 19% and 17.5%, respectively. Neither Israeli income taxes, foreign withholding taxes nor deferred income taxes were provided in relation to undistributed earnings of the Company's foreign subsidiaries. This is because the Company has the intent and ability to reinvest these earnings indefinitely in the foreign subsidiaries and therefore those earnings are continually redeployed in those jurisdictions. As of December 31, 2021, the amount of undistributed earnings of non-Israeli subsidiaries, which is considered indefinitely reinvested, was \$1,221,292 with a corresponding unrecognized deferred tax liability of \$154,929. If these earnings were distributed to Israel in the form of dividends or otherwise, the Company would be subject to additional Israeli income taxes, subject to an adjustment for foreign tax credits, and foreign withholding taxes.

c. U.S. Tax:

On December 22, 2017, the United States enacted the Tax Cuts and Jobs Act (the "U.S. Tax Reform" or "TCJA"), a comprehensive tax legislation that includes significant changes to the taxation of business entities. These changes include several key tax provisions, among others: (i) a permanent reduction to the statutory federal corporate income tax rate from 35% to 21% effective for tax years beginning after December 31, 2017; (ii) a shift of the U.S. taxation of multinational corporations from a tax on worldwide income to a modified territorial system (along with certain new rules designed to prevent erosion of the U.S. income tax base - "BEAT"); (iii) establishing immediate deductions for certain new investments instead of deductions for depreciation expense over time, and modifying or repealing certain business deductions and credits; and (iv) providing a permanent deduction to corporations generating revenues from non-US markets (known as a deduction for foreign derived intangible income -"FDII").

U.S. dollars in thousands (except share and per share data)

NOTE 13:- TAXES ON INCOME (Cont.)

The final impact of the TCJA may differ due to, among other things, possible changes in the interpretations and assumptions made by the Company as a result of additional information, additional guidance or finalization of law and regulations that will be issued by the U.S. Department of Treasury, the IRS or other standard-setting bodies, and which may impact the Company's future financial statements, and will be accounted for when such guidance is issued.

d. Net operating loss carryforward:

As of December 31, 2021, the Company and certain of its subsidiaries had tax loss carry-forwards totaling in aggregate approximately \$221,908, which can be carried forward and offset against taxable income. Approximately \$107,442 of these carry-forward tax losses have no expiration date, with the balance expiring between the years 2022 and 2040.

Utilization of U.S. net operating losses may be subject to substantial annual limitation due to the "change in ownership" provisions of the Internal Revenue Code of 1986 and similar state provisions. The annual limitation may result in the expiration of net operating losses before utilization.

e. Deferred tax assets and liabilities:

Deferred taxes reflect the net tax effect of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts recorded for tax purposes. Significant components of the Company's deferred tax assets and liabilities are as follows :

U.S. dollars in thousands (except share and per share data)

NOTE 13:- TAXES ON INCOME (Cont.)

	December 31,		
	2021	2020	
Deferred tax assets:			
Net operating losses carryforward and tax credits	\$ 50,551	\$ 42,154	
Intra-entity transfer of certain intangible assets (*)	18,986	20,734	
Operating leases liabilities	22,454	24,286	
Share based payments	28,721	20,330	
Research and development costs	21,643	9,210	
Reserves, allowances and other	 47,405	46,943	
Deferred tax assets before valuation allowance	 189,760	163,657	
Valuation allowance	(10,464)	(10,227)	
Deferred tax assets	 179,296	153,430	
Deferred tax liabilities:			
Acquired intangibles	(59,678)	(81,320)	
Operating lease right-of-use assets	(19,001)	(20,419)	
Acquired deferred revenue	(1,907)	(1,785)	
Internal use software and other fixed assets	(16,835)	(19,168)	
Prepaid compensation expenses	(30,788)	(23,965)	
Debt	(2,937)	(3,679)	
Other	 (333)	(2,468)	
Deferred tax liabilities	 (131,479)	(152,804)	
Deferred tax assets, net	\$ 47,817	\$ 626	

(*) During the years ended December 31, 2021, 2020 and 2019, the Company completed intra-entity transfers of certain intangible assets to a different tax jurisdiction. As a result of the transfers, the Company utilized net operating losses carried forward, incurred a tax expense on capital gain, released valuation allowances and recorded a deferred tax asset.

	Decemb	oer 31,
	2021	2020
Deferred tax assets	\$ 55,246	\$ 32,735
Deferred tax liabilities	(7,429)	(32,109)
Deferred tax assets, net	\$ 47,817	\$ 626

The Company has provided valuation allowances in respect of certain deferred tax assets resulting from tax loss carry forwards and other reserves and allowances due to uncertainty concerning their realization.

U.S. dollars in thousands (except share and per share data)

NOTE 13:- TAXES ON INCOME (Cont.)

f. A reconciliation of the Company's effective tax rate to the statutory tax rate in Israel is as follows:

	Year Ended December 31,					l,
		2021		2020		2019
Income before taxes on income, as reported in the consolidated statements of income	<u>\$</u>	240,619	<u>\$</u>	237,188	<u>\$</u>	234,273
Statutory tax rate in Israel		23.0 %		23.0 %		23.0 %
Preferred Enterprise / Preferred Technology Enter prise benefits (*)		(2.2)%		(3.8)%		(7.7)%
Changes in valuation allowance		1.0 %		0.5		0.7 %
Earnings taxed under foreign law		0.2 %		(0.5)%		17.9 %
Tax settlements and other adjustments		(1.8)%		(0.6)%		5.8 %
Intangible assets transfer		(1.7)%		0.1 %		(14.2)%
Other		(1.3)%		(1.5)%		(4.9)%
Effective tax rate		17.2 %		17.2 %		20.6 %

(*) The effect of the benefit resulting from the "Preferred Enterprise/Preferred Technology Enterprise benefits" status on net earnings per ordinary share is as follows

	Year Ended December 31,					
		2021		2020		2019
Basic	\$	0.08	<u>\$</u>	0.15	\$	0.29
Diluted	\$	0.08	\$	0.14	\$	0.28

g. Income before taxes on income is comprised as follows:

	 Year Ended December 31,					
	 2021		2020		2019	
Domestic	\$ 53,703	\$	87,008	\$	169,236	
Foreign	186,916		150,180		65,037	
	\$ 240,619	\$	237,188	\$	234,273	

U.S. dollars in thousands (except share and per share data)

NOTE 13:- TAXES ON INCOME (Cont.)

h. Taxes on income (tax benefit) are comprised as follows:

	_	Year Ended December 31,				,	
		202	1		2020		2019
Current		\$ 8	80,903	\$	74,096	\$	60,586
Deferred		(.	39,507)		(33,254)		(12,217)
	-	4	41,396		40,842		48,369
Domestic			16,171		15,995		8,614
Foreign		2	25,225		24,847		39,755
		\$ 4	41,396	<u>\$</u>	40,842	<u>\$</u>	48,369

Of which:

	 Year Ended December 31,			
	2021	2020	2019	
Domestic taxes:				
Current	\$ 27,400 \$	22,323 \$	29,075	
Deferred	(11,229)	(6,328)	(20,461)	
	 16,171	15,995	8,614	
Foreign taxes:				
Current	53,503	51,773	31,196	
Deferred	(28,278)	(26,926)	8,559	
	25,225	24,847	39,755	
Taxes on income	\$ 41,396 \$	40,842 \$	48,369	

U.S. dollars in thousands (except share and per share data)

NOTE 13:- TAXES ON INCOME (Cont.)

i. Uncertain tax positions:

A reconciliation of the beginning and ending balances of the total amounts of uncertain tax position is as follows:

	D	ecember 31,
	2021	2020
Uncertain tax positions, beginning of year	\$ 73,	256 \$ 64,884
Increases in tax positions for prior years	3,	190 6,456
Increases in tax positions for current year	9,	248 6,935
Settlements		— (378)
Expiry of the statute of limitations	(8,	647) (4,641)
Uncertain tax positions, end of year	\$ 77,	047 \$ 73,256

The Company accrued \$14,495 and \$8,453 due to interest and penalties related to uncertain tax positions as of December 31, 2021 and 2020, respectively.

During the course of 2019, upon receipt of an information letter, the Company's United Kingdom Subsidiary Group elected to register for the United Kingdom Profits Diversion Compliance Facility, covering the years 2015-2018. During December 2021, this was extended to include the year 2019. NICE Ltd. is currently in the process of routine Israeli income tax audits for the tax years 2016 through 2019, and on February 25, 2021 received an Order of Final Assessment from the Israeli Tax Authorities for the tax year 2014 in the sum of \$16,000 and on February 28, 2022 received an Order of Final Assessment for the tax year 2020, the Israeli Subsidiary concluded a multi-year settlement encompassing tax years 2015-2018. As of December 31, 2021, U.S. federal income tax returns filed by the Company's U.S. subsidiaries for the tax years prior to 2018 are no longer subject to general audit. To the extent the Company or its subsidiaries generated net operating losses or tax credits in closed tax years, future use of the net operating loss or tax credit carry forward balance would be subject to examination within the relevant statute of limitations for the year in which it was utilized. The Company and its subsidiaries are still subject to other income tax audits for the tax years of 2011 through 2020.

NOTE 14:- SHAREHOLDERS' EQUITY

- a. The ordinary shares, par value NIS 1.0 per share, of the Company are traded on the Tel-Aviv Stock Exchange and its American Depositary Shares ("ADSs"), each representing one fully paid ordinary share, are traded on The NASDAQ Stock Market.
- b. Share option plan:

2016 Share Incentive Plan

In February 2016 the Company adopted the 2016 Share Incentive Plan (the "2016 Plan"). The Company adopted the 2016 Plan to provide incentives to employees, directors, consultants and/or contractors by rewarding performance and encouraging behavior that will improve the Company's profitability.

U.S. dollars in thousands (except share and per share data)

NOTE 14:- SHAREHOLDERS' EQUITY (Cont.)

Under the 2016 Plan, the Company's employees, directors, consultants and/or contractors may be granted any equity-related award, including: any type of an option to acquire the Company's ordinary shares; share appreciation right; share and/or restricted share award ("RSA"); restricted stock unit ("RSU") and/or other share unit; and/or other share-based award and/or other right or benefit under the 2016 Plan, including any such equity-related award that is a performance-based award (each an "Award").

Generally, under the terms of the 2016 Plan, unless determined otherwise by the administrator of the 2016 Plan, 25% of an Award granted becomes exercisable on the first anniversary of the date of grant and 6.25% becomes exercisable once every quarter during the subsequent three years. Specifically with respect to RSUs and options granted with an exercise price equal to the nominal value of an ordinary share ("par value options"), unless determined otherwise by the Board of Directors, 25% of the RSUs and the par value options granted become vested on each of the four consecutive annual anniversaries following the date of grant.

Certain executive officers are entitled to acceleration of vesting of Awards in the event of a change of control, subject to certain conditions. Awards with a vesting period expire six years after the date of grant. Pursuant to a resolution of the Company's Board of Directors dated February 4, 2014, options that are performance-based and that were granted during calendar year 2014 and thereafter shall expire seven years following the date of grant. The maximum number of shares that may be subject to Awards granted under each of the Plans is calculated each calendar year as 3% of the Company's issued and outstanding share capital as of December 31 of the preceding calendar year (pursuant to an amendment of the 2016 Plan approved by the Board of Directors on October 2, 2019). Such amount is reset for each calendar year. Awards are non-transferable except by will or the laws of descent and distribution.

Options granted under the 2016 Plan are granted at an exercise price equal to the average of the closing prices of one ADR as quoted on the NASDAQ market during the 30 consecutive calendar days preceding the date of grant, unless determined otherwise by the administrator of the 2016 Plan (including par value options).

The Company's Board of Directors also adopted an addendum to the 2016 Plan for Awards granted to residents of Israel (the "Addendum") and resolved to elect the "Capital Gains Route" (as defined in Section 102(b)(2)) of the Israeli Income Tax Ordinance-5721-1961 ("Tax Ordinance") for the grant of Awards to Israeli grantees. There is also a U.S. addendum under the 2016 Plan that applies to non-qualified stock options for purposes of U.S. tax laws.

During 2021, the Company granted 1,187,765 options and restricted share units under the 2016 Plan (which constituted 1.88% of the Company issued and outstanding share capital as of December 31, 2020).

Pursuant to the terms of the acquisitions of, Nexidia, inContact, Mattersight, Guardian Analytics and ContactEngine, the Company assumed or replaced unvested options, RSAs and RSUs and converted them or replaced them with the Company's options, RSAs and RSUs, as applicable, based on an agreed exchange ratio. Each assumed or replaced option, RSA and RSU is subject to the same terms and conditions, including vesting, exercisability and expiration, as originally applied to any such option, RSA and RSU immediately prior to the acquisition.

U.S. dollars in thousands (except share and per share data)

NOTE 14:- SHAREHOLDERS' EQUITY (Cont.)

The fair value of the Company's stock options granted to employees and directors for the years ended December 31, 2021, 2020 and 2019 was estimated using the following assumptions:

	2	021	2020	2019
Expected volatility	26.219	⁄o-27.87%	0.00%-25.79%	19.44%-21.54%
Risk free interest rate	0.30	0%-0.93%	0.00%-0.86%	1.43%-2.55%
Expected dividend	\$	—		
Expected term (in years)		3.5	3.5	3.5

A summary of the Company's stock options activity and related information for the year ended December 31, 2021, is as follows:

	Number of options	Weighted- average exercise price	Weighted- average remaining contractual term (in years)	Aggregate intrinsic value
Outstanding at January 1, 2021	988,374	22.49	4.26	258,014
Granted	437,610	12.80		
Exercised	232,376	18.41		
Cancelled	326	39.52		
Forfeited	84,630	0.46		
Outstanding at December 31, 2021	1,108,652	21.20	4.42	313,083
Exercisable at December 31, 2021	375,521	54.57	3.14	93,516

The weighted-average grant-date fair value of options granted during the years 2021, 2020 and 2019 was \$243.34, \$192.44 and \$121.21, respectively.

The total intrinsic value of options exercised, and restricted shares vested during the years 2021, 2020 and 2019 was \$189,408, \$180,234 and \$87,872, respectively.

U.S. dollars in thousands (except share and per share data)

NOTE 14:- SHAREHOLDERS' EQUITY (Cont.)

The options outstanding under the Company's stock option plans as of December 31, 2021 have been separated into ranges of exercise price as follows:

Ranges of exercise price	Options outstanding as of December 31, 2021	Weighted average remaining contractual term	Weighted average exercise price	Options Exercisable as of December 31, 2021	Weighted average exercise price of options exercisable
		(Years)	\$		\$
\$ 0.27 - 0.31	951,076.0	4.57	0.29	230,960.0	0.3
\$ 6.72 - 8.57	1,820.0	2.13	7.03	1,820.0	7.0
\$ 20.44-24.99	3,019.0	5.97	21.84	2,744.0	21.5
\$ 37.21 - 54.51	4,584.0	4.43	45.66	3,632.0	43.4
\$ 57.10 - 85.14	30,968.0	1.51	79.53	30,968.0	79.5
\$ 96.74	24,891.0	2.37	96.74	24,891.0	96.7
\$ 151.63 - 224.18	68,718.0	4.14	183.22	68,718.0	183.2
\$ 232.2	23,576.00	5.32	232.20	11,788.00	232.20
	1,108,652	4.42	21.20	375,521	54.57

A summary of the Company's RSU and the Company's RSA activities and related information for the year ended December 31, 2021, is as follows:

	Number of RSU and RSA (*)
Outstanding at January 1, 2021	1,463,687
Granted	750,155
Vested	(485,124)
Forfeited	(119,709)
Outstanding at December 31, 2021	1,609,009

(*) NIS 1.0 par value, which represents approximately \$0.32.

The weighted-average grant-date fair value of restricted shares granted during the year 2021 was \$273.31.

As of December 31, 2021, the total compensation cost related to non-vested awards not yet recognized was approximately \$298,328, which is expected to be recognized over a period of up to four years.

U.S. dollars in thousands (except share and per share data)

NOTE 14:- SHAREHOLDERS' EQUITY (Cont.)

The total equity-based compensation expense related to all of the Company's equity-based awards recognized for the years ended December 31, 2021, 2020 and 2019 was comprised as follows:

	Year ended December 31,				
	2021		2020		2019
Cost of revenues	\$ 17,880	\$	11,313	\$	11,244
Research and development, net	28,558		13,668		9,239
Selling and marketing	42,021		30,262		26,650
General and administrative	67,914		48,221		34,897
Total stock-based compensation expenses	\$ 156,373	\$	103,464	\$	82,030

c. Treasury shares:

On January 10, 2017, the Company's Board of Directors authorized a program to repurchase up to \$150,000 of the Company's issued and outstanding ordinary shares and ADSs. This share repurchase program commenced on April 7, 2017. Following completion of that plan, on February 12, 2020, the Company's Board of Directors authorized an additional program to repurchase up to \$200,000 of the Company's issued and outstanding ordinary shares and ADSs. Repurchases may be made from time to time in the open market or in privately negotiated transactions in accordance with applicable securities laws and regulations. The timing and amount of the repurchase transactions will be determined by the Company's management and may depend on a variety of factors including market conditions, alternative investment opportunities and other considerations.

These programs do not obligate the Company to acquire any particular amount of ordinary shares and ADSs and each program may be modified or discontinued at any time without prior notice.

NOTE 15:- DEBT

Loan and revolving Credit Agreement

In 2016, the Company entered into a Credit Agreement with certain lenders, pursuant to which a loan of \$475,000 was provided to the Company.

In January 2017, the Company prepaid a principal amount of \$260,000, which resulted in \$5,300 amortization of debt issuance costs. In November 2020, the Company prepaid the remaining principal amount of \$215,000, which resulted in \$725 amortization of debt issuance costs.

The loan bore interest through maturity at a variable rate based upon, at the Company's option every interest period, either (a) the LIBOR rate for Eurocurrency borrowing or (b) an Alternate Base Rate ("ABR"), which is the highest of (i) the administrative agent's prime rate, (ii) one-half of 1.00% in excess of the overnight U.S. Federal Funds rate, and (iii) 1.00% in excess of the one-month LIBOR, plus in each case, an applicable margin. The applicable margin for Eurocurrency loans ranges, based on the applicable total net leverage ratio, from 1.25% to 2.00% per annum and the applicable margin for ABR loans ranges, based on the applicable total net leverage ratio, from 0.25% to 1.00% per annum.

Debt issuance costs of \$10,158 attributable to the loan were amortized as interest expense over the contractual term of the loan using the effective interest rate.

U.S. dollars in thousands (except share and per share data)

NOTE 15:- DEBT (Cont.)

Interest expense related to the liability for the years ended December 31, 2020 and 2019 were as follows:

	2020	2019
Amortization of debt issuance costs	\$ 1,687	\$ 1,004
Interest expense	3,848	7,676
Total interest expense recognized	<u>\$ 5,535</u>	\$ 8,680
Effective interest rate	2.11 %	4.01 %

Pursuant to the Credit Agreement, the Company was also granted a revolving credit facility that entitled the Company to borrow up to \$75,000 with interest payable on the borrowed amount set at the same terms as the term loan, as well as a quarterly commitment fee on unfunded amounts ranging from 0.25% to 0.5%, subject to the achievement of certain leverage levels.

Debt issuance costs of \$1,667 attributable to the revolving credit loan were capitalized and amortized as interest expense over the contractual term of the agreement on a straight-line basis. Following the loan prepayment in November 2020 (as mentioned above), the Credit Agreement was terminated, resulting in the recognition of the remaining \$325 amortization of Credit Agreement issuance costs.

Exchangeable Senior Notes and Hedging Transactions

2017 Notes

In January 2017, the Company issued \$287,500 aggregate principal amount of exchangeable senior notes (the "2017 Notes") due 2024.

In the event that the last reported sale price of the company's ADS for at least 20 trading days (whether consecutive or not) during the period of 30 consecutive trading days ending on the last trading day of the immediately preceding calendar quarter is greater than or equal to 130% of the exchange price ("Share Price Condition") or in the event of the satisfaction of certain other conditions, during set periods, as defined in the indenture governing the Notes, the holders of the exchangeable Senior Notes will have the option to exchange the Notes for (at the Company's election) (i) cash, (ii) ADSs or (iii) a combination thereof.

As of December 31, 2021 and 2020, the Share Price Condition for the 2017 Notes was triggered and, accordingly, the net carrying amount of these 2017 Notes was presented in current liabilities.

The Company may provide additional ADSs upon conversion if there is a "Make-Whole Fundamental Change" in the Company as defined in the indenture governing the 2017 Notes. The 2017 Notes are not redeemable by the Company prior to the maturity date apart from certain cases as set forth in the indenture governing the notes. The Company's intention and ability is to settle the 2017 Notes in cash.

On December 31, 2021, the Company entered into the First Supplemental Indenture. In accordance with the First Supplemental Indenture, the Company irrevocably elected cash settlement for the principal and any premium due upon conversion (as defined in the 2017 Indenture) to apply to all conversions of 2017 Notes with an exchange date on or after December 31, 2021.

As a result of the requirement to deliver cash to settle the principal and any premium due upon conversion, on December 31, 2021, the Company reclassified from equity to liability the conversion option (a derivative) fair value of \$292,940. The conversion option will be no longer eligible for ASC 815 scope exception. Therefore, a derivative accounting for the conversion option will be required.

U.S. dollars in thousands (except share and per share data)

NOTE 15:- DEBT (Cont.)

Debt issuance costs of \$5,791 attributable to the 2017 Notes are amortized as interest expense over the contractual term of the notes using the effective interest rate.

Interest is payable on the debentures semi-annually at the cash coupon rate, however, the remaining debt discount is being amortized as additional non-cash interest expense using an effective annual interest rate equal to the Company's estimated nonconvertible debt borrowing rate at the time of issuance.

The Company received notices for conversion of \$66 and \$195,342 of principal amount of the 2017 Notes in 2020 and 2021, respectively, for which \$5 and \$177,308 were settled in 2020 and 2021, respectively. The Company paid the note holders the conversion value of the notes in cash. The cash conversion premium payment upon conversion of the 2017 Notes was offset by cash under the convertible bond hedge transactions entered into in connection with the offering of the 2017 Notes. As a result of the conversions, the Company recorded a \$13,969 loss on extinguishment of debt calculated as the difference between the estimated fair value of the debt liability and the carrying value liability of the 2017 Notes as of the settlement dates. To measure the fair value of the converted debt liability as of the settlement dates, the applicable interest rates were estimated using Level 2 observable inputs and applied to the converted notes principal amounts.

2020 Notes

In August 2020, the Company issued \$460,000 aggregate principal amount of Exchangeable Senior Notes (the "2020 Notes" and together with the 2017 Notes, the "Notes") due 2025.

In the event that the Share Price Condition is satisfied or in the event of the satisfaction of certain other conditions, during set periods, set forth in the indenture governing the 2020 Notes, the holders of the exchangeable Senior Notes will have the option to exchange the Notes for (at the Company's election) (i) cash, (ii) ADSs or (iii) a combination thereof.

On December 31, 2021, the Company irrevocably elected that all conversions occurring on or after December 31, 2021 will be settled pursuant to a Combination Settlement (as defined in the 2020 Indenture) with a Specified Dollar Amount (as defined in the 2020 Indenture) no less than \$1,000 per \$1,000 principal amount of 2020 Notes. Generally, under this settlement method, the conversion value corresponding to the principal amount will be converted in cash, and the conversion value over the principal amount will be settled, at the Company's election, in cash or shares or a combination thereof.

The 2020 Notes are redeemable by the Company on or after September 21, 2023 upon the fulfillment of the Share Price Condition for cash in relation to the principal amount, and the conversion value over the principal amount will be settled, at the Company's election, in (i) cash, (ii) ADSs or (iii) a combination thereof, apart from certain cases as set forth in the indenture governing the Notes.

The 2020 Notes do not bear regular interest, however, the remaining debt discount is being amortized as additional non-cash interest expense using an effective annual interest rate equal to the Company's estimated nonconvertible debt borrowing rate at the time of issuance.

Debt issuance costs of \$7,952 attributable to the 2020 Notes are amortized as interest expense over the contractual term of the 2020 Notes using the effective interest rate.

The Company may provide additional ADSs upon conversion if there is a "Make-Whole Fundamental Change" in the Company as defined in the indenture governing the 2020 Notes.

The following table summarizes some key facts and terms regarding the outstanding Notes:

U.S. dollars in thousands (except share and per share data)

NOTE 15:- DEBT (Cont.)

	Due 2025	Due 2024
Issuance date	August 27, 2020	January 18, 2017
Maturity date	September 15, 2025	January 15, 2024
Effective conversion date	June 15, 2025	September 15, 2023
Principal amount	\$460,000	\$110,187
Cash coupon rate (per annum)	%	1.25%
Conversion rate effective (per \$1000 principal amount)	\$3.34	\$12.05
Effective conversion price (per ADS)	\$299.19	\$82.96

The carrying values of the liability and equity components of the Notes are reflected in the Company's accompanying consolidated balance sheets as follows:

	2020 Notes December 31,					2017 Not December	
		2021		2020		2021	2020
Principal	\$	460,000	\$	460,000	\$	110,187 \$	287,495
Conversion option (Level 2)						292,940	
Less:							
Debt issuance costs, net of amortization		(5,975)		(7,460)		(780)	(2,914)
Unamortized discount		(24,758)		(31,203)		(6,401)	(24,700)
Net liability carrying amount	<u>\$</u>	429,267	<u>\$</u>	421,337	<u>\$</u>	<u> </u>	259,881
Equity component - net carrying value	\$	32,746	\$	32,746	\$	<u> </u>	51,176

As of December 31, 2021, the estimated fair value of the 2017 Notes and the 2020 Notes which the Company has classified as Level 2 financial instruments are \$405,410 (\$933,695 as of December 31, 2020) and \$554,410 (\$520,485 as of December 31, 2020), respectively.

The estimated fair value was determined based on the quoted bid price of the Exchangeable Senior Notes in an over-the-counter market on the last trading day of the reporting period. As of December 31, 2021, the difference between the net carrying amount of the 2020 Exchangeable Senior Notes and estimated fair value represents mainly the equity conversion value premium the market assigned to these Notes. Based on the closing price of our common stock on December 31, 2021, the if-converted value of the Exchangeable Senior Notes exceeded the principal amount.

U.S. dollars in thousands (except share and per share data)

NOTE 15:- DEBT (Cont.)

Interest expense related to the Notes is reflected on the accompanying consolidated statements of income as follows:

		2020	Note	es		20	17 Notes		
	Y	ear Ended	Dece	mber 31,	 Yea	oer 31	er 31,		
		2021		2020	2021		2020		2019
Amortization of debt issuance costs	\$	1,485	\$	492	\$ 608	\$	820	\$	753
Non-cash amortization of debt discount		6,471		2,165	5,986		7,483		7,153
Interest expense				_	 1,891		3,594		3,594
Loss in respect of convertible loan extinguishment	\$		\$	_	\$ 13,969	\$		\$	_
Total interest expense recognized	\$	7,956	\$	2,657	\$ 22,454	\$	11,897	\$	11,500
Effective interest rate		1.87 %	<u>6</u>	1.87 %	 4.68 %	<u> </u>	4.68 %	<u><u><u>ó</u></u></u>	4.68 %

Exchangeable notes hedge transactions

In connection with the pricing of the 2017 Notes, the Company has entered into privately negotiated exchangeable note hedge transactions with some of the initial purchasers and/or their respective affiliates (the "Option Counterparties").

Subject to customary anti-dilution adjustments substantially similar to those applicable to the 2017 Notes, the exchangeable note hedge transactions cover the number of ADSs will initially underline the 2017 Notes.

The note hedge transactions are expected generally to reduce cash payments the Company is required to make in excess of the principal amount, in each case, upon any exchange of the 2017 Notes.

A portion of the call-options can be settled upon a surrender of the same amounts of Notes by a holder. As stated above, the Company irrevocably elected cash settlement to apply to all conversions of 2017 Notes with an exchange date that occurs on or after December 31, 2021.

Conversion notices received on and after December 31, 2021 relating to the 2017 Notes will be fully settled in cash, and amounts paid in excess of the principal amount will be offset by an equal receipt of cash under the convertible bond hedge.

As a result of the irrevocable cash election, on December 31, 2021, the Company reclassified from equity to derivative asset the remaining bond hedge fair value of \$292,940 (Level 2).

Concurrently with the Company's entry into the exchangeable note hedge transactions, the Company has entered into warrant transactions with the Option Counterparties relating to the same number of ADSs (3,457,475), with a strike price of \$101.82 per ADS, subject to customary anti-dilution adjustments.

The warrants are exercisable for a period of three months as of the 2017 Notes' maturity date.

The warrants are classified to equity in accordance with U.S. GAAP. The warrants have a dilutive effect as the market price per ordinary share exceeds the applicable exercise price of the warrants, as measured under the terms of the warrant transactions.

U.S. dollars in thousands (except share and per share data)

NOTE 16:- REPORTABLE SEGMENTS AND GEOGRAPHICAL INFORMATION

a. Reportable segments:

ASC 280, "Segment Reporting" establishes standards for reporting information about operating segments. Operating segments are defined as components of an enterprise about which separate financial information is available that is evaluated regularly by the chief operating decision maker in deciding how to allocate resources and in assessing performance. The Company's chief operating decision maker is its Chief Executive Officer.

	Year ended December 31, 2021							
		Customer ngagement (1)	Ċ	inancial rime and ompliance	;	Not allocated	Total	
Revenues	<u>\$</u>	1,572,176	\$	348,974	\$		1,921,150	
Operating income	<u>\$</u>	316,760	<u>\$</u>	104,080	<u>\$</u>	(156,931)	263,909	
		Customor	F	r ended Dec ïnancial	emb	per 31, 2020		

	Customer Engagemen (1)	Financial Crime and t Compliance (2)	Not allocated	Total
Revenues	<u>\$ 1,347,51</u>	<u>1 \$ 300,505</u>	<u>\$ </u>	<u>\$ 1,648,016</u>
Operating income	\$ 268,010	<u>93,272</u>	<u>\$ (119,235)</u>	<u>\$ 242,047</u>

		Year ended December 31, 2019									
		Customer ngagement (1)	Ċ	inancial rime and mpliance		Not allocated	Total				
Revenues	<u>\$</u>	1,265,113	\$	308,799	\$	\$	1,573,912				
Operating income	<u>\$</u>	244,599	<u>\$</u>	124,742	<u>\$</u>	(130,624) \$	238,717				

(1) Includes the results of companies which were acquired in the years 2021, 2020 and 2019 and are being integrated within the Customer Engagement segment.

(2) Includes the results of companies which were acquired in the year 2020, and have been integrated within the Financial Crime and Compliance segment.

U.S. dollars in thousands (except share and per share data)

NOTE 16:- REPORTABLE SEGMENTS AND GEOGRAPHICAL INFORMATION (Cont.)

The following table presents property and equipment as of December 31, 2021 and 2020, based on operational segments:

	Dec	ember 31,
	2021	2020
Customer Engagement	\$ 118,55	7 \$ 120,955
Financial Crime and Compliance	25,37	8 15,433
Non-allocated	1,71	9 1,397
	145,65	<u>4 </u> \$ 137,785

b. Geographical information:

Total revenues from external customers on the basis of the Company's geographical areas are as follows:

	 Year Ended December 31,							
	2021		2020		2019			
Americas, principally the US	\$ 1,566,807	\$	1,353,278	\$	1,234,549			
EMEA (*)	236,122		180,177		212,252			
Israel	3,839		4,368		3,950			
Asia Pacific	114,382		110,193		123,161			
	 1,921,150	\$	1,648,016	\$	1,573,912			

The following presents property and equipment as of December 31, 2021 and 2020, based on geographical areas:

	December 31,			
	2021		2020	
Americas, principally the US	\$ 73,525	\$	72,083	
EMEA (*)	4,203		4,340	
Israel	61,796		54,097	
Asia Pacific	 6,130		7,265	
	\$ 145,654	\$	137,785	

(*) Includes Europe, the Middle East (excluding Israel) and Africa.

U.S. dollars in thousands (except share and per share data)

NOTE 17:- SELECTED STATEMENTS OF INCOME DATA

a. Research and development, net:

Year Ended December 31,							
	2021	2020	2019				
\$	319,083 \$	261,105 \$	232,118				
	(2,118)	(2,347)	(2,556)				
	(45,778)	(40,576)	(35,844)				
<u>\$</u>	<u>271,187</u> <u>\$</u>	218,182 \$	193,718				
	\$ <u>\$</u>	2021 \$ 319,083 \$ (2,118) (45,778)	2021 2020 \$ 319,083 \$ 261,105 \$ (2,118) (2,347) (45,778) (40,576)				

b. Financial expenses and other, net:

	Year Ended December 31,						
		2021		2020	2019		
Financial income:							
Interest and amortization/accretion of premium/discount on marketable securities, net	\$	13,751	\$	17,596 \$	16,678		
Interest		200		1,543	3,855		
		13,951		19,139	20,533		
Financial expenses:							
Interest		(10,061)		(7,770)	(11,683)		
Loss in respect of debt extinguishment		(13,969)			_		
Debt issuance costs amortization		(610)		(3,650)	(2,083)		
Exchangeable Senior Notes amortization of discount		(5,708)		(9,648)	(7,153)		
Exchange rates differences		(4,131)		(41)	(1,832)		
Other		(2,958)		(2,731)	(2,186)		
		(37,437)		(23,840)	(24,937)		
Other (expenses) Income, net		196		(158)	(40)		
	\$	(23,290)	\$	(4,859) \$	(4,444)		

c. Net earnings per share:

The following table sets forth the computation of basic and diluted net earnings per share:

1. Numerator:

U.S. dollars in thousands (except share and per share data)

NOTE 17:- SELECTED STATEMENTS OF INCOME DATA (Cont.)

	Year Ended December 31,						
	2021 2020					2019	
Net income to ordinary shareholders	\$	199,223	<u>\$</u>	196,346	<u>\$</u>	185,904	

2. Denominator (in thousands):

	Year Ended December 31,		
	2021	2020	2019
Denominator for basic net earnings per share:			
Weighted average number of shares (thousand)	63,189	62,710	62,120
Effect of dilutive securities:			
Add - employee stock options and RSU	1,605	1,611	1,682
Warrants issued in the exchangeable notes transaction	2,102	1,635	859
Denominator for diluted net earnings per share - adjusted weighted average shares (thousand)	66,896	65,956	64,661

NOTE 18:- RELATED PARTY BALANCES AND TRANSACTIONS

In 2021, the Company acquired an additional 20% in the 2020 Subsidiary for a total consideration of approximately \$14,000. The amount paid to the 2020 Subsidiary's CEO in connection with this purchase was \$4,850. As of December 31, 2021 and 2020, the 2020 Subsidiary's CEO holds 12.04% and 18.97%, respectively, of the 2020 Subsidiary, which reflects \$5,186 and \$9,343 of the non-controlling amount on the balance sheet as of December 31, 2021 and 2020, respectively.

NOTE 19:- SUBSEQUENT EVENTS

During the first quarter of 2022, the Company settled in cash an aggregate principal amount of \$18,093 of 2017 Notes in response to formal requests that were received during the fourth quarter of 2021.

During January 2022, the Company received formal requests to exchange 2017 Notes in an aggregated principal amount of \$2,015. The Company is required to settle all these requests in cash, during the second quarter of 2022. See Note 15 for further information regarding the 2017 Notes.

On February 25, 2021, NICE Ltd. received an Order of Final Assessment for the 2014 tax year, in the sum of \$16,000, from the Israeli Tax Authorities. A pre-court hearing as to the amount claimed to be owed was conducted on January 25, 2022. The Company has provided an amount it believes is sufficient for what it believes will be the final settlement amount within its provision for income taxes and our tax estimates.

On February 28, 2022, NICE Ltd received. an Order of Final Assessment for the 2015 tax year, in the sum of \$14,675, from the Israeli Tax Authorities. The Company has provided an amount it believes is sufficient for what it believes will be the final settlement amount within its provision for income taxes and our tax estimates.

SIGNATURES

The registrant hereby certifies that it meets all of the requirements for filing on Form 20-F and that it has duly caused and authorized the undersigned to sign this annual report on its behalf.

NICE LTD.

By: /s/ Barak Eilam

Barak Eilam Chief Executive Officer

Date: April 5, 2022

Significant Subsidiaries

The following is a list of our significant subsidiaries and other subsidiaries, including the name and country of incorporation or residence. Each of our subsidiaries listed below is wholly-owned.

Name of Subsidiary	Country of Incorporation or Residence	
NICE Systems Australia PTY Ltd.	Australia	
inContact Bolivia S.R.L.	Bolivia	
NICE Systems Technologies Brasil LTDA	Brazil	
NICE Systems Canada Ltd.	Canada	
NICE Systems China Ltd.	China	
NICE France S.A.R.L.	France	
NICE Systems GmbH	Germany	
NICE APAC Ltd.	Hong Kong	
NICE Systems Kft	Hungary	
NICE Interactive Solutions India Private Ltd.	India	
NICE Technologies Ltd.	Ireland	
Actimize Ltd.	Israel	
NICE Enterprise Ltd.	Israel	
NICE Japan Ltd.	Japan	
NICE Technologies Mexico S.R.L.	Mexico	
NICE Netherlands B.V.	Netherlands	
NICE inContact Philippines Inc.	Philippines	
NICE Systems (Singapore) Pte. Ltd.	Singapore	
NICE Switzerland AG	Switzerland	
Actimize UK Limited	United Kingdom	
Brand Embassy Ltd.	United Kingdom	
Contact Engine Limited	United Kingdom	
NICE Systems Technologies UK Limited	United Kingdom	
NICE Systems UK Ltd.	United Kingdom	
Actimize Inc.	United States	
Alacra LLC	United States	
Contact Engine Inc.	United States	
inContact Inc.	United States	
Mattersight Corporation	United States	
Moxie Software Inc.	United States	
Nexidia Inc.	United States	
NICE Systems Inc.	United States	
NICE Systems Latin America, Inc.	United States	
NICE Systems Technologies Inc.	United States	

I, Barak Eilam, certify that:

- 1. I have reviewed this annual report on Form 20-F of NICE Ltd.;
- 2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
- 3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the company as of, and for, the periods presented in this report;
- 4. The company's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d 15(f)) for the company and have:
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the company, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - (c) Evaluated the effectiveness of the company's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - (d) Disclosed in this report any change in the company's internal control over financial reporting that occurred during the period covered by the annual report that has materially affected, or is reasonably likely to materially affect, the company's internal control over financial reporting; and
- 5. The company's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the company's auditors and the audit committee of the company's board of directors (or persons performing the equivalent functions):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the company's ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the company's internal control over financial reporting.

By: /s/ Barak Eilam Barak Eilam Chief Executive Officer I, Beth Gaspich, certify that:

- 1. I have reviewed this annual report on Form 20-F of NICE Ltd.;
- 2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
- 3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the company as of, and for, the periods presented in this report;
- 4. The company's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d 15(f)) for the company and have:
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the company, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - (c) Evaluated the effectiveness of the company's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - (d) Disclosed in this report any change in the company's internal control over financial reporting that occurred during the period covered by the annual report that has materially affected, or is reasonably likely to materially affect, the company's internal control over financial reporting; and
- 5. The company's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the company's auditors and the audit committee of the company's board of directors (or persons performing the equivalent functions):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the company's ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the company's internal control over financial reporting.

By: /s/ Beth Gaspich Beth Gaspich Chief Financial Officer

CERTIFICATION PURSUANT TO 18 U.S.C. SECTION 1350, AS ADOPTED PURSUANT TO SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Annual Report on Form 20-F of NICE Ltd. (the "Company") for the year ended December 31, 2021 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), the undersigned, Barak Eilam, Chief Executive Officer of the Company, certifies, pursuant to 18 U.S.C. sec. 1350, as adopted pursuant to sec. 906 of the Sarbanes-Oxley Act of 2002, that:

- (1) The Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; and
- (2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

 By:
 /s/ Barak Eilam

 Barak Eilam
 Barak Eilam

 Chief Executive Officer

CERTIFICATION PURSUANT TO 18 U.S.C. SECTION 1350, AS ADOPTED PURSUANT TO SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Annual Report on Form 20-F of NICE Ltd. (the "Company") for the year ended December 31, 2021 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), the undersigned, Beth Gaspich, Chief Financial Officer of the Company, certifies, pursuant to 18 U.S.C. sec. 1350, as adopted pursuant to sec. 906 of the Sarbanes-Oxley Act of 2002, that:

- (1) The Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; and
- (2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

By:/s/ Beth GaspichApril 5, 2022Chief Financial Officer

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in the Registration Statements on Form S-8 (Registration Nos. 333-166364, 333-168100, 333-171165, 333-162795, 333-162110, 333-06784, 333-08146, 333-11842, 333-09350, 333-11154, 333-111112, 333-111113, 333-134355, 333-144589, 333-145981, 333-153230, 333-177510, 333-179408, 333-181375, 333-191176, 333-199904, 333-210341, 333-210343, 333-210344, 333-214584, 333-210341, 333-210343, 333-210344, 333-214584, 333-210341, 333-210343, 333-210344, 333-214584, 333-210341, 333-210343, 333-210344, 333-214584, 333-210341, 333-210343, 333-210344, 333-214584, and the effectiveness of internal control over financial statements of NICE Ltd. and its subsidiaries and the effectiveness of internal control over financial reporting of NICE Ltd. included in this Annual Report on Form 20-F for the year ended December 31, 2021.

Tel Aviv, Israel April 5, 2022

/s/ KOST, FORER, GABBAY & KASIERER

KOST, FORER, GABBAY & KASIERER A Member of EY Global

RUDY GALLEGOS

SUMMARY

- Strong, diverse project team leader with 15 years' experience overseeing high visibility delivery. .
- Strategic manager, developing operating plans, business modeling, and process improvement. •
- Oversight and guidance of PMO leadership teams, direct management and development of staff.
- Key communicator, managing escalations and executive-level communications.
- Client interface providing tailored delivery methods to address individual client needs, improve relationships and exceeding customer expectations.
- Steadfast leader, managing multiple critical projects, teams, and clients, inception thru delivery.
- Solid technical aptitude, managing support centers and consolidation of technical centers.

EXPERIENCE

NICE

Senior Project Manager

Manage multiple, parallel projects through solution delivery using formal project planning and budget management techniques.

- Client consulting and relationship management experience.
- Plan, schedule and track project timelines, milestones and deliverables of the project scope.
- Plan, estimate, and organize overall implementation of NICE products including equipment delivery, site readiness, . managing resources for the project, installation, revenue forecasting and training.
- Ensure project documentation including Pre-site survey, Statement of Work (SOW), Project Plan, Installation Test Plan (ITP), Site Docs, and project hand-off is completed by all parties.
- Review Project Documents including RFP/RFQ/RFIs/SOWs.

Siemens

Senior Project Manager

Managing high priority, critical infrastructure security, NERC, NICE server upgrades, software implementation and technology large scale projects exceeding \$5m for Corporate Security.

- Develop and maintain relationships with stakeholders and cross functional teams to facilitate project activities.
- Plan, schedule and track project timelines, milestones and deliverables of the project scope. .
- Manage vendors and on-site personnel to ensure project is completed on schedule and within budget. .
- Manage budget and financial aspects of contracts and simultaneously maintain positive relationship with the customer. •
- Manage the procurement of supplies and materials related costs, lead times and delivery.
- Review Project Documents including RFP/RFQ/RFIs/SOWs, Change Orders, Floor Plans and Design Documents.

AT&T – El Segundo, CA

Lead Marketing Project Manager Feb 2018 - Aug 2019 Develop and execute strategic requirements that meet DIRECTV's Retention business objectives. Accountable for developing and providing business and systems requirements, analysis discussions, and becoming the subject matter expert on product and offers

that meet the needs of the marketing team.

- Project managed, initiated business case, budget approvals, and executed a closer coupon program.
- Project managed the successful implementation of a virtual closer coupon.
- Project managed multiple Marketing Campaigns for ~14m customers to support the conversion between two billing • systems by partnering with a vendor and cross-functional teams.
- Established and managed a Command Center to create awareness, cross-functional engagement and drive actions. .
- Collaborated cross functionally to identify churn risks, strategize and determine best solutions to meet retention objectives. .
- Elected President for the AT&T Veterans Employee Resource Group.

Senior Program Project Manager

Project manager for multi-dwelling units tactics, prioritization of actions, budget, timelines, training and proper communications.

- Identify, manage and lead project initiatives related to SalesForce, Multi-Dwelling Units and commercial customers that will have a direct impact to revenue and customer experience.
- Managed two diverse teams, the SalesForce development & administrative team and an operations team.
- Manage UAT efforts including writing the test plan, test cases, executing test cases, and managing defects to resolution.
- Managed over ten SalesForce admin releases that encompassed the support of business stakeholder's projects.
- Provide accurate and timely updates on SLA processes and proactively communicate to management.
- Manage relationships within a diverse environment and with cross-functional groups.

Manager, Support Center

Feb 2016 - Feb 2018

Aug 2019 – Jun 2021

Sep 2013 – Aug 2019

Jun 2021 – Present

RUDY GALLEGOS

Directly responsible for employee selection, performance management, compensation administration, training and development, goal setting, and team-building activities.

Day to day oversight and management of 24x7 support team of IT analysts across multiple locations. Focused specifically on high

- Implement a call monitoring process utilizing NICE software.
- SME of product application architecture, user interface, functionality, risk assessment and support.
- Coordinate multiple vendors to identify SLAs, points of contacts, and procedures for communication.
- Managed the full project lifecycle and development of mobile application for over ~10k Active Directory users.
- Established and defined new critical process flow, escalation, communications and procedures within the ITIL best practice.

SCMSP

Engagement Manager

Responsible for leading multiple cell site construction operations and key projects within the Colorado and Nebraska market,

- Managed procurement, requisitions, and team training.
- Developed, defined and executed new business requirements and SOWs for over 50 cell site structural projects. .
- Established and manage relations with vendors and clients regarding scope, budget, project plan, and schedule. •
- Performed quality assurance activities before, during and after closeout document submission to client per the provided • method of procedures and general guidelines.
- Directed resources to complete the projects in a safe, expedient and profitable manner while complying with internal • company issued safety manual and industry specific OSHA standards.

BT - El Segundo, CA

Transformation Project Manager (Dec 2010 - Dec 2012)

Led and successfully transitioned and consolidated multiple global Service Desks to achieve a \$1.5m savings in 5 years. Managed customer operations work streams, collaborating with CO/PMO teams.

- Project Manager lead for the Atlanta to Sao Paulo consolidation within budget and timelines. •
- Created and executed multiple business cases that showed a savings of over \$15m.
- Led the Right First Time initiative. Identified repeat faults, chronic issues, and process improvements.
- Led the systems migration from ITSM to CM achieving a savings of \$150k. Ensured back up was completed, UAT,ORT completed and final migration was complete within the specified timeline.
- Subject matter expert, providing guidance, training, and support into the global demand and resource management team, resulting in sharing of best practices, building a global service offering, and implementation of global standards. As well as providing input for ITIL, ISO and SAS70 requirements.

Technical Services Manager (Jun 2008 – Dec 2010)

Established methods, procedures, and systems to support the implementation of new product launches/services. Delivered training classes via web based, teleconference, and/or class-room setting.

- Lead Project Manager to consolidated Service Desk centers - El Segundo, Atlanta, Princeton and Sao Paulo.
- Initiated and executed project plan with cross functional teams to stand up a new support center in South Africa.
- Management of Certified Help Desk Expansion Program, Service Assurance harmonization projects.
- Escalation Manager for customer issues as well as internal Service Desk support.
- Act as key liaison between our offshore vendor and Customer Care to establish strategic plans and objectives.

Manager, GLOBAL CUSTOMER ASSISTANCE CENTER (Aug 2000 – Apr 2005)

Managed a department of 40 analysts in a technical support center, providing support to global network users. Successfully consolidated 3 helpdesk centers worldwide into one 24x7 central location. Responsible for managing the portfolio and certifying over 40 help desks globally Operational knowledge of the following: WANs, multiplexors, Cisco routers, PC, voice and data circuits.

Prosum, El Segundo, CA

Operations Manager

Developed Managed Services practice, which brought in 15 new client services. Served as billable Operations and Escalations manager, also providing pre-sales support and internal/external client relationship management

- Built the foundation of the support center with system tools, upgrades and procedures.
- Developed processes and procedures for client implementations.
- Led and supported the creation of the Managed Services solution proposal, including the overall framework, delivery model, and operating model.
- Determine infrastructure/application solution costs according to company and client financial targets.

1989 - 2000

Oct 2006 – Apr 2008

Jun 2000 – Dec 2012

Jan 2013 – Sep 2013

EDUCATION

Certifications:

PMP Certification | Certified Scrum Master | ITILv3 Certification | ITILv3 Continuous Service Improvement Certified Help Desk Manager | CCNA

Querying Microsoft SQL Server 2014, Global Knowledge | Technical Management Program 2014, UCLA

Business Management Information Systems, Park College (Courses taken towards BS)

Associate of Arts (A.A), University of Maryland

Management and Leadership classes, American Management Association (AMA)

Building Cisco Remote Access Networks, Ascolta School

Ileska Giuffrida Technical Software Trainer

SUMMARY

I am a Software Trainer with experience in web based and instructor led training for 911 recording software for both telephony and radio, workforce management software, electronic documentation software and electronic health record software. I am skilled in analyzing user learning styles, presentation skills, software installation and troubleshooting and curriculum writing.

TECHNICAL SKILLS

Software Packages/Systems: Moodle, Microsoft Office, Changepoint, Nice Inform, Nice WFM IEX Operating Systems/Platforms: Windows 7, 10 Other Technologies/Methodologies: Plexus Methodology, ADDIE, Kirkpatrick Evaluation

EDUCATION/CERTIFICATIONS

- MA Ed. Curriculum and Instruction, University of Phoenix
- Post Baccalaureate Teaching Certification
- Intel Teach to the Future Certification
- BA. Theater; Communication, University of Arizona

PROFESSIONAL EXPERIENCE

Nice Systems

Education Specialist Public Safety and WFM

- Conduct instructor led training using the Nice Inform software for radio and telephony
- Conduct instructor led training using the Nice IEX WFM platform
- Create Quality Assurance forms for 911 Communication Centers
- Facilitate best practice discussions for workforce management and public safety
- Analyze business needs and provide practical advice for business process
- Present and sell additional services to current clients

Netsmart Technologies

Training Analyst and Consultant

- Traveled to customer sites to conduct training for electronic healthcare documentation
- Gathered and document requirements for business process and work flow design
- Conducted virtual training sessions using go-to-meeting
- Continually updated training materials
- Created new training manuals and eLearning scripts
- Analyzed business requirements and gathered data requirements to build logical event scheduling models

10/14-Present

05/13 - 10/14

ileska12@gmail.com 602.570.0914

Perceptive Software

Software Trainer

- Traveled to customer sites to deliver various types of training for Enterprise Content Management Software
- Conducted virtual training sessions using go-to-meeting and ReadyTech environments
- Created new training PowerPoint presentations
- Developed scripts for eLearning

Noble Systems/Teledirect International

Implementation Engineer and Software Trainer

- Traveled to customer sites to deliver various types of training for telephony and call center software
- Onsite installation, configuration and testing of telecommunication equipment
- Gathered requirements for IVR building
- Assisted customers with post install questions and concerns
- Conducted WebEx Training sessions
- Researched customer requests for custom software design
- Computer hardware repair and installation
- Configured telephony networking for successful go live

Cave Creek Unified School District

Certified Teacher

- Developed innovative curriculum to align to State Standards for English 101 Dual enrollment
- Organized time and space to balance workload and deadlines
- Used a variety of technology as a method to educate students in literature and grammar
- Identified student learning styles and developed plans to enhance student comprehension
- Maintained a productive learning environment by establishing open communication

Norwest/Wells Fargo Bank

Commercial Banking Assistant

- Managed a team of five to reconcile general ledger accounts
- Trained new team members to research balance discrepancies and resolve them
- Assisted clients with the loan application process
- Maintained high level of service to existing customers
- Interacted with professionals of varying levels of corporate management

References

Greg Budde, Business Consultant +1 (951) 963-4955 Amy Metcalf-Teacher +1 (602) 463-3393

01/12 - 02/13

06/08 - 12/11

08/00 - 05/08

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06/92 - 07/00

William Cannon Roche

Fallbrook, CA • (c): (760)250-4852 • broche@mywanderingeye.com • Linked in

"A creative and tenacious problem solver"

Profile:

A strong and diverse engineering professional possessing excellent communication skills, proven project, product, and personnel management success, and strategic business acumen. Effectively communicates technical subjects to audiences of all levels. Successfully links technology to specific customer business needs. Rapidly assimilates complex concepts and applies experience to new problems. Enjoys environments where multiple 'hats' (including hard hats or helmets) are required.

Determined to exceed expectations.

Experience:

NICE Public Public Safety Solutions Engineer (3/2021 - present)

Safety • March, 2021 to Present Hoboken, NJ Public Safety Call Qu Solutions

 Teamed with regional Sales managers, translating customer requirements into complex public safety recording and analytics solutions, integrating CTI, radio, GIS, CAD, MIS, mass notification, and networking technologies

Mission Critical Sr. Technology Specialist (8/2019 – 3/2021)

Partners •

August, 2019 to March, 2021 Port Matilda, PA ●

> Public Safety Consultancy

- Entrusted by clients to provide expertise, guidance, and recommendations in the procurement of NextGen911 technology solutions in support of public safety communications, primarily i3 call handling, ESInets, and NGCS
- Improved operational efficiencies by automating several labor-intensive, data-analysis processes, delivering higher value to internal and external clients
- Serving as co-chair on the event steering committee for NENA's ICE9

Motorola NGCS (11/2018 - 6/2019)

Solutions. Inc. • (formerly Airbus DS Communications: Cassidian Communications:

Tasked with analyzing current processes and procedures in NGCS product and project life cycles and proposing ways to improve proposals process, streamline deployment (accelerating revenue), and improve maintenance and support onboarding process

Architecture & Design Manager (3/2017 – 11/2018)

Lead a team of post-sale design engineers, responsible for developing project-specific solution designs, integrating NGCS call routing, WAN and LAN, PSTN interconnects, and PSAP interfaces for i3-compliant IP voice delivery and location services

Communications Systems Integration Supervisor (12/2015 – 3/2017) Solutions for 9-1-1/Public • Safety/Private Safety

- Managed a team of engineers executing cutting-edge POC, integration, interoperability, and testing projects - OTOCOQ
- Supervised construction of a multi-vendor logger/recorder interoperability • testing lab for Verint, VPI, Eventide, NICE and other 3rd party solutions
- Worked directly with NICE Engineering to develop joint Airbus(Motorola)/NICE marketing solution overview and engineering whitepaper describing VESTA/NICE SIP recorder topologies and designs

Systems Technologist (1/2014 – 12/2015)

- Imagined, engineered, and validated 'skunkworks' interoperability solutions within company portfolio as well as with 3rd party solutions
- Developed lab management software tool adopted by other teams •
- Spearheaded first-ever interface and interoperability testing between call handling systems and third-party IPSR and NGCS solutions
- Developed web-based alternative to hardware device

Solutions Engineer (10/07 - 7/12) / Sr. Solutions Engineer (7/12 - 1/14)

- Partnered with regional (11 western states) Sales team, translating customer requirements into complex public safety communications solutions, integrating CTI, radio, GIS, CAD, MIS, mass notification, and networking technologies
- Developed and delivered in-depth product training for channel partner sales • and engineering teams
- Recognized as subject matter expert across multiple product lines and technology disciplines
- Created and presented content at industry tradeshows and conferences •
- Leveraged programming expertise in the development and maintenance of automated sales and engineering tools
- Demonstrated product mastery ahead of schedule and beyond expectations

Independent *Proprietor*

Consulting • Expanded programming skills into various web and database technologies

May, 2006 to September, 2008 Fallbrook, CA •

small business LAN solutions Provided timely and high-performance web site design and maintenance

Leveraged networking expertise to design, build, and configure multiple

Small Business Networking, Web Development, & Capir Design services to a variety of clients

PlantCML) October, 2007 to June, 2019 Temecula, CA

Tarari, Inc. *Technical Sales & Systems Engineer*

- Served as engineering liaison between customers' and Tarari's R&D teams
- March, 2005 to May, 2006 • Coordinated and facilitated OEM and ISV integrations of Tarari's San Diego, CA acceleration components
- Managed technical issues with Tarari internal resources and partners' Content Processing • Acceleration Agaims and Hardware engineering teams
 - Developed strong relationships with customers and partners in South Korea
 - Consistently achieved sales quota and MBOs in excess of 90%
 - Sole (and two-time) winner of "Top Pitch Award Sales Engineer" for excellence in product presentation skills

Education:

University of Master of Science, Computer Science major

Southern . Artificial intelligence, computer vision, pattern recognition emphasis California

Los Angeles, CA

Occidental Bachelor of Arts, Mathematics and Economics major

- College Computer science minor
- Thesis: "Toward a New Theory of Economic Decision Making" Eagle Rock, CA

Professional & Personal Development:

- Member, NENA (National Emergency Number Association)
- Member, Project Management Institute
- "Target Account Selling" Siebel Systems Summer 2000 •
- "Object Oriented Programming" UCLA Extension Summer 1999
- "Leadership: The People Challenge" CalTech IRC Spring 1999
- Civic volunteerism
 - Val Verde Civic Association 1991-1999, incl. one term as President
 - Citizens Against the Chiquita Canyon Landfill Expansion -1996-1997
- William Stewart Young Society Oxy Alumni Leadership 1997-1998

Technical skills summary:

Programming:	Languages: C, LISP, C++, PHP, Perl, HTML, XML, Java/JavaScript, C#, VBA <u>Platforms:</u> UNIX, Linux, DOS, Windows, VMS, proprietary processors <u>Methods:</u> ODBC, TAPI, SNMP, sockets, MAPI, SMTP, SQL, MySQL, SMARTY
Networking:	<u>Data:</u> Ethernet, ATM, SONET, DWDM, Frame relay, LAN/MAN/WAN, MPLS, traffic shaping & management, prioritization and queuing, DSL, wireless 802.11, VPNs, network security, XML & Web services <u>Voice:</u> VoIP, VoATM, MGCP, SIP, G.711, G.729ab, COS vs. QOS
Telephony and Telecom:	Circuit- and packet-switched systems, Cisco, Sphere, Dialogic, Aculab, signaling, text-to-speech, voice recognition, IVR, VM/UM, ACD, CTI, cabling, public safety communications, NENA, CAMA, NG9-1-1, i3

William Roche

Exceed Expectations

Other Technologies:

Other occurrent processing acceleration, regular expressions, Windows Media encoding, XML acceleration, geospatial processing, GIS (ArcView), optics, image processing and pattern recognition, laser interferometry, microscopy, computer graphics, artificial intelligence, X10

Personal Interests:

Motorcycling, photography, travel, hiking, scuba diving





Solution Overview Improving Efficiency and Insight into 911 Operations and Incidents

The NICE and RapidSOS solution empowers emergency communication centers (ECCs) with rapid, datadriven incident reconstruction and intelligence dashboards to boost efficiency and insight into 911 operations and incidents. It increases the value of life-saving data from RapidSOS from 350M+ connected devices, apps, and profiles to ECCs, to support 150M+ emergencies annually.

How NICE Helps

NICE and RapidSOS are transforming incident reconstruction and analytics by integrating RapidSOS's emergency response data platform with NICE's incident reconstruction and intelligence platform. This extends RapidSOS enhanced emergency information beyond real-time incident handling – to provide a single system of record of all incident information within NICE Inform, for evidentiary purposes and for performance improvement.

While RapidSOS presents location and additional information to ECCs during an emergency, NICE Inform connects to the RapidSOS Platform to securely store this data in the same structure as ANI/ALI collected from other sources, serving as an ECC's data repository for extended storage, making it available for incident reconstruction requests and quality assurance reviews.

Single System of Record for All Incident Data Enhances Incident Reconstruction

With this joint solution, ECCs can now access critical data from the RapidSOS Platform for 911 calls and text-to-911 in the NICE recording system along with radio, screen recordings, and other critical incident data, and leverage it to search, reconstruct and evaluate incidents. ECCs can visually search for captured emergency calls on a map based on their accurate location, view comprehensive incident timelines, and visualize the movement of 911 callers, while simultaneously listening to calls.

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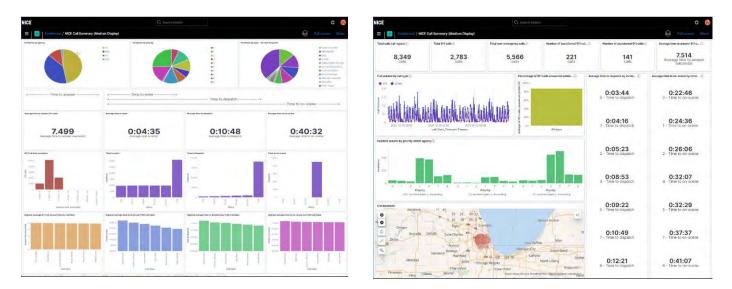


ECCs will have access to available standard data which may include: Caller ID, created time, location time, call start time, source of location information, latitude, longitude, and uncertainty radius.

ECCs may also have access to available additional data such as: Caller name, altitude, positioning method, uncertainty confidence, reverse-geocoded address, name of reverse-geocoded location, civic address, and more.

Gain Insight into 911 Operations and Incidents, and Improve Overall Effectiveness

Automatically aggregate and analyze all types of incident information, including data from the RapidSOS platform, to help ECCs understand what's happening in the ECC in real-time, and who or what is or isn't performing, and why.



NICE Inform Intelligence Center displays all incident lifecycle metrics and helps ECCs drill to underlying root causes.

- Get insights into how long it takes to answer, enter, and dispatch calls, and how much time is elapsing before first responders arrive on scene.
- Improve employee performance and reduce turnover due to challenges that may otherwise go undetected.





NICE RapidSOS

Transforming 911 Incident Response & ReconstructionWhy You Need It and How to Achieve It



DID YOU KNOW?

The RapidSOS Platform manages data for 150 million+ emergencies annually, is used by 5000+ public safety agencies, and covers 300 million people, protecting 94%+ of the US population.



911, What's Your Emergency?

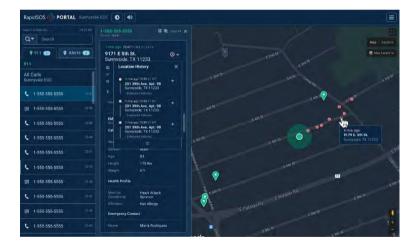
It started as any other ordinary day – a trip to the neighborhood Walmart to pick up a few grocery items. It was a workday for most so the store was deserted. As Jim rounded the corner to the bread aisle, he felt it come on strong – a sudden pronounced pain in the middle of his chest. He crouched to the floor and instinctively dialed 911.

- "911, what's your emergency?"
- "I think I'm having a heart attack."
- "What's the address of your emergency?"
- "Walmart, Centerville. Please come fast..." Jim sputtered as he passed out.

But as it turns out, there was a bigger problem – in his adrenaline rush and panic, Jim had given the 911 telecommunicator the wrong location. It slipped his mind that instead of going to Walmart as he routinely does, he had decided to go to the Target on the other side of town that day.

How RapidSOS Enables Faster and More Effective Emergency Response

Thankfully, with RapidSOS, the dispatcher quickly caught the error. In <u>RapidSOS Portal</u>, she saw the correct device location information from the caller's phone and quickly dispatched EMS to the Centerville Target.



Real-time historical location as seen in RapidSOS Portal

Disclaimer: This is not real user data but simulated user data for illustrative/marketing purposes.



DID YOU KNOW?

The RapidSOS emergency response data platform securely links life-saving data from over 350 million connected devices and platforms to first responders in emergencies.



RapidSOS of

RapidSOS's Life-Saving Value

The fact is – these types of misreported location incidents happen every day.

For example, in a recent incident in Michigan, a caller having a seizure provided the 911 telecommunicator the right street number but the wrong street name. In a separate instance, a disoriented 911 caller who was unable to provide an address was mistakenly assigned a wrong location by her cell phone carrier.

In these emergency scenarios of mis-location-identification, RapidSOS has proven its life-saving value thousands of times over.

"RapidSOS is taking this antiquated analogbased 911 system and moving it into the digital era."

- Former FCC Chairman, Tom Wheeler

NICE RapidSOS

Shifting Focus to Understanding What Happened

But is this where incidents end? Certainly not.

After an incident happens the focus invariably shifts to understanding what happened. Stakeholders such as 911 directors, law enforcement leaders, investigators, politicians, media, and private citizens, want and need answers fast.

Sometimes **it's** a matter of simply wanting to know in earnest, how can we do a better job? Other times it's a question of establishing fault or liability which can have reputational and monetary consequences.

For example, you may need to understand:

- How long did it take for the telecommunicator to dispatch assistance?
- How long did it take for first responders to arrive on scene? How long did it take to clear the incident?
- What impact did the availability of additional data from the RapidSOS Platform have on these things?



NICE RapidSOS of



Understanding What Happened Isn't Easy

If **you're** an ECC manager, you know that getting answers to these questions can be challenging.

In this e-Book we'll dive into these challenges and show you how NICE and RapidSOS are working together to help your 911 center transform incident reconstruction and analysis to achieve greater insight into what happened, and what or who is or isn't performing in your 911 center, and why.



RapidSOS

NICE & RapidSOS: Transforming Incident Reconstruction & Analysis

The good news is – NICE and RapidSOS have entered into a strategic partnership to address these four challenges for your 911 center.

As a RapidSOS Ready partner, NICE has integrated its <u>NICE Inform Elite</u>, solution with the RapidSOS emergency response data platform and deployed <u>the integrated solution</u> at multiple 911 centers. The integrated solution provides a means for 911 call centers to capture, store and analyze their RapidSOS incident response data, along with other mission critical data sources.



7



RapidSOS of

Data Resides in Multiple Systems

#1

NICE has consulted with hundreds of emergency communications center directors around the world. What have we learned? Getting answers to questions concerning incident handling can be challenging.

One of the main reasons it's challenging is because data resides in a myriad of systems, and in some cases, such as RapidSOS, data is not stored long-term at all.

Dispatchers may have access to accurate location and other data through the RapidSOS Platform in real-time during an emergency. But once the incident is over, that information is no longer accessible.

In short, the 911 location challenge has evolved into a 911 data challenge.

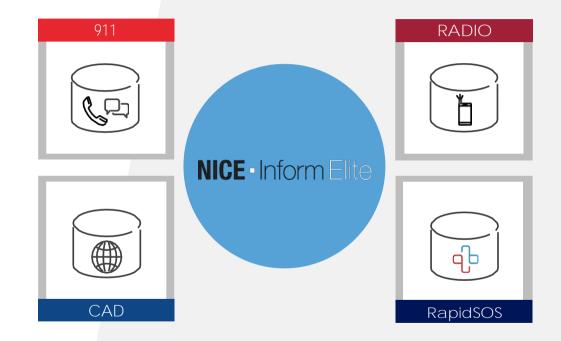
NICE RapidSOS

NICE Inform Elite: Bringing 911 Center Data Together

Through its partnership with RapidSOS and its NICE Inform Elite integration with many other systems (including Computer Aided Dispatch, 911 telephony, radio, QA, and recording), NICE is able to provide 911 centers with a single system of record and repository for all types of incident information, now including data that is passed through the RapidSOS Platform.

In addition to extending the value of the RapidSOS integration, ECC personnel no longer need to manually pull data from different systems to get answers to questions.

As a single system of record, NICE Inform Elite pulls all of these data sources together to help ECCs transform their incident reconstruction and analysis.





911 centers have traditionally relied on voice recordings and CAD chronology records to manually piece incident reconstructions together. But looking at this limited information in isolation doesn't provide the complete picture.

For example, you might know if a caller initially provided the wrong address, when a call was dispatched, and ultimately to what location, but absent the data provided to the ECC via RapidSOS, the call center would have little information to actually prove everything that happened in between.



NICE Inform Elite Provides the Complete Picture

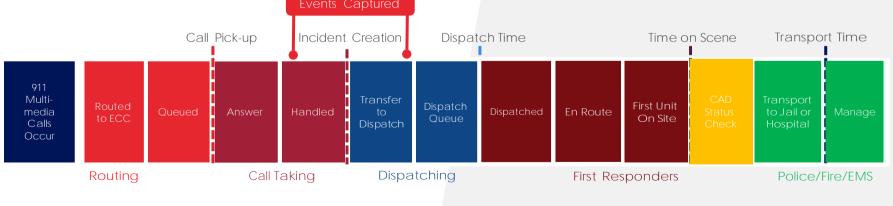
The fact is – incident handling is complicated. Absent the ability to bring all of your data together into a complete timeline, **it's** impossible to understand what really happened.

NICE Inform Elite combines 911 and radio recordings, CAD data, captured telecommunicator screens, and data passed to the ECC through RapidSOS in a single timeline, so you can get the big picture of how an incident was handled, and answer tough questions like:

• How long did it take for the telecommunicator to dispatch assistance?

NICE

- How long did it take for first responders to arrive on scene? How long did it take to clear the incident?
- What impact did the availability of additional data from the RapidSOS Platform have on all of these things?



RapidSOS Data &

Multiple Calls • Multiple Media Types • Multiple Pieces of Information

RapidSOS q b

NICE Inform Elite Provides the Complete Picture

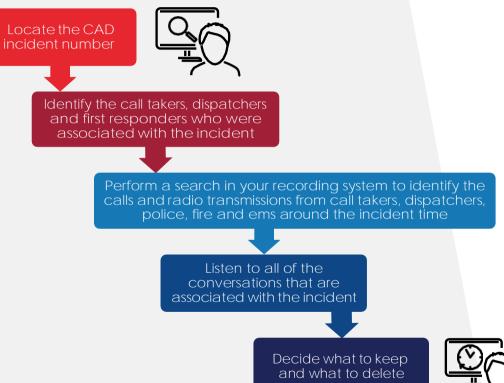
Why does your 911 center need to be able to look at all of these data sources together?

Let's say for example, in our previous heart attack scenario, the person filed a lawsuit for damages against the 911 center based on his perception that the incident was mishandled.

By automatically pulling all of the data together (including 911 and radio recordings, CAD data, telecommunicator screen recordings, and data passed to the ECC through RapidSOS), NICE Inform Elite can create a comprehensive incident timeline to provide evidence around how the telecommunicator handled the 911 call.



NICE RapidSOS q



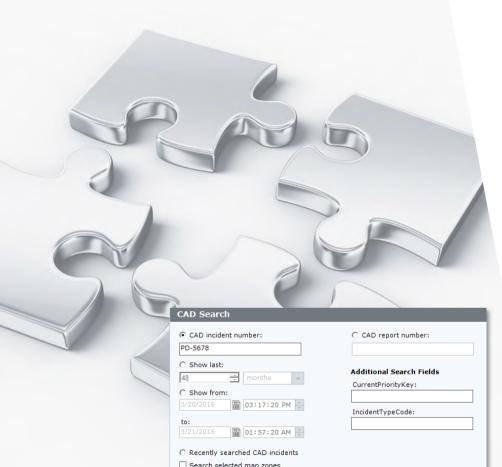


Even when you have access to lots of different sources of data, finding the exact data you need and pulling it all together can be challenging.

For example, here are the many manual and time-consuming steps that ECC personnel have to follow just to pull together and assemble 911 recordings and radio transmissions for a particular incident.

Depending on the complexity of the incident, this process can take hours or even days.

In addition to taking a lot of time this process is prone to error.



Find Incidents

Automated Incident Reconstruction with NICE Inform Elite

NICE Inform Elite makes incident reconstruction incredibly easy. Simply type the CAD incident ID/report number directly into Inform. All multimedia recordings related to the incident (emergency calls, radio, SMS texts, and recorded screens) are instantly retrieved and merged on to one timeline, along with CAD event data and the ECC's data that shows when the initial call was answered, the location of the caller, and even location changes as the call progressed, when units were dispatched, and when they arrived on scene.

NICE

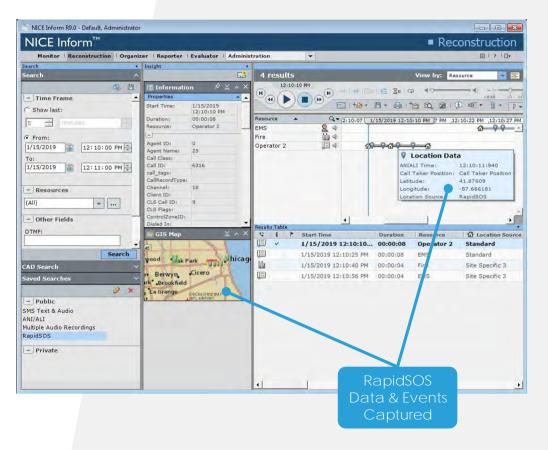
RapidSOS q

One 911 center reported an immediate 50% improvement in efficiency and time savings from the ability to automate incident reconstruction using NICE Inform Elite.

NICE RapidSOS

Automated Incident Reconstruction with NICE Inform Elite

With the addition of data being passed from RapidSOS into NICE Inform Elite, ECC personnel can also visually search for recorded 911 calls on a map based on their accurate location, view comprehensive incident timelines, and even visualize the movement of 911 callers (as they play the 911 calls back).





Hard to Derive Meaningful Metrics

To quote management guru Peter Drucker "You can't manage what you can't measure." For ECC managers, this is especially true. Data can give you insights into all types of issues, from operational efficiency, to response, to telecommunicator turnover.

So, if metrics are that crucial, why are so many 911 centers still flying blind?

The complexity of tracking metrics arises mainly from the fact that data is spread across different systems and needs to be crunched manually. A good example of this is 'hello to hello' time, which measures the time from when a 911 call is picked up until the first unit arrives on-scene. To calculate this, you have to manually pull information from multiple systems.

Due to the manual nature of pulling data together, 911 centers tend to focus on very limited metrics, like number of calls answered and call answer times.

If your center isn't incorporating RapidSOS data into its metrics, it will also be hard to understand the true impact that RapidSOS is having on your agency's response.



RapidSOS q

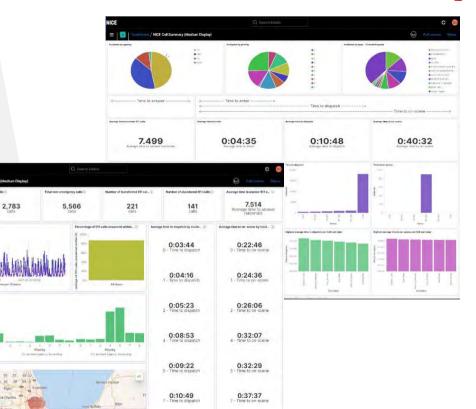
NICE Inform Elite: Meaningful Metrics at Your Fingertips

NICE Inform Elite's dashboards can help you make sense of all the data in your 911 ecosystem – CAD, 911, radio, RapidSOS, and more – by bringing it all together in one place, analyzing it, and providing meaningful metrics to help you understand what's happening in your ECC in real-time.

8,349

You'll instantly see how quickly calls are being answered and dispatched, and how fast first responders are arriving on scene. And you can filter this information by incident type and other criteria for deeper insights.

You can also compare key metrics for incidents where RapidSOS data was used to incidents where RapidSOS data was not available, to better understand the true impact that RapidSOS is having on response.



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Screen shots of NICE's Intelligence Center

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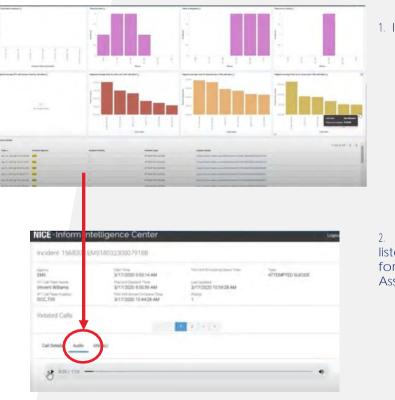
RapidSOS of

NICE Inform Elite: Drilling Down Beyond the Metrics

ECC managers can even drill down within the Intelligence Center dashboard to listen to audio recordings of incidents.

This can provide additional context around the contributing factors involved in incident handling, for example, why a particular response might have been slow.

Problem calls can also be assigned for more indepth Quality Assurance review.



1. Identify outliers

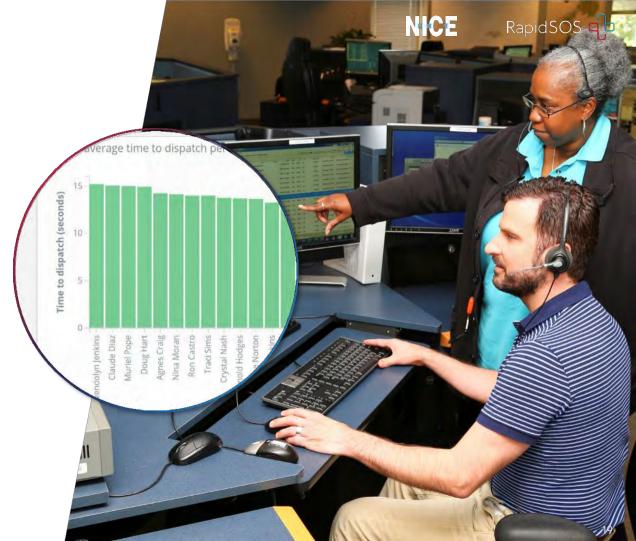
2. Drill down and listen, and assign for Quality Assurance review

NICE Inform Elite: Addressing 911 Turnover

With turnover of 911 telecommunicators approaching 30% nationwide, ECCs are finding it hard to hire and retain good employees.

NICE Inform Elite's dashboards make it easy to spot struggling telecommunicators, and schedule QA reviews.

By identifying struggling telecommunicators and helping them improve their performance with targeted training and coaching, 911 centers can take proactive steps to put telecommunicators on a path to success, while reducing frustration and turnover.





Summary: Benefits of the NICE and RapidSOS Joint Solution for Your Emergency Communication Center

RapidSOS Information is Evidence and Must Be Stored and Easily Reconstructed



NICE provides a single system of record for all incident data for evidence and comprehensive incident reconstruction Understand the Impact RapidSOS is Having on Emergency Response



Know more about incidents faster and respond more effectively and efficiently with rich data from RapidSOS Understand the Impact of RapidSOS on ECC Performance & Turnover



Know what happened at the time of the incident, how it happened, what's happening now and who and what is or isn't performing

Want to Learn More?

NICE

www.nice.com/public-safety

Tel. 551-256-5000 Email: PSInfo@nice.com

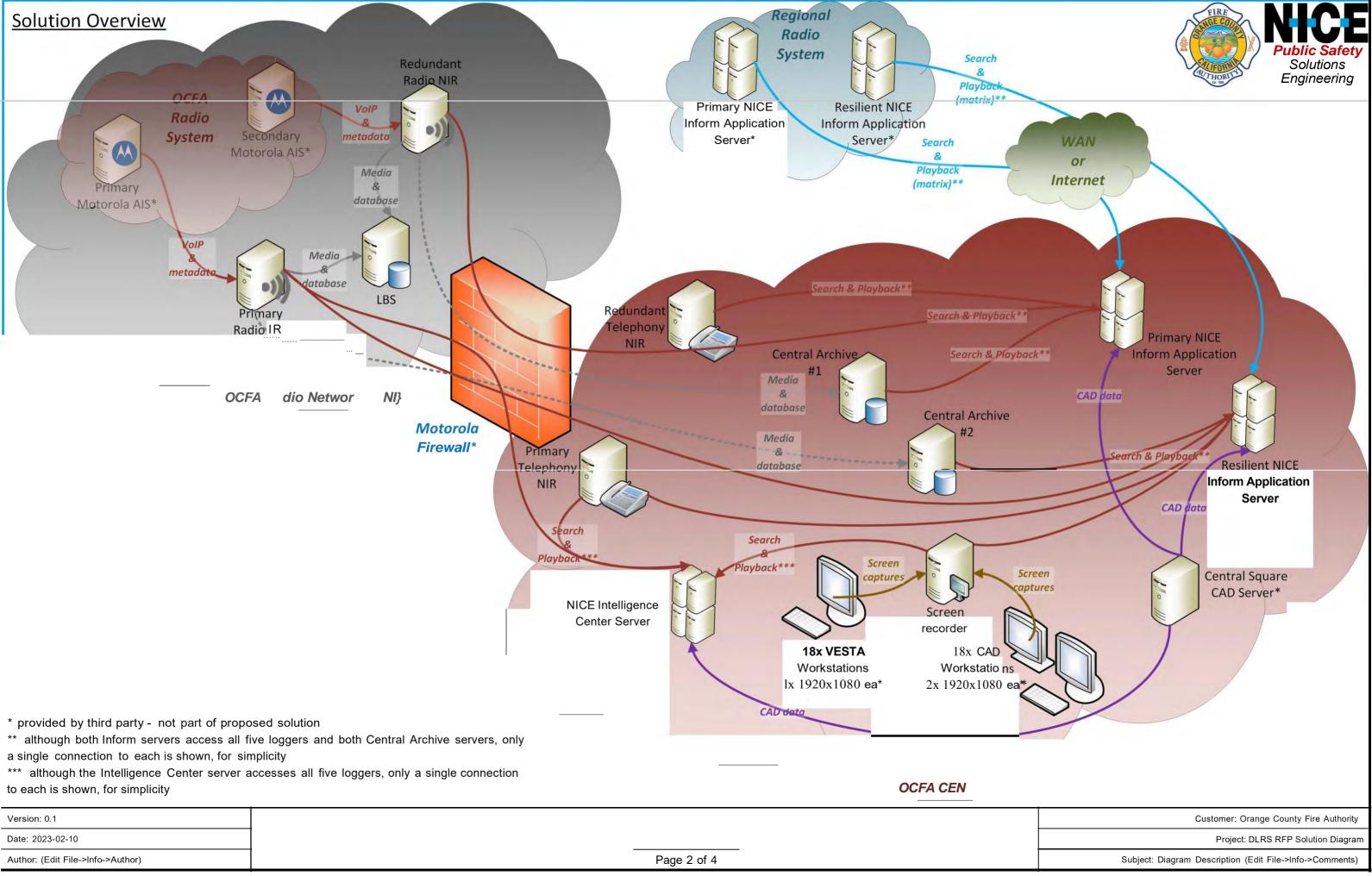


Watch a Demo of the NICE & RapidSOS integrated solution at <u>www.nice.com/RapidSOS</u>



www.rapidsos.com







NICE PUBLIC SAFETY SOLUTIONS NICE INFORM RECORDER HARDENING GUIDE

Release 9.2.1

February 2021

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Part number: TD860-100-09-02-01-01

Date: February 2021 MSR2437 Rev17

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1 Introduction

1.1 Hardening

This guide contains procedures you can do and measures you can take to eliminate security risks from your Operating System (OS) and network.

Antivirus programs and spyware blockers prevent malicious software from running on a machine or network, but they can still be vulnerable to outside access with evil intents. Securing an OS or network, commonly known as "hardening", minimizes the vulnerability, prevents "back-door" access, and protects against attacks from outside.

Hardening is typically done by removing all non-essential software, utilities and services, limiting access to system partitions and registry, encryption, and the like.

1.2 Scope

The procedures and settings in this manual are compatible with NICE Inform Recorder 9.2.1 and its integrations.

Information contained in this manual might change, particularly as a result of continual upgrading of NICE Inform Recorder and third-party software such as Microsoft Windows and MySQL. The documentation does not entail any guarantee with respect to the items described in the manual. The general description of security measures in this manual might not entirely apply in your individual case. If in doubt, contact the NICE Support Desk.

1.3 Intended Audience

This guide is intended for engineers responsible for securing the systems on which NICE Inform Recorder 9.2.1, other NICE applications and/or any of the NICE Inform Recorder integrations have been installed.

Such an engineer must be qualified as a NICE Certified Implementation Engineer or NICE Certified Support Engineer, having successfully completed the required NICE training courses, or have equivalent education/experience.

For details, refer to <u>CertificationPrograms.aspx</u>.

It is assumed that the reader of this guide has knowledge about the following:

- Windows Server 2012 R2, 2016 and 2019.
- NICE Inform Recorder 9.2.1
- NICE CTI or CDR integrations (if applicable)

2 Configuring the Firewall

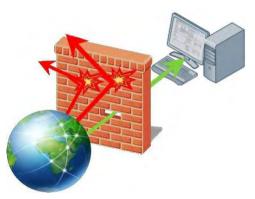
2.1 Introduction

A firewall is a network security system that controls the incoming and outgoing network traffic based on a set of rules. It is intended to be a barrier between a trusted, secure internal network and another network such as the Internet.

2.1.1 What is a port?

A software or network port is a (virtual) location that information is sent through. Ports are used by the Transmission Control Protocol (TCP) and the User Datagram Protocol (UDP), and are identified by a 16-bit number. Network ports are normally closed: they are blocked by the firewall.

For proper communication between the systems of NICE Inform Recorder and the customer's telephony or trading systems, a number of ports must be "opened".



2.1.2 Ports for NICE Inform Recorder

The ports on each system that must be configured as open ports are listed below. They are sorted on the basis of the recording system configuration, which consists of a combination of "roles".

For each configuration you also find the port numbers used when the following applications are installed:

- EMC Archiving (now Dell ECS)
- Resilience Core API
- Recorder API (used by [French Public Safety Standard Recording Link], [Capita DS3000] and some other applications created by Customers /System Integrators.

Some of these applications require separate servers as well.

2.1.3 Internal ports

'INTERNAL' ports are only used on the system itself (local host). Normally, you do not need to configure these.

However, when installing other components that use the same ports, conflicts can occur.

2.2 Port Scanning

NICE Inform Recorder supports port scanning to verify security policies of the network, but only when performed in a controlled manner. This means the scanning speed and intensity must match the network's specifications. It is recommended, as best practice, to run the port scans outside office hours, at a low speed (e.g. 'Low Performance' in the Qualys tool).

2.3 Which List Do I Use for Configuring Ports?

IMPORTANT: Only an authorized person is allowed to configure the firewall settings.

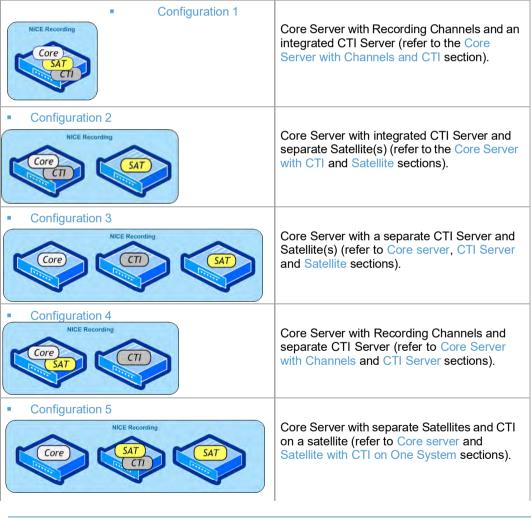
The ports listing below includes all generic ports. For integration-specific ports, e.g. from the link controller to the PBX or trading system, refer to the specific integration manual.

Select the applicable recording system configuration, and give the corresponding list(s) to the customer's system/network administrator.

The Firewall instructions vary between different Windows versions. Refer to the Firewall instructions for the Windows version that you are using.

ICMP (ping) must be enabled for all Core server configurations. NICE Inform requires this protocol to ensure the server is available.

2.3.1 Active and Passive IP Recording



NOTE: If you install application servers, you also need to configure ports on the NICE Inform Recorder servers. Take this into account when installing the recording system.

2.3.2 CDR

Configuration 1	Dedicated CDR server (refer to the CDR Server section).
Configuration 2 Incereating Core SAT COR SAT SAT SAT	CDR functionality installed on other role (refer to corresponding configurations with CTI functionality).

2.4 Core server

Configure the following ports on a NICE Inform Recorder Core Server without channels or CTI.



For systems that combine a Core Server with other roles, refer to the applicable section:

- Core Server with Channels
- Core Server with Channels and CTI
- Core Server with CTI

Table 1: Open Port Configuration: NICE Inform Recorder Core Server

Port	Protocol	Direction	Service	Explanation			
BASIC	BASIC						
25	SMTP	OUT	Error Core	To customer's e-mail server			
80	HTTP	IN	Web Service Client connections	Web User Login For HTTPS, replace this port with port 443			
123	NTP	OUT	OS (Time sync)	Network Time Synchronization, if applied			
162	UDP	OUT	Error Core	To (any) SNMP traps receiver			
443	HTTPS	OUT	Web Service Client connections	Secure Web User Login For HTTP, replace this port with port 80			
3306	TCP	IN	MySQL Service	Database			
6003	TCP	IN	DBI Client	Audio transfer from channels to Core Server			
6004	TCP	OUT	Monitor Tool	Informs Monitor Tool about status of channels			
6005	TCP	IN	Web Service Client connections	Web User: Channel overview			
6006	TCP	IN	DBI Client	Channel overview			

Port	Protocol	Direction	Service	Explanation			
INTERNAL Ports							
	NOTE: You do not need to configure these ports in the firewall. Use this information in case of port conflicts.						
7002	TCP	IN	Fault Manager	SNMP traps and alarms			
7800	TCP	IN	Media Manager	Core API connects to the Media Manager			

2.4.1 Core Server: Additional Ports

Table 2: Open Port Configuration: Applications on Core Server

Port	Protocol	Direction	Service	Explanation	
EMC Archiving					
3218	TCP/UDP	IN/OUT	EMC Archiving	Between Core Server and EMC	
Resiliend	ce				
4252	TCP	IN/OUT	Core Server Redundancy	Connection with slave Core Server: Failover messages	
4255	TCP	IN/OUT	Core Server Redundancy	When CSR Support Tool is used	
Recorde	r API				
8024	TCP	IN	Recorder API	Default port number to be used for TCP/IP remoting connections to the recorder API server	
Core AP	l		·		
7001	TCP	IN	Core API V1 Content Manager	Core Content Manager API	
7002	TCP	IN	MAX UserManager	User Manager API	
7003	TCP	IN	Core API V1 User Manager	Core User Manager API	
7500	TCP	IN	Core API V2 Interface	Communication between NICE Inform and NICE Inform Recorder.	
7702	TCP	IN	Core API V1 System Manager	Core System Manager API	
7703	TCP	IN	Core API V1 System Manager	MAX System Manager Client Component	
7710	TCP	IN	Core API V1 System Manager	Core Recorder Information API.	
Addition	al INTERNAL P	orts			
NOTE: You do not need to configure these ports in the firewall. Use this information in case of port conflicts.					
4250	ТСР	IN	Host communication	If RESILIENCE is applied	
7006	TCP	IN	Core API V1 System Manager	Core API V1	
7701	TCP	OUT	Core API V1 System	Core API V1	

Port	Protocol	Direction	Service	Explanation
			Manager	
7705	TCP	IN	Core API V1 User Manager	Core API V1
7707	TCP	IN	MAX ContentManager	Core API V1



2.5 Core Server with Channels

Configure the following ports on a NICE Inform Recorder Core Server with channels, and a separate dedicated CTI Server.

For a Core Server that has channels and a CTI role installed, refer to the Core Server with Channels and CTI section.

Table 3: Open Port Configuration: NICE Inform Recorder Core Server with Channels

Port	Protocol	Direction	Service	Explanation			
BASIC	BASIC						
25	SMTP	OUT	Error Core	To customer's e-mail server			
80	HTTP	IN	Web Service Client connections	Web User Login For HTTPS, replace this port with port 443			
123	NTP	OUT	OS (Time sync)	Network Time Synchronization (if applied)			
162	UDP	OUT	Error Core	To (any) SNMP traps receiver			
443	HTTPS	OUT	Web Service Client connections	Secure Web User Login For HTTP, replace this port with port 80			
3306	TCP	IN	MySQL Service	Database			
4245 *	TCP	IN	CTI: CTI Receiver	From Call controller on CTI Server			
4345 *	TCP	IN	CTI: Satellite Controller	From Call controller on CTI Server			
6001	TCP	IN	Web Service Client connections	Web User: Real-time play			
6002	UDP	IN/OUT	Web Service Client connections	Web User: Real-time play			
6005	TCP	IN	Web Service Client connections	Web User: Channel overview			
7950	ТСР	IN	Connectivity.MediaDelivery. Service	External access of the Media Delivery service by Core API			
10002- 10401	UDP	IN	Active IP Recording Audio	On a Core Server with 200 channels. Required number of ports = number of channels * 2. Always start with port 10002			

Port	Protocol	Direction	Service	Explanation				
INTERNA	INTERNAL Ports							
NOTE:	NOTE: You do not need to configure these ports in the firewall. Use this information in case of port conflicts.							
6003	ТСР	IN	DBI Client	Audio transfer from channels to Core Server				
6004	TCP	OUT	Monitor Tool	Informs Monitor Tool about status of channels				
6006	TCP	IN		Channel overview				
7002	TCP	IN	Fault Manager	SNMP traps and alarms				
7780	TCP	IN	SystemOverview Webservice	Queries NodeAgents				
7800	TCP	IN	Media Manager	Core API connects to the Media Manager				

* CTI integrations only. If your recording integration has a CDR functionality or dedicated CDR Server installed, do <u>not</u> configure these ports.

2.5.1 Core Server with Channels: Additional Ports

Depending on the applications installed on this NICE Inform Recorder Core Server, configure the following ports in addition:

Port	Protocol	Direction	Service	Explanation
EMC Arch	niving			
3218	TCP/UDP	IN/OUT	EMC Archiving	Between Core Server and EMC
Resilience				
4252	TCP	IN/OUT	Core Server Redundancy	Connection with slave Core Server: Failover messages
4255	TCP	IN/OUT	Core Server Redundancy	When CSR Support Tool is used
Recorder /	API			
8024	TCP	IN	Recorder API	Default port number to be used for TCP/IP remoting connections to the recorder API server
Core API			·	
7001	ТСР	IN	Core API V1 Content Manager	Core Content Manager API
7002	TCP	IN	MAX UserManager	User Manager API
7003	TCP	IN	Core API V1 User Manager	Core User Manager API
7500	ТСР	IN	Core API V2 Interface	Communication between NICE Inform and NICE Inform Recorder
7702	ТСР	IN	Core API V1 System Manager	Core System Manager API
7703	TCP	IN	Core API V1 System Manager	MAX System Manager Client Component

Table 4: Open Port Configuration: Applications on Core Server

Port	Protocol	Direction	Service	Explanation
7710	TCP	IN	Core API V1 System Manager	Core Recorder Information API
Additional	INTERNAL	Ports		
NOTE: You do not need to configure these ports in the firewall. Use this information in case of port conflicts.				
4250	TCP	IN	Host communication	If RESILIENCE is applied
7006	TCP	IN	Core API V1 System Manager	Core API V1
7701	TCP	OUT	Core API V1 System Manager	Core API V1
7705	TCP	IN	Core API V1 User Manager	Core API V1
7707	TCP	IN	MAX ContentManager	Core API V1

2.6 Core Server with Channels and CTI

Configure the following ports on a NICE Inform Recorder Core Server with channels and an integrated CTI ("All-in-One box") installed.



For a Core Server without channels or CTI, refer to the Core server section.

 Table 5: Open Port Configuration: NICE Inform Recorder Core Server with Channels and Integrated CTI

Port	Protocol	Direction	Service	Explanation
BASIC				
25	SMTP	OUT	Error Core	To customer's e-mail server
80	HTTP	IN	Web Service Client connections	Web User Login. For HTTPS, replace this port with port 443
123	NTP	OUT	OS (Time sync)	Network Time Synchronization (if applied)
162	UDP	OUT	Error Core	To (any) SNMP traps receiver
443	HTTPS	OUT	Web Service Client connections	Secure Web User Login. For HTTP, replace this port with port 80
3306	TCP	IN	Database	
6001	ТСР	IN	Web Service Client connections	Web User: Real-time play
6002	UDP	IN/OUT	Web Service Client connections	Web User: Real-time play
6005	ТСР	OUT	Web Service Client connections	Web User: Channel overview
6006	ТСР	IN	DBI Client	Channel overview
7950	ТСР	IN	Connectivity.MediaDeliver y.Service	External access of the Media Delivery service by Core API

Port	Protocol	Direction	Service	Explanation	
10002-	UDP	IN	Active IP Recording	On a Core Server with 200 channels.	
10401			Audio	Required number of ports = number of channels * 2. Always start with port 10002	
[Integration]	on-specific]		CTI Link controller	Refer to vendor-specific integration manual	
INTERNAL Ports					
NOTE: You do not need to configure these ports in the firewall. Use this information in case of port conflicts.					
4245 *	TCP	OUT	СТІ	From Call controller to CTI Receiver	
4246 *	TCP	IN/OUT	Communication between lin	nk controller(s) and call controller	
4345 *	TCP	OUT	СТІ	From Call controller to Satellite Controller	
6003	TCP	IN	DBI Client	Audio transfer from channels to Core Server	
6004	TCP	OUT	Monitor Tool	Informs Monitor Tool about status of channels	
7002	TCP	IN	Fault Manager	SNMP traps and alarms	
7780	TCP	IN	SystemOverview Webservice	Queries NodeAgents	
7800	TCP	IN	Media Manager	Core API connects to the Media Manager	

* CTI integrations only. If your recording integration has a CDR functionality installed, these ports are not present.

2.6.1 Core Server with Channels and CTI: Additional Ports

Depending on the applications installed on this NICE Inform Recorder Core Server, configure the following ports in addition:

Table 6: Open Po	rt Configuration:	Applications on	Core Server
------------------	-------------------	-----------------	-------------

Port	Protocol	Direction	Service	Explanation	
EMC Are	EMC Archiving				
3218	TCP/UDP	IN/OUT	EMC Archiving	Between Core Server and EMC (EMC is now Dell ECS)	
Resilienc	e			·	
4252	ТСР	IN/OUT	Core Server Redundancy	Connection with slave Core Server: Failover messages	
4255	TCP	IN/OUT	Core Server Redundancy	When CSR Support Tool is used	
Recorde	r API				
8024	ТСР	IN	Recorder API	Default port number to be used for TCP/IP remoting connections to the recorder API server	
Core AP	Core API				
7001	ТСР	IN	Core API V1 Content Manager	Core Content Manager API	

Port	Protocol	Direction	Service	Explanation
7002	TCP	IN	MAX UserManager	User Manager API
7003	TCP	IN	Core API V1 User Manager	Core User Manager API
7500	TCP	IN	Core API V2 Interface	Communication between NICE Inform and NICE Inform Recorder
7702	TCP	IN	Core API V1 System Manager	Core System Manager API
7703	TCP	IN	Core API V1 System Manager	MAX System Manager Client Component
7710	TCP	IN	Core API V1 System Manager	Core Recorder Information API
NOTE	You do no	t need to co	onfigure these ports in th	<u>e</u>
		rt conflicts.		e firewall. Use this information in
4250			Host communication	If RESILIENCE is applied
4250 7006	case of po	ort conflicts.		
	case of po	IN	Host communication Core API V1 System	If RESILIENCE is applied
7006	Case of po TCP TCP	IN IN	Host communication Core API V1 System Manager Core API V1 System	If RESILIENCE is applied Core API V1

2.7 Core Server with CTI

Configure the following ports on a NICE Inform Recorder Core Server without channels, but with a CTI role installed.



For a Core Server without CTI, refer to either the Core server or Core Server with Channels sections.

Table 7: Open Port Configuration: Core Server with Integrated CTI

Port Protocol Direction Service

Explanation

Port	Protocol	Direction	Service	Explanation
BASIC				
25	SMTP	OUT	Error Core	To customer's e-mail server
80	HTTP	IN	Web Service Client connections	Web User Login. For HTTPS, replace this port with port 443
123	NTP	OUT	OS (Time sync)	Network Time Synchronization (if applied)
162	UDP	OUT	Error Core	To (any) SNMP traps receiver
443	HTTPS	OUT	Web Service Client connections	Secure Web User Login. For HTTP, replace this port with port 80
3306	TCP	IN	MySQL Service	Database
4245 *	TCP	OUT	CTI: Call controller	To CTI Receiver on satellite(s)
4345 *	TCP	OUT	CTI: Call controller	To Satellite Controller on satellite(s)
6003	TCP	IN	DBI Client	Audio transfer from channels to Core Server
6004	TCP	OUT	Monitor Tool	Informs Monitor Tool about status of channels
6005	TCP	IN	Web Service Client connections	Web User: Channel overview
6006	TCP	IN	DBI Client	Channel overview
7500	TCP	IN	Core API	Communication between NICE Inform and NICE Inform Recorder.
7950	TCP	IN	Connectivity.MediaDeliver y.Service	External access of the Media Delivery service by Core API
[Integrati	ion-specific]	1	CTI Link controller	Refer to vendor-specific integration manual
INTERN	AL Ports		1	-
NOTE:		not need to port conflic		he firewall. Use this information in
4246 *	TCP	IN/OUT	Communication between lir	nk controller(s) and call controller
7002	TCP	IN	Fault Manager	SNMP traps and alarms
7780	TCP	IN	SystemOverview Webservice	Queries NodeAgents
7800	TCP	IN	Media Manager	Core API connects to the Media Manager

* CTI integrations only. If your recording integration has a CDR functionality or dedicated CDR Server installed, do not configure these ports.

2.7.1 Core Server with CTI: Additional Applications

Depending on the applications installed on this NICE Inform Recorder Core Server, configure the following ports in addition:

Table 8: Open Port Configuration: Applications on Core Server

Port	Protocol	Direction	Service	Explanation	
------	----------	-----------	---------	-------------	--

Port	Protocol	Direction	Service	Explanation
EMC Are	chiving			
3218	TCP/UDP	IN/OUT	EMC Archiving	Between Core Server and EMC
Resiliend	e			
4252	TCP	IN/OUT	Core Server Redundancy	Connection with slave Core Server: Failover messages
4255	TCP	IN/OUT	Core Server Redundancy	When CSR Support Tool is used
Recorde	r API			
8024	ТСР	IN	Recorder API	Default port number to be used for TCP/IP remoting connections to the recorder API server
Core AP	l			
7001	TCP	IN	Core API V1 Content Manager	Core Content Manager API
7002	TCP	IN	MAX UserManager	User Manager API
7003	TCP	IN	Core API V1 User Manager	Core User Manager API
7500	TCP	IN	Core API V2 Interface	Communication between NICE Inform and NICE Inform Recorder
7702	TCP	IN	Core API V1 System Manager	Core System Manager API
7703	TCP	IN	Core API V1 System Manager	MAX System Manager Client Component
7710	TCP	IN	Core API V1 System Manager	Core Recorder Information API
Additiona	al INTERNAL F	Ports		
NOTE:	You do not case of po		nfigure these ports in the	e firewall. Use this information in
4250	TCP	IN	Host communication	If RESILIENCE is applied
7006	TCP	IN	Core API V1 System Manager	Core API V1
7701	TCP	OUT	Core API V1 System Manager	Core API V1
7705	TCP	IN	Core API V1 User Manager	Core API V1
7707	TCP	IN	MAX ContentManager	Core API V1

2.8 Satellite

Configure the following ports on a NICE Inform Recorder satellite.



For a satellite combined with a CTI Server, refer to the Satellite with CTI on One System section.

Port	Protocol	Direction	Service	Explanation
BASIC				
25	SMTP	OUT	Error Core	SMTP. To e-mail server
123	TCP	OUT	OS (Time sync)	Network Time Synchronization (if applied)
162	UDP	OUT	Error Core	To (any) SNMP traps receiver
3306	TCP	OUT	MySQL Service	Database
4245 *	TCP	IN	CTI Receiver	From Call controller on CTI Server
4345 *	TCP	IN	Satellite Controller	From Call controller on CTI Server
6001	TCP	IN	Web Service Client connections	Web User: Real-time play
6002	UDP	IN/OUT	Web Service Client connections	Web User: Real-time play
6003	TCP	OUT	DBI Client	Audio transfer from channels to Core Server
6004	TCP	IN	Monitor Tool	Informs Monitor Tool about status of channels
6006	TCP	OUT	DBI Client	Channel overview
7780	TCP	IN	SystemOverview Webservice	Queries NodeAgents
7950	TCP	IN	Connectivity.MediaDeliver y. Service	External access of the Media Delivery service by Core API
10002-	UDP	IN	IP Recording Audio	On a satellite with 1000 channels.
12001				Required number of ports = number of channels * 2. Always start with port 10002. For example, a satellite with 500 channels requires ports 10002 - 11001 to be opened.
INTERN	AL Ports		,	
No interr	nal ports			

Table 9: Open Port Configuration: Satellite

* CTI integrations only. If your recording integration has a CDR functionality or dedicated CDR Server installed, do not configure these ports.

2.8.1 Satellite: Additional Ports

Depending on the applications installed on this satellite, configure the following ports in addition:

Table 10: Open Port Configuration: Satellite - Additional Ports

Port	Protocol	Direction	Service	Explanation	
Archivin	Archiving				
For archi	ving, no ports a	are configure	ed on a satellite		
Resilienc	Resilience				
4251	TCP	IN	Core Server Redundancy	Keep-alive messages	

Port	Protocol	Direction	Service	Explanation	
4252	TCP	OUT	Core Server Redundancy	Failover messages	
Additiona	Additional INTERNAL Ports				
NOTE: You do not need to configure these ports in the firewall. Use this information in case of port conflicts.					
4250	TCP	IN	Host communication	If RESILIENCE is applied	

2.9 Satellite with CTI on One System

Configure the following ports on a NICE Inform Recorder satellite that also has the CTI role installed.



For channels with integrated CTI on a Core Server, refer to the Core Server with Channels and CTI section.

Table 11: Open Port Configuration: Satellite with CTI Server

Port	Protocol	Direction	Service	Explanation	
BASIC	BASIC				
25	SMTP	OUT	Error Core	SMTP. To e-mail server	
123	TCP	OUT	OS (Time sync)	Network Time Synchronization (if applied)	
162	UDP	OUT	Error Core	To (any) SNMP traps receiver	
3306	TCP	OUT	MySQL Service	Database	
6001	TCP	IN	Web Service Client connections	Web User: Real-time play	
6002	UDP	IN/OUT	Web Service Client connections	Web User: Real-time play	
6003	TCP	OUT	DBI Client	Audio transfer from channels to Core Server	
6004	TCP	IN	Monitor Tool	Informs Monitor Tool about status of channels	
6006	TCP	OUT	DBI Client	Channel overview	
7780	TCP	IN	SystemOverview Webservice	Queries NodeAgents	
7950	TCP	IN	Connectivity.MediaDeliver y. Service	External access of the Media Delivery service by Core API	
10002-	UDP	IN	Active IP Recording	On a satellite with 1000 channels.	
12001			Audio	Required number of ports = number of channels * 2.	
				Always start with port 10002.	
				For example, a satellite with 500 channels requires ports 10002 - 11001 to be opened.	
[Integration-specific]			CTI Link controller	Refer to vendor-specific integration manual	
INTERNAL Ports					

Port	Protocol	Direction	Service	Explanation	
NOTE:	NOTE: You do not need to configure these ports in the firewall. Use this information in case of port conflicts.				
4245 *	ТСР	OUT	СТІ	From Call controller to CTI Receiver	
4246 *	4246 * TCP IN/OUT Communication between link controller(s) and call controller				
4345 *	ТСР	OUT	CTI	From Call controller to Satellite Controller	
7002	TCP	IN	Fault Manager	SNMP traps and alarms	

* CTI integrations only. If your recording integration has a CDR functionality or dedicated CDR Server installed, do not configure these ports.

2.9.1 Satellite with CTI: Additional Ports

Depending on the applications installed on this server, configure the following ports in addition:

Table 12: Open Port Configuration: Satellite with CTI Server - Additional Ports

Port	Protocol	Direction	Service	Explanation		
Archiving						
For archiving, no ports are configured on a satellite						
Resilience						
4251	TCP	IN	Core Server Redundancy	Keep-alive messages		
4252	TCP	OUT	Core Server Redundancy	Failover messages		
NOTE				d CTI Servers. It cannot be applied in		
	this confi	iguration.		d CTI Servers. It cannot be applied in		
		iguration.		d CTI Servers. It cannot be applied in		
	this confi nal INTERNAL : You do n	iguration. _ Ports	ence requires dedicate	d CTI Servers. It cannot be applied in he firewall. Use this information in		
Additior	this confi nal INTERNAL : You do n	iguration. - Ports lot need to co	ence requires dedicate			

2.10 CTI Server

Configure the following ports on a separate dedicated NICE Inform Recorder CTI Server.



Table 13: Open Port Configuration: Dedicated CTI Server

Port	Protocol	Direction	Service	Explanation		
BASIC	BASIC					
123	TCP	OUT	Customer LAN	Network Time Synchronization (if applied)		
162	UDP	OUT	Fault Manager	To (any) SNMP traps receiver		
3306	TCP	OUT	MySQL Service	Database		
4245	TCP	OUT	CTI: Call controller	To CTI Receiver on satellite(s)		
4345	TCP	OUT	CTI: Call controller	To Satellite Controller on satellite(s)		
7780	TCP	IN	SystemOverview Queries NodeAgents Webservice			
[Integration-specific]		·	CTI Link controller	Refer to vendor-specific integration manual		
INTERN	INTERNAL Ports					
4246	TCP	IN/OUT	Communication between link controller(s) and call controller			
7002	TCP	IN	Fault Manager	SNMP traps and alarms		

2.10.1 CTI Server: Additional Ports

Depending on the applications installed on this CTI server, configure the following ports in addition:

Port	Protocol	Direction	Service	Explanation		
Archivi	Archiving					
For arch	iving, no ports	are configure	ed on a CTI server			
Resilien	се					
4250	TCP	IN	N+1 CTI Server Resilience	Host Communication		
4251	TCP	IN	Core Server Redundancy	Keep-alive messages		
4252	TCP	IN/OUT	N+1 CTI Server Resilience	Failover messages		
4350	TCP	IN	N+1 CTI Server Resilience	Channel Synchronization		
Core API						
For Core API, no ports are configured on a CTI server						

2.11 CDR Server

Configure the following ports on a dedicated NICE Inform Recorder CDR Server.



 Table 15: Open Port Configuration: Dedicated CDR Server

Port	Protocol	Direction	Service	Explanation	
BASIC	BASIC				
123	TCP	OUT	Customer LAN	Network Time Synchronization (if applied)	
162	UDP	OUT	Fault Manager	To (any) SNMP traps receiver	
3306	ТСР	OUT	MySQL Service	Database, Monitor Tool	
7002	ТСР	IN	Fault Manager SNMP traps and alarms		
INTERNAL Ports					
No internal ports					

2.11.1 CDR Server: Additional Ports

NOTE: For additional applications installed on this CDR Server, no ports have to be configured.

3 Antivirus and 3rd Party Software Exclusions

This section describes the locations and files you must exclude from antivirus checks, and from the actions of other third party software. This software can be, for instance, tooling that performs local file actions such as backups.

NICE Inform Recorder 9.2.1 is compatible with any antivirus software.

3.1 Introduction

Antivirus software is intended to prevent malicious software from invading your computer or network, known as real-time protection. Antivirus software should also detect and remove malicious software before it does any harm, by planned scanning of systems.

The activities of antivirus software can seriously impact your computer's performance. The audio files of calls in progress, for example, are continuously changing. For real-time protection the antivirus software scans a file whenever it changes. With many calls in progress, this interferes with the functioning of the Recording Service and downgrades its performance.

For this reason you have to exclude the recording-related files and locations from antivirus checks.

Planned system scans can be performed only when recording traffic is (very) low, always outside office hours.



IMPORTANT: Never perform a full-system scan or full-system backup. When scanning or backing up the system, you always have to set the file exclusions indicated below.

Backing up the NICE Inform Recorder Database (using the Import/Export Database Settings tool) is not recommended while the system is recording.

IMPORTANT: From Windows 10, Windows Defender is installed and enabled by default. Make sure that it is configured according to the following sections.

3.1.1 Setting the exclusions

Present the list(s) of settings to the customer's system/network administrator.

3.2 Antivirus and Other Software Exceptions

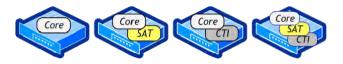
IMPORTANT: Only an authorized person is allowed to configure these settings.

In your application, you must exclude the following files and locations from real-time protection. Only exclude the files/folders mentioned below, no other files!

Planned scans can be performed on these files and locations, but only outside office hours.

IMPORTANT: Always perform system scans on NICE Inform Recorder and updates outside office hours.

3.2.1 Core Server (With or Without Channels or CTI)



Folders are defined during setup, and can be on a different drive.

Table 16: Exclude on Core Server

Location	Files to be excluded
The locations containing the recording system and integration software: X:\Program Files\NICE X:\Program Files (x86)\NICE X:\Program Files\Common Files\NICE X:\Program Files (x86)\Common Files\NICE	All folders DLL files
The audio folders: X:\NICE\NICE Inform Recorder\Content\ The 'Content' folder has subfolders named 'audioX'. These folders have subfolders with dates as their names.	*.wav files
The VoIP INI file location: X:\ProgramData\NICE\NICE Inform Recorder\INI_Files\VoIP	*.ini files
NICE Inform Recorder database folders: X:\NICE\NICE Inform Recorder\mySQL\Data	File types: *.frm , *.myd , *.myi
NICE Inform Recorder log files folder: • X:\NICE\NICE Inform Recorder\Logs	File types *.log , *txt , *.zip
Microsoft Internet Information Services (IIS) files: C:\inetpub\	All files in all subfolders (*.*)
If the Core Server has channels: the temporary recording folder X:\NICE\NICE Inform Recorder\RecordingBuffer 	File types: *.da_, *.dat1, *.dat1_,*.dat2, *.dat2_, .dat3, *.dat3_, *.wa_, *.wav
If the Core Server has channels and/or CTI: The temporary call data folder X:\ProgramData\NICE\NICE Inform Recorder\CallDataCache	All *.xml files in all subfolders
If you use local archiving, on the local archive:	[drive]:*.dat [drive]:*.html (incl. subfolders) [drive]:*.wav (incl. subfolders) [drive]:*.csv (incl. subfolders)

3.2.2 Satellite



Folders are defined during setup, and can be a different drive.

Table 17: Antivirus - Exclude on Satellite

Location	Files to be excluded
NICE Inform Recorder temporary directory: C:\tmp	All files
The locations containing the recording system and integration software: X:\Program Files\NICE X:\Program Files (x86)\NICE X:\Program Files\Common Files\NICE X:\Program Files (x86)\Common Files\NICE	All folders DLL files
The VoIP INI file location: X:\ProgramData\NICE\NICE Inform Recorder\INI_Files\VoIP	*.ini files
If the Core Server has channels: the temporary recording folder X:\NICE\NICE Inform Recorder\RecordingBuffer 	File types: *.da_ , *.dat1 , *.dat1_,*.dat2, *.dat2_, .dat3, *.dat3_, *.wa_, *.wav
The temporary call data folder X:\ProgramData\NICE\NICE Inform Recorder\CallDataCache	All *.xml files in all subfolders
NICE Inform Recorder log files folder: X:\NICE\NICE Inform Recorder\Logs	File types * .log , * txt , *. zip

3.2.3 CTI Server



All paths show the default drive 'C:'. This is defined during setup, and can be a different drive.

Table 18: Antivirus - Exclude on CTI Server

Location	Files to be excluded
The locations containing the recording system and integration software: X:\Program Files\NICE X:\Program Files (x86)\NICE X:\Program Files\Common Files\NICE X:\Program Files (x86)\Common Files\NICE	All folders DLL files
The temporary call data folder X:\ProgramData\NICE\NICE Inform Recorder\CallDataCache 	All *.xml files in all subfolders
NICE Inform Recorder log files folder: • X:\NICE\NICE Inform Recorder\Logs	File types *.log , *txt , *.zip

4 Recording System Hardening

This section describes procedures to harden the operating system of the NICE Inform Recorder servers, and secure the communication between them.

Customizing the NICE Inform Recorder servers must always be in accordance with the customer's hardening and security policies.

Usually, when hardening, customers disable unnecessary services.

To ensure no required services are disabled, this chapter also provides a full listing of all NICE Inform Recorder related services.



Always consult with the system administrator before applying hardening procedures.

IMPORTANT: Always consult with the system administrator before applying hardening procedures.

The following topics are included in this section:

- List of Installed NICE Inform Recorder Services
- Required Windows Services
- Core API Secure Connection
- Windows Data Execution Prevention (DEP)
- SMB Signing
- Email Filtering
- Local or Group Policy Security Settings
- Enforcing TLS 1.2 protocol for MySQL connections

Every service of NICE Inform Recorder and other related products negotiates a cryptographic protocol when connecting to the MySQL Database. Different product versions may support different cryptographic protocols and algorithms. As of MySQL Server version 5.7.27 all protocols prior to TLS 1.2 (including all versions of SSL) are considered insecure.

By enforcing TLS 1.2 on MySQL Server, the necessary level of confidence can be achieved. Insecure access is blocked.

Enforcing TLS 1.2 may disrupt system functioning. Refer to the documentation of NICE Inform Recorder related products for information about supported protocols and plan the hardening carefully to avoid downtime.

- To enforce TLS 1.2 on MySQL Server side, perform the following steps on every Core and Unified installation:
 - 1. Navigate to **ProgramData****NICE****NICE Inform Recorder****INI_Files**, and open the **my.ini** file for editing.
 - 2. Uncomment (or add) the following lines under section [mysqld]:

require_secure_transport=ON tls_version=TLSv1.2

- 3. Save changes to my.ini file.
- 4. Stop all NICE Inform Recorder services using Monitor Tool.
- 5. Restart **MySQL service** using Windows Services snap-in.
- 6. Start all NICE Inform Recorder services using Monitor Tool.
- 7. Check the NICE Inform Recorder logs to ensure there are no new unexpected errors.
- Enabling IPsec Encryption

4.1 List of Installed NICE Inform Recorder Services

NICE Inform Recorder, its integrations, resilience and NICE applications all require their specific services, installed on the NICE Inform Recorder servers by the setup.

Figure 1: Example of Basic NICE Inform Recorder Services in Service Manager

NICE - ConfigurationManagement	Configuration Management Service V80.1.3.3
🍓 NICE - Connectivity Capture API	Connectivity Capture API Service V80.1.3.4
🌼 NICE - Connectivity Media Delivery	Connectivity Media Delivery Service V80.3.19.3
🍓 NICE - Content Manager - Archiving	Content Manager Archiving Service V80.2.9.7
🤹 NICE - Content Manager - Storage	Content Manager Storage Service V80.2.9.7
NICE - Controller Service	Controller Service V80.1.2.3

The basic NICE Inform Recorder services have a display name that starts with 'NICE - ', as shown in the Windows Service Manager.

Other services required by NICE Inform Recorder are shown in the Windows Service Manager only. However, you can add them to the listing in the Monitor Tool.

IMPORTANT: All installed NICE Inform Recorder services are vital to proper functioning of the recording integration, and must not be disabled or uninstalled.

0	Auto	NICE - Connectivity Capture API	Connectivity Capture API Ser
0	Auto	NICE - Connectivity Media Delivery	Connectivity Media Delivery (
0	Auto	NICE - Content Manager - Archiving	Content Manager Archiving §
0	Auto	NICE - Content Manager - Storage	Content Manager Storage Se
0	Auto	NICE - Controller Service	Controller Service V80.1.2.3
0	Auto	NICE - Core Api	Core Api Service V80.4.11.4
0	Auto	NICE - Database Interface Client	Database Interface Client Ser
0	Auto	NICE - Database Interface Server	Database Interface Server Ser

Figure 2: NICE Inform Recorder Services in the Monitor Tool

Which services are present on your servers depends on your NICE Inform Recorder configuration and the installed applications. The section below contains a listing of all possible NICE Inform Recorder services, categorized by NICE Inform Recorder 'role'.

4.2 Recorder Services running under limited accounts

The NICE Inform Recorder installation asks which account the NIR services should run under. The NIR services can be started under the LocalSystem account or any custom Local or Domain user account configured with appropriate privileges. See the NICE Inform Recorder Installation Guide for more details.

4.3 NICE Inform Recorder Services - Core Server



NICE Inform Recorder deploys the following services on a Core Server with Recording Channels and an integrated CTI Server. Depending on your configuration, not all services might be available.

You can also use the list for a Core Server without channels or CTI, or one of both. Services on the Core Server that are specific for channels, CTI or other functions are marked as such in the column 'Purpose'.

NOTE: The Display Name of recorder services is being rebranded from "CyberTech" to "NICE". Some older recorder services still have the "CyberTech" prefix.

Table 19: Services: Core Server

Prefix Service Purpose Comments	
---	--

Prefix	Service	Purpose	Comments
NICE	Core Server Resilience Management	Core Server Redundancy	
NICE	Core Server Resilience Agent	Core Server Redundancy	
CyberTech	Call Controller	СТІ	
CyberTech	CDR Processor for [vendor]	СТІ	
NICE	Connectivity Capture API	Core	
NICE	Connectivity Media Delivery	Channels	
NICE	Content Manager - Archiving	Archiving	
NICE	Content Manager - Storage	Archiving	
NICE	Controller Service		
NICE	Core API	Core API	
CyberTech	CTI Processor for [vendor]	СТІ	
CyberTech	CTI Receiver	Channels	
CyberTech	CTI/CDR Processor for [vendor]	CTI	
NICE	Resilience Database Interface	Core Server Redundancy	
NICE	Database Interface Client	Channels	
NICE	Database Interface Server		
NICE	DSC Service	Channels	
NICE	Fault Manager		
CyberTech	Generic SipServer	СТІ	Service for generic SIP Server link controller
NICE	Licensing Service	Channels	Dependent of DSC Service
CyberTech	Link Controller [vendor]	СТІ	Service for connectivity to telephony or trading system
NICE	Logfile Manager		
NICE	MAX Content Manager	Core API	Service name: Media Manager
NICE	MAX System Manager	Core API	
NICE	MAX User Manager	Core API	
NICE	Recording Service	Channels	
CyberTech	Satellite Controller	Channels	
CyberTech	[vendor] SipServer	СТІ	Service for SIP Server link controller

4.4 NICE Inform Recorder Services – Satellite



NICE Inform Recorder deploys the following services on a satellite, or a satellite with CTI role installed on it. Depending on your configuration, not all services might be available.

Services specific for CTI are marked as such in the column 'Purpose'.

Table 20: Services: Satellite

Prefix	Service	Purpose	Comments
CyberTech	Call Controller	CTI	
CyberTech	CDR Processor for [vendor]	СТІ	
NICE	Connectivity Media Delivery		
NICE	Controller Service		
NICE	CSR Connection Manager	Core Server Redundancy	
CyberTech	CTI Processor for [vendor]	СТІ	
CyberTech	CTI/CDR Processor for [vendor]	CTI	
CyberTech	CTI Receiver		
NICE	Database Interface Client		
NICE	DSC Service		
CyberTech	Generic SipServer	СТІ	Service for generic SIP Server link controller
NICE	Licensing Service		Dependent of DSC Service
CyberTech	Link Controller [vendor]	СТІ	Service for connectivity to telephony or trading system
NICE	Recording Service		
NICE	Resilience Database Interface	CTI	For Core Server Redundancy
CyberTech	Satellite Controller		
CyberTech	[vendor] SipServer	СТІ	Service for SIP Server link controller

4.5

NICE Inform Recorder Services - CTI Server



NICE Inform Recorder deploys the following services on a CTI Server. Depending on your configuration, not all services might be available.

If the CTI role is installed on a satellite, refer to the NICE Inform Recorder Services – Satellite section.

If the CTI role is installed on a Core Server, refer to the Recorder Services running under limited accounts

The NICE Inform Recorder installation asks which account the NIR services should run under. The NIR services can be started under the LocalSystem account or any custom Local or Domain user account configured with appropriate privileges. See the NICE Inform Recorder Installation Guide for more details.

NICE Inform Recorder Services - Core Server section.

Prefix	Service	Purpose	Comments
CyberTech	Call Controller		
CyberTech	CDR Processor for [vendor]		
CyberTech	CSR Connection Manager	Core Server Redundancy	
CyberTech	CTI/CDR Processor for [vendor]		
CyberTech	CTI Processor for [vendor]		
NICE	Database Interface Client		
CyberTech	Generic SipServer		Service for generic SIP Server link controller
CyberTech	Link Controller [vendor]		Service for connectivity to telephony or trading system
NICE	Resilience Database Interface	Core Server Redundancy	
CyberTech	Service Monitor		replaces Controller Service
CyberTech	[vendor] SipServer		Service for SIP Server link controller

Table 21: Services: CTI Server

4.6 Required Windows Services

NICE Inform Recorder uses a number of Microsoft Windows services.

This section lists the common Windows services, indicating which services are required for NICE Inform Recorder, and which are not.

Table 22: Windows Services - Required and Not Required

Service	Required Y/N	Comments
Common HTTP Features		
Static Content	Y	Required for showing static content (e.g. html and images)
Default Document	Y	Required for redirection to default document (login.asp) when not specified on URL
Directory Browsing	Ν	Used to browse directories when no document is specified on the URL

Service	Required Y/N	Comments
HTTP Errors	N	Used to display customized error pages
HTTP Redirection	N	Used to redirect users to other location
WebDAV Publishing	N	Used to deploy websites via HTTP
Application Development	1	-
ASP.NET	N	Currently no ASP.NET is used
.NET Extensibility	N	Currently no ASP.Net is used
ASP	Y	Required to show the NICE Inform Recorder Web GUI
CGI	Ν	
ISAPI Extensions	Y	Required when using ASP
ISAPI Filters	N	
Server Side Includes	N	
Health and Diagnostics		
HTTP Logging	N	Not required but can be useful for debugging
Logging Tools	N	Not required but can be useful for debugging
Request Monitor	N	Not required but can be useful for debugging
Tracing	N	Not required but can be useful for debugging
Custom Logging	N	Not required but can be useful for debugging
ODBC Logging	N	Not required but can be useful for debugging
Security		
Basic Authentication	N	Authentication is handled in code
Windows Authentication	N	Authentication is handled in code
Digest Authentication	N	Authentication is handled in code
Client Certificate Mapping Authentication	N	Authentication is handled in code
IIS Client Certificate Mapping Authentication	N	Authentication is handled in code
URL Authorization	Ν	
Request Filtering	Y	Required by ASP feature
IP and Domain Restrictions	N	
Performance		
Static Content Compression	Υ	Used by IIS to compress static content
Dynamic Content Compression	Ν	
Management Tools		
IIS Management Console	Y	Required to customize the web server
IIS Management Scripts and Tools	N	
Management Services	Ν	
IIS 6 Management Compatibility	Y	
IIS 6 Metabase Compatibility	Y	Required when installing IIS 6 Management Console

Service	Required Y/N	Comments
IIS 6 WMI Compatibility	Y	Used by the setup to make changes to the used application pool
IIS 6 Scripting Tools	N	
IIS 6 Management Console	N	
FTP Server		
FTP Service	N	No FTP features are necessary to run NICE Inform Recorder
FTP Extensibility	N	
IIS Host Web Core	N	

4.7 Core API Secure Connection

NICE Inform connects to the NICE Inform Recorder via the Core API.

The NICE Inform Recorder installation includes the Core API. The Core API has an optional Secure Connection feature, which provides certificate based authentication. During the installation, the user chooses whether to configure the Secure Connection feature.

If necessary, the Core API Secure Connection feature can be enabled after installing NICE Inform Recorder. To achieve this, edit the following file:

CyberTech.CoreApi.Service.exe.config

(C:\Program Files\NICE\NICE Inform Recorder\CoreApi\CyberTech.CoreApi.Service)

Update the coreApi section as follows:

```
<coreApi>
<hostingSettings AddressBase="coreApi" Binding="NetTcpTransportSecurity" Port="7500"
ServerCertificate="yourCertificateName"/>
</coreApi>
```

The NICE Inform Recorder Installation Guide contains details on how to create and install the certificates.

4.8 Windows Data Execution Prevention (DEP)

Windows Data Execution Prevention (DEP) monitors installed software applications to verify if they use system memory safely. If an application tries executing code from memory in an incorrect way, DEP closes the program.

NICE Inform Recorder software is trusted software. For NICE Inform Recorder, you do not need to disable DEP, or change any DEP settings.

For more information on DEP, see Microsoft.com pages, such as [DEP - frequently asked questions].

4.9 SMB Signing

NICE Inform Recorder supports SMB signing for Microsoft Active Directory.

4.10 Email Filtering

Any system of NICE Inform Recorder can generate e-mail messages about occurring errors. These e- mails are sent to pre-defined e-mail addresses, set in the NICE Inform Recorder Web GUI, tabs: *<system installation> <global settings>*.

If you apply any kind of e-mail filtering, be sure all systems of NICE Inform Recorder - Core Server, CTI or CDR Servers, satellites - are able to distribute their error message e-mails.

4.11 Local or Group Policy Security Settings

Security settings can be defined on the level of individual servers and on group level, depending on the customer's policy. Usually, Group Policy Security settings are used, as this is a centrally manageable policy for users within a domain. Some of the policy settings are domain-wide, other policy areas can be specified at level of the organizational unit.

TIP:	For details, refer to Microsoft TechNet - Group Policy Security Settings.
NOTE:	The following sections apply to Windows 2012 and Windows 2016. The screenshots are taken from Windows 2016.

4.11.1 Group Policy Security Settings

Group Policy Security settings are defined using the Local Group Policy Editor.

- To define Group Policy Security settings:
 - 1. In the Windows **Search** field, type **gpedit.msc** and press **Enter**. The **Local Group Policy Editor** windows is presented (as shown in Figure 3).

gpedit.msc Local Group Policy Editor × Eile Action View Help	Best match					
gpedit.msc Image: Decision of the second s						
gpedit.msc Image: Decision of the second s		=				
 Local Group Policy Editor Local Group Policy Editor Local Group Policy Editor Local Computer Policy Computer Policy Computer Policy Software Settings Software Settings Windows Settings Software Restriction Policies Software Restrict		αŀ				
 Local Computer Policy Software Settings Windows Settings Name Description Password and account lockout policies Account Policies Windows Sittings Name Resolution Policy Software Security Startup/Shutdown) The Deployed Printers Security Settings Security Settings Security Settings Security Settings Software Resolution Policies Software Security Settings Software Security Settings Software Security Settings Software Resolution Policies Software Restriction Policies Software Restriction Policies Internet Protocol Security (IPsec) Administ Advanced Audit Policy Configuration Advanced Audit Policy Configuration 				-	0	×
 Computer Configuration Software Settings Windows Settings Name Resolution Policy Scripts (Startup/Shutdown) Resolution Policy Scripts (Startup/Shutdown) Recount Policies Security Settings Security Settings Security Settings Software Restriction Policies Local Policies Software Restriction Policies Soft					_	_
> Compared Administrative Templates	 Computer Configuration Software Settings Windows Settings Name Resolution Policy Scripts (Startup/Shutdown) Deployed Printers Security Settings Account Policies Cocal Policies Windows Firewall with Advanced Security Network List Manager Policies Software Restriction Policies Software Restriction Policies Software Restriction Policies Mindows Firewall with Advanced Security Network List Manager Policies Software Restriction Policies Software Restriction Policies Application Control Policies Advanced Audit Policy Configuration Policy-based QoS 	Account Policies Local Policies Windows Firewall with Advanced Security Network List Manager Policies Public Key Policies Software Restriction Policies Application Control Policies Security Policies on Local Computer	Password and accc Auditing, user righ Windows Firevall Network name, icc Application Contro Internet Protocol S	its and sec with Adva on and loc of Policies security (IP	nced Sec ation gro	otions p curity roup pc

Figure 3: Local Group Policy Editor

- 2. Navigate to <*Windows Settings*> <*Security Settings*>, and select the required policy item.
- 3. Double-click the required line item, or right-click on it and select **Properties** to display the **Properties** window.

NOTE: The example in Figure 4 shows the <*Account Policies*> <*Password Policy*> has been selected.

4. Adjust the setting (as shown in Figure 4).

Local Group Policy Editor		- 🗆 🗙
File Action View Help		
🗢 🔿 📶 🗙 🗐 🔒 🛛 🗊		
 Local Computer Policy Computer Policy Software Settings Windows Settings Mame Resolution Policy Scripts (Startup/Shutdown) Beployed Printers Security Settings Account Policies Password Policy Account Lockout Policy Mindows Firewall with Advanced Security Network List Manager Policies Dublic Key Policies Software Restriction Policies Molicies Advanced Audit Policy Configuration Policy-based QoS Memory Policy 	Policy Enforce password history Maximum password age Minimum password age Minimum password length Store password wising reversible encryption Minimum password length Properties Local Security Setting Explain Minimum password length Password must be at least: Store password must be at least: Construction of the security of	Security Setting 0 passwords remembere 42 days 0 days 0 characters Enabled Disabled ? X
✓ K User Configuration > ☐ Software Settings	<	
	OK Cancel	Apply

Figure 4: Example of a Local Group Policy Setting

5. Click **OK** and close the Editor.

TIP: For detailed instructions, refer to <u>Microsoft TechNet - Local Group Policy Editor</u>.

4.11.2 Local Security Settings

Usually, on an individual system only a limited number of security settings can be defined. Settings defined by Group Policy Security are disabled on local level.

- To define Local Security Settings:
 - 1. Navigate to *<Start> <*Windows *Administrative Tools> <Local Security Policy>*. The **Local Security Policy** window is presented.

Figure 5: Local Security Policy

 Security Settings Account Policies Password Policy Account Lockout Policy Account Lockout Policy Coal Policies Windows Firewall with Advanced Security Network List Manager Policies Public Key Policies Software Restriction Policies Software Restriction Policies Application Control Policies Advanced Audit Policy Configuration 	Image: Image shows a straight of the straigh		-		×
	Account Policies Account Policy Account Lockout Policy Account Lockout Policy Mindows Firewall with Advanced Security Network List Manager Policies Dublic Key Policies Software Restriction Policies Application Control Policies IP Security Policies on Local Computer	Policy Enforce password history Aaximum password age Minimum password age Minimum password length Password must meet complexity requirements	0 password 42 days 0 days 9 character Enabled	s remen	nbered

2. Select the required Local Policy Object.

3. Double-click the required line item, or right-click on it and select **Properties** to display the **Properties** window.

TIP: JThis line item is defined by Group Policy Security, and is disabled here.

🔤 This line item can be set here, on local level.

4. Adjust the setting (as shown in Figure 6).

Figure 6: Example of a Local Group Policy Setting

🚡 Local Security Policy		- 🗆 ×
File Action View Help		
🔶 🄿 🔁 📧 🗙 🖫 🗟 🖬		
 Security Settings Account Policies Password Policy Account Lockout Policy Call Policies Windows Firewall with Advanced Security Network List Manager Policies Public Key Policies Software Restriction Policies Software Restriction Policies Application Control Policies IP Security Policies on Local Computer Advanced Audit Policy Configuration 	Policy	Security Setting 0 passwords remembered
	Endice password instity Maximum password age Minimum password length Password must meet complexity requirements Store passwords using reversible encryption	42 days 0 days 9 characters Enabled Disabled
	Enforce password history Properties Local Security Setting Explain Enforce password history	? ×
	Do not keep password history.	Cancel Apply

5. Click **OK** and close the Editor.

4.12 Enforcing TLS 1.2 protocol for MySQL connections

Every service of NICE Inform Recorder and other related products negotiates a cryptographic protocol when connecting to the MySQL Database. Different product versions may support different cryptographic protocols and algorithms. As of MySQL Server version 5.7.27 all protocols prior to TLS 1.2 (including all versions of SSL) are considered insecure.

By enforcing TLS 1.2 on MySQL Server, the necessary level of confidence can be achieved. Insecure access is blocked.

Enforcing TLS 1.2 may disrupt system functioning. Refer to the documentation of NICE Inform Recorder related products for information about supported protocols and plan the hardening carefully to avoid downtime.

- To enforce TLS 1.2 on MySQL Server side, perform the following steps on every Core and Unified installation:
 - Navigate to ProgramData\NICE\NICE Inform Recorder\INI_Files, and open the my.ini file for editing.
 - 7. Uncomment (or add) the following lines under section [mysqld]:

require_secure_transport=ON tls_version=TLSv1.2

- 8. Save changes to my.ini file.
- 9. Stop all NICE Inform Recorder services using Monitor Tool.
- 10. Restart **MySQL service** using Windows Services snap-in.
- 11. Start all NICE Inform Recorder services using Monitor Tool.
- 12. Check the NICE Inform Recorder logs to ensure there are no new unexpected errors.

4.13 Enabling IPsec Encryption

You can provide additional security to the servers of a NICE Inform Recorder system by enabling Internet Protocol security (IPsec). By encrypting all communication between the servers, IPsec prevents any 'network sniffing' security issues.

By applying IPsec, the following communication paths (port numbers) are encrypted. Unencrypted access is blocked.

NOTE: By enabling encrypted recording, you can encrypt all audio data in the system, even without enabling IPsec.

Communication to non-encrypted services such as NTP or SNMP is not affected.

You can secure web communication by enabling HTTPS as described in the Web Server Security section.

- To enable IPsec encryption on each server of the NICE Inform Recorder system:
 - 1. Open the Local Security Policy having window by doing one of the following:
 - Click <Start> <All Programs> <Administrative Tools>.
 - Enter **secpol.msc** in the Search programs and files field.

Figure 7: Local Security Policy

Image: Security Policy Image: Security Settings Image: Security Security Settings I	
 	
Security Settings Name Description Account Policies There are no items to show in Security Settings There are no items to show in	
Security Settings Name Description Image: Construction of the security	
Password Policy There are no items to show in > Account Lockout Policy	
> 🛃 Account Lockout Policy	There are it and the show in the
	There are no items to show in t
> 🔁 Local Policies	
Circle Windows Firewall with Advanced Security	
Network List Manager Policies > Public Key Policies	
Public Key Policies Group Addition Policies	
Application Control Policies	
Rescurity Policies on Local Computer	
Advanced Audit Policy Configu Create IP Security Policy	Policy
Manage IP filter lists and filter actions	ists and filter actions
All Tasks >	>
View >	>
Refresh	
Export List	
Help	

Creates an IP Security policy.

- 2. Right-click on IP Securities on Local Computer and select the Create IP Security Policy option from the menu. The IP Security Policy Wizard starts.
- 3. At the Welcome screen, click Next to continue.
- 4. At the **IP Security Policy Name** screen (as shown in Figure 8), enter the following information:

IP Sec	urity Policy Wizard	Х
IP	Security Policy Name Name this IP Security policy and provide a brief description	
	Na <u>m</u> e:	
	Demo IP Security Policy]
	Description:	
	^	
	· · · · · · · · · · · · · · · · · · ·	
	< <u>B</u> ack <u>N</u> ext > Can	icel

Figure 8: IP Security Policy Name screen (IP Security Policy Wizard)

- Assign a proper name to your policy. The name used in Figure 8 is an example.
- If required, enter a description for your policy.

- 5. Click **Next** to continue.
- 6. At the **Request for Secure Communication** screen ensure that the **Activate the default response** rule box is unchecked (as shown in Figure 9).

IP Security Policy Wizard	×
Requests for Secure Communication Specify how this policy responds to requests for secure communication.	
The default response rule responds to remote computers that request security, when no other rule applies. To communicate securely, the computer must respond to requests for secure communication.	
Note: The default response rule is supported only on computers that are running Windows 2003 and Windows XP.	
Activate the reault response rule (earlier versions of Windows only).	
< <u>B</u> ack <u>N</u> ext > Cancel	

Figure 9: Request for Secure Communication screen (IP Security Policy Wizard)

- 7. Click Next to continue.
- 8. At the **Completing the IP Security Policy Wizard** screen, check the **Edit properties** box and click **Finish**.
- 9. At the **Properties** window for your security Policy, click the **Rules** tab and click the **Add** button (as shown in Figure 10).

Demo IP Security Poli	cy Properties	? ×
Rules General		
Security n	ules for communicating with o	ther computers
IP Filter List	Filter Action	Authentication Tu
Comparise	Default response (ea	Kerberos <n< td=""></n<>
<	~~~~~	>
A <u>d</u> d	<u>E</u> dit <u>R</u> emove	⊡ Use Add <u>W</u> izard
		OK Cancel

Figure 10: Security Policy Properties

10. The Security Rule Wizard starts at the Welcome screen. Click Next to continue.

11. At the **Tunnel Endpoint** screen, select the **This rule does not specify a tunnel** option (as shown in) and click **Next**.

Security Rule Wizard	×
Tunnel Endpoint The tunnel endpoint is the tunneling computer closest to the IP traffic destination, as specified by the security rule's IP filter list.	
An IPsec tunnel allows packets to traverse a public or private network with the security level of a direct, private connection between two computers.	
Specify the tunnel endpoint for the IP Security rule:	
This rule does not specify a tunnel	
O The tunnel endpoint are specified by the following <u>IP</u> addresses:	
IPv4 tunnel endpoint:	
IPv6 tunnel endpoint:	
< <u>B</u> ack <u>N</u> ext > Cancel	

Figure 11: Tunnel Endpoint screen (Security Rule Wizard)

12. At the **Network Type** screen, select the **All network connections** option (as shown in Figure 12) and click **Next**.

Security Rule Wizard			×
Network Type The security rule must be applied to a net	work type.		
Select the network type:			
All network connections			
O Local area network (LAN)			
○ <u>R</u> emote access			
	< <u>B</u> ack	<u>N</u> ext >	Cancel

Figure 12: Network Type screen (Security Rule Wizard)

13. At the **IP Filter List** screen (as shown in Figure 13), click the **Add** button to define a new IP filter list.

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Security R	Rule Wizard		×
IP Filte Sel		f IP traffic to which this security rule	applies.
lf no	o IP filter in the following list mat	ches your needs, click Add to create	e a new one.
<u>I</u> P fi	ilter lists:		
N	ame	Description	<u>A</u> dd
			<u>E</u> dit
			<u>R</u> emove
		< <u>B</u> ack <u>N</u> ext	> Cancel

Figure 13: IP Filter List screen (Security Rule Wizard)

14. Enter a **Name** and, if necessary, a **Description** for your filter list. Figure 14 shows an example of a filter name.

📧 IP Filte	r List			×
	An IP filter list is compos addresses and protocol:			bnets, IP
Name:				
Demo IP	Filter List			
Descriptio	n:			<u>A</u> dd
			^	<u>E</u> dit
			~	<u>R</u> emove
IP Filters:			\checkmark	Use Add <u>W</u> izard
Mirrored	Description	Source DNS Name	Source Address	E
<				>
-			OK	Cancel

Figure 14: IP Filter List screen - adding a filter (Security Rule Wizard)

- 15. To create a new filter within the list, click Add and the IP Filter Wizard starts.
- 16. At the Welcome screen, click Next to continue.
- 17. At the **IP Filter Description and Mirrored Property** screen, enter a **Description** (if required) and select the **Mirrored** checkbox.
- 18. Click **Next** to continue.
- 19. At the **IP Traffic Source** screen, click the **Source address** drop down arrow and select **Any IP address** from the list (as shown in Figure 15).

IP Filter Wizard	×
IP Traffic Source Specify the source address of the IP traffic.	
Source address:	
Any IP Address	~
My IP Address	
Any IP Address A specific DNS Name A specific IP Address or Subnet DNS Servers <dynamic> WINS Servers <dynamic> DHCP Server <dynamic> Default Gateway <dynamic></dynamic></dynamic></dynamic></dynamic>	
	< <u>B</u> ack <u>N</u> ext > Cancel

Figure 15: IP Traffic Source screen (IP Filter Wizard)

- 20. Click Next to continue.
- 21. At the **IP Traffic Destination** screen, click the **Destination address** drop down arrow and select **Any IP address** from the list (as shown in Figure 16).

IP Traffic Destination	
Specify the destination address of the IP traffic.	
Destination address:	
Any IP Address 🗸 🗸	
My IP Address	
Any IP Address	
A specific DNS Name A specific IP Address or Subnet	
DNS Servers <dynamic></dynamic>	
WINS Servers <dynamic></dynamic>	
DHCP Server <dynamic></dynamic>	
Default Gateway <dynamic></dynamic>	
	Cancel

Figure 16: IP Traffic Destination screen (IP Filter Wizard)

- 22. Click Next to continue.
- 23. At the **IP Protocol Type** screen, click the **Select a protocol type** drop down arrow and select **TCP** from the list (as shown in Figure 17).

IP Filter Wizard				×
		s TCP or UDP, y	rou will also specify th	ıe
Select a prot Any EGP HMP ICMP Other RAW RDP RVD TCP UDP XNS-IDI	~			
		 < <u>B</u> ack	<u>N</u> ext >	Cancel

Figure 17: IP Protocol Type screen (IP Filter Wizard)

- 24. Click **Next** to continue.
- 25. At the IP Protocol Port screen do the following (as shown in Figure 18):
 - Select the From any port option.
 - Select the **To this port** option and enter 3306 in the text box.

P Filter Wizard	×
IP Protocol Port Many TCP/IP application protocols are established with well-known TCP or UDP ports.	
Set the IP protocol port:	
<u>From any port</u>	
O From this port:	
◯ <u>I</u> o any port	
To this port:	
3306	
	1
< <u>B</u> ack <u>N</u> ext > Cance	я

Figure 18: IP Protocol Port screen (IP Filter Wizard)

- 26. Click Next to continue.
- 27. At the **Completing the IP Filter Wizard** screen, do **NOT** check the **Edit properties** box and click **Finish**.

28. You are now returned back to the **IP Filter List** screen with the newly created filter added to the IP Filters field (as shown in Figure 19).

IP Filter List An IP filter list is composed of multiple filters. In this way, multiple subnets, IP addresses and protocols can be combined into one IP filter. Name: Demo IP Filter List Description: IP Filters: IP Filters: IP Filters: IP Filters: OK										
	IP Filter L	ist)				
Demo IP Filter List Description: Image: IP Filterg: IP Filterg: Image: IP Filterg: Image: Image	Ar Ar ad	An IP filter list is composed of multiple filters. In this way, multiple subnets, IP addresses and protocols can be combined into one IP filter.								
Add Description: Image:	<u>N</u> ame:									
	Demo IP Filt	er List								
IP Filters: Use Add Wizard Destination DNS Destination Address Source Port Destination Port Protocol <any address="" ip=""> <any address="" ip=""> Any 3306 TCP <</any></any>	Description:					<u>A</u> dd				
IP Filters: ✓ Use Add Wizard Destination DNS Destination Address Source Port Destination Port Protocol <any address="" ip=""> <any address="" ip=""> Any 3306 TCP</any></any>					^	Edit				
Destination DNS Destination Address Source Port Destination Port Protocol <any address="" ip=""> <any address="" ip=""> Any 3306 TCP <</any></any>					~	<u>R</u> emove				
<any address="" ip=""> <any address="" ip=""> Any 3306 TCP <</any></any>	IP Filters:				<mark>√ U</mark> se	Add <u>W</u> izard				
< >	Destinat	ion DNS	Destination Address	Source Port	Destination Port	Protocol				
	<any ip<="" td=""><td>Address></td><td><any address="" ip=""></any></td><td>Any</td><td>3306</td><td>TCP</td></any>	Address>	<any address="" ip=""></any>	Any	3306	TCP				
OK Cancel	<					>				
				Γ	ОК	Cancel				

Figure 19: IP Filter List screen - IP filter added

- 29. Click **Add** to create a new filter within the list.
- 30. Repeat the procedure from step 16 to add the following port numbers:
 - **6003, 6006, 4250, 4245, 4345, 5002**
- 31. Once you have added the port numbers, click OK.
- 32. At the **IP Filter List** screen within the **Security Rule Wizard**, select the IP filter list that you have just created (as shown in Figure 20).

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Security Rule Wizard		×
IP Filter List Select the IP filter list for t	he type of IP traffic to which this s	urity rule applies.
If no IP filter in the followir	ng list matches your needs, click A	to create a new one.
<u>I</u> P filter lists:		
Name	Description	<u>A</u> dd
Demo IP Filter List		Edit
		Remove
	< <u>B</u> ack	<u>N</u> ext > Cancel

Figure 20: IP Filter List screen - IP filter added (Security Rule Wizard)

- 33. Click Next to continue.
- 34. In the **Security Rule Wizard**, the **Filter Action** screen is presented. Check the **Use Add Wizard** box (as shown in Figure 21).
- 35. Click Add and the Filter Action Wizard starts.

Security Rule Wizard	Filter Action					
Filter Action Select the filter action for t	this security rule.					
	owing list matches your needs, c create a filter action using the w					
Filter Actions:		✓ Use Add <u>W</u> izard				
Name	Description	<u>A</u> dd				
		<u>E</u> dit				
		<u>R</u> emove				
	< <u>B</u> ack	<u>N</u> ext > Cancel				

Figure 21: Filter Action screen (Security Rule Wizard)

- 36. At the Welcome screen, click Next to continue.
- 37. At the **Filter Action Name** screen, enter a Name and, if necessary, a Description for your filter action.
- 38. Click **Next** to continue.

39. At the **Filter Action General Options** screen, select the **Negotiate** security option (as shown in Figure 22).

Filter Action Wizard	×
Filter Action General Options Set the filter action behavior.	
○ P <u>e</u> rmit	
OBlock	
Negotiate security	
	< <u>B</u> ack <u>N</u> ext > Cancel

Figure 22: Filter Action General Options (Filter Action Wizard)

- 40. Click **Next** to continue.
- 41. At the **Communicating with computers that do not support IPsec** screen, select the **Do not allow unsecured communication** option (as shown in Figure 23).

Filter Action Wizard	×
Communicating with computers that do not support IPsec Communicating with computers that do not support IPsec may expose your network to security risks.	
Do you want to allow communication with computers that do not support IPsec?	
Do not allow unsecured communication	
O Allow unsecured communication if a secure connection cannot be established.	
Use this option if there are computers on your network that do not support IPsec or have an incompatible IPsec configuration. Allowing unsecured communication may expose your network to security risks.	
On a computer with Windows Vista or a later version of Windows, this option allows unsecured communication to be sent anytime a secure connection cannot be established.	
On a Windows 2000, Windows XP, or Windows 2003 computer, this option allows unsecured communications to be sent only when the remote computer does not support IPsec.	
< <u>B</u> ack <u>N</u> ext > Cance	4

Figure 23: Communicating with computers that do not support IPsec screen (Filter Action Wizard)

42. Click **Next** to continue.

43. At the **IP Traffic Security** screen, select the **Integrity and encryption** option (as shown in Figure 24).

Filter Action Wizard	×
IP Traffic Security Specify a security method for IP traffic. To add multiple security methods, edit the filter action after completing the wizard.	
This filter action requires at least one security method for IP traffic.	
Integrity and encryption Data will be encrypted, authenticated, and unmodified.	
Integrity only Data will be authenticated and unmodified, but will not be encrypted.	
O <u>C</u> ustom	
< <u>B</u> ack <u>N</u> ext > Cance	el

Figure 24: IP Traffic Security (Filter Action Wizard)

- 44. Click Next to continue.
- 45. At the **Completing the IP Security Filter Action Wizard** screen, do **NOT** check the **Edit properties** box and click **Finish**.
- 46. At the **Filter Action** screen within the **Security Rule Wizard**, select the **Filter Action** that you have just created (as shown in Figure 25).

Security Rule Wizard Filter Action Select the filter action for this	security rule.	×
If no filter action in the followin Select Use Add Wizard to cre		
Filter Agtions: Name O Demo Filter Action	Description	<u>Add</u> <u>Edit</u> <u>R</u> emove
	< <u>B</u> ack	Next > Cancel

Figure 25: Filter Action screen - filter action added (Security Rule Wizard)

47. Click Next to continue.

- 48. At the Authentication Method screen, select your preferred authentication method.
- NOTE: NICE recommends to use certificates or Kerberos V5 protocol.

We advise against preshared key authentication because it is a relatively weak authentication method. Use preshared keys only for testing purposes.

- 49. Click **Next** to continue.
- 50. At the **Completing Security Role Wizard** screen, do **NOT** check the **Edit properties** box and click **Finish**.
- 51. At the Rules tab showing your security policy (as shown in Figure 26), click OK.

Demo IP Security Policy	Properties	?	×		
Rules General					
Security rules	for communicating with ot	her computers			
IP Security rules:	Filter Action	Authentication	Tu		
Demo IP Filter List	Demo Filter Action	Kerberos	No		
Compare A state of the state	Default response (ea	Kerberos	<n< td=""></n<>		
<			>		
Add Edit Remove ☑ Use Add Wizard					
		OK Ca	ncel		

Figure 26: Rules page (Demo IP Security Policy Properties)

- 52. As a last step, you have to activate the created security policy. To do this, open the **Local Security Policy** h window again by doing one of the following:
 - Click <Start> <All Programs> <Administrative Tools>.
 - Enter **secpol.msc** in the Search programs and files field.
- 53. Right-click on **IP Securities on Local Computer**. Your policy is displayed in the right-hand pane.
- 54. Right click on the policy and click **Assign** (as shown in Figure 27).

🚡 Local Security Policy					_		\times	
File Action View Help								
🗢 🔿 📩 📷 🔀 📴 🔒 📓 📷 🏙 🏦 🔟 🧕								
a Security Settings	Name		Descriptio	on	Policy A	ssigned		
✓ G Account Policies	Dem g ID (5 B			No			
🙀 Password Policy		Assign						
> 📴 Account Lockout Policy								
> 📴 Local Policies		All Tasks	>					
> 📔 Windows Firewall with Advanced Security		Delete						
Network List Manager Policies								
> 📔 Public Key Policies		Rename						
> Software Restriction Policies		Properties	5					
> Application Control Policies		· ·						
> 📵 IP Security Policies on Local Computer		Help						
> 🚆 Advanced Audit Policy Configuration	<						>	
Assigns this policy (attempts to make it active).								

Figure 27: Assigning the IP security policy

Your Internet Protocol security policy has now been activated.

5 Web Server Security

Communication between the NICE Inform Recorder web server (Core Server) and the web clients requires a secure HTTPS connection.

This prevents capturing of any NICE Inform Recorder related information from the network, accidentally or with malicious intents. The web client's temporary internet files cache will not contain any traces of NICE Inform Recorder client sessions.



SSL TLS

An HTTPS connection is realized by enabling Secure Socket Layer security (SSL) or Transport Layer Security (TLS). The TLS protocol is a more up-to-date and secure version of SSL, and therefore strongly recommended. Next to SSL, NICE Inform Recorder supports TLS 1.0, 1.1 and 1.2.

NOTE: The term "SSL" is still widely used for both SSL and TLS. In this guide we adhere to this convention and use "SSL", also where TLS is applied.

Supported secure ciphers are (as of November 2015): 'AES 128/128', 'AES 256/256', 'Triple DES 168/168'.

NICE Inform Recorder remains working when HTTP is completely disabled, or when weak ciphers are disabled ('DES 56/56', 'NULL', 'RC2 128/128', 'RC2 40/128', 'RC2 56/128', 'RC4 40/128', 'RC4 56/128', 'RC4 64/128', 'RC4 128/128').

The first part of this chapter describes how to enable SSL / TLS security.

Besides SSL / TLS security, this section describes additional, non-SSL related steps to enhance your web server security.

The following topics are included in this section:

- SSL / TLS Security
 - SSL Certificates
 - Enabling SSL Security
 - SSL Certificate Settings
- Enabling HTTP Only Cookies
- Preventing Cross Frame Scripting
- Enforcing Account Lockout
- Preventing Predictable Resource Location
- Content Security Policy
- Preventing Data Mining and HTTP Method Scanning

5.1 Prerequisites

Several Web Server vulnerabilities covered in this section require procedures that utilize Microsoft's URL Rewrite software. This software once installed is accessed via Microsoft Internet Information Services (IIS) Manager.

To install **IIS URL Rewrite 2.0**:

- 1. Click the link below to download **IIS URL Rewrite 2.0**:
 - Standalone installer
- 2. Copy the downloaded file to the Core Server and install the application by following the installation wizard.

5.1.1 Internet Information Services (IIS) Manager

Most of the following Web Server vulnerability hardening procedures involve using the IIS Manager. You can access the IIS Manager in two ways:

- Click <Start> <Windows Administrative Tools> <Internet Information Services (IIS) Manager>.
- Using the Server Manger Menu Click < Tools> < Internet Information Services (IIS) Manager>.

5.2 SSL / TLS Security

To ensure HTTPS is used for web connections, you must obtain or create an SSL certificate and install it on the Core Server.

5.2.1 SSL Certificates

The following types of certificates exist:

- Certificate issued by a public or commercial Certificate Authority (CA). Not necessary for internal networks.
- Certificate issued by the company (customer) itself, based on a CA certificate. This
 is a cost- effective and secure solution for internal networks.
- Self-signed certificate. This is not fully secure. It ensures an encrypted connection, but 'man-in- the-middle' attacks are still possible. NICE advises against this type of certificate for purposes other than testing.

In Windows Server 2016, you can create a self-signed certificate using Internet Information Services (IIS) Manager.

Installed certificate

If you have created and installed a certificate, it will look like the example in Figure 28.

Connections	Other a start in		Actions	
Q Kal (10 10.	Server Certificates		import_	
Start Page S	Use this feature to request and manage certificat SSL.	tes that the Web server can use with websites configured for	Complete	tificate Request Certificate Request.
		ow All Group by: No Grouping •		main Certificate
	Name Issued To	Issued By Expir.	Create Set	-Signed Certificate
	WMSVCSH42 WMSvcSH4	General Details Contification Path Image: Certificate is internetion This contificate is internetion for the following purple of a remote comparter • Ensures the density of a remote comparter • All issued to: • All issued to: WMSive SHA2+ESS-EBERBE2 Issued by: WMSive SHA2+ESS-EBERBE2 Issued by: WMSive SHA2+ESS-EBERBE2 Valid from 6/23/2017 to 6/21/2027 You have a private key that corresponds to the compares to the compares of the second		mithe Rabinal of prificale
<	Features View		OK N	

Figure 28: Installated certificate example

Verify this in [IIS Manager] < Connections> <{localhost name}> < Server Certificates>.

If you have multiple Core Servers, for example in 2N Recording, each Core Server requires its unique certificate.

5.2.2 Enabling SSL Security

To make sure the connection between web client and web server always uses HTTPS, take the following actions:

- Make an SSL certificate available and install it on the Core Server(s).
- On the NICE Inform Recorder Core Server(s):
 - Set the site binding to secure in the Internet Information Services (IIS) Manager.
 - Set up Internet Information Services (IIS) Manager to allow only HTTPS connections.
 - Change the desktop shortcut to HTTPS.
 - When applicable, you must re-bind the certificate.

5.2.2.1 Self-signed certificate

If you use a self-signed certificate, you must perform additional actions. NICE advises against the use of self-signed certificates for purposes other than testing.

- Importing the certificate on the web client.
- Setting up the certificate on the Core Server for access by local services.
- Setting up the web clients to use the certificate.

5.2.3 SSL Certificate Settings

In Windows 2016, perform the following steps to ensure proper functioning of the certificate.

5.2.3.1 Setting Site Binding

- To set the secure site binding:
 - 1. In the Internet Information Services (IIS) Manager, expand the <local host name> (below the Start Page).
 - 2. Expand Sites.
 - 3. Right-click RecorderSite.
 - 4. From the menu, select Edit Bindings..... The Site Bindings panel is presented.
 - 5. Click Add. The Add Site Bindings panel is presented (as shown in Figure 29).

Si	te Bindin	gs						? ×
	Type http	Host Name	Port 80	IP Address	Binding Informa			Add
	Add Sit	e Binding				?	×	Edit Remove
	Type: http http https ftp Examp		address: II Unassign om or mar		Port: V 80			Browse
					ОК	Cancel		Close

Figure 29: Add Site Binding panel (IIS)

- 6. Enter the following information:
 - **Type** select **https**. The port number changes to 443.
 - IP address leave the IP address as All Unassigned.
 - SSL certificate select the required certificate (refer to Figure 28 for an example).

Site Bindin	gs							?	\times
Type http	Host Name	Port 80	IP Address		Binding Informa			Add	
Add Site	Binding					?	×	Remove	
	~ All	ddress: Unassign dication	ed		Port:			Browse	
	lected			~	Select	View		Close	
	CCCDA15B6B8E3168	454280E94	43B1FE192DC		ок	Cancel			

Figure 30: Add Site Binding panel - selecting SSL certificate (IIS)

- 7. Click **OK**. Verify in the **Site Bindings** panel, that the certificate has been added. The asterisk * indicates 'All Unassigned' IP addresses.
- 8. Click Close.
- 9. Right-click RecorderSite.
- 10. Select Manage Web Site followed by Restart from the menu.

5.2.3.2 Setting up IIS for HTTPS Only

- To set up IIS to allow only HTTPS connections:
 - 1. In the Internet Information Services (IIS) Manager, navigate to <*Connections*> <*{localhost name}*> <*Sites*> <*RecorderSite*>.
 - 2. Click the SSL Settings icon (as shown in Figure 31).

Figure 31: Opening SSL Settings for the RecorderSite (SSL)

Connections	Ne Re	corderSite	Home				
Start Page	Filter:		• 7 Go -		Group by:		=
Application Pools	IP Address and Doma Eequest Filtering	ISAPI Filters	Logging Coging WebDAV Authori	MIME Types	Modules	Output Caching	^

3. Select Require SSL within the SSL Settings panel (as shown in Figure 32).

Figure 32: SSL Settings panel (IIS)

Connections , • . 2	SSL Settings	Actions
 SN-WIN16 (SN-WIN16\Adminis Application Pools Sites RecorderSite 	settings for the content of a website or application. Require SSL 1 Client certificates: Ignore Accept 2 Require	🕜 Help

- 4. Under **Client certificates:**, select the radio button in accordance with the company policy.
- 5. In the **Actions** panel on the right, click **Apply**.
- 6. Select Manage Web Site followed by Restart from the menu.

5.2.3.3 Redirecting the Desktop Shortcut

The NICE Inform Recorder Web GUI can be opened using the default 'NICE Inform Recorder Application' desktop icon.

- Set this shortcut to HTTPS as follows:
 - 1. Right-click the shortcut icon and select **Properties** from the menu.
 - 2. In the Target field, add an s to http (as shown in Figure 33).

Figure 33: Target field (shortcut properties)

Target:	i)\Internet Explorer\iexplore.exe("https://loo	alhost

3. Click OK.

5.2.3.4 Re-binding a Certificate after Upgrading NICE Inform Recorder

If you upgrade NICE Inform Recorder, the SSL certificate becomes unbound. You must rebind it, using the IIS Manager (refer to the <u>Setting Site Binding</u> section).



5.2.4 Enforcing HTTP Strict Transport Security (HSTS)

This configuration option enforces all client connections with the web server to use the enabled SSL/TLS HTTPS encryption connection. It redirects any unsecure http:// connection attempts to the secure https:// address.

- To enforce HTTPS connection:
 - 1. Go to the Internet Information Services (IIS) Manager and expand the *<local host name>* (below 'Start Page').

NOTE: It is suggested to apply this procedure to the server {local host} but can be applied to the 'RecorderSite' if preferred.

2. In the middle panel, double-click the **HTTP Response Headers** ¹ icon (as shown in Figure 34).



Figure 34: Opening HTTP Response Headers (IIS Manager)

3. In the Actions panel on the right, click Add. The Add Custom HTTP Response Header window is presented (as shown in Figure 35).

<u>File View H</u> elp		
Connections	HTTP Response Headers Use this feature to configure HTTP headers that are added to responses from the Web server.	Actions Add Set Common Headers
값 Application Poo > - 호 Sites	Group by: No Grouping Name Value Entry Type Add Custom HTTP Response Header ? X Name: Value: Value:	
	Cancel	-

Figure 35: Add Custom HTTP Response Headers (IIS Manager)

- 4. Enter the following information:
 - Name Strict-Transport-Security
 - Value max-age=31536000; includeSubDomains
- 5. Click OK.

5.3 Enabling HTTP Only Cookies

A cookie that has an HTTPOnly flag included in its response header can only be accessed by the server that has sent the cookie. It does not allow access by other, non-HTTP scripts and cross-site scripting (XSS).

If a malicious script code attempts to read the cookie, the browser returns an empty string.

Internet Explorer 7 and higher support this feature. For this, you must enable HTTPOnly on the Core Server.

To enable HTTPOnly two options exist:

- Using IIS URL Rewrite 2.0. This application allows the creation of rules to transform complex URLs into simpler and more consistent web addresses.
- Adding an ISAPI Filter in the Internet Information Services. This filter adds the HTTPOnly flag to all cookies. It is a standard functionality of IIS.

You can add an ISAPI filter using:

- The IIS Manager.
- A Command line.

5.3.1 Using IIS URL Rewrite 2.0

To install the software (refer to the beginning of Web Server Security section).

- To add a new URL rewrite rule using the IIS manager:
 - 1. On the Core Server, within IIS Manager, navigate to <{local host}>.

NOTE: It is suggested to apply this procedure to the server {local host} but can be applied to the 'RecorderSite' if preferred.

- 2. In the middle panel, double-click the URL Rewrite 🛒 icon.
- 3. In the Actions panel on the right, click Add Rule(s)... to display the templates.
- 4. Under **Outbound rules** double click the **Blank rule** option.

+ · · · · · · · · · · · · · · · · · · ·						10 Gi	
Elle Yiew Help							
Connections	URL Rev	witho			Action	5	
Q.• (a) (0) (g .	UKL REW	nite			Ari	d Rale(t)	
Start Page GI-PHVS2 (CI-PHVS2\Adminis Application Pools		abilities based on rules for the applied to the requested URL	e requested URL address and the conte address:	ent of an HITP response.		mage Server Variables	les
) a Sites	Name	Input	Match	Pattern		mage Providers	
	Add Rule(s)			7	×	Providers	
	Select a rule temp	late:				Preconditions	
	Blank rule Request block Inbound and On User-friendly Oktbound rules Blank rule Search Engine C Enforce lower	stoound Rules URL Iptimization (SEO)	Rule with rewrite map				
onfiguration: localhost application	that you can use t	te to create a new outbound r o define a new rewrite rule for	ule without any preset values. This ten changing the content of an HTTP res	nplate opens the "Edit Rule" ponse.	page		9

Figure 36: Add Blank URL Rewrite Outbound rule (IIS Manager)

- 5. Name the new rule **Add HttpOnly** and using the **Precondition** drop down list select **<Create New Precondition...>**.
- Name the new Precondition as No HttpOnly and click the Add button (see Figure 37).

d HttpOnly				
condition:			v.	Edit
Add Precondition				?
Name:				
No HttpOnly				
Using:				
Regular Expressions	Ŷ			
Logical grouping:				
Match All	~			
Input Typ	e	Pattern		Add
			1	
			1000	
			0	
			Distance of the local	

Figure 37: Add a Precondition to an Outbound rule (IIS Manager)

- 7. Enter the following values (as shown in Figure 38):
 - Condition input: {RESPONSE_CONTENT_TYPE}
 - Check if input string: Matches the Pattern
 - Pattern: . (a single dot)

*	
	Test pattern
	¥

Figure 38: Add a Matching Condition HTTPOnly (IIS Manager)

- 8. Click OK.
- Add a second condition (click Add) entering the following values (as shown in Figure 39):
 - Condition input: {RESPONSE_CONTENT_TYPE}
 - Check if input string: Does Not Match the Pattern
 - Pattern: ; HttpOnly

Figure 39: Add a Non-Matching Condition HTTPOnly (IIS Manager)

dd Condition	? ×
Condition input:	
{RESPONSE_CONTENT_TYPE}	
Check if input string:	
Does Not Match the Pattern 🔗	
Pattern:	
; HttpOnly	Test pattern
☑ Ignore case	
	OK Cancel

10. Click OK.

11. The **Add Precondition** (see Figure 40) is redisplayed now showing the newly created conditions, click **OK**.

dd Precondition			? >
Name:			
No HttpOnly			
Using:			
Regular Expressions	~		
Logical grouping:			
Match All 🗸 🗸			
Input	Туре	Pattern	Add
{RESPONSE_CONTENT_TYPE} {RESPONSE_CONTENT_TYPE}	Matches the Pattern Does Not Match the Pattern	; HttpOnly	EùL .
			Seriole
			MoveUp
			(
h			
			OK Cancel

Figure 40: Preconditions Summary HTTPOnly (IIS Manager)

- 12. The **Precondition** drop now list now displays the newly created rule **No HttpOnly**. Enter the following values to complete the **Outbound Rule** (as shown in Figure 41):
- In Match
 - Matching Scope: select **Server Variable**
 - Variable Name: **RESPONSE_Set_Cookie**
 - Variable value: Matches the Pattern
 - Using: Regular Expressions
 - Pattern: .+ (a dot followed by the plus sign)
- In Action
 - Action Type: Rewrite
 - Value: {R:0}; HttpOnly
- 13. Click **Apply** in the righthand **Actions** panel.

Edit Outbound Rul	le		Actions
Name:			↑ Bx Cap
Add HttpOnly			Save the current changes.
Precondition:			() Help
No HttpOnly		~ Edit	
Match			
Matching scope:			
Server Variable \sim			
Variable name:			
RESPONSE_Set_Cookie			
Variable value:	Using:		
Matches the Pattern \sim	Regular Expressions	~	
Pattern:			
.+		Test pattern	
☑ Ignore case			
Conditions		۲	
Action		۲	
Action type:			
Rewrite ~			
Action Properties			
Value:			
{R:0}; HttpOnly			
Replace existing server variable	value		

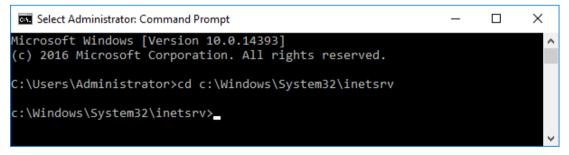
Figure 41: HTTPOnly Outbound Rule Summary (IIS Manager)

5.3.2 Adding an ISAPI Filter

5.3.2.1 Using a Command Line

- To add an ISAPI Filter using a Command Line:
 - 1. Click Start, enter cmd and press Enter to open a new Command window.
 - 2. In the Command window, change directory (cd) to the folder containing the **appcmd** executable. Usually this is 'c:\windows\system32\inetsrv'.

Figure 42: Locating appcmd executable (Command window)



3. At the cursor, enter:

appcmd set config /section:isapiFilters /+[name='HTTPOnly',path=' C:\inetpub\isapifilters\HttpOnlyIsapi.dll']

IMPORTANT: Do not use spaces in name and path between the square brackets.

Figure 43: adding an ISAPI Filter (Command window)

G Administrator: Command Prompt	_		×
Microsoft Windows [Version 10.0.14393] (c) 2016 Microsoft Corporation. All rights reserved.			î
C:\Users\Administrator≻cd c:\Windows\System32\inetsrv			
c:\Windows\System32\inetsrv>appcmd set config /section:isapiFilters POnly',path='C:\inetpub\isapifilters\HttpOnlyIsapi.dll'] Applied configuration changes to section "system.webServer/isapiFilt CHINE/WEBROOT/APPHOST" at configuration commit path "MACHINE/WEBROOT	ers"	for "M	
c:\Windows\System32\inetsrv>_			~

TIP: You can add optional attributes to this command. See the **NOTE** below.

- 4. Press **Enter**. The filter has now been added to IIS. The Command line notifies you about the changed configuration.
- 5. Close the Command window.

NOTE: You can specify optional attributes, using the same syntax: appcmd set config /section:isapiFilters /+[name='HTTPOnly',path=' C:\inetpub\isapifilters\HttpOnlyIsapi.dll',enabled='false',enableCache='true', preCondition='xxx']

Enabled: default true. Setting it to false disables the ISAPI filter.

EnableCache: default false. This means HTTP.sys caching is disabled.

PreCondition: none by default . The precondition bitness64 means that the filter is only applicable in a 64bit Application Pool, that will only see ISAPI Filters with either bitness64 or no bitness precondition

5.3.2.2 Using IIS Manager

NOTE: This procedure applies to IIS7.

- To add an ISAPI Filter using the IIS Manager:
 - 1. On the Core Server, within IIS Manager, navigate to <{local host}> <Sites> <RecorderSite>.
 - In the middle panel, double-click the ISAPI Filters icon. A listing of ISAPI filters is displayed.
 - 3. In the **Actions** panel, click **Add....** The **Add ISAPI Filter** window is presented (as shown in Figure 44).

File View Help					
Connections		litere		Actions	
g-⊟ (2) Ø	ISAPI F	Inters		Add	
Start Page SN-WIN16 (SN-WIN16\Admi	Use this feature to to the Web server.	configure ISAPI filters that process rea	quests made	Revert To Pa View Ordere	
V Sites	Group by: No Gro	ouping 🔹	Help		
> 😜 RecorderSite		Executable %windir%\Microsoft.NET\Fra %windir%\Microsoft.NET\Fra	Entry Type Local Local		
		Add ISAPI Filter		?	×
		Filter name:		_	
		Executable:			
			-	_	
	Features View			Cano	el

Figure 44: Add ISAPI Filter window (IIS Manager)

- 4. Enter the following information:
 - Filter name HTTPOnly.
 - Executable click the Browse button and find and select the HttpOnlyIsapi.dll executable file (as shown in Figure 45). Usually, this is located in C:\Inetpub\ISAPIfilters.

Figure 45: Opening HttpOnlyIsapi.dll (IIS Manager)

Open							×
	Loca	I Disk (C:) → inetpub → isa	pifilters	ٽ ~	Search isapifilters		٩
Organize 🔻 New f	folder				: : : :	•	?
🏪 Local Disk (C:)	^	Name	Date r	modified	Туре	Size	
inetpub		🚳 HttpOnlylsapi.dll	5/31/2	2018 3:30 PM	Application extens		7 KB
AdminScripts custerr files ftproot history isapifilters	s						
Fi	ile <u>n</u> am	ne: HttpOnlylsapi.dll		~	(*.dll) <u>O</u> pen	Cance	~ el

- 5. Click **Open**.
- 6. Click **OK** and the filter is added to IIS (as shown in Figure 46).

Figure 46: HTTPOnly ISAPI filter added (IIS Manager)

← =	Sites + RecorderSite +	9	
File View Help			
Connections	Use this feature to con to the Web server. Group by: No Group	figure ISAPI filters that process rec	quests made
🤉 🌍 RecorderSite	Name ASP.Net_2.0.50727.0	Executable %windir%\Microsoft.NET\Fra %windir%\Microsoft.NET\Fra	Entry Type Local Local

5.4 Preventing Cross Frame Scripting

Cross Frame Scripting is used for 'phishing' attacks. Web clients receive a link to a malicious site, with the intention to capture pages from the actual site in an HTML frame. The real application is loaded as an embedded frame. When the web user accesses the application, the attacker is able to monitor activities, and compromise user and other sensitive information. This method is also known as 'framesniffing'.

The procedure below prevents web pages to become encapsulated within an HTML frame of an unauthorized site. The web page is blanked out when it is being framed.

- To prevent Cross Frame Scripting:
 - 1. Go to the Internet Information Services (IIS) Manager, and expand the *<local host name>* (below 'Start Page').
 - 2. In the **Connections** panel on the left side, expand **Sites**.
 - 3. Select **RecorderSite**.
 - 4. In the middle panel, double-click the **HTTP Response Headers** icon (as shown in Figure 47).

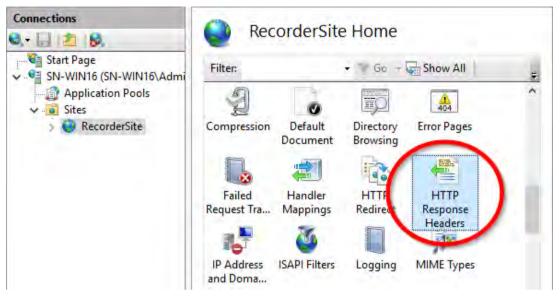


Figure 47: Opening HTTP Response Headers (IIS Manager)

5. In the Actions panel on the right, click Add. The Add Custom HTTP Response Header window is presented (as shown in Figure 48).

	HTTP Re	espons	e Headers	Actions	
SN-WIN16 (SN-WIN16\Admi	No. 100 00 1			Add Set Common Headers	
Soft Page Soft Page	Use this feature to configure HTTP headers that are added to responses from the Web server. Group by: No Grouping Name Value Entry Type			 Help 	
	X-Content-Type-O., X-Frame-Options X-Powered-By X-XSS-Protection	SAME	Inherited RIGIN Inherited Add Custom HTTP Response Header Name: Value: Value:	? X	

Figure 48: Add Custom HTTP Response window (IIS Manager)

- 6. Enter the following information:
 - Name X-Frame-Options.
 - Value SAMEORIGIN.
- 7. Click OK.

The X-Frame-Options header prevents this website to be hosted in an 'IFRAME' of other domains. If required, you can add domains that are allowed to host your site.

For more information, refer to Microsoft Support - Mitigating framesniffing.

5.5 Enforcing Account Lockout

Attackers can use brute forcing techniques to discover valid logon credentials. To prevent this, a user account must be locked out after multiple failed login attempts. We recommend maximum three failed attempts.

- To configure this setting, using the NICE Inform Recorder Web GUI:
 - 1. Open the NTR Web GUI. For this, open Internet Explorer, and enter in the address bar one of the following:
 - The IP address of the Core Server, when accessing from a different workstation.
 - http://localhost, when accessing from the Core Server itself. In this case you can also use the Recording Solution Application icon.

Using either method, the login page of the web interface is presented (as shown in Figure 49).

Figure 49: Login page (NICE Inform Recorder)

(a) W http://192.168.51.139/ D + C W Log on [WIN-29VEL9K × 0]
Eile Edit View Favorites Iools Help
NICE • Inform Recorder
LOG ON
MAIN ADMINISTRATION FREE SEAT
Log on using your username and password.
Username Password

- 2. Check if the **Main Administration** tab is active.
- 3. Enter the Username and Password, with Administrator rights.
- 4. Click the button to the right of the Password field, or press **Enter**. The main Web GUI opens.
- 5. Navigate to *<user administration> <users>*. You only need to configure the users that are allowed to access the NICE Inform Recorder Web GUI. Typically, these are administrators, service, and other authorized users.
- 6. Double-click on the user's line item (or click the associated **Edit** A button). The user's configuration panels are displayed.
- 7. Navigate to the **Security settings for user account**<*user name*> panel and locate the **Number of login attempts allowed** field (as shown in Figure 50).

Figure 50: Security settings for user account panel (NICE Inform Recorder)

Security settings for user account admin		0
Application access	Access granted	
User authentication method	System authentication	\sim
New password	•••••	
New password confirmation	•••••	
Password expiration date	Never	\checkmark
Number of login attempts allowed	Unlimited	~
Login attempts exceeded behavior	Disable account for 15 minutes	~
User account expiration time	Never	\sim
User account expired behavior	Disable account	\sim
Allowed Player Views	Inherit settings from user group	\sim
Default player	Inherit settings from user group	\sim

8. From the drop-down menu, select the required number of attempts.

5.6 Hiding Version Information in the Server Header

Version information in the Internet Information Services (IIS) server header can be very useful for attackers to get information about the web server and enable them to break in more easily.

Two alternatives exist to hide this version information and avoid its use for attacks:

- Using IIS URL Rewrite 2.0. This application allows the creation of rules to transform complex URLs into simpler and more consistent web addresses including version hiding.
- Using IIS URL Scan 3. A simpler mechanism that utilises a configuration file for hiding the version information.

In addition to the Web Server version, the response header information includes ASP.NET which too must be removed to provide less information to any attackers.

5.6.1 Using IIS URL Rewrite 2.0

To install the software (refer to the beginning of Web Server Security section).

- To add a new URL rewrite rule using the IIS manager:
 - 1. On the Core Server, within IIS Manager, navigate to <{local host}>.

NOTE: It is suggested to apply this procedure to the server {local host} but can be applied to the 'RecorderSite' if preferred.

- 2. In the middle panel, double-click the URL Rewrite 🚎 icon.
- 3. In the Actions panel to the right select View Server Variables....
- 4. Select Add... from the Action panel.
 - Enter **RESPONSE_SERVER** in the text box and click OK.

← → CI-PHYS2 →		
<u>File View H</u> elp		
Connections	Allowed Server Variable Use this feature to manage the list of server var change by using rewrite rules. Group by: No Grouping Name Add Server Variable Server variable name: RESPONSE_SERVER OK C	Actions Add Back to Rules Help.

Figure 51: Allowed Server Variables (IIS Manager)

- 5. In the Actions panel to the right select Back to Rules.
- 6. In the **Actions** panel select **Add Rule(s)...** to display the templates.
- 7. Under Outbound rules double click the Blank rule option (as shown in Figure 52).

						10 G	
le Yiew Help							
nnections		14.0			Action	5	
- GI 10 18.	URL Rev	rite			.Ad	id Eule(s)	
 Start Page CI-PHYS2 (CI-PHYS2\Adminis Application Pools 		abilities based on rules for applied to the requested t	the requested URL address and the conter IRL address:	t of an HTTP response.		unage Server Variables	les
) - Sites	Name	Input	Match	Pattern		mage Providers	
	Add Rule(s)			1	×	Providers d Rules	
	Select a rule temp	late:				Preconditions	
	Blank rule Request block Inbound and Ou User-friendly U	utbound Rules URL	Rule with rewrite map		_		
	🕌 Blank rule	ptimization (SEO)					
	Conforce lower						
siguration: Tocalhost' application	that you can use to		d rule without any preset values. This temp for changing the content of an HTTP resp		page		9

Figure 52: Add Blank URL Rewrite Outbound rule (IIS Manager)

- 8. Name the new rule Remove Server Name
- 9. Enter the following values (as shown in Figure 53):
 - Matching Scope: Server Variable
 - Variable Name: **RESPONSE_SERVER**
 - Pattern: .* (a single dot followed by the asterisk symbol)
 - Leave the Action Properties Value as blank for no server version information or add a custom value.

CI-PHYS2 +		
ile <u>V</u> iew <u>H</u> elp		
nnections •	Edit Outbound Rule	Actions
 CI-PHYS2 (CI-PHYS2\Admini: — 2 Application Pools Sites 	Remove Server Name Precondition: <none></none>	🗢 Back to Rules 😢 Help
	Match Matching scope: Server Variable w Variable name: RESPONSE SERVER	
	Variable value: Uging: Matches the Pattern ~ Regular Expressions	
	Paţtem: 1 2 Ignore case	
	Conditions	
	Action Action type: Rewrite ~	
	Action Properties Value:	
	C S S S S S S S S S S S S S S S S S S S	

Figure 53: Remove Server Version Summary (IIS Manager)

10. From the Action panel to the right select Apply

5.6.2 Using IIS URL Scan 3

- To hide version information in the server header:
 - Go to <u>Microsoft IIS.NET- URLScan3Reference</u>. This site provides you with additional information about URLScan and a link to download it. Download version 3.1. or higher.
 - 2. After downloading the **MSI** file, double-click it to start installing URL Scan.
 - 3. When the installer completes, click **Finish**.

NOTE: UrlScan is added as a global filter to IIS. The UrlScan.dll and UrlScan.ini files are located in C:windows\system32\inetsrv\UrlScan, within a Logs subfolder.

- 4. Stop the IISAdmin service. This also stops the dependent services.
- 5. Navigate to C:windows\system32\inetsrv\UrlScan and open the Urlscan.ini file for editing (using Notepad for example).
- 6. In the file, locate the following line item:

RemoveServerHeader=0

and modify it to:

RemoveServerHeader=1

Figure 54: Editing Urlscan.ini file

Untitled - Notepad	- 🗆 X
<u>F</u> ile <u>E</u> dit F <u>o</u> rmat <u>V</u> iew <u>H</u> elp	
[options]	
UseAllowVerbs=1	; If 1, use [AllowVerbs] section, else use the ; [DenyVerbs] section. The default is 1.
UseAllowExtensions=0	; If 1, use [AllowExtensions] section, else ; use the [DenyExtensions] section. The ; default is 0.
NormalizeUrlBeforeScan=1	<pre>; If 1, canonicalize URL before processing. ; The default is 1. Note that setting this ; to 0 will make checks based on extensions, ; and the URL unreliable and is therefore not ; recommend other than for testing.</pre>
VerifyNormalization=1	<pre>; If 1, canonicalize URL twice and reject ; request if a change occurs. The default ; is 1.</pre>
AllowHighBitCharacters=0	; If 1, allow high bit (ie. UTF8 or MBCS) ; characters in URL. The default is 0.
AllowDotInPath=0	<pre>; If 1, allow dots that are not file ; extensions. The default is 0. Note that ; setting this property to 1 will make checks ; based on extensions unreliable and is ; therefore not recommended other than for ; testing.</pre>
RemoveServerHeader=1	; If 1, remove the 'Server' header from ; response. The default is 0.
EnableLogging=1	; If 1, log UrlScan activity. The ; default is 1. Changes to this property
c	

- 7. Save and close the file.
- 8. Restart all the services that were stopped when the IISAdmin service was stopped. Starting a service that runs under the IISAdmin service also starts the IISAdmin service.

5.6.3 Remove ASP.NET from the Server Header

The server header includes additional information in the response header which can be used to partially identify the web server in the same manner as the version.

- To remove ASP.NET from the Server Header:
 - 1. Go to the Internet Information Services (IIS) Manager, and expand the *<local host name>* (below 'Start Page').

2. In the middle panel, double-click the **HTTP Response Headers** icon (as shown in Figure 55).

← - ♥ CI-PHYS2 ►							
<u>File View H</u> elp							
Connections		DUNCO U	6				
8,• 🔂 💷 😣	CI-	PHYS2 H	ome				
Carl Start Page	Filter:		• • <u>6</u> 0 • 5	Show <u>All</u>	Group by: An	ea	•
Application Pools	IIS						~
June Sites		2	10	CGI	-	0	
	ASP	Authentic	Authorizat Rules	CGI	Compression	Default Document	
	11	404	8	A D	-	100	
	Directory Browsing	Error Pages	Failed Request Tra	FastCGI Settings	Handler Mappings	HTTP Redirect	
	100 Mar	15		3		-	
	HTTP Response	IP Address and Doma	ISAPI and CGI Restri	ISAPI Filters	Logging	MIME Types	
	Head	igure HTTP he		dded to respo	onses from the		
	+	aller -	0	LAVE	(all all all all all all all all all all	DAV	
	Modules	Output Caching	Request Filtering	Server Certificates	URL Rewrite	WebDAV Authori	
	Worker Processes						v

Ready

Figure 55: Opening HTTP Response Headers (IIS Manager)

3. In the middle panel select the response header titled 'X-Powered-By' and from the **Actions** panel on the right, click **Remove** (as shown in Figure 56).

Carlos Contra	/S2 ►			
<u>File View H</u> elp				
Connections	117	erver.	aders ders that are added to responses	Actions Add Set Common Headers Eddt Kemove
	Name X-Powered-By	Value ASP.NET	Entry Type Local	😢 Help

Figure 56: Remove Unwanted HTTP Response Headers (IIS Manager)

5.7 Preventing Predictable Resource Location

Predictable Resource Location (also known as Web Server Directory Enumeration) is an attack technique used to uncover hidden web site content and functionality. By making

educated guesses via brute forcing an attacker can guess file and directory names not intended for public viewing.

- Using Windows Explorer
 - 1. Navigate to the web server directory installation.
 - Default location 'C:\inetpub\wwwroot'
 - 2. Right mouse click the **myaccount** folder and select properties from the pop up menu.
 - 3. Check the **hidden** check box within the attributes section of the general tab and click **OK**.
 - 4. At the **Confirm Attribute Changes** dialogue box select **Apply Changes to this folder only** and click **OK**.
 - 5. Repeat the above process for the **status** folder.

5.8 Content Security Policy

This configuration option informs all client connections with the web server of a restricted content security policy.

- To enforce a Content Security Policy:
 - 1. Go to the Internet Information Services (IIS) Manager and expand the *<local host name>* (below 'Start Page').

NOTE: It is suggested to apply this procedure to the server {local host} but can be applied to the 'RecorderSite' if preferred.

2. In the middle panel, double-click the **HTTP Response Headers** icon (as shown in **Figure 57**).

← - ♥∄ ► CI-PHYS2 ►							
<u>File View H</u> elp							
Connections		DUNCO U					
. · 🗟 💷 🔗.	CI-	-PHYS2 H	ome				
📲 Start Page	Filter:		• <u>6</u> 0 • 5	Show All	Group by: An	ea	-
CI-PHYS2 (CI-PHYS2\Admini: Application Pools							~
Sites	IIS	-	-		~		^
		0	1=0	CGI	2		
	ASP	Authentic	Authorizat	CGI	Compression	Default	
			Rules			Document	
	310	404		秋田 山	-	12	
	Directory	Error Pages	Failed	FastCGI	Handler	HTTP	
	Browsing		Request Tra	Settings	Mappings	Redirect	- 1
	(Bills)		CC.	20		10	
	НТТР	IP Address	ISAPI and	ISAPI Filters	Logging	MIME Types	
	Response Head	and Doma	CGI Restri				
	Con	figure HTTP he	aders that are a	idded to respo	onses from the		
	Modules	Output	Request	Server	URL Rewrite	WebDAV	
	iviodules	Caching	Filtering	Certificates	UKL Kewrite	Authori	
	-						
	44 P						
	Worker Processes						
	-						

Figure 57: Opening HTTP Response Headers (IIS Manager)

3. In the Actions panel on the right, click Add. The Add Custom HTTP Response Header window is presented (as shown in Figure 58).

ile <u>V</u> iew <u>H</u> elp		
onnections		Actions
• 🔲 (ģ) 🕵	HTTP Response Headers	Add
Start Page	Use this feature to configure HTTP headers that are added to respon	ses Set Common Headers
CI-PHYS2 (CI-PHYS)	from the Web server.	Help
Sites	Group by: No Grouping -	
	Name Value Entry Type	
	Add Custom HTTP Response Header ? ×	
	and the second se	
	Name:	
	Value:	
	Cancel	1

Figure 58: Add Content Security HTTP Response Headers (IIS Manager)

- 4. Enter the following information:
 - Name Content-Security-Policy
 - Value default-src 'self'; font-src *; img-src * data:; script-src *; style-src *; frame-ancestors 'none';
- 5. Click **OK**.

5.9 Preventing Data Mining and HTTP Method Scanning

Web spiders are the most powerful and useful tools developed for both good and bad intentions on the internet. A spider serves one major function, Data Mining. The spider crawls thousands of links and pages gathering bits of information and storing it into a database.

To prevent this information being available it is possible to restrict certain HTTP methods as well as rejecting unsupported method attempts.

5.9.1 Restrict HTTP Methods

By calling the HTTP method OPTIONS on the web server and any folders found by web crawling it is possible to ascertain what methods are available for hijacking the server.

- To restrict HTTP methods:
 - 1. Go to the Internet Information Services (IIS) Manager and expand the *<local host name>* (below 'Start Page').
- NOTE: It is suggested to apply this procedure to the server {local host} but can be applied to the 'RecorderSite' if preferred.
 - 2. In the middle panel, double-click the **Request Filtering** icon (as shown in Figure 59).

← → 🍕 → CI-PHY	S2 🕨	😂 🗠 🖓 🖉
<u>File View H</u> elp		
Connections		Actions
8- 🗐 🖄 🕵	CI-PHYS2 Home	Open Feature
📲 Start Page	Filter:	Manage Server
CI-PHYS2 (CI-PHYS)	ASP Authentic Authorizat CGI Compression	💈 Restart
> Sites	Rules	Start
		Stop
	Default Directory Error Pages Failed FastCG	View Application Pools View Sites
	Document Browsing Request Tra Settings	1000
	🖅 🚴 📲 📑 🖏	
	Handler HTTP HTTP IP Address ISAPI and	 Export Server Package Import Server or Site Package
	Mappings Redirect Respon and Doma CGI Restri	Change .NET Framework
		Version
		 Get New Web Platform Components
	ISAPI Filters Logging MIME Types Modules Output Caching	P Help
	Request Server URL Rewrite WebDAV Worker Filtering Certificates Authori Processes	
	Management	
	Configurat Feature IIS Manager IIS Manager Management 🗸 🗸	
	Features View 📴 Content View	1

Figure 59: Opening Request Filtering (IIS Manager)

- 3. In the Request Filtering panel select the HTTP Verbs tab
- 4. In the **Actions** panel to the far right of IIS Manager click **Deny Ver**b.
- 5. Enter OPTIONS in the text box and click OK (see Figure 60).
- 6. Repeat steps 4 and 5 substituting **OPTIONS** for each of the following:

- TRACE
- HEAD
- UPDATE

<u>File View H</u> elp			
Connections	Degue	t Filtering	Alerts
Start Page Start Page CI-PHYS2 (CI-PHYS2)A Application Pools Sites	Use this feature to c	st Filtering configure filtering rules. ansions 📾 Rules 🚥 Hidden Segments 🕫 UR 🍠 HTTP Verbs 🍕 Headers 🕐 Query Strings	 Verbs that appear in the list and have Allowed set to False are blocked. No other verbs are blocked.
	Verb	Allowed	Actions
	TRACE	False Denv Verb ? ×	Allow Verb Deny Verb
			Edit Feature Settings
		OFTIONS OK Cancel	Help

Figure 60: Request Filtering Deny HTTP Verbs (IIS Manager)

5.9.2 Block Unsupported HTTP Methods

Blocking unsupported HTTP Methods requires the filtering of inbound web server requests. To filter these inbound requests, a rule is created using URL rewrite.

To install the software (refer to the beginning of Web Server Security section).

- To add a new URL rewrite rule using the IIS manager:
 - 1. On the Core Server, within IIS Manager, navigate to <{local host}>.

NOTE: It is suggested to apply this procedure to the server {local host} but can be applied to the 'RecorderSite' if preferred.

- 2. In the middle panel, double-click the URL Rewrite 🛒 icon.
- 3. In the Actions panel to the right select Add Rule(s)... to display the templates.
- 4. Under Inbound rules double click the Blank rule option (as shown in Figure 61).

e - 🥞 Kol-Ph	S2 >	- O G -
<u>File View H</u> elp		
Connections		Actions
	Add Rule(s) ? X	Add Rule(s)
 Start Page CI-PHYS2 (CI-PHYS) Application Pool 	Provi Inbol Select a rule template:	Manage Server Variables View Server Variables
Sites	Nam Inbound rules Blank rule Rule with rewrite map Requ Select this template to create a new inbound rule without any preset values.	Manage Providers View Rewrite Maps View Providers
	Inbour This template opens the "Edit Rule" page that you can use to define a new envite rule for changing the requested URL address. User memory one of the requested URL address. Outbound rules	Outbound Rules (2) View Preconditions View Custom Tags
	Elank rule Search Engine Optimization (SEO) O Enforce lowercase URLs	🕐 Help
	Outbe	
	OK Cancel	
	¢	

Figure 61: Add Blank URL Rewrite Inbound rule (IIS Manager)

- 5. Name the new rule **Restrict HTTP Methods**
- 6. In the **Match URL** section enter **.*** (a single dot followed by the asterisk symbol) in the **Pattern** field.
- Click the Conditions arrow to display the Conditions sections (as shown in Figure 62) and click the Add... button.

CI-PHYS2 >				
View Help				
tions	Falls talk area al Derta	-		
0 4	Edit Inbound Rule			
tart Page Name: 1-PHYS2 (CI-PHYS; Restrict I	HTTP Methods			
Application Poo				
Sites Match L	JRI			(
	sted URL:		Using:	
the second se	nes the Pattern	~	Regular Expressions	Ŷ
- Providence				
Pattern	4			Test pattern
🗹 Ign	ore case			
T				-
Conditio				0
Logical	grouping: All v			
1 Million and a second s				
Input	Туре	Pattern		Add
			1	Edit
				Remove
				Move Up
				Move Down
Trac	k capture groups across cond	litions		
1 - and the second				
Server V	ariables			(
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1				
				<u></u>
Action				(^)

Figure 62: Select Add Condition to Inbound rule (IIS Manager)

- 8. In the Add Condition dialogue box enter the following (as shown in Figure 63):
 - Condition input: **{REQUEST_METHOD}**
 - Check if input string: **Does Not Match the Pattern**
 - Pattern: (?:POST)|(?:GET)

Add Condition		?	×
Condition input:			
{REQUEST_METHOD}			
Check if input string:			
Does Not Match the Pattern	\sim		
Pa <u>t</u> tern:			
(?:POST) (?:GET)		Test gattern	n
☑ Ignore case			
	OK	Cano	el

Figure 63: Add Condition to Inbound rule (IIS Manager)

- 9. Click OK
- 10. In the Action section change the Action type to Custom Response
- 11. In the Action Properties enter the following (as shown in Figure 64):
 - Status Code: 405

- Reason: HTTP Verb not allowed
- Error Description: HTTP Verb not allowed
- 12. Click **Apply** in the righthand **Actions** panel

e <u>V</u> iew <u>H</u> elp				
Start Page CI-PHYS2 (CI-PHYS) Application Poo	Edit Inbound Rule Logical grouping: Match All V Input Type Pattern	Add	^	Actions Apply Ex Cancel Back to Rules P Help
	(REQUEST_MET Does Not Match the Pattern (APOST)(AGET)	Addu Editu Rémove Maye Up Maye Dawn		
	Track capture groups across conditions Server Variables	9		
	Action Action type: Custom Response >> Action Properties Status gode: 406	(*)		
	Substatus code: 0 Reason: HTTP Verb not allowed Error description:			
	HTTP Verb not allowed		y.	

Figure 64: HTTP Method Filter Inbound rule Summary (IIS Manager)

6 Web Client Internet Explorer Policy

For easy access to the recording system through any IP network, NICE Inform Recorder uses a web- based graphical user interface (web GUI). You can access and browse this web GUI using the Windows Internet Explorer (IE), from any web client system. For details of the NICE Inform Recorder Web GUI and its settings, refer to the **NICE Inform Recorder 9.2.1 User Manual**.

NICE Inform Recorder supports Internet Explorer **IE9**, **IE10** (in compatibility mode) and **IE11** (in native mode).

Windows security settings on the web client can block specific web activities, which results in limited functionality of the NICE Inform Recorder Web GUI.

This section explains which security settings you have to apply in the Internet Explorer to overcome these limitations and allow:

- Access from the web client
- Playback of recorded calls
- Downloading of recorded calls from the recording system
- Copying version information to the clipboard
- Real-time playback of calls
- Real-time channel overview

Besides the correct settings, call playback also requires Microsoft Silverlight to be installed.

For additional requirements that enable real-time playback of calls, refer to the Real-time Play section.

NOTE: Earlier versions of NICE Inform Recorder required Java and JavaScript to enable real- time channel overview. In NICE Inform Recorder 9.2.1 and higher they are no longer necessary for this purpose.

The sections below explain how to apply the correct settings. Make them available to the customer's system/network.

6.1 Internet Explorer Security Level

IMPORTANT: Only an authorized person is allowed to configure the security settings.

6.1.1 Verify Settings

- To verify the security settings of the NICE Inform Recorder Web GUI, using IE11:
 - 1. Open the Windows Internet Explorer on the web client.
 - In the address bar, enter the IP address or host name of the NICE Inform Recorder Core Server. The NICE Inform Recorder Web GUI's log-on window appears. Do NOT log on to the web GUI.

- 3. Click the **Tools** button in the top right-hand corner, or the **Tools** menu.
- 4. From the drop-down menu, select Internet options.
- 5. Click the **Security** tab.
- 6. The zone of the web GUI in your browser must be either **Internet** or **Local intranet**.
- NOTE: Usually, the default settings are sufficient for a fully functional NICE Inform Recorder Web GUI.
 - 7. You can customize the setting of the zones for the web GUI. For this, click the **Custom level** button
 - 8. Be sure that the parameters that can affect NICE Inform Recorder are set correctly (refer to the Group policy settings section).

6.1.2 Group policy settings

A domain often has group policy settings. These are forced by the Domain Controller, and cannot be changed on local level.

In such a case, adding NICE Inform Recorder to the list of 'Trusted sites' can be an option. However, this setting might be blocked.

- To add the NICE Inform Recorder as a Trusted Site:
 - 1. Open the **Security** tab within **Internet Options** (refer to the Verify Settings section for help).
 - 2. Select Trusted sites and click the Sites button.
 - 3. If server verification is required, check the **Require server verification** box. The web GUI therefore must have a https: address
 - 4. Select the NICE Inform Recorder IP address or host name and click Add.
 - 5. Click Close.

6.2 Required Security Settings

The following Internet Explorer security settings are required for a fully functional NICE Inform Recorder Web GUI.

- To set the required security settings:
 - 1. Open the **Security** tab within **Internet Options** (refer to the Verify Settings section for help).
 - 2. Click the **Custom level** button and enable (O Enable) the following settings:
 - Within ActiveX controls and plug-ins:
 - Run ActiveX controls and plug-ins

o Script ActiveX controls marked safe for scripting Downloads

Within **Downloads**:

- o File download
- Within **Miscellaneous**:
 - o Launching programs and files in an IFRAME
 - o Submit non-encrypted form data
- Within Scripting:
 - o Active scripting
 - Allow programmatic clipboard access
 - o Scripting of Java applets
- 3. Click OK.
- 4. Click the **Advanced** tab and select the following checkboxes:
 - Within Multimedia:
 - Play animations in web pages
 - o Show pictures
- 5. Click OK.
- 6. Click OK.
- 7. Reboot the web client system to make all changes come into effect.

6.3 Real-time Play

Real-time play of calls is only available if the web client system has:

- Java installed
- JavaScript enabled

In addition, all satellites require specific access to external communication pages on the Core Server. This is set in the IIS Manager on the Core Server (refer to the Setting Satellite Access to External Communication section).

6.3.1 Java

NICE Inform Recorder 9.2.1 supports **Java 8** (build 1.8) or higher. Java installation software is delivered on the installation CD of NICE Inform Recorder 9.2.1, in the **Additional Software** folder.

After installing Java, you have to configure its security settings to ensure TCP connections are allowed from the client computer.

Before configuring ensure you close all Java applets. Java applets are automatically closed when closing all Internet Explorer windows. Make sure there is no Java icon in the system tray.

- To configure Java security settings:
 - 1. Open Windows Explorer and navigate to the following folder:

C:\Program Files(x86) \Java\jre<version>\lib\security.

- 2. Copy the **java.policy** file to the clipboard. Paste and rename the file to **java.policyorig**, as a backup.
- 3. Open the file **java.policy** for editing (using Notepad for example) and do the following:
 - For Java 1.8, add the line:

permission java.net.SocketPermission "*", "listen, accept, connect, resolve";

- For Java 1.6 and 1.7, replace the line:

permission java.net.SocketPermission "localhost:1024-","listen";

with

permission java.net.SocketPermission "*", "listen, accept, connect, resolve";

- 4. Save the file.
- 5. Reboot the system to make all changes come into effect.
- 6. Re-try the Real-Time Play option.

NOTE: Instead of "*" you can use a wildcard mask for IP addresses to narrow the Java policy. For each satellite add a separate permission line including only the IP address of this satellite system.

permission java.net.SocketPermission "IP 1", "listen, accept, connect, resolve"; permission java.net.SocketPermission "IP 2", "listen, accept, connect, resolve";

etc.

6.3.2 JavaScript

By default, JavaScript is enabled.

- To verify JavaScript is enabled:
 - 1. Open the Windows Internet Explorer on the web client.
 - 2. Click the **Tools** 🖾 button in the top right-hand corner, or the **Tools** menu.
 - 3. From the drop-down menu, select **Internet options**.
 - 4. Click the **Custom level** button
 - Under Scripting, ensure that Active Scripting is enabled (O Enable).
 - 6. Click OK.
 - 7. Click **OK**.

8. Refresh your Internet Explorer screen to activate JavaScript.

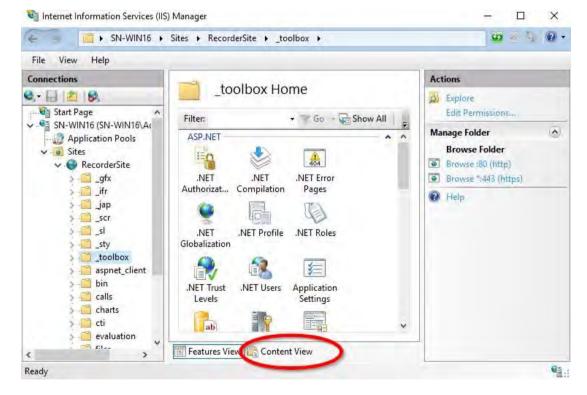
6.4 Setting Satellite Access to External Communication

To enable real-time playback, all satellites require specific access to external communication pages. This procedure describes how to configure this in IIS7.

IMPORTANT: Ensure you have the IP addresses of all satellites available before starting this procedure.

- To set Satellite Access to External Communication on IIS7:
 - 1. In the Internet Information Services (IIS) Manager, navigate to <Connections> <{localhost name}> <Sites> <RecorderSite>.
 - 2. In the left-hand pane, select the **Toolbox** folder Figure 65).

Figure 65: Opening Toolbox folder (IIS Manager)



3. Click the **Content View** button and the **toolbox Content** is presented (as shown in Figure 66).

Figure 6	6: Toolbox	content (IIS	Manager)
----------	------------	--------------	----------

File View Help			
Connections			Actions
Criment Contraction Contractio	toolbox Content	Show All	'externalCommunication.asp Tasks ASP File
Application Pools	Name	Туре ^	Switch to Features View
 ✓ Sites ✓ ● RecorderSite ✓ ● gfx 	aspConstants.asp AspPortalProcess.asp	ASP File ASP File	Browse. Edit Permissions
→ <u> </u>	aspVbConstants.asp channelstatus.asp download.asp	ASP File ASP File ASP File	Last Modified: 9/6/2019 1:26:4 PM Size: 5.04 KB
o 🔂 _sl	download.process.asp	ASP File	2 Refresh
sty toolbox aspnet_client bin calls charts cti evaluation	content View	ASP File ASP File ASP File ASP File ASP File	Help

4. Right-click **externalCommunication.asp**. From the menu, select **Switch to Features View** (as shown in Figure 67). The externalCommunication.asp item is now added to the toolbox folder.

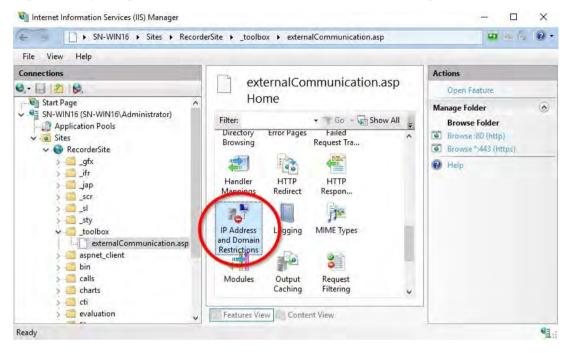
NOTE: Do NOT use the Features View button at the bottom of the screen instead.

_too	lbox Content		
Filter:	-	how All Group by:	
Name	^	Туре	
AspPortalPro	ocess.asp	ASP File	
aspVbConsta	ants.asp	ASP File	
📄 channelstatu	ıs.asp	ASP File	
download.as	sp.	ASP File	
📄 download.pr	rocess.asp	ASP File	
externa		ASP File	
📋 json2.n	Switch to Features View	ASP File	
📄 labelVa 🥃	Browse	ASP File	
📄 lastQue	Edit Permissions	ASP File	
🗋 nologg 🚬		ASP File	
📄 recorde 🔛	Refresh	ASP File	
🗋 resilien 🕡	Help	ASP File	
xAsfWriter.as	sp	ASP File	

Figure 67: Switch to Features View - Toolbox content (IIS Manager)

- 5. In the **Connections** panel, select **externalCommunication.asp** in the toolbox folder.
- 6. In the externalCommunication.asp Home panel, double-click the IP Address and Domain Restrictions icon (as shown in Figure 68).

Figure 68: Opening IP Address and Domain Restrictions (IIS Manager)



- 7. The **IP Address and Domain Restrictions** panel is presented. Right-click on it and select **Add Allow Entry** from the menu.
- 8. The **Add Allow Restriction Rule** window is presented (as shown in Figure 69). In the **Specific IP address** field, fill in the IP address of the satellite.

Figure 69: Add Allow Restriction Rule window (IIS Manager)

Use this			omain Restrictio		dresses o	r domai
Group	by: No	o Grouping 🔹				
Mode		Requestor	Entry Type			
Allow		127.0.0.1	Local			
Allow		::1	Local			
[Add A	Allow Restriction Rule			?	×
	All	ow access for the follo	owing IP address or dom	ain name:		
	۲	Specific IP address:				
		10.57.244.254			1	
		10.37.244.234				
	0	IP address range:				
]	
		Mask or Prefix:			1	
]	
					1	
			OK		Cancel	
			OK		Cancel	



9. Click **OK**. The satellite's IP address has now been added to the **IP Address and Domain Restrictions** list (as shown in Figure 70).

Figure 70: Satellite IP address added to the Domain Restriction list (IIS Manager)

IP Address and Domain Restrictions			
Use this feature to restrict or grant access to Web content based on IP addresses or domain names. Set the restrictions in order of priority.			
Group by: No Grouping -			
Mode	Requestor	Entry Type	
Allow	127.0.0.1	Local	
Allow	::1	Local	
Allow	10.57.244.254	Local	
10. Repeat steps 3-9 for the _toolbox folder			

Repeat this procedure on all satellites of the NICE Inform Recorder system.

6.5 Removing Temporary Internet Files

Windows Internet Explorer stores all files used during internet sessions in a local IE cache folder. To prevent improper use of stored items, it is recommended to clean the cache folder regularly. You can also prevent certain files from being stored in the cache folder.

6.5.1 Cleaning the Cache Folder

- To empty the cache folder automatically every time when closing an Internet Explorer session:
 - 1. On the web client, open the Windows Internet Explorer.
 - 2. Click the **Tools** button in the top right-hand corner, or the **Tools** menu.
 - 3. From the drop-down menu, select Internet options.
 - 4. Click the **Advanced** tab.
 - 5. In the Security section, check the Do not save encrypted pages to disk box.

NOTE: If **SSL security** is applied, this setting is not required. In that case, you must check the **Do not save encrypted pages to disk** box instead.

- Besides these settings you must also check the Enable native XMLHTTP support box.
- 7. Click OK.

6.5.2 Configuring Cache Control Using IIS (on Core Server)

You can set web site properties on the Core Server using the Internet Information Service (IIS) Manager. This can also be a solution if adapting the IE settings on the web client is not allowed.

These settings define which files are not cached on the web client.

IMPORTANT: Excluding files from being cached can seriously impact your server's performance.

- To configure cache control using IIS Manager.
 - 1. On the Core Server, open the Server Manager (icon located on the task bar).
 - From the Menu select <Tools> <Internet Information (IIS) Manager> (as shown in Figure 71).

DAV

WebDAV Authori...

Figure 71: Server Manager

🚡 Server Manager		- 🗆 X
🗲 🐨 Server Manager 🔸 IIS	- 🕑 🚩 Manage	Tools View Help
Dashboard Local Server All Servers File and Storage Services	No matches found.	Component Services Computer Management Defragment and Optimize Drives Disk Cleanup Event Viewer Internet Information Services (IIS) 6.0 Manager
		Internet Information Services (IIS) Manager ISCSI Initiator Local Security Policy Microsoft Azure Services ODBC Data Sources (32-bit)

- 3. Using the Internet Manager IIS, in the Connections panel, click on the name of the Core Server.
- 4. Select <Sites> <RecorderSite>. Select the folder of which you need to change the settings Using the example in the files folder is selected.

Connections	-	fleetleree			
Q	5	files Home			
v v Start Page V v v SN-WIN16 (SN-WIN16∖Administrator)	Filter:		+ 👎 Go	Show All	Group by:
Application Pools Sites Sites Application Site		8	1	CGI	A
gfx	ASP	Authentic	Authorizat Rules	CGI	Compression
ap Scr			404		
sty	Defau Docum		Error Pages	Failed Request Tra	Handler Mappings
coolbox	100		16		pr-
> - Calls	HTTI Redire	Response	IF Address and Doma	Logging	MIME Types
		Headers			

5. With the folder selected, double click the HTTP Response Headers 🎬 icon.

Modules

Management

6. Within the Actions panel, click the Add button and the Add Custom HTTP Response Header window is presented.

Headers

Output

Caching

Features View 🔄 Content View

.....

Request

Filtering

SSL Settings

- 7. Enter the following information (as shown in Figure 73).
 - Name: enter Cache-Control
 - Value: enter no-store

> 🦲 charts

> 📋 cti evaluation

📄 🔁 files > - inyaccount

> 📋 status > 🧮 sysconfig

Figure 73: Add Custom HTTP Response Header window (IIS Manager)

Add Custom HTTP Response Header	? ×
<u>N</u> ame:	
Cache-Control	
<u>V</u> alue:	
no-store	
ОК	Cancel

8. The **HTTP Response Headers** panel updates to show the name and value you have set (as shown in Figure 74).

Figure 74: HTTP Response Headers panel (IIS Manager)



HTTP Response Headers

Use this feature to configure HTTP headers that are added to responses from the Web server.

Group by: No Grouping -		
Name	Value	Entry Type
Cache-Control	no-store	Local
X-Content-Type-O	nosniff	Inherited
X-Frame-Options	SAMEORIGIN	Inherited
X-Powered-By	ASP.NET	Inherited
X-XSS-Protection	1; mode=block	Inherited

9. Close the Internet Information (IIS) Manager.

🗸 道 Sites	10. 🐥 Best Practice: Which folders should I set?
🗸 🍚 RecorderSite	
> <mark></mark> _gfx	Cache control recommended for following folder:
> 🔚 _ifr	– files
> 🛁 _jap	Exclude following files from being cached (do not
> ·· 🧮 _scr	set overall cache-control):
> · 🧮 _sl	
> -🚞 _sty	 RecorderSite
> 🧮 _toolbox	 gfx (graphics)
> 📔 aspnet_client	
🍃 📲 bin	NOTE: Both settings have serious impact on server
🖕 🦳 calls	performance.
> 📔 charts	
🗴 🛅 cti	Cache settings managed
> 📔 evaluation	jap (Java): manages its own cache
> 🚰 files	settings.
> 📔 myaccount	,
> 🔛 status	
🦻 🛁 sysconfig	
> 🛁 sysinstall	
> 🦲 toolbox	Page 85 of 92
> 🚞 useradmin	-

- _scr (JavaScript): cache settings done by NICE Inform Recorder
- _sl (Silverlight): manages its own cache settings.
- All other folders relate to 'dynamic' **.ASP** files, which are not being cached.

7 Vulnerability

At this moment, the following vulnerabilities are known:

POODLE

These vulnerabilities entail security risks, but do not affect operation or performance of NICE Inform Recorder.

See the sections below for a description how to avoid the security risks.

7.1 POODLE

The SSL 3.0 protocol is used in the communication between web servers and clients (browsers). Here it is vulnerable to an attack known as POODLE, which can force a browser to execute malicious code. This code enables an attacker to intercept HTTPS traffic (cookies), and to decrypt parts of encrypted information.

For details of this vulnerability in Windows refer to Microsoft TechNet - Advisory 3009008

Best Practice: Disable SSL 2.0 and SSL 3.0

To properly secure your server, and make sure that the stronger TLS 1.0 is used, you need to disable SSL 2.0 and SSL 3.0.

By default, SSL 2.0 and 3.0 are available as follows:

Windows OS	SSL 2.0	SSL 3.0
Windows Server 2012	Disabled	Enabled
Windows Server 2016	Not supported	Disabled

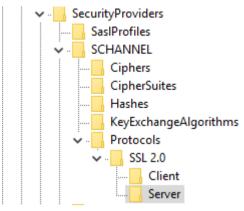
- To disable SSL 2.0 and SSL 3.0:
 - 1. Click Start, enter regedit and press Enter. The Registry Editor is presented.
 - 2. In Registry Editor, navigate to the registry key:

HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\SecurityProviders\ SCHANNEL\Protocols\SSL 2.0

Disabling SSL 2.0

- 3. Right-click on the **SSL 2.0** folder and click **New** and then **Key** from the drop-down menu.
- 4. A new folder is created. Rename the folder with a name of **Server** (as shown in Figure 75).

Figure 75: Adding a SSL 2.0 folder (Registry Editor)



- 5. Select the new Server folder.
- 6. In the menu, click **Edit**, select **New** and then select **DWORD (32-BIT) Value** (as shown in Figure 76).

e Edit View Favori New Permissions Delete Rename	>	Key String Value	Туре	Data
Permissions Delete	>		Туре	Data
Delete		String Value		
		Juling value	REG_SZ	(value not set)
	Del	Binary Value		
	Dei	DWORD (32-bit) Value		
		QWORD (64-bit) Value		
Copy Key Nam	e	Multi-String Value		
Find	Ctrl+F	Expandable String Value		
> . <mark>.</mark> S	F3 Ciphers CipherSuites Hashes Frotocols Frotocols CipherSuites Hashes CipherSuites Hashes Frotocols			

Figure 76: Adding a DWORD (32-bit) value key (Registry Editor)

- 7. A new item is added. Enter **Enabled** as the name and press **Enter**.
- 8. Ensure the value in the column Data shows **0x00000000 (0)** (default) (as shown in Figure 77). If not, right-click the name, and select **Modify**. In the **Value data** field, enter **0**.

Figure 77: Checking DWORD (32-bit) value (Registry Editor)

			_		×
^	Name	Туре	Data		
	(Default)	REG_SZ	(value not s	et)	
	300 Enabled	REG_DWORD	0x00000000		

Disabling SSL 3.0

- 9. Right-click on the Protocols folder and click **New** and then **Key** from the drop-down menu.
- 10. Name the new folder SSL 3.0. ensure there is a space between the 'L'and '3'.
- 11. A new folder is created. Rename the folder with a name of Server.
- 12. Select the new **Server** folder.
- 13. In the menu, click Edit, select New and then select DWORD (32-BIT) Value.
- 14. A new item is added. Enter **Enabled** as the name and press **Enter**.
- 15. Ensure the value in the column Data shows **0x00000000 (0)** (default). If not, rightclick the name, and select **Modify**. In the **Value data** field, enter **0**.
- 16. Reboot the system to make all changes come into effect.

NOTE: This procedure is similar on Windows Server 2003 R2, with IIS 6.

For more information refer to Microsoft Support.

After disabling SSL 2.0 and SSL 3.0, the web browser will not get information from web servers that use these protocols only.

8 Appendix A – Terminology

This appendix contains an overview of relevant abbreviations and terms used in this guide.

Table 23: Abbreviations and Terms

Item	Description
Active CTI Server	CTI Server that is operational in performing the current CTI tasks.
API	Application Programming Interface
Call Controller	A service linking to the recorder database which reads configuration details for installed CTI Devices. The Call Controller processes all CTI Device messages to determine when to start and stop recording for a specific recording target.
CCLC	Call Controller/Link Controller protocol
CDR	Call Detail Record (a.k.a. Call Data Record). Metadata describing all call information like start time, end time, duration, phone numbers and names of the parties in the call, ID of the line on which the call was made, etc.
Certificate, Public Key	Electronic document that proves ownership of a public key, used for encryption. A certificate is very important for web security, by ensuring the identity of the web server.
Cipher (cypher)	Algorithm used to execute encryption/decryption operations.
Cookie	Small data packet sent from a web server and stored in a web browser while the user is browsing the website. Every time the user loads the website, the browser sends the cookie back to the server to notify the website of the user's previous activity.
Core Server	Main server of a NICE Inform Recorder system. Accommodates the database to store calls, user and call information, facilitates archiving and the web-based graphical user interface. Can also have recording channels.
Cross Frame Scripting	Vulnerability in web applications, allowing to load the application as an embedded frame into an HTML frame. This enables the attacker to monitor web activities and receive sensitive information of the user.
Cross Site Scripting	Vulnerability in web applications, allowing to 'inject' malicious code. This enables attackers to view session cookies, take over sessions, add functionality or perform actions, undesired by the user.
СТІ	Computer Telephony Integration.
CTI Server	NICE Inform Recorder server that facilitates connectivity with a PBX environment, and processes call activity to control voice recording and provide call metadata.
GUI	Graphical User Interface.
HTTP	Hypertext Transfer Protocol. protocol used for communication between a web client (usually a browser) and a web server.
HTTPOnly Cookie	Cookie with a HTTPOnly flag included in its response header. Does not allow access by non-HTTP scripts and cross-site scripting (XSS).
HTTPS	HyperText Transfer Protocol Secure. SSL (TLS) security capabilities added to HTTP, by layering HTTP on top of the SSL (TLS) protocol.
IIS	Internet Information Services, a set of Internet-based services for

Item	Description
	servers using Windows.
IP	Internet Protocol.
IPsec	Internet Protocol Security. A standard for securing IP communication by authenticating and encrypting of all IP packets of a session.
ISAPI	Internet Server Application Programming Interface. API of Internet Information Services (IIS), used to develop Extension and Filter applications.
ITSP	Internet Telephony Service Provider.
Java	Object-oriented programming language, based on C++. Java code is compiled to machine language for a 'Java Virtual Machine' (JVM), which makes it platform-independent.
Java VM	Java virtual machine. See Java.
JavaScript	Dynamic programming language, most commonly used as part of web browsers, to make web pages interactive. It is also used in server-side network programming, game development and creating desktop and mobile applications. Besides the name, it has no relation to Java.
Link (Controller)	Interface between NICE Call Controller and vendor-specific telephony platform.
MITM Attack	The 'Man-In-The-Middle' attack intercepts communication between two systems, e.g. of the HTTP connection between a web server and a web client.
Monitor Tool	NICE Inform Recorder Monitor.
NTP	Network Time Protocol.
NTR	NICE Trading Recording. Previously known as CyberTech Recording System.
P(A)BX	Private (Automatic) Branch eXchange.
PSTN	Public Switched Telephone Network.
Recorder	NICE Inform Recorder server with recording channels: All-in-One system, Core Server with channels, or satellite.
Redundancy	Duplication of critical hardware and software components, to enable failover.
Resilience Group	Two paired CTI Servers, one of which acts as Active, and the other as Standby.
Resilience Host	(CTI) Server that is part of the Resilience solution.
Resilience	The ability to provide and maintain an acceptable level of service in the case of problems and failures during normal operations.
RTP	Real-time Transport Protocol.
Satellite	NICE Inform Recorder server accommodating recording channels.
SIP	Session Initiation Protocol. Used to establish, maintain, and terminate sessions.
SMB	Server Message Block. Microsoft developed network protocol used for providing shared access to files, serial ports and printers.
SSL	Secure Socket Layer. Encryption protocol to ensure security of communication between web server and web client (browser). Being replaced by TLS.
SSL Certificate	see Certificate, Public Key

Item	Description
Standby CTI Server	Redundant CTI Server that is currently not performing any tasks, but is 'waiting' until failover is required. Upon failover, it takes over the configuration of the Active CTI Server.
Target	Recordable unit (device, extension, agent, Trader ID, etc.).
TCP	Transmission Control Protocol.
TLS	Transport Layer Security. Encryption protocol, more reliable successor of SSL. Although TLS is now commonly used instead of SSL, the term 'SSL' for secure communication protocols is still widespread.
Turret	Communication device, used specifically by Traders (a.k.a. 'dealer board'). It offers multiple concurrent communication channels. Typically it has 2 handsets and multiple speakers (up to 24).
UDP	User Datagram Protocol.
VoIP	Voice over Internet Protocol.
Web Client	Web browser that runs on a user's local computer or workstation and connects through an (internal) network to a server.
Web GUI	Web-based GUI of NICE Inform Recorder. Accessed using the standard Internet Explorer.
Web Server	Application, responding on requests for information of web clients. It stores, processes and delivers web pages, and uses the HTTP protocol for communication.
XSS	See Cross-site Scripting.

NICE

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NICE (NASDAQ: NICE) is the worldwide leader of software solutions that deliver strategic insights by capturing and analyzing mass quantities of structured and unstructured data in real time from multiple sources, including phone calls, mobile apps, emails, chat, social media, and video. NICE solutions enable organizations to take the Next-Best-Action to improve customer experience and business results, ensure compliance, fight financial crime, and safeguard people and assets. NICE solutions are used by over 25,000 organizations in more than 150 countries, including over 80 of the Fortune 100 companies. www.nice.com

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NICE PUBLIC SAFETY SOLUTIONS NICE Recording Central Archiving Installation Guide

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1 Introduction

This guide describes the installation and configuration of the NICE Recording Central Archiving software that allows multiple NICE Recording systems to copy their call recordings to a central NICE Recording system. Copying recordings to a central system allows NICE Inform to be able to replay the recordings from either the local or central systems in case of a system failure.

1.1 Audience

This guide is for installation engineers only.

1.2 Assumptions

We assume you have knowledge of:

NICE Recording

1.3 References

This guide refers to:

- NICE Public Safety Recommended Servers Guide
- NICE Recording OS Hardening Manual

2 Overview

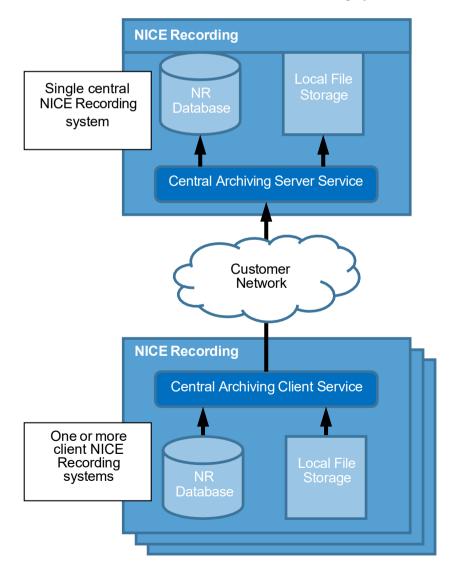
NICE Recording Central Archiving consists of two Windows services.

- Central Archiving Server
- Central Archiving Client

The Central Archiving Server service runs on a NICE Recording system with no recording channels and no satellite recorders. This service listens for connections from Central Archiving Clients and receives call recordings and call meta-data from connected clients. Received call recordings are stored in the local file storage and call meta-data is inserted into the NICE Recording database.

The Central Archiving Client runs on one or more NICE Recording systems which can be stand-alone or core/satellite systems. This service attempts to transfer all local call recordings to the Central Archiving Server. If transfer of a call recording fails then the transfer is retried periodically for a configured number of days.

The recordings on the both the central and client NICE Recording systems can be accessed by NICE Inform by adding each system as a data source. This allows calls to be replayed from NICE Inform if either central or the client NICE Recording system is unavailable.



2.1 Call Transfer Process

The rate of transfer of calls from the Central Archiving Client to the Central Archiving Server is controlled using Central Archiving Client settings defining how often to attempt call transfers and how many calls to transfer at each attempt.

NOTE: Call transfer attempts occur periodically from the start of the Central Archiving Client service. They cannot be scheduled to occur at particular times of day.

Each call record has a transfer status value that indicates whether transfer has been attempted and if so whether it was successful or not. Transfer attempts start with the oldest calls that have a status value indicating that they have not yet been attempted. Call records marked as failed transfers are periodically reset so that the call transfer is attempted again.

NOTE: When Central Archiving is installed all existing calls have a status value indicating that they have not yet been attempted. This means that Central Archiving will attempt to transfer all historic recordings.

2.2 Communication

Communication between the Central Archiving Client and the Central Archiving Server uses a WCF service hosted by the Central Archiving Server. Successful connection requires a network port to be opened in any firewalls between the client and server.

The connection can be secured with encryption and authentication. To enable secure communication the server and clients must be configured with compatible communication security settings. Table 1 describes the allowed combinations of server and client communication security settings.

Server setting	Client setting	Description	
None	None	The communication is unsecured	
Window s authentication	Window s authentication	The communication is secured and authenticated using the Window s user account that the Central Archiving Client service is running under. The Central Archiving Server authenticates the user account against locally configured users or Active Directory users w hen connected to a domain.	
Window s authentication	Manual authentication	The communication is secured and authenticated using the username and passw ord details configured during installation of the Central Archiving Client service. The Central Archiving Server authenticates the username and passw ord against locally configured users or Active Directory users when connected to a domain.	

Table 1: Compatible communication security settings

2.3 Client Site ID

Each Central Archiving Client must be assigned a unique site ID in the range 2-998 during installation. The site ID works in the same way as a satellite ID does within a core/satellite system, with each Central Archiving Client becoming a satellite system to the Central Archiving Server.

NOTE: The Central Archiving Server is treated as site ID 1 so the Central Archiving Clients cannot use this value. The maximum supported site ID value is 998.

2.4 Supported Record Types

The call types supported by the NICE Recording Central Archiving software are detailed in Table 2.

Table 2: Supported record types

Call Type	Description
VOX	VOX records have call meta-data and a related audio file.
CDR	CDR records have call meta-data only. They do not have related audio files.

IMPORTANT: Transfer of ANI/ALI information and screen recordings is not supported.

2.5 Encrypted Audio Support

NICE Recording Central Archiving software supports NICE Recording audio on both client a server system. Encrypted calls on the client system are decrypted before transfer being transferred to the server. If encryption is enabled on the server system then all received audio files are encrypted using the NICE Recording encryption settings of the server.

2.6 Transfer of Channel IDs

Each call record transferred from a Central Archiving Client has a channel ID that uniquely identifies the recording channel on that client system. When the call record is received at the Central Archiving Server the channel ID is prefixed with the client site ID to give a channel ID that is unique over all the entire system. When a new channel ID value is received at the Central Archiving Server a new channel is automatically created in the NICE Recording database.

IMPORTANT: The channel IDs on the client systems must not be greater than 99999.

2.7 Transfer of User IDs

Each call record transferred from a Central Archiving Client has a user ID that uniquely identifies the associated user on that client system. When the call record is received at the Central Archiving Server the user ID is prefixed with the client site ID to give a user ID that is unique over all the entire system. When a new user ID value is received at the Central Archiving Server a new user is automatically created in the NICE Recording database.

IMPORTANT: The user IDs on the client systems must not be greater than 9999.

2.8 Transfer of Custom Call Data Fields

It is possible for NICE Recording systems that are transferring call records to the Central Archiving Server to have different custom call data fields defined in their databases.

NOTE: Custom database fields are defined in the *<system installation> <database fields>* tab of the NICE Recording web GUI. You must be logged into the web GUI with full access to be able to view this tab.

To safely merge the call records from each of the client NICE Recording systems the custom data is routed to custom database fields on the central NICE Recording system based on the labelled name for the database field rather that the database column name. This means for example that a field on a client system named 'Agent ID' will be routed to the field named 'Agent ID' on the central system.

WARNING: If there is no field with a matching name on the central NICE Recording system then the custom data value will be discarded.

2.9 Additional Call Data Fields

Additional call data fields are added to both the Central Archiving Server and Client NICE Recording databases during installation. The additional call data fields added to the Central Archiving Server and Client are described in Table 3 and Table 4 respectively.

Field	Name	Туре	Description
CVSC51	Remote site ID	SMALLINT	The unique site ID of the remote NR Central Archiving Client.
CVSC52	Remote CVSKEY	INT	The call ID value of the call from the source database.
CVSC53	Remove CVSREC	INT	The satellite ID value of the call in the source database.
CVSC54	Remote CVSCID	INT	The channel ID value of the call in the source database.
CVSC55	Remote CVSUSR	INT	The user ID value of the call in the source database.

Table 3: Central Archiving Server fields

Table 4: Central Archiving Client fields

Field	Name	Туре	Description
CVSC50	Archiving status	INT	Central Archiving operation status. This field can take follow ing 0 : Not transferred 1 : Transferred -1 : Transfer error

2.10 Errors Reporting

The Central Archiving Client and Server raise errors in the local NICE Recording logger to notify the user that problems have occurred. Errors raised in this way use the error reporting

settings of the NICE Recording logger to send the error details out as emails or as SNMP trap. The errors raised by the Central Archiving Client and Server are detailed in Table 5.

ID	Name	Description
4901	Server Communication Error	Raised by the Central Archiving Server to notify that communication with a client has been lost.
4902	Client Communication Error	Raised by a Central Archiving Client to notify that communication with the server has been lost.
4903	Record Transfer Error	Raised by a Central Archiving Client to notify that a failure occurred w hile transferring a call record.
4904	Call Data Insertion Error	Raised by the Central Archiving Server to notify that a failure occurred w hile inserting a call record.
4905	Finger Print Invalid	Raised by the Central Archiving Server to notify that the MD5 fingerprint for an audio file w as incorrect. This could indicate that the audio file has been tampered with.

2.11 Limitations

2.11.1 Calls can only be archived from local storage

NICE Recording Central Archiving software can only access call audio files that are stored in the NICE Recording local storage. Once the call audio file is deleted from the local storage it is not possible to archive the call using Central Archiving even if the call is still available on a NICE Recording archive location. To avoid this situation do not configure the NICE Recording system to delete from the local storage immediately.

2.11.2 Some CDR records cannot be replayed from the web GUI

It is not possible to replay all transferred CDR records from the NICE Recording web GUI. This limitation occurs because the NICE Recording web GUI can only replay CDR records with channel ID lower than 32768. As the channel IDs on the Central Archiving Server is prefixed with the client site ID it is possible for them to be higher than this value. CDR records that cannot be replayed via the NICE Recording web GUI can be successfully replayed using NICE Inform.

3 Preparation

In order to configure the NICE Recording Central Archiving software you will require:

- Installed NICE Recording systems of the correct version
- .NET framework V4
- Network connectivity between the remote NICE Recording systems and the central NICE Recording system

For details of recommended server hardware refer to the NICE Public Safety Recommended Servers Guide.

3.1 Software Versions

In order to configure the NICE Recording Central Archiving software you will need to supply the software items in Table $_6$

Table 6: Software versions

ltem	Version
NICE Recording System	6.5.13
NICE Recording Central Archiving	1.0 or later

3.2 Firewall Ports

Successful operation of the NICE Recording Central Archiving software will require a range of ports to be opened in any network firewalls. The required ports are detailed in Table 7.

Table 7: Firewall ports

From	То	Ports
Central Archiving Client	Central Archiving Server	TCP port used for transfer (default 9090)

For details of the ports used between the NICE Recording servers refer to the NICE Recording OS Hardening Manual.

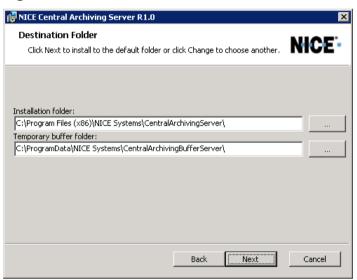
4 Installation

4.1 Central Archiving Server

The Central Archiving Server software must only be installed on a NICE Recording Core server with no recording channels and no satellite recorders.

- To install the Central Archiving Server software:
 - 1. Double click the msi installation file from a local drive or CD. The installation wizard opens at the **Welcome** screen.
 - 2. Click Next. The End-user license agreement screen is presented.
 - Click Next to accept the license agreement. The Destination Folder screen is presented.

Figure 1: Destination folder screen



- 4. The following folder locations can be changed from their default locations if required:
 - Installation folder the installation folder for the Central Archiving Server software.
 - Temporary buffer folder the location used for temporary storage of audio files received from Central Archiving Clients.
- 5. Click Next. The Central Archiving Server screen is presented.

Figure 2: Central Archiving Server screen

🔀 Central Archiving Serv	/er R1.0			×
Central Archiving Se Configuring Central Arc	NICE			
-				
Port:	0000			
Port.	9090			
Communication security:	None	•		
		<u>B</u> ack	Next	Cancel

- 6. Enter the following data in the Central Archiving Server screen:
 - Port the network port number used to listen for connections from Central Archiving Clients. Default value 9090.
 - Communication security the type of security to be used for communication between Central Archiving Clients and the Central Archiving Server.

IMPORTANT: All Central Archiving Clients must be configured communication security settings that are compatible with the Central Archiving Server setting. Refer to Table 1 for details of compatible communication security settings.

7. Click Next. The Service Credentials screen is presented.

🙀 Central Archiving Sei	ver R1.0	×
Service Credentials Please enter your ser	vice account credentials.	NICE
Account Name: Password:	service	
	Back II	Next Cancel

Figure 3: Service Credentials screen

8. Enter the following data in the Service Credentials screen:

- Account Name the name of the service account created during installation of the NICE Recording software. Default value 'service'.
- Password the password of the service account created during installation of the NICE Recording software.
- 9. Click Next. The Ready to install screen is presented.
- 10. Click **Install** to start the installation. The **Installing** screen is presented showing the progress of the installation.
- 11. When the installation has finished, the **Installation Completed** screen is presented.
- 12. Click Finish to exit the installation.

4.2 Central Archiving Client

The Central Archiving Client software must only be installed on a NICE Recording Core server or stand-alone system.

- To install the Central Archiving Client software:
 - 1. Double click the msi installation file from a local drive or CD. The installation wizard opens at the **Welcome** screen.
 - 2. Click Next. The End-user license agreement screen is presented.
 - 3. Click **Next** to accept the license agreement. The **Destination Folder** screen is presented.

Figure 4: Destination folder screen

NICE Central Archiving Client R1.0	Z
Destination Folder Click Next to install to the default folder or click Change to choose another.	NICE
Installation folder:	
C:\Program Files (x86)\NICE Systems\CentralArchivingClient\	
, Temporary buffer folder:	
C:\ProgramData\NICE Systems\CentralArchivingBufferClient\	
Back	Cancel

- 4. The following folder locations can be changed from their default locations if required:
 - Installation folder the installation folder for the Central Archiving Client software.
 - Temporary buffer folder the location used for temporary storage of audio files being transferred to the Central Archiving Server.

5. Click Next. The Central Archiving Client screen is presented.

Figure 5: Central Archiving Client screen

Central Archiving Clier Central Archiving Cli Configuring Central Arc	
Site ID:	2
Server address:	192.168.1.76
Server port:	9090
Communication security:	None
Username:	
Password:	
	Back Next Cancel

- 6. Enter the following data in the Central Archiving Client screen:
 - Site ID the site ID for the Central Archiving Client.

IMPORTANT: Each Central Archiving Client must be assigned a unique site ID in the range 2-998. For more information about the site ID refer to Client Site ID.

- Server address the network address of the Central Archiving Server.
- Server port the network port number that the Central Archiving Server uses to listen for connections from Central Archiving Clients. Default value 9090.
- Communication security the type of security to be used for communication between Central Archiving Clients and the Central Archiving Server.

IMPORTANT: All Central Archiving Clients must be configured communication security settings that are compatible with the Central Archiving Server setting. Refer to Table 1 for details of compatible communication security settings.

- Username the username used for authentication when the communication security is set to 'Manual authentication'.
- Password the password used for authentication when the communication security is set to 'Manual authentication'.
- 7. Click Next. The Service Credentials screen is presented.

Figure 6: Service Credentials screen

🙀 Central Archiving Se	erver R1.0	×
Service Credentials Please enter your service account credentials.		NICE-
Account Name: Password:	service	
	Back II N	lext Cancel

- 8. Enter the following data in the Service Credentials screen:
 - Account Name the name of the service account created during installation of the NICE Recording software. Default value 'service'.
 - Password the password of the service account created during installation of the NICE Recording software.
- 9. Click Next. The Ready to install screen is presented.
- 10. Click **Install** to start the installation. The **Installing** screen is presented showing the progress of the installation.
- 11. When the installation has finished, the **Installation Completed** screen is presented.
- 12. Click **Finish** to exit the installation.

5 Configuration

Once the NICE Recording Central Archiving software is installed, there are no required configuration steps. This section describes optional settings that can be used to change the default behaviour of the Central Archiving Server and Client.

5.1 Central Archiving Server

The following settings can be changed in the **CentralArchiving.Server.Service.exe.config** file located in the installation folder location specified during installation. The default location for this file is the folder **C:\Program Files (x86)\NICE Systems\CentralArchivingServer**.

NOTE: Changes to these settings will not take effect until the Central Archiving Server service is restarted.

Table 8: Central Archiving Server settings

Setting	Default Value	Description
HostlpAddress	0.0.0.0	The IP address to use when listening of incoming connections from clients. The default value specifies listening on all addresses. This value should only be changed if the server must only listen for connections on a specific netw ork address.

5.2 Central Archiving Client

The following settings can be changed in the **CentralArchiving.Client.Service.exe.config** file located in the installation folder location specified during installation. The default location for this file is the folder **C:\Program Files (x86)\NICE Systems\CentralArchivingClient**.

NOTE: Changes to these settings will not take effect until the Central Archiving Client service is restarted.

Table 9: Central Archiving Server settings

Setting	Default Value	Description
TimeBetw eenArchiveRunsSec	60	Sets the time in seconds betw een checking the database for new call records to transfer.
MaxRecordsPerArchiveRun	10	Sets the maximum number of call records to transfer each time the database is checked.
RetryFailedTransferIntervalHours	24	Sets the time in hours after w hich failed call transfers are retried.
MaxAgeOfRetiedTransferDays	7	Sets the number of days that failed call transfers should be retried for.

5.3 Central Archiving Client Service User Account

When the Central Archiving Client service is installed using the Windows Authentication option for communication security, authentication with the Central Archiving Server is based on the credentials of the Windows account that the Central Archiving Client service is running under. By default the Central Archiving Client service runs under the Local System account but this can be changed using the Windows Services applet.

IMPORTANT: The Windows account used must have the **Log on as service** right in Local Security Policy to allow it to run as a Windows service.

- To change the account that the Central Archiving Client service runs under:
 - 1. Open the Windows Services applet in Administrative Tools.
 - 2. Right click the CyberTech Central Archiving Client service and select **Properties** from the menu. The CyberTech Central Archiving Client service properties is presented.
 - 3. Click the Log On tab

Figure 7: Central Archiving Client service properties

CyberTech Central Archiving Client Properties (WIN-FVT3D3T19TJ) 🛛 🔀
General Log On Recovery Dependencies
Log on as:
C Local System account Allow service to interact with desktop
This account: Browse
Password:
Confirm password:
Help me configure user account log on options.
OK Cancel Apply

- 4. Select the **This account** radio button and enter the account username, password and password confirmation for the Windows account that the service will run under.
- 5. Click the **OK** button.
- 6. Restart the CyberTech Central Archiving Client service.

5.4 Custom Data Fields Configuration

If NICE Recording systems that are transferring call records to the Central Archiving Server have custom call data fields defined in their databases then additional configuration steps are required on the central NICE Recording system. An additional database field must be created in the NICE Recording web GUI with a field name matching the name of the field on the source system.

NOTE: Custom database fields are defined in the *<system installation> <database fields>* tab of the NICE Recording web GUI. You must be logged into the web GUI with full access to be able to view this tab.

- For each custom call data field that needs to be stored in the central NICE Recording system:
 - 1. Click on the <system installation> <database fields> tab of the NICE Recording web GUI of the central NICE Recording system.
 - 2. Click the Plus button to the right of the Overview of all database fields section.

Figure 8: Adding custom data fields

of all database fields									4.18
PARTY HARACCUST	Perto yoni dalakany firful			2012	AWER	SAME	Driver.		
Archive dide	Date the call was archived			4	DateTime	19		1	1.1
Archive locations	Lists all locations where the active media contra	ne a copy of t	he calidata.	· 4	Textual	50			
Archive media		4		4	Textual				
CallD	indernal key of the ball			×.	Numeric				
Calitype	Type of the cell (VOX or CDR)				Tendual		VOX		
Censure list reason	The reason the call wapril stored			4	Tenduni				
Conquere kit reason ID	D of the censure list that describes the reason:	the call washing	stored.	2	Numeric	7	1		
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- 3. In the **Name and description** section enter a **Name** value matching the name of the custom data field in the source NICE Recording system.
- 4. In the **Database field settings** section enter the following values:
 - **Column** select any available custom data field (CVSCxx).
 - **Type** select Textual
 - Size enter the maximum size of the field with this name on any of the source NICE Recording systems.
- 5. Click the Add record button.

6 Uninstallation

6.1 Central Archiving Server

The Central Archiving Server software can be removed using the **Programs and Features** option found in the Windows **Control Panel**.

Figure 9: Programs and Features



- To remove the Central Archiving Server software:
 - 1. Highlight NICE Central Archiving Server in Programs and Features.
 - 2. Press the Uninstall button.
 - 3. Follow the on screen instruction to complete the software removal.

6.2 Central Archiving Client

The Central Archiving Client software can be removed using the **Programs and Features** option found in the Windows **Control Panel**.

Figure 10: Programs and Features

Rograms and Features		
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Control Panel Home	Uninstall or change a program	
View installed updates	To uninstall a program, select it from the Uninstall, Change, or Repair.	list and then click
	Organize 🔻	!≡ ▼ 🔞
	Name A	Publisher NICE Systems Ltd.

- To remove the Central Archiving Client software:
 - 1. Highlight NICE Central Archiving Client in Programs and Features.
 - 2. Press the Uninstall button.
 - 3. Follow the on screen instruction to complete the software removal.

NICE

ABOUT NICE SYSTEMS

NICE (NASDAQ: NICE) is the worldwide leader of software solutions that deliver strategic insights by capturing and analyzing mass quantities of structured and unstructured data in real time from multiple sources, including phone calls, mobile apps, emails, chat, social media, and video. NICE solutions enable organizations to take the Next-Best-Action to improve customer experience and business results, ensure compliance, fight financial crime, and safeguard people and assets. NICE solutions are used by over 25,000 organizations in more than 150 countries, including over 80 of the Fortune 100 companies. www.nice.com

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Technical Note

Migrating VPI Loggers to Legacy data sources

Note Number:	TN812-049-01
Release Date:	14 th Feb 2022
Template Ref:	MSR 2420, Rev. 19
Revision History:	A1 14 February 2022
Product:	NICE Inform
Synopsis	With the sunset of the VPI solution announced in August 2021, this technical note describes the process, tooling and configuration necessary to migrate VPI Audio Loggers to static NICE Inform Legacy Data sources.
	This is a separate process to that of a NICE Inform Data source against a VPI Logger that is still operationally recording. This is already detailed in the standard NICE Inform Solution documentation. This document outlines the steps required to convert a NICE VPI System to a NICE Inform System.

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Software Release Note

NICE Inform[™] Update Pack

Note Number	RN812-400-10-00-02-03-UP
Release Date	6 th April 2022
Template Ref	MSR 2413, Rev. 9
Revision History	A0 – Initial version
Product:	NICE Inform™ Update Pack (UP812-400-10-00-02-03)
Synopsis	General Availability (GA) release of Update Pack 3 for NICE Inform™ R10.0)

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1 General Information

The NICE Inform Update Pack contains the following hot fixes:

- HF812-400-10-00-02-01 (CAD resource import prefix page)
- HF812-400-10-00-02-02 (Intergraph CAD Oracle settings)
- HF812-400-10-00-02-03 (Fix for licensing issues)
- HF812-400-10-00-02-04 (GA Documentation update)
- HF812-400-10-00-02-05 (UP1 Rollup)
- HF812-400-10-00-02-06 (Unplayable items in Organizer)
- HF812-400-10-00-02-07 (Fix for documentation page link)
- HF812-400-10-00-02-08 (Roll up of 7.2 Hot Fixes)
- HF812-400-10-00-02-09 (Listview DPI scaling fix)
- HF812-400-10-00-02-10 (Roll up of 9.0.3 Hot Fixes)
- HF812-400-10-00-02-11 (Evaluate Recordings wizard fix)
- HF812-400-10-00-02-12 (Enhanced text support for IC)
- HF812-400-10-00-02-13 (General fixes)
- HF812-400-10-00-02-14 (Playback stops at previous end marker)
- HF812-400-10-00-02-15 (Duplex pairing can fail with multiple data sources)
- HF812-400-10-00-02-16 (Installed client launch fix)
- HF812-400-10-00-02-17 (Fix for adding AD User with no profile)
- HF812-400-10-00-02-18 (Support for TylerNewWorld CAD)
- HF812-400-10-00-02-19 (Audit filter tooltips)
- HF812-400-10-00-02-20 (Schema config for InterGraph CAD GDS)
- HF812-400-10-00-02-21 (Free expression bugfixes)
- HF812-400-10-00-02-22 (Add support of migrated VPI Logger)
- HF812-400-10-00-02-23 (Support for additional tile schemas)
- HF812-400-10-00-02-24 (Ignore GDI+ error)
- HF812-400-10-00-02-25 (VPI Logger retention settings increased to 20 years)
- HF812-400-10-00-02-26 (Help and documentation update)

2 System Identifiers

2.1 Product identifiers

Product identifiers included in the current release are listed below:

Table 1: Product Identifiers

Product	Version	Comments
NICE Inform	R10.0	10.0.2

2.2 Verification

The table below details the versions of installed components following installation:

Table 2: Verification

Component	Version Number	Build Number	Description
Common.Logging.Core.dll	3.4.1	0	
Common.Logging.dll	3.4.1	0	
Nice.Inform.Common.Serialization.dll	10.0.2	453	
Nice.Inform.Common.Utilities.dll	10.0.2	538	
Nice.Inform.Contracts.dll	10.0.2	579	
BruTile.Desktop.dll	2.1.2	0	
BruTile.dll	2.1.2	0	
GeoAPI.CoordinateSystems.dll	1.7.5	0	
GeoAPI.dll	1.7.5	0	
LicensingFileManager.dll	1.0.4	600	
NetTopologySuite.dll	1.15.3	0	
Nice.Inform.Client.Audit.dll	10.0.2	543	
Nice.Inform.Client.Common.dll	10.0.2	579	
Nice.Inform.Client.Controls.dll	10.0.2	508	
Nice.Inform.Client.Evaluator.dll	10.0.2	508	
Nice.Inform.Client.Host.dll	10.0.2	563	
Nice.Inform.Client.LiveMonitor.dll	10.0.2	417	
Nice.Inform.Client.LMR.dll	10.0.2	417	
Nice.Inform.Client.Monitor.dll	10.0.2	417	
Nice.Inform.Client.Organizer.dll	10.0.2	508	
Nice.Inform.Client.Playback.dll	10.0.2	437	
Nice.Inform.Client.Plugins.GisMapping. dll	10.0.2	579	
Nice.Inform.Client.Query.dll	10.0.2	521	
Nice.Inform.Client.Reconstruction.dll	10.0.2	545	
Nice.Inform.Client.ResultsGui.dll	10.0.2	464	

Component	Version Number	Build Number	Description
Nice.Inform.Client.SystemAdministration .dll	10.0.2	579	
Nice.Inform.Client.UserAdministration.dl	10.0.2	537	
Nice.Inform.Common.Images.dll	10.0.2	417	
Nice.Inform.LicensingCommon.dll	1.0.4	600	
Nice.Inform.Server.CallsDeletionServer. dll	10.0.2	579	
Nice.Inform.Server.Common.dll	10.0.2	554	
Nice.Inform.Server.CyberTechAudio.dll	10.0.2	417	
Nice.Inform.Server.DataSources.Media Vault.dll	10.0.2	498	
Nice.Inform.Server.DataSources.VpiLog ger.dll	10.0.2	579	
Nice.Inform.Server.EvaluationServer.dll	10.0.2	417	
Nice.Inform.Server.Host.exe	10.0.2	453	
Nice.Inform.Server.IncidentManagemen tServer.dll	10.0.2	464	
Nice.Inform.Server.LoginServer.dll	10.0.2	464	
Nice.Inform.Server.LongTermStorageSe rver.dll	10.0.2	417	
Nice.Inform.Server.PlaybackServer.dll	10.0.2	437	
Nice.Inform.Server.QueryServer.dll	10.0.2	464	
Nice.Inform.Server.SystemAdministratio nServer.dll	10.0.2	453	
Nice.Inform.Server.UserAdministrationS erver.dll	10.0.2	417	
NiceInform.exe	10.0.2	417	
NiceInformLMR.exe	10.0.2	417	
NiceMMS.dll	1.0.0	1	
ProjNET.dll	1.4.0	0	
SharpMap.Converters.GeoJSON.dll	1.2.0	0	
SharpMap.dll	1.2.0	0	
SharpMap.Layers.BruTile.dll	1.2.0	0	
SharpMap.UI.dll	1.2.0	0	
SharpMap.Web.dll	1.2.0	0	

Component	Version Number	Build Number	Description
System.Buffers.dll	4.6.2551 9	3	
System.Data.SqlClient.dll	4.700.19	46214	
System.Drawing.Common.dll	4.6.2691 9	2	
System.Memory.dll	4.6.2761 7	2	
System.Numerics.Vectors.dll	4.6.2551 9	3	
System.Resources.Extensions.dll	4.700.19	56404	
System.Runtime.CompilerServices.Uns afe.dll	4.6.2691 9	2	

3 New Features

Table 3: New Features

No.	Feature	Comment
1.	Added Oracle database settings support for Intergraph CAD.	(Update Pack 1)
2.	Added support for TylerNewWorld CAD.	
3.	Added support of migrated VPI Logger.	
4.	Added support for additional map tile schemas.	

4 Environments

4.1 Operating Systems Support

As NICE Inform R10.0 plus Microsoft SQL 2016 SP2 on Windows Server 2016

4.2 Third party Products

None.

5 Backward Compatibility

Backward compatibility with NICE and associated products is listed below:

Table 4: Backward Compatibility

Product	From Version	To Version	Comments
NICE Inform	R10.0	R10.0 UP2	
NICE Inform Recorder	R8.0	R9.2.1	

6

Known Bugs and Limitations

Known limitations in the current release are described below:

Defect #	Product/ Component	Description	Comments
129750	Server Configuration Wizard	No check is performed that there is enough database space to upgrade the databases	Please check database are not at capacities prior to upgrade
113016	Evaluator	Not all evaluations created with missing media are correctly marked with the status 'Created (Media Missing)'	Evaluations are marked as 'Created'
114845	Evaluator	Evaluation metadata can be lost when an evaluation is set to 'In progress' state.	
115074	Evaluator	A non-administrator user search can fail to return any evaluations if no search critiera are specified	Specify a single search criteria.
130957	Incident Management	Creating Incidents when the database is almost full can result in incidents being created with missing data	
107318	Installation	If a CAD datasource exists and the CAD package is not installed following an upgrade the NICE Inform Server can fail to start	Please follow the Inform Install Procedure
12911	Organizer	Occasionally, when creating very large Incidents on two or more NICE Inform Resilient servers concurrently, the resulting Incident can have missing and duplicated calls.	When doing large (~5000+) transfers, ensure that only the Master server is used
6430	RCR/Monitor	Occasionally results in RCR do not match the activity seen in Monitor	Believed fixed, awaiting confirmation
86791	RCR/Monitor	RCR and Verify don't show in- progress calls if Server and Client started when NICE Recording /	Believed fixed, awaiting confirmation

Defect #	Product/ Component	Description	Comments
	Component	NICE Inform Recorder was not available	
52169	Reconstruction	Memory leak when searching/switching between primary & secondary paired channels	In the rare event of an OutOfMemoryExce ption while switching paired channels please close and restart the client
93538	Reconstruction	CAD find incident search can continue processing results indefinitely in certain circumstances	If search has not returned within 5 minutes, close client and try again.
12707	Server Framework	If Query or Playback threads encounter a problem, the threads may lock causing NICE Inform Server service to restart	
114820	Server Framework	Selecting the incorrect version of a CAD database can crash the client when performing a search	Ensure correct CAD database version is selected when configuring a CAD data source
32638	System Administration	Unable to enter a NICE Recording screen recorder address manually	Please ensure Screen Recorder address is correctly configured with an IP address on the core server and localhost is not used.
114958	System Administration	Auto logout doesn't work correctly when using the NICE Inform Recorder advanced configuration	
38274	Server Configuration Wizard	InformServices account not being granted any restricted permissions	Follow 'Running Server Configuration Wizard states Failed to validate database Login' in the troubleshooting guide Believed fixed awaiting confirmation
88249	User Adminstration	Tamper detection warning can be triggered by certain user/user group administration actions	Believed fixed awaiting confirmation

Defect #	Product/ Component	Description	Comments
127775	Website	A mixed NICE Inform and NICE Inform Recorder can ocassionaly result in the website failing to start	Follow the steps listed in the maintenance guide
6335 (CAPI- 1768)	NICE Inform Recorder / NICE Recording	During Core Server Resilience failover, calls created as 'Unavailable' will not play in NICE Inform, but do play in the Web GUI	Believed fixed awaiting confirmation
116269	NICE Inform Recorder Screen	Screen replay by doubleclicking occasionally fails	
141564	Organizer	Organizer: Exception occurs in case when user logs out right after making the distribution	
150580	Reconstruction	The map does not display occasionally	HF in progress

7

Bug Fixes

Table 5: Bug Fixes

Defect #	Product/ Component	Description	Comments
143299	Audit	Filter combobox has not enough length to recognize text	(Update Pack 3)
132282 133139	Evaluation	Evaluations assigned to a user group could not be deleted.	(Update Pack 1)
134506	Evaluator	Evaluation UI sections cut off	(Update Pack 2)
139554	Evaluator	Internal generation of the incident name included the name typed by a user and was truncated to 49, and depending on the client's name, there might be a space at the end that would not allow creating a folder with the incident name.	(Update Pack 2)
	GA Documentation	Minor documentation updates for GA release. Also fixed the link to the evaluation user guide and Quick CAD Search guide.	(Update Pack 1)
139868	GA Documentation	Link to CAD quick search guide on Inform website incorrectly refers to Verify User guide instead	(Update Pack 2)
134020	GIS Mapping Plugin	Displaying a shape file in the map panel could take a long time and subsequently cause the Inform Client to crash.	(Update Pack 1)

Defect #	Product/	Description	Comments
134337	Component Inform Client GUI	The listview control can have redraw issues when the screen DPI	(Update Pack 2)
146817	Inform Client GUI	is set to values above 100% "A generic error occured in GDI+."	(Update Pack 3)
140017		message when remote desktop disconnects.	
143977	Installation	In certain circumstances the install client can crash during file version checks	(Update Pack 3)
138026	Intelligence Center	Enhance the text messages, the individual events within a text conversation, to include Inform resource name and resource id details.	(Update Pack 3)
137029	Licensing	Fix for licensing entries in log.	Errors and warnings in the Inform Server log downgraded to information.
			(Update Pack 1)
131965	Long Term Storage Server	Inform Archive support for CLS event handling.	(Update Pack 1)
134117	NICE Inform Recorder support	NICE Inform Recorder certificate display enhancements	(Update Pack 1)
127879	Organizer	Importing several media files in the Organizer Import Media Wizard requires setting the resource name to each one of them.	(Update Pack 2) Released as HF812-400-07-02- 00-127
128176	Organizer	In the case when it is not possible to download audio for the primary call, a secondary call is not taken into account.	(Update Pack 2)
138443 138869	Organizer	Imported audio and screen recordings cannot be replayed in organizer.	(Update Pack 2)
127084	Reconstruction	Duplex pairing can fail with multiple data sources	(Update Pack 3)
127958	Reconstruction	Playback stops at previous end marker	(Update Pack 3)
131314	Reconstruction	The annotation search window is based on call start/end times and also has a 5 second start offset and a 1 second end offset applied. This causes annotations to get linked to radio calls that they shouldn't be.	(Update Pack 2)
134005	Reconstruction	Customer has dual radio loggers with paired resources. Following upgrade to 9.0.3 customer reports	(Update Pack 2)

Defect #	Product/ Component	Description	Comments
		that radio events are not being paired so duplicates are shown in the Reconstruction results table and timeline. Customer reports this behaviour is inconsistent with Inform 7.2.	
137574	Reconstruction	Text message searched word is not visible enough.	(Update Pack 2)
141749	Reconstruction	Free expression OR queries change to AND when saved	(Update Pack 3)
142186	Reconstruction	System Problem message box displayed to user while moving the cursor over the saved search	(Update Pack 3)
142924	Reconstruction	Issue with text conversation not highlighting which message is active with green dot during replay	(Update Pack 3)
139379	Reconstruction, Evaluator, Organizer	Double-clicking a screen recording or imported audio on a resource on the timeline causes an error to be shown and sometimes freezes the client (Reconstruction, Evaluator, Organizer).	(Update Pack 2)
127014	Server Framework	Inform Server is unable to use the security protocol TLS 1.2 for establishing a secure connection with the File Retrieval Service due to limitations of the .NET Framework 4.0. This causes audio retrieval from the FRS to fail.	(Update Pack 2) Released as HF812-400-07-02- 00-125
127670	Server Framework	When importing non-NICE media files to Organizer, the Start Time field is only accurate to hours and minutes.	(Update Pack 2) Released as HF812-400-07-02- 00-126
130080	Server Framework	Inform disconnects the NICE Inform Recorder after call download fails.	Stopped disconnection when audio retrieval fails. (Update Pack 1)
135145	Server Framework	Matrix datasource could return sources with same Referenceld. Ex. Primary / Secondary resources from different data sources added to the Hub Account, that may contain same Referenceld's.	(Update Pack 2) Released as HF812-400-07-02- 00-132
135479	Server Framework	Moved from instant DB accessible check to a cached version to reduce the number of connections. Method previously used could also cause an invalid failover detection to occur if all DB connections all used for 5 seconds.	(Update Pack 2)

Defect #	Product/ Component	Description	Comments
135953	System Administration	CAD resource name prefix option is missing during a CAD resource import.	(Update Pack 1)
126416	System Administration	 Issue with the data source panel licensing of individual resources. If you license a Radio resource the count should not change, but on the Data Source panel the count changes. Only TalkGroup resources should impact the remaining license count value. Sysadmin Licence page is not updated after resource license changed 	(Update Pack 2) Released as HF812-400-07-02- 00-128
134708	System Administration	The stored query ANDs are converted to ORs because the operators don't get serialized and therefore don't get saved to the database. Then when the stored query is loaded from the database, the operators are set to ANDs because AND is the default value in the code	(Update Pack 2) Released as HF812-400-07-02- 00-131
139996	System Administration	When adding a new user to inform from active directory, the new user wizard displays an "object not set" error message and fails to create the user account.	(Update Pack 3)
130929	User Administration	Changing the Administrator password would not always update the Database Tamper Detection checksums.	(Update Pack 1)

8 General Notes

None.

9 Installation Instructions

Before installing the Update Pack please ensure all NICE Inform Clients are closed and any instances of Microsoft Internet Explorer are closed.

Please refer to the *NICE Inform Update Pack Installation Guide* for installation instructions.

If a Language Pack is required you will need to apply it before the Update Pack. If a Language Pack ever needs to be installed after the Update Pack please reinstall the Update Pack.

If CAD support is required you will need to apply the latest CAD GDS package if it is not already installed.

NOTE: Please reapply the site license after applying the update pack

9.1 Hardware Specification (Server)

Hardware and software requirements and specification (Client and Server) are as detailed in the NICE Inform R10.0 Release Note.

9.1.1 Further software & configuration requirements None.

9.1.2 Upgrading from a previous release

This Update Pack should be used on a NICE Inform R10.0 installation only.

10 Technical Support

For information about the current release, contact:

Table 6: Technical Support Contact Details

Region	Email	Telephone
EMEA	support@nice.com	+972.9.775.3800
APAC	support.apac@nice.com	+852.8338.9818
AMERICAS	support.americas@nice.com	+1.800.NICE.611

11 Component Table

Table 7: HF812-400-10-00-02-01

Component	Version Number	Build Number	Description
Nice.Inform.Client.SystemAdministration.dll	10.0.2	386	

Table 8: HF812-400-10-00-02-02

Component	Version Number	Build Number	Description
Nice.Inform.Client.SystemAdministration.dll	10.0.2	392	
Nice.Inform.Server.Common.dll	10.0.2	392	

Table 9: HF812-400-10-00-02-03

Component	Version Number	Build Number	Description
appfiles.zip			Modified: 09/02/21 1:48:12 PM UTC
			File size: 9725 KB
LicensingFileManager.dll	1.0.4	600	
Nice.Inform.Client.Common.dll	10.0.2	417	
Nice.Inform.Client.Host.dll	10.0.2	417	
Nice.Inform.Client.LiveMonitor.dll	10.0.2	417	
Nice.Inform.Client.LMR.dll	10.0.2	417	
Nice.Inform.Client.Monitor.dll	10.0.2	417	
Nice.Inform.Client.Query.dll	10.0.2	417	
Nice.Inform.Client.Reconstruction.dll	10.0.2	417	
Nice.Inform.Client.ResultsGui.dll	10.0.2	417	
Nice.Inform.Client.SystemAdministration.dll	10.0.2	417	
Nice.Inform.Common.Images.dll	10.0.2	417	
Nice.Inform.Contracts.dll	10.0.2	417	
Nice.Inform.LicensingCommon.dll	1.0.4	600	
Nice.Inform.Server.Common.dll	10.0.2	417	
Nice.Inform.Server.SystemAdministrationServer.dll	10.0.2	417	
NiceInform.exe	10.0.2	417	
NiceInformLauncher.application			Modified: 09/02/21 1:48:12 PM UTC
			File size: 13 KB
NiceInformLMR.exe	10.0.2	417	
NiceInformMediaPlayer.exe	9.5.0	44	

Table 10: HF812-400-10-00-02-04

Component	Version Number	Build Number	Description
Documentation.aspx.cs			Modified: 08/02/21 3:15:01 PM UTC
			File size: 4 KB
NICE Inform CAD Search Quick Reference Guide.pdf			Modified: 06/11/20 3:08:22 PM UTC
			File size: 528 KB

Component	Version Number	Build Number	Description
NICE Inform Troubleshooting Guide.pdf			Modified: 01/02/21 5:01:10 PM UTC
			File size: 1457 KB

Table 11: HF812-400-10-00-02-05

Component	Version Number	Build Number	Description
Nice.Inform.Client.Evaluator.dll	10.0.2	417	
Nice.Inform.Client.Plugins.GisMapping.dll	10.0.2	417	
Nice.Inform.Client.SystemAdministration.dll	10.0.2	417	
Nice.Inform.Contracts.dll	10.0.2	417	
Nice.Inform.Server.Common.dll	10.0.2	417	
Nice.Inform.Server.CyberTechAudio.dll	10.0.2	417	
Nice.Inform.Server.EvaluationServer.dll	10.0.2	417	
Nice.Inform.Server.LongTermStorageServer.dll	10.0.2	417	
Nice.Inform.Server.SystemAdministrationServer.dll	10.0.2	417	
Nice.Inform.Server.UserAdministrationServer.dll	10.0.2	417	

Table 12: HF812-400-10-00-02-06

Component	Version Number	Build Number	Description
Nice.Inform.Client.Playback.dll	10.0.2	437	
Nice.Inform.Server.PlaybackServer.dll	10.0.2	437	
NiceInformMediaPlayer.exe	9.5.0	44	

Table 13: HF812-400-10-00-02-07

Component	Version Number	Build Number	Description
Documentation.aspx			Modified: 10/03/21 5:33:20 PM UTC
			File size: 8 KB

Table 14: HF812-400-10-00-02-08

Component	Version Number		Description
Nice.Inform.Client.Organizer.dll	10.0.2	453	

Component	Version Number	Build Number	Description
Nice.Inform.Client.SystemAdministration.dll	10.0.2	453	
Nice.Inform.Common.Serialization.dll	10.0.2	453	
Nice.Inform.Server.Common.dll	10.0.2	453	
Nice.Inform.Server.Host.exe	10.0.2	453	
Nice.Inform.Server.SystemAdministrationServer.dll	10.0.2	453	

Table 15: HF812-400-10-00-02-09

Component	Version Number		Description
Nice.Inform.Client.Controls.dll	10.0.2	457	

Table 16: HF812-400-10-00-02-10

Component	Version Number	Build Number	Description
Nice.Inform.Client.Controls.dll	10.0.2	464	
Nice.Inform.Client.Query.dll	10.0.2	464	
Nice.Inform.Client.ResultsGui.dll	10.0.2	464	
Nice.Inform.Server.IncidentManagementServer.dll	10.0.2	464	
Nice.Inform.Server.LoginServer.dll	10.0.2	464	
Nice.Inform.Server.QueryServer.dll	10.0.2	464	

Table 17: HF812-400-10-00-02-11

Component	Version Number		Description
Nice.Inform.Common.Utilities.dll	10.0.2	474	

Table 18: HF812-400-10-00-02-12

Component	Version Number	Build Number	Description
Nice.Inform.Server.DataSources.MediaVault.dll	10.0.2	498	

Table 19: HF812-400-10-00-02-13

Component	Version Number		Description
Nice.Inform.Client.Controls.dll	10.0.2	508	

Component	Version Number	Build Number	Description
Nice.Inform.Client.Evaluator.dll	10.0.2	508	
Nice.Inform.Client.Organizer.dll	10.0.2	508	
Nice.Inform.Client.Reconstruction.dll	10.0.2	508	
Nice.Inform.Client.SystemAdministration.dll	10.0.2	508	
NiceInformMediaPlayer.exe	9.5.0	44	

Table 20: HF812-400-10-00-02-14

Component	Version Number		Description
Nice.Inform.Client.Reconstruction.dll	10.0.2	520	

Table 21: HF812-400-10-00-02-15

Component	Version Number	Build Number	Description
Nice.Inform.Client.Query.dll	10.0.2	521	

Table 22: HF812-400-10-00-02-16

Component	Version Number	Build Number	Description
Nice.Inform.Client.Host.dll	10.0.2	533	
Nice.Inform.Server.Common.dll	10.0.2	533	

Table 23: HF812-400-10-00-02-17

Component	Version Number	Build Number	Description
Nice.Inform.Client.UserAdministration.dll	10.0.2	537	

Table 24: HF812-400-10-00-02-18

Component	Version Number	Build Number	Description
Nice.Inform.Client.Common.dll	10.0.2	538	
Nice.Inform.Common.Utilities.dll	10.0.2	538	

Table 25: HF812-400-10-00-02-19

Component	Version Number	Build Number	Description
Nice.Inform.Client.Audit.dll	10.0.2	543	

Table 26: HF812-400-10-00-02-20

Component	Version Number	Build Number	Description
Nice.Inform.Client.SystemAdministration.dll	10.0.2	544	
Nice.Inform.Server.Common.dll	10.0.2	544	

Table 27: HF812-400-10-00-02-21

Component		Build Number	Description
Nice.Inform.Client.Reconstruction.dll	10.0.2	545	
Nice.Inform.Contracts.dll	10.0.2	545	

Table 28: HF812-400-10-00-02-22

Component	Version Number	Build Number	Description
Nice.Inform.Client.SystemAdministration.dll	10.0.2	554	
Nice.Inform.Server.CallsDeletionServer.dll	10.0.2	554	
Nice.Inform.Server.Common.dll	10.0.2	554	
Nice.Inform.Server.DataSources.VpiLogger.dll	10.0.2	554	
NiceMMS.dll	1.0.0	1	

Table 29: HF812-400-10-00-02-23

Component	Version Number	Build Number	Description
BruTile.Desktop.dll	2.1.2	0	
BruTile.dll	2.1.2	0	
Common.Logging.Core.dll	3.4.1	0	
Common.Logging.dll	3.4.1	0	
GeoAPI.CoordinateSystems.dll	1.7.5	0	
GeoAPI.dll	1.7.5	0	
NetTopologySuite.dll	1.15.3	0	

Component	Version Number	Build Number	Description
Nice.Inform.Client.Common.dll	10.0.2	579	
Nice.Inform.Client.Plugins.GisMapping.dll	10.0.2	579	
Nice.Inform.Client.SystemAdministration.dll	10.0.2	579	
Nice.Inform.Contracts.dll	10.0.2	579	
ProjNET.dll	1.4.0	0	
SharpMap.Converters.GeoJSON.dll	1.2.0	0	
SharpMap.dll	1.2.0	0	
SharpMap.Layers.BruTile.dll	1.2.0	0	
SharpMap.UI.dll	1.2.0	0	
SharpMap.Web.dll	1.2.0	0	
System.Buffers.dll	4.6.2551 9	3	
System.Data.SqlClient.dll	4.700.19	46214	
System.Drawing.Common.dll	4.6.2691 9	2	
System.Memory.dll	4.6.2761 7	2	
System.Numerics.Vectors.dll	4.6.2551 9	3	
System.Resources.Extensions.dll	4.700.19	56404	
System.Runtime.CompilerServices.Unsafe.dll	4.6.2691 9	2	

Table 30: HF812-400-10-00-02-24

Component	Version Number	Build Number	Description
Nice.Inform.Client.Host.dll	10.0.2	563	

Table 31: HF812-400-10-00-02-25

Component	Version Number	Build Number	Description
Nice.Inform.Client.SystemAdministration.dll	10.0.2	579	
Nice.Inform.Server.CallsDeletionServer.dll	10.0.2	579	
Nice.Inform.Server.DataSources.VpiLogger.dll	10.0.2	579	

Table 32: HF812-400-10-00-02-26

Component	Version Number	Build Number	Description
client_en.zip			Modified: 08/09/21 12:42:53 PM UTC File size: 8250 KB
NICE Inform User Guide - System Administration.pdf			Modified: 08/09/21 12:42:41 PM UTC File size: 2273 KB
NiceInformClientHelp.chm			Modified: 08/09/21 10:42:54 AM UTC File size: 5932 KB

12 Third Party Products

12.1 NetTopologySuite

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1 Introduction

NICE Public Safety has previously announced a migration plan for VPI Empower loggers which defined the End-of-Support date for VPI Empower as December 31st, 2023 (see "NICE PS-MN 0005 - VPI EMPOWER 911 Migration Plan Announcement - August 2018").

This Technical Note outlines the steps required to convert a VPI Empower audio recording system to a NICE Inform legacy datasource. NICE Inform utilizes the VPI Voice Objects Database to search for calls and the conversion process adds a UNC path for each call which is then used to locate the recordings. NICE Inform also utilizes VPI DLLs, included within NICE Inform 10.0 UP3 and later versions, to decrypt calls for playback. This means that VPI logger services are no longer required for replay of legacy audio so that the VPI databases and audio recording files can be moved to a new location if necessary and will continue to be available. NICE Inform also supports setting a single retention period for each VPI legacy data source, after which both call records and call audio are deleted.

1.1 Assumptions

1.1.1 Scope of solution

This Technical Note covers the migration tooling and process for AUDIO ONLY.

Any questions relating to additional data or capabilities should be referred in the first instance to the appropriate NICE Sales representative.

1.1.2 Location of audio

This process assumes all audio already exists on customer owned and controlled network shared resources.

In order to maintain evidenced chain of custody relating to recorded audio, responsibility for the relocation of said recorded audio is the sole responsibility of the customer or their agents.

The VPI Media Manger tool only provides the means to update the migrated database with the location of the related call audio.

1.2 Services for migration on simple / complex sites

Simple sites are defined as VPI customer sites with one or multiple unconnected standard VPI recorders.

Complex sites are defined as those VPI customer sites that have any VPI resilience or scalability options or customisations to VPI loggers.

For the provision of services to convert a live VPI Logger to a static Legacy NICE Inform datasource, different services engagements will be required for Simple and Complex sites.

1.2.1 Services for simple sites

Migration services on customer systems comprising unconnected VPI recorders can be provided by NICE Direct or NICE Business Partners

1.2.2 Services for complex sites

Migration services on customer systems with cross-site replication and similar complex architectures will required consultancy from NICE VPI Services to plan any given project. Refer to the Engagement of NICE VPI Services section for specific contacts and process.

1.3 Engagement of NICE VPI Services

Engagement of NICE VPI services should be noted as part of the Sales to Service handover and managed by the NICE Project Manager.

Contact	Details
Primary engagement contact	scott.bindas@niceincontact.com
SCOTT BINDAS	+1 801.715.5529
Executive contact	don.reith@niceincontact.com
Don Reith	+1 801-715-5531

1.4 Options

There are 3 options for integration of VPI loggers/data sources with NICE Inform:

- 1. Live recording VPI logger:
 - VPI logger software continues to run.
 - Consumes NICE Inform audio license resources.
 - All recordings can be replayed via NICE Inform.
- 2. Legacy VPI logger:
 - VPI logger software continues to run, though recording can be stopped.
 - VPI logger marked as 'Legacy' within NICE Inform System Administration application, so no longer consumes Inform audio license resources. (refer to the Create a Legacy data source connection section).
 - Historic recordings can only be replayed via NICE Inform up to the date/time the datasource was marked as 'legacy' plus 3 months.
 - Suitable where only a short retention period for VPI logger audio is required.
- 3. Migrated VPI datasource:
 - Conversion process detailed in this document must be followed.
 - This process results in an updated VPI database and all historic audio files being converted to a format directly accessible by NICE Inform 10.0 UP3 or later.
 - Database and audio files can optionally be moved to a new hardware or virtual machine running any Windows operating system supported by NICE Inform. A network connection to the NICE Inform server is required.
 - VPI logger software is no longer required.

- MS SQL Server or MS SQL Server Express is required on the server hosting the VPI database.
- Migrated VPI datasource marked as 'Legacy' within NICE Inform System Administration application, so does not consume Inform audio license resources.
- A single retention period for each migrated VPI datasource can be defined within NICE Inform System Administration application. As VPI call records and audio pass this retention period they are deleted by NICE Inform

2 Conversion process

2.1 VPI DVD media import

NOTE: VPI DVD media import is ONLY required where VPI Media was stored on DVD.

If the VPI media was stored on DVD you must convert the media to a NAS plugin before updating the file path or shutting down any services. This is a very long process and should be performed remotely with the assistance of the customer swapping out DVDs as needed.

This section outlines the steps required to import VPI DVD media into a VPI system.

- To import DVD media into a VPI system:
 - Copy the ImportMediaIntoMediaMgr.exe to the following location: C:\Program Files (x86)\VPI\Media Manager. The executable must be copied to this file location to ensure the application works.
 - 2. Double-click the **ImportMediaIntoMediaMgr.exe** file and the application opens as shown in the following image.

Source Directory	[EX	Source Type © DVD Plugin © NAS Plugin	C Legacy C Archive Pending	
Destination Device:	Using NAS Plugin On H:\HamptonTest	Configure Firebu	Configure Firebird DB	
NAS ClassOfService:	0 🕏 Days	Confirm Firebird	DB.	
	Import finished. Calls processed: 0 (see log for details)			
	Start Cancel			

- 3. Complete the following fields:
 - Source Type: select DVD Plugin
 - **Source Directory**: this should be the drive letter of the DVD drive.

- Destination Device: this will be the plugin that the import tool will copy the files to. This should be a NAS plugin. See steps below on how to confirm this location under 'Confirming NAS Plugin'.
- NAS Class of Service: Use to set the retention period of the imported media in days.
- 4. Click the **Start** button and wait for the process to complete. Once complete, the screen updates with the results as shown in the following image. If required, use the log viewer for confirmation of details.

🕼 Import Media In	to Media Manager v1.1.6.6		-[] ×
Source Directory	EV.	Source Type © DVD Plugin © NAS Plugin	C Legacy C Archive Pending
Destination Device:	Using NAS Plugin On H:\HamptonTest	Contigure Firebird	DB
NAS ClassOlService:	0 Days	Contirm Firebird	DB
	MediaMgr DB Validated		
	Start		

5. If more DVD's need to be imported, repeat the process from step 2 with the unimported DVDs.

2.2 Confirming NAS plugin

NOTE: Confirming the NAS plugin is **ONLY** required where VPI Media was stored on DVD.

- To confirm the NAS plugin:
 - 1. Launch the VPI-Media Manager Utilities application
 - 2. Navigate to the following folder: C:\Program Files (x86)\VPI\Media Manager and double-click the mmutilities.exe file to launch the application.
 - 3. Once the application has launched, click the **Login** button and the application loads.

NOTE: You do not need to provide any user credentials to login into the application.

4. As shown in the following image example, on the **Servers** page under **Online Media** shows that the NAS plugin is online and initialized which is displayed with a green bubble and that there is 721GB of free space.

Name	Status	Location	Space Used
🗄 Media Manager			1
Media Manager Service	1.40 TB Free.	ENGVPortal1	61%
E Cache			1
😸 Cache Plugin	721 GB Free. Cache Initialized		61%
Online Media			2
🕘 Using NAS Plugin On H:\Hampton	Test Device And Media Initialized		
NAS Media ID 12	721 GB Free.		61%

5. If you need to add a new plugin, click the **Configuration** tab and click the **Add Device** button as shown in the following image.

510	9.0	VPI - Media Manager Utilities	(v1.3.0.19) - 🗆 🗙
Ser Ser	vers VRA Rules C	nfiguration Offline Media	
E Logout	Add Device	Event Log	
User	Storage	Support	
Configuration			
- Sei - Encrypi - System - Databa - Storage - We - We	ionnections cure Socket ion Storage se ngvportall \ImportTest\ ngvportall \ImportTest\ ngvportall \ImportSub-in ngvportall \Import\sub-in ngvportall \Import\sub-in ngvportall \ImportSeconday able & Forward time		

6. The **Add Storage Device** window is displayed. Select the **Online Storage** option and ensure the drop down displays **NAS Plugin** as shown in the following image.

Add Storage Device	
Please select	the type of device you wish to add.
Online Storage	Local drives and/or network attached storage.
Removable Storage	DVD RAM and other ejectable devices.
Offsite Storage	Cloud Storage Services.
Forward Storage	Forwards media to remote MMSvc.
🔘 Quarantine Storage	Quarantine for scrubbing sensitive data from files before archiving.
NAS Plugin	x
	OK Cancel
-	Cancer

- 7. Click **OK** and the **Browse for Folder dialog** box opens.
- 8. Select the **Plugin Device Root Path Needed** folder location from the tree and click the **OK** button as shown in the following image.

Ŧ	Media Export	12
Đ.	NAS	
	NAS2	
Đ	Old NAS	
	PerfLogs	
	Plugin_Demo	
	SmtpDiag	
	Test_export	
Ŧ	VP Safe Archive	
Đ	VPBuffer	
	VPI_EXPORT_TOOL	18

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- 9. The new plugin is added under the **Storage**, **Online** node in the tree.
- 10. Click the **Servers** tab and a restart service dialogue may appear to prompt for a service restart to allow the configuration changes to take effect.
- 11. Click the YES button to allow the service to restart.
- 12. After the service restart, the newly added plugin is displayed as shown in the following image.

Name	Status	Location	Space Used
🖃 Media Manager			
💮 Media Manager Service	2.11 TB Free.	ENGVPortal1	618
- Cache			
💮 Cache Plugin	721 GB Free. Cache Initialized		61& ·
🗉 Online Media			
Using NAS Plugin On H:\foo	Device And Media Initialized		
NAS Media ID 13	721 GB Free.		61% ·
Using NAS Plugin On H:\HamptonT	est Device And Media Initialized		
NAS Media ID 12	721 GB Free		618

2.3 Update media path

The first task is to update the **VPI Voice Objects Database** with the UNC path of the recordings. This section outlines the steps to complete the process. If the recordings are stored on DVD media, refer to the **Error! Reference source not found.** section.

- To update media path:
 - 1. Launch the VPI-Media Manager Utilities application.
 - 2. Navigate to the following folder C:\Program Files (x86)\VPI\Media Manager and double-click the mmutilities.exe file to launch the application.
 - 3. Click the **Login** button and the application loads. You do not need to provide any user credentials to login into the application.
 - 4. Once the application has opened, click on the **Configuration tab** and expand the tree to select the **Storage** node and then expand the tree further to select the **Online** node as shown in the following image.

	Vers VRA Rules C	onfiguration Offi	VPI-Media Manager Utilities (v1.3.0.19)	- ¤ ×
E Logout	Add Device	Event Log		
User	Storage	Support		
Configuration				
Ser Encryp - System Databa - Strage - Vice -	onnections sure Socket ion Storage se ngvportall \ImportTest\ ngvportall \mas\ ngvportall \mas\ ngvportall \ImportSub-in ngvportall \ImportTest2\ Secondary able & Forward time	/troign		

5. Click on each of the entries under the **Online** node to confirm that all entries for the **Root Path** field are using a **UNC path** as shown in the following image.

	VPI - Media Manager	Utilities (v1.3.0	0.19)		- 🗆 ×
Servers VRA Rules Configuration 0	iffline Media				
Logout Add Device Event Log	1				
User Storage Support					
Configuration					
 B - Media Manager Storage D - Online 	Plugin:	NA	HILL	✓ Active	
- \\engvportall \ImportTest\	Root Path:	\\engvporta	-		
Vengvportal1\nas\	Friendly Name:	Using NAS F	Plugin ()	n H:\HamptonTest	_
- \\engvportal1\nas.F\ - H:\too\	Location:				
-\\engvportal1\HamptonTest\	Usemame	1			
 - \\engvportafl\Import\sub-import\ - \\engvportafl\Import\ 	Password:	-			
Viengvportal1\ImportTest2\ Online Secondary		-			
- Removable	Default COS:	0	\$	(days)	
- Offsite & Forward	Max Space Threshold	0	\$	(gigabytes)	
Quarantine - Class Of Service	Change Media Alarm:	5	\$	(percent)	
	Update Media Are	chiving State		Update Media Recovery State	
	Encrypt non-Enc	rypted Files	M	ax files (0 for all): 0	
			-		
	L				
	🔉 Delete			1	Apple .

6. Close the VPI-Media Manager Utilities application.

- Locate the VPIMedia2VoiceObjs.exe executable on the VPI server that is hosting Microsoft SQL Server and double-click the file to open the VPI Add MediaPaths to VoiceObjects application.
- NOTE: The VPI Add MediaPaths to VoiceObjects application is provided as part of the software package for the migration. To locate this application, browse to the location you copied the software package to.
 - 8. For **DB Connections**, enter the connection string for the **MediaMgr Database** field and **VPI Voice Database** field as shown in the following image.

B CONNECTIONS		
MediaMd Database	Data Source=.;Initial Catalog=vpiMediaMgr2;Integrated Security=True	 Test
/PI Voice Database	Data Source=;;Initial Catalog=vpiCaptureVoice;Integrated Security=True	 Test

- 9. Ensure that the connection string entries are as follows:
 - Media Mgr Database Field:
 Data Source=.;Initial Catalog=vpiMediaMgr2;Integrated Security=True
 - VPI Voice Database Field:
 Data Source=.;Initial Catalog=vpiCaptureVoice;Integrated Security=True
- 10. Click the **Test** button for each field to confirm the connection string is correct and a successful connection is made as shown in the following image.

PPI Add MediaPaths	to VoiceObjects	VPI Add MediaPaths to VoiceObjects	×	- 🗆 ×
MediaMgr Database VPI Voice Database	Data Source Working Data Source	Connect Successful!		Test
-		ОК		Next

NOTE: If the test is unsuccessful, modify the connection string. Refer to the following link for help on connection strings https://www.connectionstrings.com/sql-server/.

11. Once the test is successful for the connection string entries, click the **Next** button and the **Select Data to Migrate** page is displayed as shown in the following image.

LECT DATA TO MIG		Root UNC for Media Paths stored in Voice DB
MMS Media Device	Using NAS Plugin On H:\ImportTest	(Using device paths as-is)
fedia Device Path	\\engvportal1\ImportTest	
legin Date	Friday November 19, 2021 💌	
nd Date	Friday November 19, 2021 -	Refresh Devices from DB

- 12. Click the **MMS Media Device** field down arrow and select the plugin you want to migrate from the MMS Media Device from the list. When multiple plugins are detected, you must run this process against each of the plugins listed.
- 13. Select a plugin and click the **Next** button. The migration process starts automatically.
- 14. Wait for the migration process to finish (as shown in the following image) and click the **OK** button once finished.



- 15. Click the **Back** button to repeat the steps for subsequent plugins in the **MMS Media Device** menu selection as detailed in step 12.
- 16. Once the migration has completed open **Microsoft SQL Server Management Studio** to view the records in the **vpiCaptureVoice.dbo.vpVoiceObjects** table. A new column entitled **mediaFilePath** is displayed as shown in the following image.

	starttime	mediaFilePath
1	2021-07-06 17:35:32.000	\Vocalhost\calls\62887838.vp2
2	2021-07-06 17:35:32.000	\\engvportal1\HamptonTest\2021\07\06\62886581.vp2
3	2021-07-06 17:35:32.000	\\engvportal1\HamptonTest\2021\07\06\62887178.vp2
4	2021-07-06 17:35:32.000	\\engvportal1\HamptonTest\2021\07\06\62887500.vp2
5	2021-07-06 17:35:32.000	\\engvportal1\HamptonTest\2021\07\06\62886822.vp2
6	2021-07-06 17:35:32.000	\\engvportal1\HamptonTest\2021\07\06\62885609.vp2
7	2021-07-06 17-25-22 000	\\engunostal1\HamntonTeet\2021\07\06\62885252.vn2

17. The **vpiCore** and **vpiCaptureVoice** databases are now ready to be backed up and restored to the instance of Microsoft SQL Server running on the target server and a **Legacy Data Source** is created in the **NICE Inform System Administration** application on the **NICE Inform Server**.

2.4 VPI shutdown process

The next step is the VPI shutdown process. This section details the steps for a typical All-in-One VPI Voice Recording Server. The VPI shutdown process steps stops the system from recording, stops any media from expiring based on archiving rules, and disables playback.

NOTE: Depending on the integration type you may see more, or less services listed than documented in this guide. Therefore, attention will need to be taken to ensure all VPI services are stopped.

VPI services listed in the **Windows Services Manager** application typically follow a naming convention of **<VPI>.<SERVICENAME>** and need to be shut down in a certain order. The documented steps support all VPI Integrations.

- To shut down the VPI services:
 - 1. Open the **Windows Services Manager** application by clicking **Start** and in the **Start programs and file** search box, enter **services.msc** and then press **Enter**. The **Services** application opens.
 - 2. Locate the VPI services listed in the **Services** pane as shown in the following image.

Q Services						uloi ×
File Action View	Help					
	- I 🖸 🚓 I 🖉 🗰 H 45					
Services (Local)	Name -	Description	Status	Startup Type	Log On As	
	C VPI Activ Voice	Voice Print	Started	Automatic	.\administ	
	Q VPI Business Rules Service	VPI Busine	Started	Automatic	Local System	
	VPI Cisco UCCX Data Adapter 1	VPI Cisco U		Manual	Local System	
	VPI Datapump Service	Exports ag	Started	Automatic	Local System	
	VPI DCS for Cisco UCCX [VPI Cisco UC	Data Collec		Manual	Local System	
	Q VPI Event Center	Manages a	Started	Automatic	Local System	
	Q VPI Media Export	Runs batch	Started	Automatic	Local System	
	VPI Media Export Service		Started	Automatic	Local System	
	Reversion of the service servi	Manages a	Started	Automatic	.\administ,	
	Q VPI Metrics Service	VPI Metrics	Started	Automatic	Local System	
	Q VPI Report Scheduler		Started	Automatic	Local System	
	VPI Retrieval Service		Started	Automatic	Local System	
	VPI Service	VPI Record	Started	Automatic	.\administ,	
	VPI SQL Data Adapter Service	Data Adap	Started	Automatic	Local System	

- 3. Select the first VPI service in the list of services, right-click on the service and select **Properties** and the **Properties** screen for the VPI service is displayed.
- 4. Click the **General** tab and ensure you change the **Startup type** field change from **Automatic** to **Disabled** as shown in the following image.

ieneral Log On	Recovery Dependencies
Service name:	VPIActivVoiceService
Display name:	VPI Activ Voice
Description:	Voice Print Call Logging Service. If this service is stopped, Call Logging will be unavailable.
Path to executal "C:\Program File	ble: s (x86)/VPI\ActivVoice\CLoggerService.exe''/startedbysc
Startup type:	Disabled
and the second sec	
	re service startup options.
Service status:	re service startup options. Started
	re service startup options.
Service status:	Started Resume Stop Resume the start parameters that apply when you start the service

- 5. Click the **OK** button to save the changes.
- 6. Repeat the process from step 3 for the remaining VPI Services ensuring **ALL** have a **Startup Type** of **Disabled**.
- 7. Restart the VPI Server and log back onto the server.
- 8. Open the **Windows Services Manager** application by clicking **Start** and in the **Start programs and file** search box, enter **services.msc** and then press **Enter**. The **Services** application opens.
- 9. Double check that **ALL** VPI services have been disabled and are no longer running as shown in the following image.

Q Services	1					_ 🗆 ×
File Action View	Help					
**	g 🝺 🛛 🖬 🕨 🗖	41.11				
Services (Local)	Name -	Description	Status	Startup Type	Log On As	
	Q VPI Activ Voice	Voice Print		Disabled	, \administ	
	VPI Business Rules	VPI Busine		Disabled	Local System	
	VPI Cisco UCCX Dat	VPI Cisco U		Disabled	Local System	
	Q VPI Datapump Service	Exports ag		Disabled	Local System	
	VPI DCS for Cisco U	Data Collec		Disabled	Local System	
	Q VPI Event Center	Manages a		Disabled	Local System	
	🔍 VPI Media Export	Runs batch		Disabled	Local System	
	VPI Media Export S			Disabled	Local System	
	VPI Media Manager	Manages a		Disabled	. Vadminist	
	VPI Metrics Service	VPI Metrics		Disabled	Local System	
	VPI Report Scheduler			Disabled	Local System	
	Q VPI Retrieval Service			Disabled	Local System	
	Q VPI Service	VPI Record		Disabled	. Vadminist	
	VPI SQL Data Adap	Data Adap		Disabled	Local System	

2.5 Backup and restore VPI database

The next step is to backup and restore the VPI databases using **Microsoft SQL Server Management Studio**. This section outlines the steps to back up the VPI databases on the VPI Server, copy the contents to the target server and restore the VPI databases.

- To backup and restore the VPI database:
 - 1. On the VPI server hosting **Microsoft SQL Server** open **Microsoft SQL Server Management Studio** and when the login screen is displayed, connect to the server using **Windows Authentication**.
 - 2. **Microsoft SQL Server Management Studio** connects and opens. Expand the tree locate and then expend the **Database** node.
 - 3. Right-click the **vpiCore** database, select **Tasks** and then **Back up**. The **Back Up Database** page is displayed.
 - 4. On the **General** page (as showing in the following image), ensure the **Backup Type** is set to **Full** and under **Destination** enter a disk path location to **Back up** to by clicking the **Add** button to enter a path and file name in the **File name** field.

📒 Back Up Database - vpiCore			_IDI ×
Select a pirge	Script · D Help		
General Media Options	Source		
Packup Options	Database	vpiCore	
	Recovery model:	SIMPLE	
	Backup type:	Full	
	Copy-only backup		
	Backup component:		
	Database		
	C Files and Regroups		
	Destination		_
Connector	Back up to	Disk	
Server: ENGVPORTAL1		Inak	
Connection: ENGVPDRTAL1\Administrator	G:\vpiCore\Backup\vpiCore.bak		Add
JY View connection properties			Remove
9100J0813			Contents
Ready			
			OK. Cancel

- 5. Click the **OK** button to start the back up and wait for the backup process to complete successfully. A message is displayed informing you that the backup of database completed successful.
- 6. Close the **Back up Database** window.
- 7. Repeat the procedure from step 2 and back up the vpiCaptureVoice database.
- 8. Once the backups for both databases are completed, copy the back up files for the **vpiCore** and **vpiCaptureVoice** databases to a folder location on the target server.

- NOTE: The VPI databases may not reside on the target **NICE Inform Server** if the system being migrated requires a separate server to host the VPI databases.
 - 9. On the target server open **Microsoft SQL Server Management Studio** and when the login screen is displayed, connect to the server using **Windows Authentication**.
 - 10. Microsoft SQL Server Management Studio connects and opens. Expand the tree, right-click the Databases node, and select Restore Databases. The Restore Databases page is displayed.
 - 11. On the **General** page, select **Device** and click the **Browse** button and the **Select backup device** dialog box is displayed.
 - 12. Ensure the Backup media type is set to File.
 - 13. Click the Add button and in the tree, browse to the folder location where you copied the vpiCore back up file to and select the .bak file to add it to the File name field and click the OK button to close the window.
 - 14. Click the **OK** button to close the **Select backup devices** dialog box. The backup file is listed under **Backup sets to restore** as shown in the following image.

💀 Restore Database - vpiCore								- 0	×
🚺 Ready									
Select a page & General & Files & Options	Script Help Source Database: Device: Database: Destination	D:\Program F vpiCore	iles \Microsoft	SQL Ser	ver\MSSQL13	MSSQLSER	VER\MSS	2L\Backup	
	Database	vpiCore							~
	Restore to:	The last back	up taken (23	Novemb	er 2021 07:55:	14)	1	Time	line
	Restore plan	L							
	Backup sets to restore:								
	Restore Name	Database Backup	Component Database	Type Full	Server 53DOT199	Database vpiCore	Position 1	First LSN 3400000000	8200074
Connection									
vi 53DOT199 [53DOT199∖Administrator] View connection properties Progress									
	¢		-						>
Oone Done								Verify Backup	Media
						OK	Ca	ncel	Help

- 15. Verify the name of the VPI database being restored is vpiCore as shown in the **Destination Database** field.
- 16. Click the Files page and check the Relocate all files to folder box.

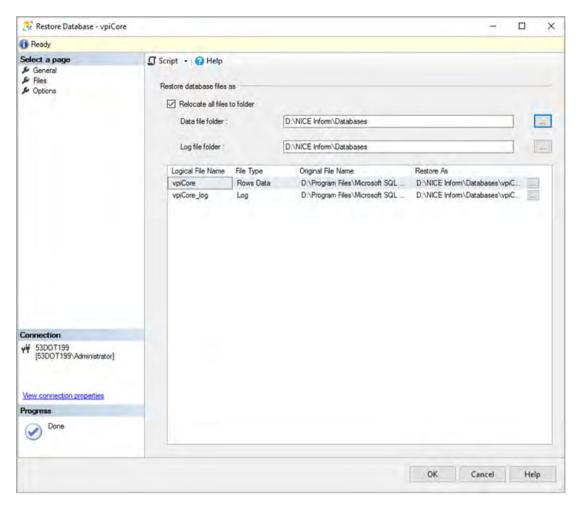
17. In the **Data file folder** and **Log file folder** fields, ensure the folder path is set to the correct location, click the **Browse** button, and browse to the path for **Locate folder** to restore the database to as shown in the following image.

Locate folder		-		×
Select the folder:				
C: D C: D F SRECYCLE B D Builds Config Msi Polytam Maa; NOE Ifon NICE Ifon NICE Ifon NICE Ifon System Volum E F	er (x86)			
Selected path:	D/MICE Inform	OK	Cano	

NOTE: If you are restoring the VPI databases onto an instance of Microsoft SQL Server co-located with NICE Inform, restore the databases to the same drive location as the NICE Inform databases. If restoring to a dedicated server for hosting the VPI databases, retore to a drive location as agreed with the customer.

Ensure there is enough disk space to restore the database files to the chosen location.

18. The folder path location to restore the database is displayed for **Relocate all files to folder** as shown in the following image.



- 19. Click the **OK** button to restore the database.
- 20. Repeat the steps from step 9 and restore the **vpiCaptureVoice** database.

2.6 Database security logins

The next step is to create a **SQL Server Login** with **db_datareader** and **db_datawriter** permissions to the restored databases. Also, ensure the Microsoft Windows account that the **NICE Inform Server Service** is running under has read, write, and delete permissions for the audio files located on a network share. This section outlines the steps required.

- To do this:
 - 1. On the target server open **Microsoft SQL Server Management Studio** and when the login screen is displayed, connect to the server using **Windows Authentication**.
 - 2. Microsoft SQL Server Management Studio will connect and open, cascade the Object Explorer tree to the Security node, cascade the node further and right click the Logins node and select New Login.
 - 3. **Microsoft SQL Server Management Studio** connects and opens. Expand the tree to the **Security** node.
 - 4. Expand the tree further and right-click the **Logins** node and select **New Login**. The **New Login** page is displayed.

Select a page	Script - 🕜 Help			
General Server Roles User Mapping Securables Status	Login name: O Windows authentication © SQL Server authentication Password:	vpimigration		-
	Confirm password:	601		
Connection	O Mapped to asymmetric key		-	
Server: 53DOT199	Map to Credential	5	*	Add
Connection, 53DOT199\Administrator	Mapped Credentials	Credential Provide	•	
Progress				Remove
Ready	Default database:	master	14	
	Default language	odelaut>	-	

5. Create either a **SQL Server authentication** or **Windows authentication** login and complete the following fields as shown in the example in the following image:

- Enter a Login name if using SQL Server authentication. If using Windows authentication click Search and enter the account name to search for.
- If using SQL Server authentication enter a Password and Confirm Password.
- If using **SQL Server authentication**, uncheck the following boxes:
 - Enforce password policy.
 - Enforce password operation.
 - **User must change password at next login**, this will be deselected automatically when you uncheck **Enforce password operation**.

NOTE: If using **Windows Authentication** to create a **Login** these checkboxes will be automatically greyed out.

 Click User Mapping page and check vpiCore database and then check the db_reader and db_writer under Database role membership boxes.

- On the User Mapping page, check the vpiCaptureVoice database box and then check the db_reader and db_writer boxes under Database role membership.
- Click the **OK button** to create the Login account.
- Expand the Database node in the object explorer tree and locate the vpiCore and vpiCaptureVoice databases. For each database confirm the Login created is listed under Security and the Users node.
- 7. Close Microsoft SQL Server Management Studio.

2.7 Migrate audio files and update media file path

The next step is to migrate the audio files to a network share location as advised by the customer and ensure the service account running the NICE Inform Server Service has access to the audio files.

Once the audio files have been migrated run the UpdatePath.sql script to update the mediaFilePath column of the vpVoiceObjects table in the vpiCore database.

- To do this:
 - 1. Confirm the original file location of the audio files which are located on network file share and migrate the audio files to the new location as specified by the customer.
 - 2. On the target server ensure the service account running the **NICE Inform Server Service** has access to the audio files.
 - 3. Create a **Microsoft Windows User Account** as either a **Local** account or a **Domain** account that matches the user account running the **NICE Inform Server Service** account on the **NICE Inform Server** on the local server that is hosting the network file shares for the audio files.
 - 4. Locate the network file shares on the server hosting the audio files, right-click on the audio file folder and select **Properties**.
 - 5. Select the **Sharing** tab, click the **Advanced Sharing** button and click the **Permissions** button.
 - 6. Add the account running the **NICE Inform Server Service** to the **Share Permissions** and ensure it has **Read** permissions.
 - 7. Click the **OK** button to save changes.
 - 8. Select the **Security** tab and verify the account running the NICE Inform Server Service is listed
 - 9. Click **Edit** and the **Permissions** page is displayed. Select the relevant account and ensure the additional permission of **Write** and **Modify** are selected.
 - 10. Click the **OK** button to save changes.
 - 11. Repeat the steps from step 2 if there are multiple audio file network share locations.
 - 12. On the target server hosting the VPI databases open Microsoft SQL Server Management Studio.

- 13. Locate the **UpdatePath.sql** script and select to **Open** with **SSMS** which will open the script in a new query window.
- 14. Before running the script confirm the original file location of the audio files before the files were migrated, and the new location of the audio files. This information is required for the **UpdatePath.sql** script.

NOTE: There may be more than one original file location and new file location for the audio files.

- 15. Before running the script, the following variables will need to be updated in the script as shown in the image below an extract of the **UpdatePath.sql** script:
 - @OriginalPath the original path the audio was stored on
 - @ReplacementPath the new migrated path the audio is stored on

B/*	
	This script is used to modify the mediFilePath column of the vpVoiceObjects table
	in the vpiCore database. This can be used when the audio files are migrated to a new location. The script will replace one part of the mediaFilePath string with another.
	For example if the original audio is stored on the server 'engyportal1' in the shared folder 'HamptonTest' e.g. '\\engvportal1\HamptonTest\2021\07\06\53166757.vp2'
	And the audio files are copied to a server 'NewServer' into a shared folder 'NewFolder' e.g. '\\NewServer\NewFolder\2021\07\06\53166757.vp2'
	Then change the following variables in this script to: @OriginalPath = '\\engvportall\HamptonTest'
	<pre>@ReplacementPath = '\\NewServer\NewFolder'</pre>
	If there are multiple servers or shares involved then run this script multiple times, changing the @OriginalPath and @ReplacementPath variables appropriately.
*/	
	******* CHANGE THESE VARIABLES BEFORE RUNNING SCRIPT **********/
	CLARE @OriginalPath nvarchar(max) = '\\engvportal1\HamptonTest'
/**	CLARE @ReplacementPath nvarchar(max) = '\\NewServer\NewFolder'

16. If there are multiple servers or shares involved then run this script multiple times, changing the @OriginalPath and @ReplacementPath variables with the appropriate values..

2.8 Create a Legacy data source connection

The next step is to create a **Legacy data source connection** using **NICE Inform System Administration** for the VPI migrated database and this section outlines the steps required.

- To create a Legacy data source connection:
 - 1. On the **NICE Inform Server** open a browser connection and enter the URL for the **NICE Inform Client** to launch the application.
 - Log into the NICE Inform Client with an account that has permissions to create a data source connection in the NICE Inform System Administration application. Typically, this will be the NICE Inform default administrator account.
 - 3. Open the **NICE Inform System Administration** application and expand the tree and locate the **Data Sources** node under **Recording Systems**.
 - 4. Click the **Add** button and select the **Add Legacy Data Source** option from the dropdown menu. The **Data Source Wizard** opens at the **Welcome** screen.

- 5. Select **VPI Audio Logger** from the **Select the type of data source** option from the drop-down menu.
- 6. Complete the following fields for the **General Details** of the data source connection:
 - Enter a Label (name) for the data source.
 - Enter the **Network address** for the server hosting the Microsoft SQL Server migrated databases.
 - Enter the SQL Server Authentication credentials for the VPI database.
 - If applicable check the Use a named SQL Server instance box, and enter an Instance Name.
- 7. Click the **Next** button to continue and then click the **Finish** button. The data source is added to the system.
- 8. The data source automatically opens. Click the **General** tab to view the additional fields for a migrated database and edit the following fields as shown in the following image:

Data Sources > VPIDataSource
General Resources Settings
Label:
VPIDataSource
Network address:
192.168.46.100
SQL server authentification
SQL username:
vpimigration
SQL password:
•••••
Use a named SQL Server instance
Name:
✓ Legacy system
✓ Migrated system
Retention period (days):
3650 ÷
3650

- Ensure the Legacy system box is checked.
- Ensure the Migrated system box is checked. NICE Inform will interact with the database and read the audio form the provided paths in the database and not interact with the logger software as this is not present.
- If data retention is required, enter the number of days after which call and recording files will be deleted in the **Retention period in (days)** field.
- 9. Import resources for the data source connection. To do this, click the **Resources** tab and click the **Import** button and the **Import Resources Wizard** starts at the **Welcome** screen.
- 10. Select the **Read the resource information from the data source** radio button and click the **Next** button.

- 11. At the **Specify Mapping** screen, skip this step and click the **Import** button to continue.
- 12. At the **Wizard Complete** screen, click the **Finish** button to complete the import process.
- 13. Once completed click the **Save** button and the legacy data source is created and its resources imported.

2.9 VPI Log Viewer

To open the VPI Log Viewer:

- 1. In the system tray locate the VPI Log Viewer icon.
- 2. Right-click the **VPI Log Viewer** icon and select **Run Viewer**. The VPI Log Viewer is now displayed
- 3. Change the **Application Type** using the drop-down menu to **Media Manager Import Media Tool** to display events as shown in the following image.

Manager Import Media TCD 🖵 🔄 🚱 🙆 🟴 🚨 ⊘ 🌫 🗟 🥻 🎓 🌽 🎉 🎧 🚘						
	Messages					
	Application	Time Stamp	Process	Message		
0	Media Manager Import Med	10/28/2021 3:56:58 PM (416)	Main	Process Started (v1.1.6.6 b1.1.6.6)		
N.	Media Manager Import Med	10/28/2021 3:56:58 PM (447)	MediaMgr Database	Connecting to: .:vpiMediaMgr2		
14, 14,	Media Manager Import Med	10/28/2021 3:56:59 PM (305)	MediaMgr Database	Connected.		
J.	Media Manager Import Med	10/28/2021 3:56:59 PM (305)	Medial/Igr Database	Validating column: 'guid' exists in table: 'vpDevice'		
10.1	Media Manager Import Med	10/28/2021 3:56:59 PM (321)	MediaMgr Database	Validating attributes for column: 'guid' in table: 'vpDevice'		
$ M_1 $	Media Manager Import Med	10/28/2021 3:56:59 PM (336)	MediaMgr Database	Validating column: 'device' exists in table: 'vpDevice'		
pla,	Media Manager Import Med	10/28/2021 3:56:59 PM (336)	MediaMgr Database	Validating attributes for column: 'device' in table: 'vpDevic		

NICE

TRUTH DEPENDS ON IT

Orange County Fire Authority

Request for Proposal

9-1-1 Voice / Radio Digital Logging Recording System RFP Number: R02549A

May 25, 2023, 11:00 AM Pacific

NICE Inform Solution Proposal

PRESENTED TO:

Orange County Fire Authority

Attn: Rothchild Ong Assistant Purchasing Agent rothchildong@ocfa.org 714-573-6642 1 Fire Authority Road, Bldg. C Irvine, CA 92602

SUBMITTED BY:

NICE Systems, Inc.

Jeff Visger Account Executive jeff.visger@nice.com 801-715-5552 221 River Street Hoboken, NJ 07030



10. Pricing Page (Exhibit J)

PROPOSAL COSTS - The fee information is relevant to a determination of whether the fee is fair and reasonable in light of the services to be provided. This section shall include the proposed costs to provide the services as described in your proposal. Provision of this information assist the Agency in determining the Offeror's understanding of the project and provides staff with tools to negotiate the cost.

Proposed costs must be inclusive of all costs and expenses associated with providing the services, including, but not limited to, all consultant fees, preparation of deliverables, printing, and any other incidental costs. Please note that the OCFA Board of Directors does not allow for travel time to be billed at the hourly rates. Provide estimated travel expenses (if needed) on a per trip basis. OCFA will determine if in-person meetings are required and the number to be included based upon the requested service level review.

Please provide your proposal costs sheet and rates with Exhibit J - Pricing Page in a separate sealed envelope or upload as the separate "Cost File" in the online bidding system.

Include a detailed estimated fee proposal that is itemized by task components. The fee proposal should include all anticipated reimbursable expenses as a separate line item, the rates of the people who would perform the work (please identify tasks to be performed by sub-consultants as applicable), and a standard hourly rate schedule.

Provide a description of the key assumptions used to calculate the project fee. If appropriate, identify cost saving strategies as well.

Fee Schedule and Pricing:

Development and Implementation Costs						
Description of Services	Hours	Hourly Rate	Total Cost			
Phase I – Project Planning : Initial meetings with OCFA Staff to define the design and delivery requirements. Produce final approved project plan and timeline. Include cost to meet with OCFA project team.			\$19,872			
Phase II – Design/Implementation: Design/ customize solution, adapt system to OCFA needs, develop user interfaces, and implements system. Convert and migrate existing data to new environment.			\$73,760			
Phase III – Testing/Training: Supply training materials and/or expertise to be delivered to users (<i>Provide details</i>).			\$14,500			
Other: Travel, lodging, meals, incidentals, etc.						

Annual Costs			
Description of Services	Unit Cost	Qty	Extended Total
 Annual licensing/ Maintenance/ Support Cost: Please describe annual licensing and maintenance/ support costs Provide additional documentation as needed 	Software Hardware 1 st Year Maintenance: (24/7/365 onsite all inclusive)		\$140,500* \$137,018 \$33,930
	Total Estimated Proj (without VPI integrati		\$419,580*
Desired feature: VPI CAPTURE integration			\$50,000

* baseline pricing (\$419,580) does not include VPI integration, considering the latest update to RFP requirements, where this functionality is no longer mandatory but desirable: "It is desired that the CR system support a "legacy load" capability for the existing VPI loggers".

Provide details of what is included in the total cost listed above. Travel and incidentals should be included in the total cost.

NICE recommends to replace the existing VPI recording infrastructure and to migrate the existing VPI legacy recordings and metadata into the new logger environment, providing seamless, integrated access to historical recordings from both platforms and across the replacement boundary.

In order to satisfy OCFA's requirement for data migration from their existing VPI loggers, this proposal includes services to convert and migrate the VPI DATABASE files from the existing recorders into VMs on the CEN NIR servers (see the optional line item inserted into the above price proposal table). Chain-of-custody issues and concerns preclude NICE personnel from converting or migrating the MEDIA files from the existing servers to the new, but NICE will provide support, instructions, and customized scripting, to automate the media conversion and transfer processes as much as possible.

Inform matrix channels will allow retrieving recordings from another NICE Inform system, such as a regional radio system recording solution (e.g., LARICS or Orange County Sheriff) to support interagency cooperation and interoperability.

The proposal includes services to integrate the NICE Inform application suite and NICE Inform Intelligence center with OCFA's Central Square Enterprise (formerly TriTech Inform) CAD v21.1.2.14. The proposed solution will provide a more robust and complete incident search and reconstruction capability.

The proposal includes integration with RapidSOS enhanced location data warehouse for capture and long-term retention of RapidSOS' short-lived enhanced location information.

The proposal includes integration with OCFA's Text-to-911/SMS provider (not provided in the RFP nor Addendum 1), if NICE has integration support for OCFA's provider. Otherwise, Text-to-911 may only be captured if the PC screen used for Text-to-911 is being recorded.

The proposal further includes the NICE Inform Elite R10 application suite, including:

- NICE Inform Reconstruction for searching, filtering, and gathering recording media and metadata into a timeline and saving as a scenario
- NICE Inform Evidence Compliance Pack, which includes Organizer (for adding external files to a scenario and packaging them for distribution outside the Inform system) and Media Player (which allows users outside the Inform system to view and playback scenario media in an Inform-like timeline interface).
- NICE Inform Reporter which provides a library of pre-built, but customizable, reports for summarizing Inform activity and performance as well as ad hoc reporting capabilities.
- NICE Inform Monitor which allows authorized Inform users to monitor recordings in-progress.
- NICE Inform Verify which allows agents to access and playback recordings of their most recent calls from their agent PC.
- NICE Inform Evaluator which allows call center management to automate the process of selecting and assessing caller-agent interactions for the purposes of measuring and improving individual agent and call center-wide performance.
- Assessments can be automatically assigned to appropriate evaluators and assessment completion can be tracked for timely fulfillment.
- The proposal also includes NICE Inform Health Manager (NIHM), the NICE SNMP-based system monitoring solution.

Per the RFP requirements, the proposal includes the following server hardware:

- Two (2) HP DL360 Gen10 NIR IP radio logger servers (one primary and one redundant) running Windows Server 2016 and both recording sixty (60) talk groups via thirty (30) simultaneous talk paths from Motorola's MCC7500 P25 AIS. These servers will be installed on OCFA's radio network infrastructure (RNI).
- One (1) HP DL360 Gen10 logger backup server (LBS) running Windows Server 2016 OS and shared between both IP radio NIR servers. Two (2) additional 6TB HDD will be added in a second RAID1 array for highly fault tolerant and expanded archiving and backup storage. This server will be installed on the RNI.
- Two (2) HP ML350 Gen10 NIR logger servers (one primary and one redundant) running Windows Server 2019 and both recording one hundred twenty (120) channels each (sixty-four (64) 2-wire analog sources; eighteen (18) VESTA consoles via passive SIP recording; twenty (20) Avaya 2-wire digital phones; and eighteen (18) unallocated channels for growth). Each server will be equipped with three (3) 24-channel 2-wire analog audio interface cards, one (1) 48-wire digital interface to support the Avaya 2-wire digital phones, and two (2) 6TB HDD in a second RAID1 array for additional local media storage (until archived). These servers will be installed on the customer enterprise network (CEN).
- Two (2) HP DL380 Gen10 NICE Inform application suite servers (one primary and one resilient) running Windows Server 2019 and MS SQL Server 2019 licensed for four (4) server CALs (shared with other servers, below) and ten (10) user/device CALs. The resilient Inform server will also host the NICE Inform Health Manager (NIHM - see below) services. These servers will be installed on the CEN
- One (1) HP DL380 Gen10 NICE Inform Intelligence Center server running Windows Server 2019 and MS SQL Server 2019. This server will be augmented with an additional 32GB RAM to improve performance on large and complex analytics tasks. This server will be installed on the CEN.
- Two (2) HP DL380 Gen10 NICE Inform Central Archiving (CA) servers running Windows Server 2019 and MS SQL Server 2019. These servers will receive media and database backups from the two CEN NIR servers (and, optionally, from the two RNI NIR servers, as well) to provide search, playback, and incident reconstruction capability even if both (CEN or RNI) NIR servers are offline, per the RFP requirements. These servers will each be augmented with four (4)

additional 6TB HDD to be combined in an 18TB RAID5 array. These servers will be installed on the CEN.

- One (1) DL360 Gen10 NICE Inform Screen Recorder satellite server running Windows Server 2019 and recording screens for eighteen (18) CAD workstations (2x 1920x1080 monitors per PC) and eighteen (18) VESTA call handling workstations (1x 1920x1080 monitors per PC). The screen satellite will be augmented with an additional two (2) 6TB HDD in a second RAID1 array for the required thirty (30) days screen recording retention. This server will be installed on the CEN.
- In addition to the one hundred twenty (120) telephony channels and the thirty (30) radio channels, the NICE Inform server will also be licensed for an additional twenty (20) (primary and redundant)
- This proposal includes NICE-provided services to ensure a successful deployment and transition to operational status. Services include on-site installation, configuration, and validation as well as remote Project Management to ensure a smooth implementation and onsite training services.

Proposed training includes:

- One 2-day NICE Inform training class for up to six (6) students.
- One half-day (4 hrs) NICE Inform Health Manager class for up to six (6) students
- One full day (8 hrs) NICE Inform Evaluator class for up to six (6) students.

The proposal presumes that, prior to the date of installation, the customer will have configured and tested the necessary network packet replication (Cisco SPAN port(s) or equivalent) to facilitate recording of the VESTA positions via VoIP as well as high-speed remote connectivity (VPN, screen sharing) into the OCFA logger network to facilitate remote support of the onsite deployment and configuration of the proposed solution. Requirements and documentation to be provided during project kickoff call.

The proposal further presumes that, prior to installation of the proposed solution, the customer has acquired, deployed, installed, and configured any needed Avaya licensing and functionality on the PBX needed to enable integration with the NICE loggers for recording the Avaya digital phones.

Detailed requirements will be provided upon contract award.

Provide what factors will be considered for pricing in subsequent contract years. (i.e. Consumer Price Index).

Maintenance is factored at a discounted rate of 9% as hardware includes first year warranty by manufacturer; second year is 18% of retail costs of hardware and software and goes up 3% per year as a CPI after that, with the 18% still being the costing factor.

Term of Offer: It is understood and agreed that this offer may not be withdrawn for a period of one hundred eighty days (180) from the Proposal Submittal Deadline, and at no time in case of successful Offeror.

Offer good for a period of one-hundred eighty days (180) from the Proposal Submittal Deadline.

1. Any additional information you would like OCFA to consider.

Not Applicable

REQUEST FOR BEST AND FINAL OFFER



RFP RO2549B – 911 Digital Logging Recorder System

DATE BEST AND FINAL OFFER REQUESTED: OCTOBER 11, 2023

DUE DATE FOR BEST AND FINAL OFFER: OCTOBER 19, 2023 AT 5:00 P.M.

NICE Systems Inc. submitted a proposal in response to the above referenced Request for Proposal (RFP) issued by the Orange County Fire Authority (OCFA).

As a result of the informational meeting conducted on August 10, 2023 and subsequent follow-up meetings, OCFA is providing its responses to the following questions addressed during the meeting and NICE Systems Inc. provided additional consideration on the following items:

Please provide Best and Final Offers for the options below:

- Option 1) Proposal as specified in RFP with complete solution no virtualization
- Option 2) Without Inform Screen Recorder
- Option 3) Without Inform Screen Recorder and without Intelligence Center

As part of the evaluation/negotiation process, the OCFA is exercising the right to request a best and final offer from the top-ranking firm for further evaluation and consideration. The purpose of the Best and Final Offer is to allow both OCFA and the respondent to make any modifications to the terms of the contract before making the final decision in the award.

Please complete the attached best and final pricing page. Best and Final Offers must be received by the Orange County Fire Authority - Purchasing Section no later than the deadline specified above. Please submit your response to this request via e-mail to: <u>rothchildong@ocfa.org</u>.

Thank you for your interest in doing business with Orange County Fire Authority.

Sincerely,

Rothchild Ong Assistant Purchasing Agent

BEST AND FINAL PRICING PAGE

Please complete the requested information below and submit via e-mail to: rothchildong@ocfa.org.

ng Below tion Costs		
Hours	Hourly Rate	Total Cost
		Proposed: \$19,872 BAFO: \$19,872
		Proposed: \$73,760 BAFO: \$73,760 Proposed: \$14,500 BAFO: \$14,500
		Proposed: N/A
Unit Cost		Qty
	Software Hardware 1st Year Maintenance: (24/7/365 onsite all inclusive	Proposed: SW: \$140,500* HW \$137,018 1 st Year Maintenance: \$33,930 BAFO: SW: \$140,500 HW: \$137,018
	tion Costs	tion Costs Hours Hourly Rate Hours Hourly Rate

\$33,930

BEST AND FINAL OFFER

RFP RO2549B - 911 Digital Logging Recorder System

Total Estimated Project Cost (Option 1): * without VPI integration	Proposed: \$419,580* BAFO: \$419,580*
Desired feature: VPI CAPTURE integration	Proposed: \$50,000 BAFO: \$50,000
Total Estimated Project Cost (Option 2) Without Inform Screen Recorder: * without VPI integration	BAFO: \$409,330* 1 st Year Maintenance Included
Total Estimated Project Cost (Option 3) Without Inform Screen Recorder and without Intelligence Center: * Without VPI integration	BAFO: \$369,220* 1 st Year Maintenance Included

 OCFA requests additional clarification regarding licensing and maintenance costs for subsequent years as proposed. Provide detailed pricing for years 2 – 5 for each option proposed. (Attach additional pages as necessary.)

Option 1:	Maintenance Year 2: \$49,953	Year 3: \$51,451	Year 4: \$52,994	Year 5: \$54,584
Option 2:	Maintenance Year 2: \$48,108	Year 3: \$49,551	Year 4: \$51,038	Year 5: \$52,569
Option 3:	Maintenance Year 2: \$41,748	Year 3: \$43,001	Year 4: \$44,291	Year 5: \$45,620

TO THE ORANGE COUNTY FIRE AUTHORITY:

The Undersigned hereby amends the original proposal as indicated in this Best and Final Offer and shall provide online payment processing services with all terms, scope of work, conditions, specifications, and amendments in the Request for Proposal which is incorporated by reference as if fully set forth herein. The representations herein are made under penalty of perjury.

NICE Systems, Inc.

Name of Company

221 River st, 10th Floor, Hoboken, NJ 07030

Address

44

Signature of Person Authorized to Sign

John Rennie

Printed Name

10/18/2023

Date

General Manager, NICE Public Safety & Justice

Title