NATO Communications and Information Agency

Acquisition Directorate
Boulevard Leopold III
B-1110 Brussels, Belgium

NCIA/ACQ/2023/06758
04 April 2023

To: Prospective Bidders List and Distribution List

Subject: Invitation For Bid IFB-CO-115735-NAGSF Amendment 1

Provide NAGSF CIS Services Relocation

References:
A. AC/4-D(2019)0004 (INV) dated 4 July 2019; Procedure Governing the Use of Basic Ordering Agreements (BOAs) Concluded by the NCIA - 2019 Version
B. NCI Agency NOI; NCIA/ACQ/2023/06553, dated 29 November 2022
C. NCI Agency Invitation For Bid IFB-CO-115735-NAGSF; NCIA/ACQ/2023/06602, dated 13 March 2023

Dear Prospective Bidders,

1. The purpose of this Amendment 1 is to:

   a. Revise the IFB Bid Closing Date;

   b. Publish Release 1 of IFB Bidders' questions and NCI Agency responses, and;

   c. Issue revised IFB documents (Book II).

2. In accordance with the Procedure Governing the Use of Basic Ordering Agreements (BOAs) 2019 Version, Paragraph 30, request submitted to the NCI Agency for additional time is hereby granted. Book I, Bidding Instructions, Section 2.4.1, is hereby revised as follows:

   FROM:

   *The closing time for the electronic submission of bids in response to this IFB is Monday, **10 April 2023**, 12:00 Hours (Central European Time (CET)).*

   TO:

   *The closing time for the electronic submission of bids in response to this IFB is Monday, **02 May 2023**, 12:00 Hours (Central European Time (CET)).*

3. No further extensions to the Bid Closing Date are anticipated.

4. NCI Agency responses to Bidders' questions received by 31 March 2023 are hereby published with this IFB Amendment 1 as Attachment 1.

5. Revised bidding documents are provided with this IFB Amendment 1 as Attachment 2 and replace the original versions in their entirety. Potential Bidders are strongly advised to carefully review these revised bidding documents. With the exception of the revisions included in these documents, all other IFB documents remain unchanged from their original version as issued on 13 March 2023.

6. Perspective Bidders are advised that the NCI Agency reserves the right to cancel this IFB at any time in its entirety and bears no liability for bid preparation costs incurred by firms or any other collateral costs if bid cancellation occurs.

7. The NCI Agency point of contact for all information concerning this IFB is Ms. Emira Kapetanovic, Principal Contracting Assistant, who may be reached at IFBCO115735NAGSF@ncia.nato.int

For the Chief of Acquisition:

Emira Kapetanovic

Digitally signed by Emira Kapetanovic
Date: 2023.04.04 14:39:28 +02'00'

Emira Kapetanovic
Principal Contracting Assistant
NCI Agency Acquisition

Attachments:

1) Responses to Clarification Requests, Release Number 1
2) Revised IFB Documents :

2.1 08.0_ IFB-CO-115735-NAGSF _Book II, Part IV Statement of Work Amendment 1 (.PDF)
2.2 08.1_ IFB-CO-115735-NAGSF _Book II, Part IV Statement of Work Appendix A Amendment 1 (.PDF)

ATTACHMENT B

FINAL BIDDERS LIST

Country	VENDOR
ALBANIA	TCN shpk
BELGIUM	ATOS
	Akacio - Louis & Associates s.a.r.l
	Avaya Inc.
	BE NETWORKS
	BLACK BOX NETWORK SERVICES
	Brevco Services
	Computacenter NV
	Computer Sciences Corporation
	Cybertrust Belgium NV
	Cypros C
	Dell NV
	Dimension Data Belgium
	Ericsson sa/nv
	Getronics Belgium SA/NV
	Hewlett Packard Enterprise Belgium BV
	NextiraOne
	Nijkerk Computer Solutions BeNeLux
	Prodata Systems
	Proximus NV
	Proximus SpearIT NV
	RealDolmen NV
	SAIT
	Simac ICT Belgium
	Telenet BVBA
	Thales S.A.
	UNIFY COMMUNICATIONS
	Van Roey Automation NV
	Verizon Terremark NV
	CISCO SYSTEMS BELGIUM
	FORTINET*
	IBM BELGIUM
BULGARIA	Electron Progress EAD
	KRISTANEA LTD.
	Lirex BG Ltd
	Telelink Business Services EAD
	BALKANTEL OOD
	ELEKTRON PROGRESS EAD

	Telelink Business Services EAD
CANADA	General Dynamics Mission Systems-Canada
CROATIA	CROZ d.o.o. za informaticku djelatnost
	IN2 Information Engineering Ltd.
	KING ICT d.o.o
	Senso IS d.o.o.
	Span PLC
	Combis
Czech Republic	Autocont
	Compactive s.r.o.
	Damovo Ceska republika s.r.o.
	SITEL, spol. s r.o.
	Skill s.r.o.
	TTC Telekomunikace, s.r.o.
DENMARK	Danoffice ApS
	SAAB Danmark A/S
ESTONIA	Telegrupp AS
FRANCE	Airbus Defence and Space SAS
	CS Systèmes d'Informations
	IDEMIA Identity & Security France
	SAFECLOUDBOX
	INEO Defense
	MARLINK SAS
	Société Réseau Informaique et Gestion
	SAFECLOUDBOX
GERMANY	ARKTIS IT solutions GmbH
	Airbus Defence and Space GmbH(ex EADS GmbH)
	Bechtle GmbH & Co.KG
	Bechtle GmbH System House Aachen
	CANCOM Public GmbH
	CGI (Germany) Gmbh &Co.KG
	CONET Solutions GmbH
	CSC Deutschland Solutions GmbH
	Cognizant Consulting and Services GmbH
	FREQUENTIS Deutschland GmbH
	GBS TEMPEST & Service GmbH
	GTSI Corp.
	KB Impuls Service GmbH
	M-Medientechnik GmbH
	MagSoft® Computer und Software
	Quin GmbH
	Rohde & Schwarz GmbH & Co. KG
	T-Systems International GmbH
	Telespazio Germany GmbH

	XORTEC GmbH
GREECE	Cosmos Business Systems S.A.
	European Dynamics SA
	Info-Quest SA
	PC SYSTEMS S.A.
HUNGARY	Honvédelmi Minisztérium Elektronikai,Logisztikai és Vagyonkezelo zrt.
	Hubel Hungarian & Belgian Ltd.
	Kapsch BusinessCom Kft.
	Navigator Zrt.
	S&T Consulting Hungary Ltd.
	Synergon Information Systems plc- Synergon Integrator Kft
ITALY	3F & EDIN Spa
	Fondazione FORMIT
	IES - S.r.L.
	ITEL SRL
	Italtel
	NA.EL. SRL
	SIMAV SPA
	SMS Engineering srl
	TELSY S.p.A.
	ePM-Engineering to Project Management sr
	TELECOM ITALIA
	IES
	TELSY
	C.G.T. ELETTRONICA
	Leonardo S.p.A
	NETGROUP
	NA.EL
	GENERAL DYNAMICS MISSION SYSTEM ITALY
LATVIA	Baltic Information & Security Systems
	DATI Group, LLC
	Datakom LTD
	SIA Fima
LITHUANIA	Blue Bridge
	JSC FIMA (UAB)
	Novian Technologies UAB
LUXEMBOURG	NTT LUXEMBOURG PSF SA
	SNOWBALL TECHNOLOGY SARL
NETHERLANDS	Eurotempest BV
	Global Crossing
	Global Systems and Software
	Het IT BV
	Misco Nederland BV
	OSPL Nederland BV

	PQR bv
	ROHDE & SCHWARZ BENELUX BV
	Truedata B.V.
	Solitee B.V.
	Tucana Telecom B.V.
NORWAY	3D perception AS
	Airbus Defence and Space AS
	Atea Norge AS
	Evry
POLAND	Asseco Poland S.A
	Atende S.A.(prior ATM S.A.)
	Decsoft S.A.
	Designers S.J.
	EXENCE S.A.
	Military Communication Institute
	Newind sp. z o.o.
	Produs S.A.
	S&T Services Polska Sp. z o.o.
	Solidex S.A.
	Sygnity S.A.
	Unizeto Technologies SA
	VOL Sp. z o.o. Sp.k.
	WASKO S.A.
	XCOMP
	Zbar Phu Mariusz Popenda
	EXENCE S.A.
PORTUGAL	Warpcom Services SA
ROMANIA	ATOS Convergence Creators SRL
	UTI Grup S.A.
	certSIGN S.A.
SLOVAKIA	Aliter Technologies a.s
SLOVENIA	Unistar LC d.o.o.
SPAIN	Alma Technologies s.a.
	DILLERS, SA
	INETUM
	Indra Sistemas S.A.
	KRC ESPAÑOLA, S.A.
TURKIYE	Ayesas Aydin Yazilim Ve Elektronik Sanayi Anonim Sirketi
	E+M Elektrik Sistem Hizmetleri Ltd. Sti.
	HAVELSAN Hava Elektronik San. Ve Tic A.S.
	Kuanta Insaat Taahhut Elektronik Turizm
	Suta Insaat ve Muhendislik Sirketi
UNITED KINGDOM	Audax
	CDW Limited

	Centerprise International Ltd
	General Datatech
	IOSTRAP, LTD
	Info-Assure LTD.
	Integrated Network Hardware
	Leonardo UK Ltd
	Razor Thorn Security LTD
	Secure Systems & Technologies Ltd. (SST)
	Softcat plc
	Spektrum Management Group Ltd
	Steatite Limited
	Storm Technologies Ltd
	TRICIS LIMITED
	Total IA Ltd
	Voice Concepts Ltd.
	SPEKTRUM MANAGEMENT GROUP LTD
UNITED STATES	AATD, LLC
	ALTIMA GROUP INTERNATIONAL, INC. (AGI)
	AS GLOBAL
	AUTOMATION INNOVATIONS LLC
	Advanced Computer Concepts
	Affigent, LLC
	BAE Systems Information Solutions Inc.
	By Light Professional IT Services LLC
	CTG Federal
	DRS Technical Services, Inc.
	EMW, Inc.
	Forward Slope, Inc
	GOOGOZ.COM, INC.
	Honeywell Technology Solutions Inc.
	ISSTSPi
	Intelligent Waves LLC
	K3 Enterprises, Inc.
	L-3 National Security Solutions, Inc.
	LEIDOS Inc
	LTI DataCom Inc.
	ManTech International Corporation
	Mutual Telecom Services Inc.
	Onshore Technology Consultants
	Parsons Government Services Inc.
	Pegasus Professional Services LLC
	PlanIT Group LLC
	Presidio Networked Solutions, Inc
	Raytheon CompanyNetwork Centric Systems

	SAIC
	Spacenet Integrated Government Solutions
	Strategic Operational Solutions, Inc
	Sub U Systems, Inc.
	URS Federal Services International Inc
	UXB Defense, Inc
	Ultisat dba Speedcast Government
	VECTOR IT SOLUTIONS INC
	Vykin Corporation
	World Wide Technology Inc.
	XTec, Incorporated
	vCloud Tech Inc
	CDW Government LLC

Distribution List for IFB-CO-115735-NAGSF
(in addition to Attachment B)

NATO Delegation (Attn: Infrastructure Adviser):

ALBANIA
BELGIUM
BULGARIA
CANADA
CROATIA
CZECH REPUBLIC
DENMARK
ESTONIA
FRANCE
GERMANY
GREECE
HUNGARY
ICELAND
ITALY
LATVIA
LITHUANIA
LUXEMBOURG
MONTENEGRO
THE NETHERLANDS
NORWAY
NORTH MACEDONIA
POLAND
PORTUGAL
ROMANIA
SLOVAKIA
SLOVENIA
SPAIN
TÜRKIYE
UNITED KINGDOM
UNITED STATES
BELGIUM MINISTRY OF ECONOMIC AFFAIRS

NATO HQ

- NATO Office of Resources (NOR)
  - Management and Implementation Branch – Attn: Deputy Branch Chief
  - CIS and Cyber Capabilities Branch (CCC) Branch Head
  - NOR Secretariat Section (RPPB, IC, BC)

All NATEXs

Embassies (Commercial Attaché)

NCI Agency – Internal Distribution

Attachment 1: Responses to Clarification Requests, Release Number 1

CR#	IFB Ref.	Bidder's Question	NCIA Response
1	BI	We may have a solution but it would require us to consult a partner: what are allowed to share with them?	The overall security classification of the IFB is "NATO UNCLASSIFIED". Recipients of IFB-CO-115735-NAGSF may share IFB information on a need-to-know basis, only for the purpose for which they are sharing it and share only with those affiliates who by role of their involvement have a need to know the information. Please see Contract Special Provisions Article 9: The Contractor may issue subcontracts to firms and purchase from qualified vendors in any contributory NATO nations in the project. Aricle 9 applies to information sharing.
2	Book II, Part IV Statement of Work Appendix A and Appendix B	There are TEMPEST items shown in Annex B as PFE with Part Numbers that are also in Annex A, as items to be supplied: • 7025SB0067589 24" Monitor Dell P2422H • 7050SB0045085 Dell KB216 Keyboard • 5965SB0065030 Plantronics Blackwire 3220 • 7050SB0070358 CAMERA, WEB, POLYCOM STUDIO P5 Manufacturer/Model Part Numbers need to be provided to obtain pricing and delivery. Also have the Annex A items got to be supplied from the same Manufacturer or can other suppliers compliant products be submitted ?	- Part numbers / vendor codes are provided, they are identical for annexes A and B. - OEM has to be identical (Dell in this case). - The case where some equipment would not be available from OEMs is covered in SOW §5, [RQ51].
3	Book II, Part IV Statement of Work Appendix B	Are the following PFE TEMPEST Item Part Numbers TEMPEST Certified for Mains Power protection or only for installation in a Protected Facility installation (i.e. Zone C TEMPEST certified): • 7021SB0067582 Dell Optiplex 5090 SFF • 7025SB0067589 24" Monitor Dell P2422H	- Power filtering is not essential as the site draws for more than 100 kVA. - Added to SoW §9.3.
4	Book II, Part IV Statement of Work Appendix A	Are equivalent updated /alternate items acceptable if OEM products are end of life by the time of contract award ?	- The case where some equipment would not be available from OEMs is covered in SOW §5, [RQ51]. - Updated §5.
5	Book II, Part IV Statement of Work; Clause 9.2	The section refers to different versions of SDIP-29 as SDIP-29/3 and SDIP-29/1. Please confirm; the version that is applicable and that Version /3 is now released.	- SDIP-29/2 is the current applicable version. - Updated §9.2.
6	Book II, Part IV Statement of Work; [RQ270]	There are no requests for TEMPEST Level B equipment in the IFB. Is this statement valid ?	- No TEMPEST B: correct.
7	Book II, Part IV Statement of Work; [RQ270]	Is SDIP-27/2 certification permitted as the current version of the standard ?	- SDIP-27/2 is the current applicable version. - Updated §9.2.
8	Book II, Part IV Statement of Work; [RQ270]	There are no requests for TEMPEST Level B equipment in the IFB. Is this statement valid ? Furthermore is SDIP-27/2 certification permitted as the current version of the standard ?	- No TEMPEST B: correct. - SDIP-27/2 is the current applicable version. - Updated §9.2.
9	Book II, Part IV Statement of Work; [RQ271]	Will Manufacturers Part Numbers and TEMPEST Certificates be made available for PFE ?	- Part numbers are in Annex B. - TEMPEST certificates are for the purchaser, not necessary for integration.
10	Book II, Part IV Statement of Work; [RQ203]	Will the details of environment Electromagnetic Radiators be made available to ensure all contributors will be operated during the site surveys ? This will then enable appropriate application of the EN 55024 equivalent standards	- The site will be requested to provide the necessary documentation for bidders.
11	Book II, Part IV Statement of Work Appendix A	There are several instances where a Top Level Entity only has one Item designated as "TEMPEST C" but the associated parts should also be TEMPEST Items. For example: Item: VTC Core - Audio (i) Extron - Dante Digital Matrix Processor w/ 12 AEC – TEMPEST C (Part Number; DMP 128 FlexPlus C AT) (ii) Extron - Four Channel Dante Amp, 100 watts at 70 volts (Part Number NetPA U 1004-70V) Where item (ii) should also be TEMPEST C if processing the same RED signal as (i). Please can all items be clearly designated where TEMPEST Certification is required.	- Anything that is processing NS information needs TEMPEST C or has to be installed inside an EMC Rack. - Each individual items with its subparts should be separately tested. -- In this case: all items except "Core - Rack" and "Cabling".
12	2.4.1. of 03_ IFB-CO-115735-NAGSF_Book I, Bidding Instructions	Please specify the bid closing time. In Book I, Bidding Instructions, point 2.4.1 is stated that the bid submission is 10.04.2023, 17:00 Hours CET. In the Cover letter point 6. is stated 10.04.2021, 12:00 Hours CET.	02 May 2023; 12:00
13	3.5. of 03_ IFB-CO-115735-NAGSF_Book I, Bidding Instructions	Regarding the preparation of the Bid Administration Package (Part I), please clarify how should be presented Annex B-8 and Annex B-12 if we don't intend to use any Subcontractors nor Third Party IPR.	For Annex B-8 Insert list of Subcontractor and Third PartyBidder Background IPR or specify "none" For Annex B-12 insert List of Prospective Subcontractors or specify "none"

14	08.1_ IFB-CO-115735-NAGSF _Book II, Part IV Statement of Work Appendix A	Please specify the scope of Tempest C certification. Is it possible to certify an entire computer configuration, for example workstation + monitor + keyboard + mouse, or do we need to certify each element of the configuration separately?	- Individual items should be separately tested.
15	08.1_ IFB-CO-115735-NAGSF _Book II, Part IV Statement of Work Appendix A	About "NS Workstation High Performance". Is a Smartcard keyboard (FIPS) required to be supplied, or is this just a requirement to support such type of a keyboard? Keyboards, monitors and mice are specified separately, and their number corresponds to the required workstations.	- The smartcard keyboard does not have to be supplied, but the unit needs to support it.
16	08.1_ IFB-CO-115735-NAGSF _Book II, Part IV Statement of Work Appendix A	About Tier 3 Analyst Workstation NS and Tier 3 Analyst Workstation NU. There is a requirement that they come with a Dell SFF server rack mount. It is not available in the DELL product range. Is it possible to use a standard shelf designed for installation in a 19" rack?	- Yes, standard shelf for Tier 3 Analyst Workstation installation in a 19" rack can be used instead.
17	08.1_ IFB-CO-115735-NAGSF _Book II, Part IV Statement of Work Appendix A	Please note that some of the listed items in Appendix 1 are without included support (e.g. Core – AV Network, Cisco). Shall we include such?	- All equipment comes with 1y warranty (expect when stated otherwise) as per §10.7. - Additional support is explicitely requested when required.
18	08.1_ IFB-CO-115735-NAGSF _Book II, Part IV Statement of Work Appendix A	In Bidding instructions (03_ IFB-CO-115735-NAGSF_Book I, Bidding Instructions (.PDF), art. 1.1.5 is written: "EDC + 10 months + 1 year warranty". In 08.1_ IFB-CO-115735-NAGSF _Book II, Part IV Statement of Work Appendix A, some of the equipment is with 36 months vendor support. May you clarify what is the duration of the support that is requested? If the support SKU is not with specified duration, what shall this duration be?	- Warranty is 1 year unless specified otherwise. - Additional support is explicitely requested when required.
19	08.1_ IFB-CO-115735-NAGSF _Book II, Part IV Statement of Work Appendix A	As per official Cisco statement, Premier switching license options are End of Sale: https://www.cisco.com/c/en/us/products/collateral/switches/dna-premier-license-pids-switching-eol.html Please clarify if Advantage licenses will be accepted as replacement?	- Yes, Advantage licenses will be accepted.
20	2.3 of 08.0_ IFB-CO-115735-NAGSF _Book II, Part IV Statement of Work	Regarding the key personnel (Project manager, Commercial manager and Technical lead) please clarify the responsibilities for each role, during the project execution. In addition, please confirm if our understanding is correct and we need to provide curriculum vitae only for the above stated key personnel.	- Project manager responsibilities defined in §2.1. - Commercial manager interacts with the NCIA contracting officer on all contractual matters. - Technical lead needs to have the required knowledge to coordinate on site with the NCIA technical staff. - The technical lead can be the project manager if he/she meets both requirements. - Requirements for CV limited to these 3 personnels. - Updated §2.3.
21	08.1_ IFB-CO-115735-NAGSF _Book II, Part IV Statement of Work Appendix A	About Tier 3 Analyst Workstation NS and Tier 3 Analyst Workstation NU. The requirement is 240 W internal power supply unit (PSU), 85% Efficient, 80 Plus Bronze. If this is a minimal requirement, is it possible to propose 300W Platinum Power Supply with better specifications?	- Equipment needs to meet at the minimum the SoW requirements. Should be 240W or bigger. 300W is OK.
22	08.1_ IFB-CO-115735-NAGSF _Book II, Part IV Statement of Work Appendix A	About Tier 3 Analyst Workstation NU. The requirement is Intel Wi-Fi-6E 2x2 AX211 Bluetooth 5.2 Wireless Card with Internal Antenna. The required vendor DELL cannot fulfil this requirement and the alternative (if mandatory is Internal Antenna), is only Realtek 8852BE Wi-Fi 6 2x2 (80MHz), BT5.2. Intel Wi-Fi-6E 2x2 AX211 Bluetooth 5.2 Wireless Card is only with External Antenna. Please, clarify which requirement is mandatory – vendor (Intel) or antenna (Internal/External).	- Requirement update: consider wireless card removed from "Tier 3 Analyst Workstation NU" requirements. - Updated Appendix A.
23	08.1_ IFB-CO-115735-NAGSF _Book II, Part IV Statement of Work Appendix A	About NS Workstation High Performance. The specified power supply 500W Platinum PSU and cord (according to local requirements) will not be able to provide optimal performance of the hardware configuration. Can we propose a power supply with better specifications and power output for optimal performance? Please clarify.	- Specification for power supplies is upgraded to the following: -- High performance: 550W. -- GIS: 350W. - Updated Appendix A.
24	08.1_ IFB-CO-115735-NAGSF _Book II, Part IV Statement of Work Appendix A	About NS Workstation GIS. Primary Storage requires capacity: 512 GB SSD with performance: 560MB/sec sequential read and 530MB/sec sequential write, durability: 600 TBW, in removable flex bay, supported functions: TCG Opal, IEEE-1667, FDE AES-256. The required vendor DELL cannot fulfil this requirement and cannot provide an alternative.	- Replacement: Dell-provided Intel NVMe PCIe SSD 512GB (Front PCIe FlexBay) - Updated Appendix A.
25	08.1_ IFB-CO-115735-NAGSF _Book II, Part IV Statement of Work Appendix A	About NS Workstation GIS. Secondary storage requires capacity: 8 TB Solid State, performance: 560MB/sec sequential read and 530MB/sec sequential write, durability: 600 TBW, in removable flex bay, supported functions: TCG Opal, IEEE-1667, FDE AES-256. The required vendor DELL cannot fulfil this requirement and cannot provide an alternative.	- Replacement: Dell-provided 8 TB, 7200 RPM, 3.5-inch, SATA, HDD, AG-Enterprise Class (FlexBay) - Updated Appendix A.
26	08.1_ IFB-CO-115735-NAGSF _Book II, Part IV Statement of Work Appendix A	About NS Workstation GIS. Required GPU is NVIDIA Quadro P2200 4x Display Port. This GPU is obsolete. Can we use alternative NVIDIA GPU with better specifications?	- Replacement: AMD Radeon™ PRO W6600. - Note the change for the power supply (350W) mentioned at #23. - Updated Appendix A.
27	08.1_ IFB-CO-115735-NAGSF _Book II, Part IV Statement of Work §5	With regard to SAN devices, will the RAID configuration be provided in case of assignment of the tender?	- RAID configuration will be executed by the Purchaser.
28	08.1_ IFB-CO-115735-NAGSF _Book II, Part IV Statement of Work §5	When the addressing plan of all devices will be provided?	- The addressing plan will be provided during the configuration guidance session.
29	08.1_ IFB-CO-115735-NAGSF _Book II, Part IV Statement of Work §5	When the list of VLANs to configure will be provided	- The list of VLANs to configure will be provided during the configuration guidance session.

30	08.1_ IFB-CO-115735-NAGSF _Book II, Part IV Statement of Work §7.7.2	Can we get more information about paragraph 7.7.2 (IP Phones NS)	- You probably mean §7.2.2 not §7.7.2. - The NS Voice over Secure IP (VoSIP) phones are PFE. - The models of these phones is Cisco 7962, Cisco 8841. - The number of these phones is 148. - The Contractor will have to reconnect ot the NS V2 LAN. - Updated §7.2.2.
31	08.1_ IFB-CO-115735-NAGSF _Book II, Part IV Statement of Work §5.1 RQ53	should mentioned workstation, to be provided by Purchaser, be relocated by Contractor from Temporary facility or from where? in case, will the workstations be packed or to packed by Contracor?	- The PFE workstations will be in the local warehouse and in the new facility. - They will be unpacked by the Purchaser.
32	08.1_ IFB-CO-115735-NAGSF _Book II, Part IV Statement of Work §5.1.2	Workstation there mentioned are included in those mentioned in SoW. 1.1?	- Correct. - 100 workstations will be already installed and to be reconnected to the LAN, and 62 will be in the warehouse.
33	08.1_ IFB-CO-115735-NAGSF _Book II, Part IV Statement of Work §5.2.1. RQ68 and §5.3.1 RQ84	Switches to be provided by Purcheser need to be relocated by Contractor ?in case, from ? In which status?	- PFE switches will be in in the local warehouse and in the new facility. - They will be unpacked by the Purchaser.
34	08.1_ IFB-CO-115735-NAGSF _Book II, Part IV Statement of Work §8.2 RQ 221	performance" means the response times of the PING protocol that crosses the various branches of the network between client and server? What are the performances considered adequate for each single device?	- Performance is measured based on the combinaison of OEM devices specifications and the configurations. - RQ221 specifies the responsibilities for the provision of testing equipment
35	08.1_ IFB-CO-115735-NAGSF _Book II, Part IV Statement of Work §8.2 RQ221, §5.3.2 RQ88, §5.3.3 RQ95	Is the configuration and/or switch configuration procedure provided by NCIA ? if so, what level of detail is provided?	- The configuration of switches will be provided during the configuration guidance session. - The level of details will allow the Contractor to configure them adequately. - NCI Agency will provide a full configuration template and variables, parameters per switch basis
36	APPENDIX A – Cat VTC - Core - AV Network: Items: Cisco - Catalyst 9300 48-port PoE+, Network Essentials - TEMPEST C Upgrade option 1100W AC 80+ platinum Config 1 Power Supply Cisco - 1100W AC 80+ platinum Config 1 Secondary Power Supply Cisco - C9300 DNA Essentials, 48-port - 3 Year Term License	The configuration for the device proposed seems incomplete. Please confirm the detailed breakdown of all components and materials included, like all the other bundles in APPENDIX A.	Under consideration.
37	APPENDIX A – Cat VTC - NS Distribution layer and NU Distribution layer, NS External SW and NU External SW: Items: ISE BASE Term License ISE BASE Tracker Term 3Y ISE PLS Term License ISE PLS Tracker Term 3Y StealthWatch 1 FPS Term License ISE BASE Tracker Term 3Y	Please confirm these Items proposed in “the Catalyst 9500 24x1/10/25G and 4-port 40/100G, Advantage”. They appear to be unavailable for ordering as “DNA-XARC-OFFER” is End of Life and is replaced by “DNA-XARC-OFFER” add-on for C9500-24Y4C-A bundle.	Under consideration.

CO-115735-NAGSF: NAGSF relocation

Book 2 – Part 4: Statement of Work

1 Introduction

1.1 Purpose

This procurement concerns the provision of NATO Communication and Information Systems (CIS) services for the Alliance Ground Surveillance (AGS) Main Operational Base (MOB) in Sigonella Italy, in support to the relocation from their transitional to permanent installations.

1.2 Background information

The AGS MOB was established in 2014, and its initial CIS capability provided by two successive NATO projects called Advanced Echelon (ADVON) and CIS Transitional Capability (CTC). It still occupies the containers-based temporary facilities that NATO put in place at the time, while the construction of a dedicated permanent installation was being commissioned.

With the completion of this installation, the NATO AGS Force (NAGSF) staff is expected to move as soon as possible to this new infrastructure, which spans over 12 buildings spread across two main zones on the Sigonella Air Force base. One of these buildings is the future command facility and hosts most of the users and all backend assets.

NAGSF operates on 3 networks operating at the NATO S3CRET (NS), NATO R3STRICTED (NR), and NATO Unclassified (NU) security domains, connected to the core NATO backend, with a Peacetime Establishment (PE) of circa 500 users.

The network point of presence and WAN connection to the NATO core backbone will also be relocated under separate contracts, with which effective coordination will be sought.

The current facility hosting the NAGSF staff will continue to operate until other systems not covered by this contract also complete their relocation. The user migration roadmap will be developed with the headquarters as the project reaches its milestones.

Due to a timeline constraint, the Purchaser will install early 2023 a provisional site for around 100 users in the new NAGSF facility to allow some initial staff expansion. The Contractor will be expected to finalize this installation with the equipment purchased through this contract, and the associated documentation and configuration management project artefacts.

1.3 Scope overview

The statement of works caters for the following activities:

- Procurement of selected COTS hardware, software, and ancillaries based on the specifications provided in this statement of work.
- Installation, imaging, and configuration of the contractor-furnished and selected purchaser-furnished end-user devices on the users' desks, and connection to the offices LAN sockets.
- Fiber-optics active distribution LAN design, installation, and configuration of the contractor-furnished and selected purchaser-furnished NS network switches, and connection to the network point of presence, IT backend, and local passive distribution infrastructure.
- Wireless and copper-twisted-pairs active distribution LAN design, installation, and configuration of the contractor-furnished NU wireless access points and network switches, and connection to the network point of presence, IT backend, and local passive distribution infrastructure.
- Design, installation and configuration of a state-of-the-art 50-people conference room with spatial audio and video teleconferencing (VTC).

- Installation, baseline configuration, and virtualization of contractor-furnished backend infrastructure for the NS data-center.
- Installation, and baseline configuration of contractor-furnished backend infrastructure for the cyber security infrastructure.
- Relocation, and connection to the distribution of the existing purchaser-furnished NU backend infrastructure from the transitional to permanent facility.
- System Testing focused on verification of the functional and non-design contained, installation testing and activation testing.

The overall physical scope for the contract is represented in Figure 1.

The installation sites for this project are represented in yellow:

- Ops area: 7 buildings. Includes server rooms and ~80% of the staff.
- Flight line: 5 buildings.

The current NAGSF staff buildings and CIS capability are represented in orange:

- Temporary facility: 2 buildings.
- Building 177: network point of presence and WAN connection.

The notional camp CIS ducting system is represented in red.

- Additional CIS ducts exist within the zones to connect buildings that are not represented here.

The Ops area and flight line are fenced areas with dedicated access control.

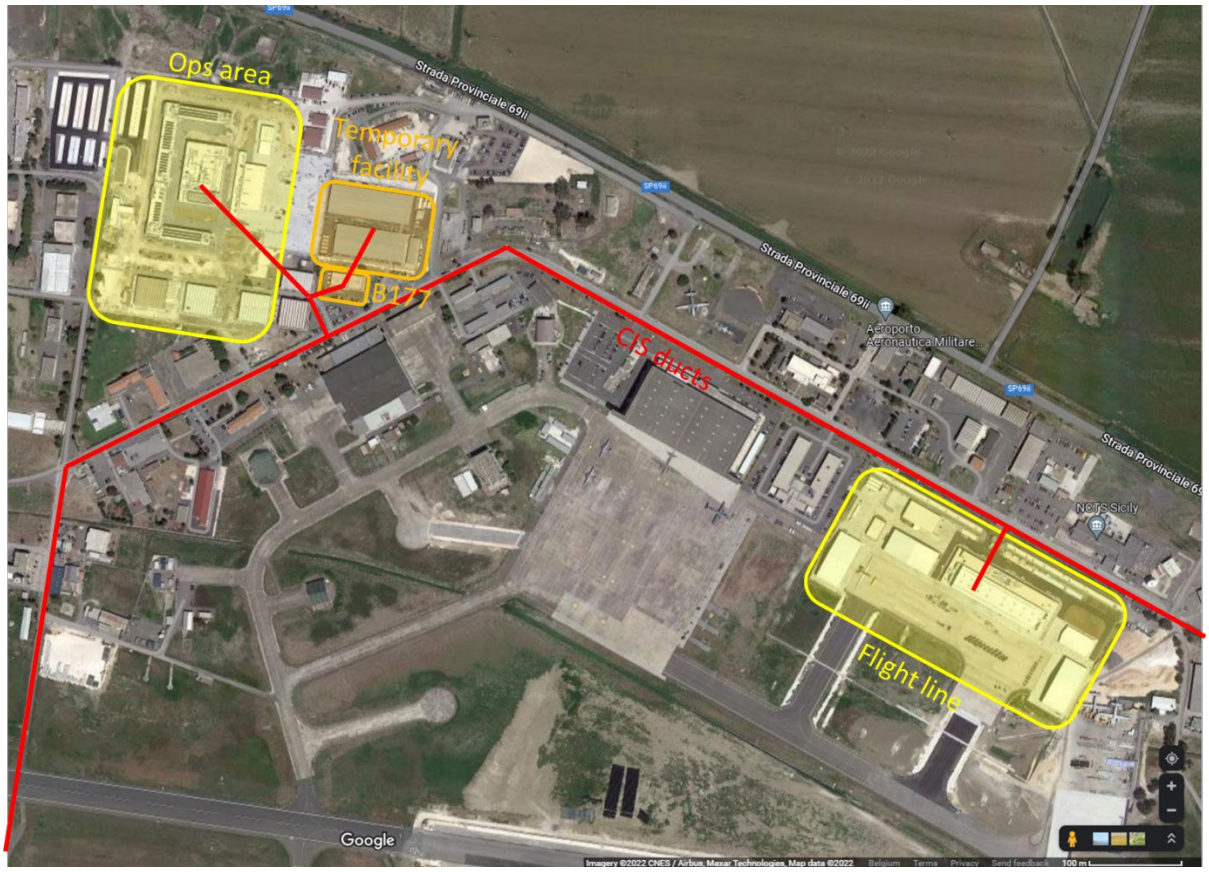

Figure 1: NAGSF relocation site overview

The present contract main deliverables will be:

- Technical scope as described in this statement of work.
- Site survey including report.
- Shipment including customs clearance when applicable.
- As-built drawings, documentation, and configuration management artefacts.
- Meetings, reports, and other management products.
- Testing and acceptance plan, execution, and reports.

1.4 Main milestones

The main milestones for this contract will be:

1. Kick-off meeting.
2. Project implementation plan.
3. Site survey.
4. Configuration guidance meeting.
5. System installation and configuration.
6. Test documentation.
7. Configuration management and documentation delivery.
8. Testing.

9. Acceptance.
10. Warranty completion.

1.5 Interactions with other contracts

During the execution of this contract, the Contractor will interact with other teams providing complementary capabilities for NAGSF.

In the cases there is a technical dependency between these contracts, the contractor will be responsible to coordinate the execution.

The NAGSF relocation project will include the following contracts:

- The relocation of the existing Wide Area Network (WAN) point of presence from the transitional to the permanent facility.
- The relocation of the network point of presence from the transitional to the permanent facility to which the NAGSF CIS will be connected.
- The configuration of the Cyber capability delivered through this contract (§5.6) that will occur after partial or full handover of the NAGSF CIS capability.

1.6 Standards for interpretation of this document

Requirements are formulated using the term “shall”. Context information supporting the requirements definition is provided using the term “will”. “Shall” statements are contractually binding, “Will” statements are non-mandatory, or they imply intent on the part of the Purchaser.

As a convenience for contractual coverage traceability, testing and communication between Contractor and Purchaser, these “shall” statements have been numbered with the [RQ] prefix.

Whenever requirements are stated herein to “include” a group of items, parameters, or other considerations, “include” means “include but not limited to”.

Whenever reference is made to a section, tasks, or paragraph, the reference includes all subordinate and referenced paragraphs.

The order of the SoW requirements is not intended to specify the order in which they must be carried out unless explicitly stated. The SoW defines the activities the Contractor’s process shall cover, *i.e.* the Contractor’s implementation plans determine the timing of Contractor detailed activities.

For purposes of the SoW:

- The term "the Purchaser" means the NATO Communications and Information Agency (NCI Agency) or its authorized representatives.
- The term "the User" means the NATO AGS Force (NAGSF) or its authorized representatives.
- The term "the Host Nation (HN)" means the Ministry of National Defense of Italy or its authorized representatives.

1.7 Applicable documents, standards and definitions

This SoW refers to well-known technical standards and protocols. The applicable standard document references for these technical standards and protocols are used in the following two formats:

- Abbreviations of well-known protocols: such an abbreviation is referred to as a "Short Name". An example of a short name is [RJ45], which refers to IEC60603-7-1, "Connectors for electronic equipment". One Short Name may refer to multiple standards, in which case all referred standards apply when referring to such a Short Name.

- Formal References: Formal references are identified as [Reference]. An example of a formal reference is [IEEE 802.1Q:2011], which refers to IEEE 802.1Q "Multiple Spanning Trees" published in 2011.

The latest version for these standards is always the one applicable unless specifically stated otherwise in this statement of work.

2 Project management

2.1 Project management approach

[RQ1] The Project shall be managed by the Contractor and be subject to review by the Purchaser.

The Purchaser's Project Manager (NCIA PM) will act as the Purchaser's representative and will be the primary interface between the Contractor and Purchaser beginning from the Effective Date of Contract (EDC) through the end of the contract.

The Purchaser's Project Manager can be supported by specialists in certain areas who may, from time to time, be delegated to act on the Project Manager's behalf in their area of expertise.

[RQ2] The Contractor shall designate a Project Manager (PM), who shall direct and coordinate the activities of the Contractor's project team.

[RQ3] The Project Manager shall be the Contractor's primary contact for the Purchaser's Project Manager and shall conduct all major project design, test, and status reviews.

[RQ4] The Contractor's Project Manager shall be prepared at all times to present and discuss the status of Contract activities with the Purchaser's Project Manager, Contracting Officer, or Technical Lead.

[RQ5] The Contractor's Project Manager shall be responsible for:

- Setting up and coordinating a kick-off meeting.
- Project management, performance and completion of tasks and delivery orders.
- Establishing and monitoring the project plan and schedule.
- Allocating resources to ensure that the established and agreed upon plans and schedules are met.
- Managing costs, technical work, project risks, quality, and corporate performance.
- Establishing and maintaining contact with the Purchaser, Subcontractors, and project team members.
- Ensuring the system configuration and testing efforts are completed.
- Ensuring that all activities conform to the terms and conditions of the Contract procedures.

2.2 Kick-off meeting

[RQ6] The Contractor shall propose dates for a contract kick-off meeting with at the Purchaser's facilities in The Hague (The Netherlands) within 2 weeks of contract signature.

[RQ7] The Contractor shall inform the Purchaser at least one week in advance to allow for the access control and room booking procedures.

The Contractor will attend in person the kick-off meeting with its key personnel:

- Project manager.
- Commercial manager.
- Technical lead.

The Contractor may also have some other members of its team attend the kick-off meeting online.

The overall agenda for the kick-off meeting will be:

- Introductions to the Contractor and Purchaser teams.
- Preliminary technical discussion to enable the site survey.

2.3 Project implementation plan

The PIP serves as project implementation documentation, including all technical aspects, and as final record of the installed NAGSF design, installation and configuration. The PIP evolves over time starting as a plan to the definitive as-is documentation.

[RQ8] The Contractor shall submit a Project Implementation Plan (PIP) before the start of the installation activities.

[RQ9] The PIP shall describe how the Contractor shall implement project/contract administration.

[RQ10] The PIP shall consider all project implementation aspects, which include management provisions, facilities, schedules, personnel assignments, external relationships and project control.

[RQ11] The PIP shall be concise and yet provide sufficient detail, where needed, to allow the Purchaser to assess the Contractor's plans and capabilities in implementing the entire project in conformance with the requirements specified.

[RQ12] The PIP shall cover the following and provide the major plans required under this Contract:

- Project Overview, which shall provide an executive summary of the offered equipment and services.
- A Project Management Plan (PMP) defining in detail how the Contractor intends to manage this project from Effective Date of Contract (EDC) until the end of the O&M period including the management of the Warranty period and Contractor Logistical Support (CLS) delivery
- A Project Master Schedule, provided as a Gantt chart with supporting text.
- A list of project key personnel with curriculum vitae (Project Manager, Commercial Manager, Technical Lead).
- The Project Master Test Plan (PMTP) as described in Section 8.4.
- Integrated Product Support in accordance with section 10.
- Configuration Management in accordance with section 11.
- System Engineering and Design.
- Quality Assurance in accordance with section 14.
- Security organization and clearances in accordance with section 15.
- Documentation.
- Training.
- Warranty Support.
- Site Installations and Civil Works.
- A Site Installation Plan (SIP), containing the dates and milestones for the installation of the equipment.

[RQ13] After approval by the Purchaser, any new version of the PIP shall constitute the unique Contractor’s reference for the project implementation. The Purchaser can approve the PIP as a whole or in parts.

2.4 Project review meetings

[RQ14] Until FSA has been achieved, the Purchaser shall hold regular Project Review Meetings (PRM) at a location suitable to that particular stage of the project, at a monthly interval.

The location of the meetings will ordinarily be at NCI Agency, The Hague, Netherlands. Other NATO locations, or at the Contractor's premises may be used if Purchaser and Contractor both consent.

Video-Teleconference (VTC) may be used for PRM in circumstances where it may be difficult to otherwise ensure attendance by the required personnel.

- Such VTC shall then be organized by the Contractor over Microsoft Teams or Cisco Webex, at the NU level.
- In the case the Contractor already has access to the NR Reach network, VTC can be organized over NR Reach Skype for Business, at the NR level.
- In either case the Contractor will ensure that all online attendants are clearly identified and ensure operational security during the meeting.

[RQ15] The Contractor shall submit an agenda not later than 10 working days before each PRM.

[RQ16] The Contractor shall submit the Minutes of Meeting (MoM) not later than 10 working days after each meeting, accompanied by all presentation material (slides, spreadsheets, charts…) and the updated Risks, Actions, Issues, Decisions (RAID) Items List used during the PRM.

2.5 Project highlight reports

[RQ17] The Contractor shall prepare and submit a Project Highlight Report (PHR) to the Purchaser within the first week of every month.

[RQ18] This PHR shall summarize the progress since the previous PRM or since the last PHR, any accomplishments, schedule of deliveries against progress, difficulties encountered and resolution of any issues raised in previous PHRs.

The Highlight Reports shall include:

- Overall project progress: the activities performed and works completed during the preceding period including major milestones achieved as applicable.
- Description of issues/problems/risks that have occurred in the preceding period and the identified/proposed solution.
- A list of Change Proposals with the current status.
- The progress of work related to the schedule in the current Project Implementation Plan.
- Status of the equipment (equipment order, in Contractor's office, packing, transfer to site, deploy and test).
- Any foreseen or possible changes to project performance or schedule. In case of changes, the Contractor shall give the updated performance or schedule.
- Description of any identified problems and high risk areas and the proposed solutions and corrective actions.
- Activities planned for the next period.
- Supplies to be delivered by the Contractor and those to be provided by the Purchaser.
- Update on the status of Action Items List (AIL).

3 System implementation

3.1 Site survey

[RQ19] The Contractor shall conduct a Site Survey to capture:

- All the information relevant to the physical installation of the new equipment at the site.
- All the information relevant to the connectivity between the equipment provided and the PFE.
- A complete WiFi coverage analysis to confirm the Purchaser assumptions on the number and distribution of WAPs.
- A validation of the VTC room design, to ensure adequate audio and video coverage of the room.
- Any CIS security implications of the AGS CIS.
- Omissions in the PFE Cabling plant and the requirements for amendment or augmentation of that plant.
- Key installation-related areas such as electrical installation, cabling, environmental aspects, including air conditioning and EMI/EMC, information security zoning.
- Civil works requirements, if and where applicable.

[RQ20] The Contractor shall validate during the Site Survey the assumptions presented by the Purchaser in the statement of work, in the areas of:

- Horizontal cabling density from the patch panels to the offices.
- Wireless access points density in all buildings.

[RQ21] The Contractor shall produce a Site Survey Report (SSR), which shall be subject to review by the Purchaser.

[RQ22] The SSR shall contain at least the following information:

- Floor plan layouts of installation spaces (equipment rooms, corridors, offices).
- Temporary equipment storage spaces.
- Cabling (switching, WiFi, configuration and wiring assignment).
- Wireless heatmap for all buildings.
- Availability of electrical power and electrical power conditioning.
- Existing environmental conditioning.
- Host nation applicable standards.
- Points of contact at the site.
- Scope of the required civil works, if any.
- Description of any existing arrangements between the Host nation and any local commercial partners for any of the areas above, where applicable.

[RQ23] The Contractor shall provide recommendations in the SSR in the case the Purchaser assumptions for horizontal cabling and wireless are observed to have deficiencies.

In particular, should the wireless heatmap show bad coverage for certain building areas, the Purchaser will decide with the Contractor's advice how to resolve the issue and what additional equipment is required to do so.

[RQ24] The SSR shall itemize all the information required to feed the Site Installation Data Package (SIDP). Therefore, the contractor shall plan the site survey dates to ensure the timely delivery of SIDP.

[RQ25] The SSR shall describe the foreseen impact of not obtaining the information above, or the information not having the required quality or accuracy.

[RQ26] The SSR shall be delivered for Purchaser's review not later than 2 weeks after the Site Survey.

Where readily available to the Purchaser, the Purchaser will provide the Contractor with existing site information, drawings, wiring assignments and referenced documents.

[RQ27] During the Site Survey the Contractor shall verify the accuracy of any site information, drawings, wiring assignments and referenced documents provided by the Purchaser, and make any updates, as necessary.

[RQ28] The Contractor shall update, change, or produce new site information, drawings, wiring assignments and referenced documents to reflect any changes that occur as a result of this contract.

[RQ29] In support of the site survey activities, the Contractor shall be responsible to request access to the site with enough time to follow the site access procedure and meet the agreed planned date for the visit.

3.2 Configuration guidance

Through the Configuration Guidance Stage the Purchaser will provide the Contractor with the detailed configuration details, which are necessary for the Contractor to complete the installation and activation of the system to a point where the Purchaser can take over the control and remote (re-) configuration of the CIS elements.

The Configuration Guidance Stage will consist of two sessions:

- An introductory session, during the kick-off meeting.
- A more in depth session, including handover of configuration templates for switches, wireless access points, servers and cyber equipment, to be provided following approval of the Site Survey report.

[RQ30] The Contractor shall install the delivered AGS CIS components, integrate all the associated cabling, and load the baseline configuration derived from the Configuration Guidance stage.

[RQ31] The technical requirements presented by the Purchaser during the configuration guidance shall be incorporated as requirements for this contract by the Contractor, in its SIDP and test plan coverage.

3.3 Site installation data package

[RQ32] Following completion the Configuration Guidance and Site Survey activities, the Contractor shall factor all the collected information into installation specifications in a SIDP. The SIDP shall provide:

- Full as-to-be-built details of how all of the major assemblies of the equipment are to be physically installed.
- How assemblies are mechanically, electrically and logically integrated with the existing facilities, systems and services and how the systems installed on the site are configured.
- How the different components are configured.

[RQ33] In terms of infrastructure description, the SIDP shall cover:

- The description of the hardware to be installed.
- The list of the PFE applicable to the site.
- The internal and the external interfaces.
- Interface, cabling and patching list documenting connected elements, external systems including connected element/system locations, identification of cable and interface labelling.
- The internal and external connectivity network diagrams.

[RQ34] In terms of installation planning, the SIDP shall cover:

- The site installation calendar, with the intended installation, activation, testing and acceptance dates.
- List of civil works.
- List of Contractors identified for implementing the works.
- Transitional/Cutover facilities, if required.
- Implementation calendar.
- The list of PoCs, both on the Purchaser side, Contractors (including Subcontractors).
- Manpower/resource requirements.
- Power provisioning requirements.
- All applicable floor and wall plans including:
    - Cable penetrations, cable routing, rack positions, rack layout.
    - Details regarding the positions and distances from adjacent equipment, cabling and other metallic objects.
    - Placements and sizes of access and if applicable safety doors, ceiling heights and clearance distances needed to ensure continued access and safety.
- Physical details of all equipment, apparatus and devices.
- Locations diagram with complete details of all cross-connection frames and patch panels.
- Location diagram of all ancillary equipment, terminations and/or connections.
- A diagram showing the descriptions of all grounding conductors, electrodes and joints and where they are connected to the existing grounding system.
- Physical details of all cable racking and cable runs with cable numbers and cable functions to include as appropriate all connections, connectors and sockets.
- Details covering all wiring termination points including wire numbers and color coding.
- The functions of all inter-connecting cables with their codes, color code and the function of each separate conductor.
- The physical details covering all the cable runs between communication equipment/appliances being part of this contract.
- Naming convention and IP Addressing scheme.

Following the Purchaser's review of the SIDP package, the Purchaser will approve or submit requests for changes to the SIDP during a PRM, Ad-hoc meeting, or a formal written communication to the Contractor.

[RQ35] Following formal communication and receipt of the request for changes to the draft SIDP, the Contractor shall implement the requested corrections and shall seek the Purchaser's approval of the updated SIDP within two (2) weeks.

[RQ36] Approval of the SIDP by the Purchaser shall in no way relieve the Contractor of its responsibilities to achieve the contractual requirements of this Contract.

[RQ37] The schedule for submission of proposed and approved SIDP, including the time for the Contractor to implement potential corrections requested by the Purchaser, shall be incorporated in the Project Implementation Plan.

The system delivery phase will start after the approval of the SIDP.

3.4 System delivery

[RQ38] Following the Purchaser acceptance of the SIDP, the Contractor shall proceed with the delivery of the AGS CIS system as per the requirements stated in this Statement of Work.

[RQ39] The Contractor shall deliver the AGS CIS as a turn-key solution with the Contractor being responsible for the installation.

Whenever some of the Contractor's activities have to be executed in synchronization with other parties, the Purchaser will have the responsibility to coordinate these.

[RQ40] These synchronized activities shall be clearly presented in the Project Implementation Plan.

4 System acceptance

4.1 General

[RQ41] The Contractor shall present the progress of the project delivery in its Project Highlight Reports until the Purchaser decides that the system is ready for acceptance.

[RQ42] System Acceptance shall involve two milestones:

- Following the installation and the Provisional System Test (PST) of the AGS CIS, referred to as Provisional System Acceptance (PSA).
- The Final System Acceptance, or FSA.

System Acceptance is a process through which discrepancies resulting from the evaluation of the PST results are assessed and categorized by the Purchaser, as follows:

- Class 1 discrepancies: the Purchaser will assign this category to those discrepancies or deviations that need to be cleared before PSA can be declared.
- Class 2 discrepancies: the Purchaser will assign this category to those discrepancies or deviations that are not critical enough to hold PSA, but need to be cleared before declaring FSA.

4.2 Provisional System Acceptance (PSA)

PSA will be declared by the contractor (for the Purchaser's approval) following:

- The successful completion of Provisional System Test (PST).
- The successful review and approval of the PST report.
- When the PSA Conditions listed below have been met.

[RQ43] To achieve PSA the Contractor shall demonstrate:

- The delivery and the installation of equipment as specified in this SoW have been successfully executed and verified through PST.
- All software licenses relevant for the CIS installation have been delivered.
- All training specified in this SOW has been completed for this site.
- The as-built documentation and configuration management artefacts pertaining to the site have been delivered to the Purchaser.
- The list of discrepancies/defects, their classification, resolution and status have been delivered and accepted.

PSA will be declared at a meeting convened between the Contractor and the Purchaser for that purpose.

[RQ44] The Contractor shall call and participate in the PSA Meeting with the Purchaser.

[RQ45] At the PSA meeting, the Contractor shall present to the Purchaser evidence that all conditions listed in for PSA have been met. For that purpose the Contractor shall provide a PSA declaration form, listing the conditions above and containing the PSA Observations Sheet (see below).

[RQ46] The PSA Discrepancies Sheet shall be the log of all discrepancies raised during the PSA meeting, classified in the two categories above, with a statement on their required resolution and resolution timeline.

After successful resolution of any Class 1 discrepancies the Purchaser, together with the Contractor, will sign the PSA declaration form.

PSA may be withheld upon any of the following conditions:

- Failing to meet one or more of the conditions above.
- Unresolved Class 1 discrepancies.
- High number of Class 2 discrepancies, leading to a severity condition equivalent to one or more unresolved Class 1 discrepancies.

PSA will mark the end of the investment phase and the start of the operations and maintenance phase for the site concerned.

PSA is the milestone at which the following events take place:

- The Purchaser takes ownership of the equipment.
- The users start operating the equipment.
- The warranty for the equipment starts.
- The software licenses and OEM support are activated.

For equipment that cannot be operated at PSA, for which deficiencies has been recorded with a resolution deferred to FSA, the events above will take place at FSA.

4.3 Final System Acceptance (FSA)

The Purchaser will declare Final System Acceptance (FSA) in the FSA Meeting, after the CIS installations at AGS MOB have been completed with a PSA declared and when the FSA conditions below have been met.

[RQ47] To achieve FSA the Contractor shall demonstrate:

- That the AGS CIS has passed PSA.
- That the Purchaser has received and accepted all Contractual deliverables.
- A deliverables inventory has been provided and verified by the Purchaser, which details all the deliverables to be supplied under the terms of the Contract.
- That the AGS MOB Node operates at the levels of performance and availability specified in this SOW.
- That the Contractor has provided a Certificate of Conformity (CoC) that the equipment and system conform to the contractual standards.

FSA will be established at a meeting convened between the Contractor and the Purchaser for that purpose.

[RQ48] The Contractor shall participate in the FSA Meeting, which shall be held at the Purchaser's Premises in either The Hague or Sigonella at the Purchaser's discretion.

[RQ49] The Contractor shall demonstrate at the FSA Meeting to the Purchaser that:

- All the conditions for FSA have been met.
- The Purchaser has received and verified the accuracy of the deliveries inventory, which details all the deliverables to be supplied under the terms of the Contract.
- The Purchaser has received and verified the accuracy of the As-Built Documentation.
- The Contractor has provided a Certificate of Conformity (CoC) that the equipment conforms to the contractual standards.
- The Purchaser has received all Contract deliverables.

5 System requirements

Equipment specifications for the equipment purchased though this contract are included in the Appendix A: equipment specifications of this statement of work.

Equipment specifications for the purchaser furnished equipment that will have to be integrated by the Contractor are included in the Appendix B: purchaser furnished equipment specifications of this statement of work.

The equipment specification table is structured as follows:

- The first column is a category (EUD, CYB, NS, NU, DC…), to which references are made in this statement of work.
- The second column is a prescriptive description allowing the Contractor to search for the exact product.
- The second column is an OEM part number or OEM configuration code, when known to the Purchaser.
- The third column is the quantity of items. When empty, it does not represent a header column or configuration description rather than a part.
- The fourth column is the quantity of spares.

[RQ50] The Contractor shall purchase the total of items including spares (column 3 + column 4), but integration activities shall only cover the amount of equipment in column Quantity (column 3).

[RQ51] Should the equipment not be available for the Contractor to purchase or end-of-life at the time of purchase, the Contractor shall offer a replacement model of the same manufacturer and offering at least the same performance and functionalities, licenses, and same levels of support for the same duration.

5.1 End-user devices installation and configuration

5.1.1 Equipment

[RQ52] The Contractor shall purchase the equipment in the specifications and quantities presented in Appendix A, Category EUD.

[RQ53] The Purchaser will provide some PFE workstations in complement of the contract furnished workstations, in the specifications and quantities presented in Appendix B, Category EUD.

5.1.2 Installation workstations

The Purchaser will have installed an initial 100 workstations as part of the advanced capability described in §7.3.

No retrofit is expected on these PFE workstations.

[RQ54] The activities described below shall apply to all contract-furnished workstations and 62 PFE workstations.

[RQ55] The Contractor shall assemble the workstations and their ancillaries, and position them on the designated user's desks, as communicated by the Purchaser.

[RQ56] The Contractor shall connect the workstations to the building power outlets in the end-user rooms with a power cord meeting the electrical outlets standards in Italy, without any electrical transformer.

[RQ57] The Contractor shall provide and install flexible drop cables to interconnect the Contractor provided NS workstations to the PFE Telecom Outlets within the end-user rooms.

[RQ58] Drop cables shall be provided in standard lengths and provided with a slack of 1m to 1.5m (with the cable adequately following the walls and ducts in desks, not crossing walking paths).

[RQ59] The required cable lengths shall be identified during the Contractor's Site Survey.

The Purchaser will provide the ISO image of the "NATO Desktop" that is the base image for the user workstations, including the operating system and baseline software.

[RQ60] The Contractor shall verify that the image is installable and functional on the contract-delivered workstations, and augment it with the right drivers if necessary.

[RQ61] The Contractor shall image each of the contract-delivered workstations with this image, and perform all pre-configuration steps until it is ready to join a Microsoft Active Directory enterprise domain.

[RQ62] The Contractor shall handover each workstation to the Purchaser's technical representative on site, who will join it to the AD domain and start propagating GPO and other enterprise configurations.

The Purchaser's technical representative will manage user accounts after PST.

5.1.3 Installation desktop VTC

[RQ63] The Contractor shall assemble the desktop VTC and their ancillaries, and position them on the designated user's desks, as communicated by the Purchaser.

[RQ64] The Contractor shall connect the desktop VTC to the building power outlets in the end-user rooms with a power cord meeting the electrical outlets standards in Italy, without any electrical transformer.

[RQ65] The Contractor shall provide and install flexible drop cables to interconnect the Contractor provided desktop VTC to the PFE Telecom Outlets within the end-user rooms.

[RQ66] Drop cables shall be provided in standard lengths and provided with a slack of 1m to 1.5m (with the cable adequately following the walls and ducts in desks, not crossing walking paths).

[RQ67] The required cable lengths shall be identified during the Contractor's Site Survey.

5.2 NATO S3CRET active distribution design, installation and configuration

5.2.1 Equipment

[RQ68] The Contractor shall purchase the equipment in the specifications and quantities presented in Appendix A, Category NS.

The Purchaser will provide some PFE fiber switches in complement of the contract furnished workstations, in the specifications and quantities presented in Appendix B, Category NS.

5.2.2 Installation

The NS LAN design is based on fiber optics cabling and switches.

A LAN core is established by the Core switches. These interconnect all other switches within one security domain with 10Gbit/s Ethernet and 1Gbit/s Ethernet trunks.

The Management (MGNT) switches will connect management systems to be installed by the Purchaser at a later stage.

The LAN is segregated in Virtual Local Area Networks (VLAN), which are interconnected by the firewall in the NS domain. Further details will be provided to the Contractor during the Configuration Guidance stage, after contract signature.

[RQ69] The Contractor shall replace the advanced capability switches described in §7.3 in the NS LAN with the contract-provided and purchaser-provided switches.

[RQ70] The Contractor shall plan for a transition that limits the downtime to users.

[RQ71] The contractor shall install the Ethernet switches in the purchaser Furnished racks in the buildings communications rooms, already hosting the building passive distribution patch panels.

[RQ72] The Contractor shall use the existing fiber passive distribution and patch panels to extend the LAN to all denominated user offices.

[RQ73] The Contractor shall configure VLAN trunks between the LAN switches and establish VLANs across the LAN switches as per the configuration guidance, segregating the LAN in:

- User NS workstations.
- Phones and VTC.
- Servers.
- Management.

[RQ74] The Contractor shall install the transceivers and configure the switches to enable the connectivity.

[RQ75] The Contractor shall provide and install flexible drop cables to interconnect the devices within each rack, and the racks within each room.

[RQ76] Drop cables shall be provided in standard lengths and provided with a slack of 1m to 1.5m (with the cable adequately following the walls and ducts in desks, not crossing walking paths).

[RQ77] The required cable lengths shall be identified during the Contractor's Site Survey.

The PFE switches presented in Appendix B require MPO connector type fiber cables to be used between the TOR switches and spine switches.

As indicated in §7.3, the Purchaser will have installed and configured an initial NS LAN at the time of delivery of this contract.

[RQ78] The Contractor shall reconnect the PFE equipment to the LAN.

[RQ79] The Contractor shall document the cabling for the PFE equipment in accordance with §11.4.

5.2.3 Inter-zones extension

The Ops area and Flight line are part of a single logical LAN extended through the existing camp distribution, based on single-mode fiber optics.

The camp distribution is not suitable for clear NS traffic, thus requires the use of Purchaser-furnished type 3 IP cryptos between the two areas. These cryptos are Thales TCE 621C, and will be provided, configured and keyed by the Purchaser.

[RQ80] The contractor shall install the routers in the purchaser furnished racks in the buildings communications rooms, already hosting the building passive distribution patch panels.

[RQ81] The Contractor shall configure the routers to allow a single logical LAN to be managed centrally across the two zones, based on the specifications provided during the configuration guidance.

[RQ82] The Contractor shall use the existing camp fiber passive distribution and patch panels to extend the LAN between the 2 zones.

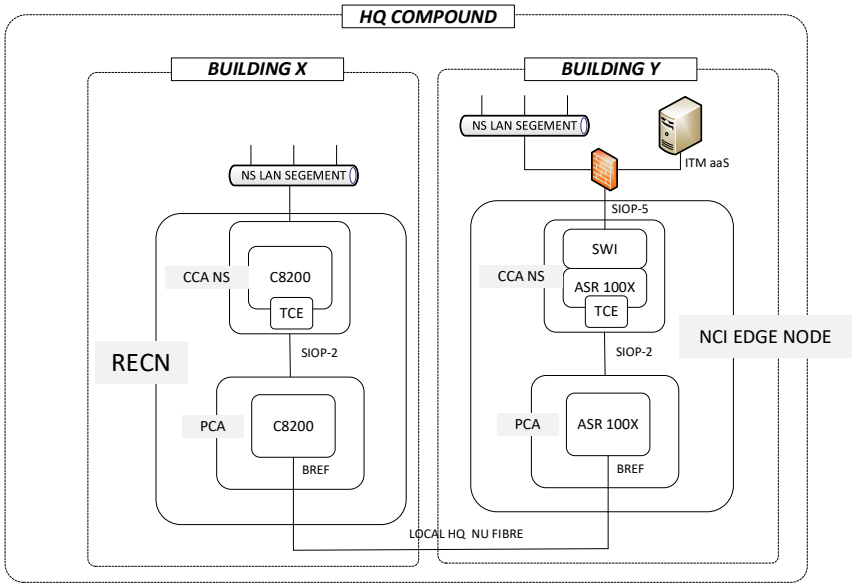

Figure 2: NS inter-zones extension

5.3 NATO UNCLASSIFIED active distribution design, installation and configuration

5.3.1 Equipment

[RQ83] The Contractor shall purchase the equipment in the specifications and quantities presented in Appendix A, Category NU.

[RQ84] The Purchaser will provide some PFE fiber switches in complement of the contract furnished workstations, in the specifications and quantities presented in Appendix B, Category NU.

5.3.2 Installation

The NU LAN design is based on:

- Copper twisted pair cabling horizontal cabling inside buildings.
- Fiber optics cabling between buildings and zones.
- Wireless LAN for most end-users devices.
- Cable LAN for selected appliances (*e.g.* printers, VTC).
- POE distribution switches.
- POE Wireless Access Points.
- Wireless Controllers.

A LAN core is established by the Core switches. These interconnect all other switches within one security domain with 10Gbit/s Ethernet and 1Gbit/s Ethernet trunks.

The Management (MGNT) switches will connect management systems to be installed by the Purchaser at a later stage.

The LAN is segregated in Virtual Local Area Networks (VLAN), which are interconnected by the firewall in the NU domain. Further details will be provided to the Contractor during the Configuration Guidance stage, after contract signature.

[RQ85] The Contractor shall replace the advanced capability switches described in §7.3 in the NU LAN with the contract-provided and purchaser-provided switches.

[RQ86] The Contractor shall plan for a transition that limits the downtime to users.

[RQ87] The contractor shall install the Ethernet switches in the purchaser Furnished racks in the buildings communications rooms, already hosting the building passive distribution patch panels.

[RQ88] The Contractor shall configure VLAN trunks between the LAN switches and establish VLANs across the LAN switches as per the configuration guidance, segregating the LAN in:

- User NU workstations.
- Servers.
- Management.

[RQ89] The Contractor shall install the transceivers and configure the switches to enable the connectivity.

[RQ90] The Contractor shall provide and install flexible drop cables to interconnect the devices within each rack, and the racks within each room.

[RQ91] Drop cables shall be provided in standard lengths and provided with a slack of 1m to 1.5m (with the cable adequately following the walls and ducts in desks, not crossing walking paths).

[RQ92] The required cable lengths shall be identified during the Contractor's Site Survey.

NU Voice and VTC (V2) is not in scope for this contract. However, the NU voice and VTC will be connected to the NU LAN data switches.

[RQ93] The Contractor shall reconnect the PFE equipment to the LAN.

[RQ94] The Contractor shall document the cabling for the PFE equipment in accordance with §11.4.

5.3.3 Inter-zones extension

The Ops area and Flight line are part of a single logical LAN extended through the existing camp distribution, based on single-mode fiber optics.

There is no requirement for traffic encryption for NU, and the extension will therefore be managed with core switches only as part of the NU LAN installation.

[RQ95] The Contractor shall configure the switches to allow a single logical LAN to be managed centrally across the two zones, based on the specifications provided during the configuration guidance.

[RQ96] The Contractor shall use the existing camp fiber passive distribution and patch panels to extend the LAN between the 2 zones.

5.3.4 Wireless LAN

A wireless access LAN will be established in all office areas of the NAGSF MOB using the core switches configured for the NU LAN, wireless controllers in the main communications room, and wireless access points in the technical ceilings of the NAGSF facilities.

The wireless LAN is segregated in wireless Virtual Local Area Networks (WVLAN), which are interconnected by the firewall in the NU domain. Further details will be provided to the Contractor during the Configuration Guidance stage, after contract signature.

The Purchaser will have installed existing WAP to support the advanced capability. These WAP however are installed directly in the offices using the existing building passive distribution and will be entirely replaced by the Contractor WLAN.

[RQ97] The Contractor shall install the wireless controllers in the purchaser Furnished racks in the buildings network rooms.

[RQ98] The Contractor shall configure the wireless controllers to create together a redundant, resilient and load-balancing cluster as per the instructions of the configuration guidance.

[RQ99] The Contractor shall ensure that the WAP-s establish a CAPWAP tunnel to the Wireless LAN Controller.

[RQ100] The WAPs shall establish a CAPWAP tunnel to the Wireless LAN controller.

[RQ101] The Contractor shall configure WVLAN between the LAN switches and WAP and establish WVLANs across the LAN switches as per the configuration guidance, segregating the VLAN in:

- User NU laptops.
- User NR laptops.
- Guest NU laptops.

The VLAN overall remains NU as he NR WVLAN is encrypted at the end-user device interface.

[RQ102] The Contractor shall securely install the Power-over-Internet (PoE) wireless access points in the building technical ceilings, using fixed points as described in Figure 3.

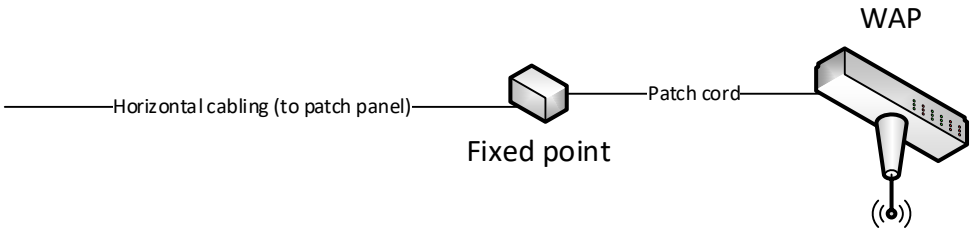

Figure 3: WAP installation

[RQ103] The Contractor shall procure and install twisted pair CAT6 horizontal cabling between the communications cabinets and the wireless access points, through the existing technical trays in place in the facility.

[RQ104] The Contractor shall use fully shielded or insulated (STP or SFTP) metallic wire circuits (minimum CAT 6 and with a gauge of conductor is at least 24 AWG) with Low Smoke Zero Halogen (LSZH) or equivalent jacketing (subject to Purchased approval).

[RQ105] The shield(s) shall provide a minimum of 85% coverage.

[RQ106] Termination of the cable shield at the cable connector shell shall be made in a manner covering the full 360 degrees where possible.

5.3.4.1 WAP Installation

[RQ107] The Contractor shall install, test and verify all installation works, all wireless access points at site locations as indicated.

[RQ108] The Contractor shall install equipment using site approved anchoring systems, and restore any damage to any other existing infrastructure elements.

[RQ109] On completion of each installation activity, the Contractor shall label, or verify, all wireless access points for site unique identification purposes.

NCIA will provide the templates to be used for labels with this unique ID.

[RQ110] On completion of each installation activity, the Contractor shall verify, or label, all wireless access point with NCIA Asset Tags.

NCIA will provide Asset Tags labels in case of not existing on or not correct.

[RQ111] On completion of each installation, the Contractor shall document WAPs using electronic copies of NCIA provided templates; and provide to NCIA a precise update of any changes of location through the provision of an electronic copy of site heat map(s). Other information must be updated, as indicated, on NCIA's provided templates.

[RQ112] The Contractor shall perform a software update on wireless access point if indicated by NCIA. NCIA will inform which software package to be used.

5.3.4.2 WAP to Technical Room Cabling Installation

[RQ113] The Contractor shall install, test and verify, or test and verify, structured cabling from the wireless access point to the designated technical room, and terminated into a patch panel which must be installed on designated racks, unless patch panel is already available from previous ITM installation.

[RQ114] The Contractor shall perform testing of the installed structured cabling, assuring that cabling meet TIA/ISO requirements, and provide evidence of successful end to end connectivity and digital transmission from WAP to PoE switch. Cabling test results and connectivity reports must be provided to NCIA as proof of installation and test, prior to site acceptance being approved by the Purchaser.

[RQ115] The Contractor shall document all wireless infrastructure cabling, design, including all cables, conducts, patch panels, racks, which capture the final wireless design and installation information and shall provide the NCIA with editable electronic copies of the documentation (*i.e.* Excel, Visio, Word, AutoCad) at least one week before the acceptance for each site.

[RQ116] This documentation shall include, as a minimum, the cable routing, cable types/quantities, cable labelling.

[RQ117] The Contractor shall provide identifiers (*i.e.* labelling, or marking) on all the cables, ducts, and exit/entry points to enable the easy identification between the installation and design documentation and the actual physical equipment installation.

[RQ118] The Contractor shall label all cabling infrastructure using labelling standard provided by NCIA on each site and applicable to patch panels, patch panel ports, patch cords, WAP cabling (patch panel to WAP).

5.3.4.3 Technical Room Installation

[RQ119] At designated technical rooms, the Contractor shall install switches and wireless controllers, wire them to power feeds (rack PDU), and wire cable ports to patch panels connecting WAPs and to identified uplinks (to other path panel or core switch).

[RQ120] The Contractor shall label and mark all patch panel, Power over Ethernet (PoE) access switches and patch cords.

[RQ121] The Contractor shall perform all actions required to address adjustments to equipment into racks and for all cabling installed, to provide a neat and professional installation.

[RQ122] The Contractor shall document technical room wireless infrastructure implementation; including racks elevations with patch panels, PoE switches and core switches; cabling path from WAP, to path panel, to patch cord, to PoE switch, to uplink cord, to patch panel/core, to core switch.

5.3.4.4 Lights-ON Testing.

[RQ123] The Contractor shall perform lights-on testing, powering on all WAPs and PoE switches and provide a report of faulty elements.

The objective of this report is to provide a verification of hardware failures, deficient patch cords and connectivity from WAPs to PoE switches.

5.3.4.5 RF Plan

The APs and relevant cabling placement were subjected to an RF predictive placement.

Receive Signal Strength Indicator (RSSI) minimum value is -65 dBm.

Secondary coverage (RSSI) minimum value is -67 dbm.

Signal to Noise Ratio (SNR) has to be above 25dB.

5.4 Video teleconferencing room design, installation and configuration

5.4.1 Overview

[RQ124] The contractor shall provide, install and configure a fully integrated conference room with local presentation, audioconference and videoconference (single domain NATO S3CRET) and “bring-your-own-meeting” functions for twenty-four 24 active users.

[RQ125] The Contractor shall provide a detailed design for the VTC room in its System Engineering and Design, both in the preliminary and final versions of the PIP, with clear diagrams.

[RQ126] The conference solution shall be controllable from a 12” touch panel.

[RQ127] The solution shall feature 5 ceiling-mounted PTZ cameras, 16 displays and 2 laptop connection points.

[RQ128] The contractor shall provide and install a ceiling array microphone and ceiling loudspeakers.

[RQ129] The contractor shall deliver no less than a fully working solution that is adequately dimensioned to the foreseen space and with enough room for comfortable seating.

[RQ130] The contractor shall ensure that the entire installation meets all security requirements such as TEMPEST and network isolation.

A room layout for the NAGSF VTC is provided in Appendix C.

5.4.2 Specifications

5.4.2.1 Touch panel

[RQ131] A 12” touch screen shall be installed to control all provided table functions.

[RQ132] The touch panel shall be used to turn on all required devices.

5.4.2.2 VTC Codec

[RQ133] The contractor shall provide, install and configure a Poly G7500 as videoconference codec for NATO S3CRET VTC.

5.4.2.3 Monitors

[RQ134] 12 of the 55” UHD Monitors shall be installed inside the conference table, on the ground directed towards the opposite edge of the conference table as per Figure 4.

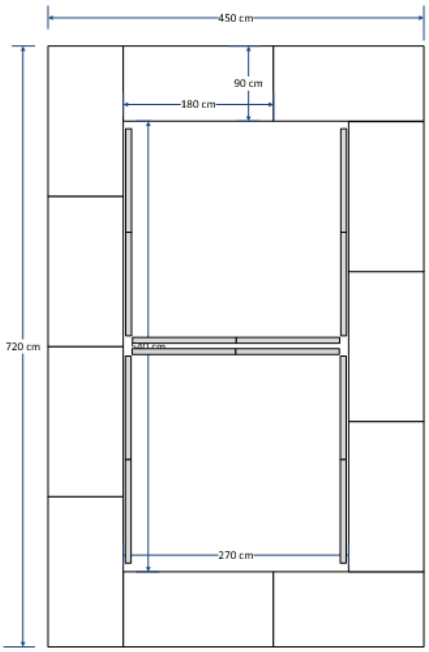

Figure 4: conferencing table

[RQ135] The last 55” UHD monitors shall be wall-mounted in the room.

[RQ136] The monitors shall be installed in such a manner that a perfect viewing angle is achieved and reflection from external light sources is avoided.

5.4.2.4 Audio System

[RQ137] The number of the ceiling microphone arrays shall match the number of built-in UHD Monitors.

[RQ138] High quality (HiFi) speakers and microphones shall be installed in the ceiling.

5.4.2.5 Cameras

[RQ139] 4 of the cameras shall be ceiling-mounted to cover all participants on each side of the table.

[RQ140] The last camera shall be used for a room shot.

5.4.2.6 Internal AV infrastructure

[RQ141] The internal video infrastructure shall support 4K 60fps 4:4:4 video transport.

[RQ142] One (1) HDMI connection with embedded audio shall be provided inside the table to connect the customer provided Secure PC.

[RQ143] One (1) Poly G7500 video conferencing codex shall be provided, installed and integrated in the equipment rack.

5.4.2.7 Connection Modules

[RQ144] The table shall be equipped with 2 connection modules, seamlessly integrated underneath the table surface and accessible through tilt-up lids made from the same material as the table surface.

[RQ145] Each connection module shall have:

- One (1) 230 VAC universal power socket.

- One (1) USB-C connection point (power delivery, data and audio/video).
- One (1) Connection for 12” Touch Panel (to allow flexible positioning on either side of the table).

5.4.3 Solution Functions

5.4.3.1 Presentation

[RQ146] For presenting, the touch panel shall be used to select the presentation source (Connection Points or built-in PC).

[RQ147] All sources shall be scaled to 1080p to be displayed on the 24” Full HD Monitors.

[RQ148] Switching between available sources shall be instant and seamless.

[RQ149] By default, all displays shall show the same source, but it shall be possible to select a different source for each display.

[RQ150] Volume control shall be made available through the touch panel.

5.4.3.2 Audioconferencing

[RQ151] For audioconferencing, the ceiling array microphones shall be used for input.

[RQ152] The far end audio shall be heard through the ceiling speakers.

[RQ153] Volume control shall be made available on the touch panel.

[RQ154] The contractor shall also install a digital audio signal processor DSP with an echo canceler on each input, digital noise suppression, automatic level control (NOM, Number of Open Microphones).

[RQ155] The audio DSP shall support TELCO and SIP for telephony.

[RQ156] Numbering or choosing a counterpart shall be made possible on the Touch Panel dial-pad with integrated address book.

[RQ157] Incoming calls shall be made visible on the touch panel (pop-up) so they can be accepted or rejected.

[RQ158] Audioconferencing shall not be possible when the table is setup for videoconferencing using the integrated VTC Codec.

5.4.3.3 Videoconferencing

[RQ159] Switching between active cameras shall be automated through speech detection.

[RQ160] Switching shall be “glitch-free” and seamless.

[RQ161] The system shall be configured so it avoids camera switches when they are not required. This function is key as, when wrongly implemented, to many unwanted camera switches will break the natural videoconferencing feeling.

[RQ162] It shall be possible to manually select cameras from the touch panel and disable automation when required.

[RQ163] It shall be possible to select and control the cameras manually from the touchpanel.

[RQ164] It shall be possible to save and recall camera presets from the touchpanel.

[RQ165] The touch panel shall also allow for full user-friendly access to all required Codec settings.

[RQ166] Dialing shall be made available through the touch panels’ pop-up dial-pad and QWERTY keyboard or through the built-in address book.

[RQ167] The address book shall be pulled from the Codec as this is dynamically provisioned.

[RQ168] The far-end shall be visible on the built-in monitors, the local source shall be seen in PiP. It shall be possible to change the PiP position through the touch panel.

[RQ169] During a videoconference, all presentation sources shall be available for content sharing.

[RQ170] Screen layout changes shall be possible and made available on the touch panel. They shall be made available in a user-friendly menu.

[RQ171] Options shall include:

- Full screen presentation.
- Disable PiP.
- Disable far-end video during presentation.
- Manual source selection.

[RQ172] Far end audio shall be heard through the integrated speakers and volume control shall be made available on the touch panel.

[RQ173] During Videoconference mode, the same microphones and audio mixer shall be used.

[RQ174] It shall be possible to add an audioconference to the videoconference.

[RQ175] All parties shall be able to hear each other and echo cancellation shall be implemented properly so it is not generated by the system.

5.4.3.4 Bring-Your-Own-Meeting (BYOM)

[RQ176] The table should allow for BYOM video conferencing by connecting an external lap-top with through USB-C in the connection points.

[RQ177] This capability shall be seamlessly integrated with the installed AV hardware.

BYOM shall not be possible when the table is setup for videoconferencing using the integrated VTC Codec.

5.5 NS backend infrastructure installation

5.5.1 Equipment

[RQ178] The Contractor shall purchase the equipment in the specifications and quantities presented in Appendix A, Category DC.

5.5.2 Installation

[RQ179] The Contractor shall install the NS backend equipment inside the PFE racks in the data-center.

[RQ180] The Contractor shall connect the NS backend equipment to the TOR switches, and the TOR switches to the NS LAN via the firewall as per the Configuration Guidance.

[RQ181] The Contractor shall provide all cabling necessary to connect racked equipment to the TOR switches, and the TOR switches to the distribution.

[RQ182] The Contractor shall provide and install flexible drop cables to interconnect the devices within each rack, and the racks within each room.

[RQ183] Drop cables shall be provided in standard lengths and provided with a slack of 1m to 1.5m (with the cable adequately following the walls and ducts in desks, not crossing walking paths).

[RQ184] The required cable lengths shall be identified during the Contractor's Site Survey.

The Purchaser will take over the NS backend infrastructure following these activities and proceed with the software installation, configuration and data migration.

5.6 Cyber security infrastructure installation

5.6.1 Equipment

[RQ185] The Contractor shall purchase the equipment in the specifications and quantities presented in Appendix A, Category CYB.

[RQ186] The Purchaser will provide some PFE appliances in complement of the contract furnished workstations, in the specifications and quantities presented in Appendix B, Category CYB.

5.6.2 Installation

[RQ187] The NS and NU cyber equipment shall be installed in separate racks inside the data-center.

The equipment marked as [Tier 2 uplift] is an exception, and will be installed by the purchaser in a different site.

[RQ188] The activities described below shall apply to all contract-furnished equipment and PFE appliances.

[RQ189] The Contractor shall install the cyber equipment inside the PFE racks in the data-center.

[RQ190] The Contractor shall connect the cyber equipment to the TOR switches, and the TOR switches to the NS LAN via the firewall.

[RQ191] The Contractor shall provide all cabling necessary to connect racked equipment to the TOR switches, and the TOR switches to the distribution and firewall.

[RQ192] The Contractor shall provide and install flexible drop cables to interconnect the devices within each rack, and the racks within each room.

[RQ193] Drop cables shall be provided in standard lengths and provided with a slack of 1m to 1.5m (with the cable adequately following the walls and ducts in desks, not crossing walking paths).

[RQ194] The required cable lengths shall be identified during the Contractor's Site Survey.

The Purchaser will take over the cyber infrastructure following these activities and proceed with the software installation, configuration and data migration.

5.7 NU backend infrastructure relocation

5.7.1 Equipment

The Purchaser has upgraded its existing NU backend infrastructure, for which no new equipment is foreseen to be procured in this contract.

5.7.2 Installation

Details of the NU backend relocation will be provided to the Contractor during the Configuration Guidance.

[RQ195] The Contractor shall disconnect the NU backend infrastructure from its current location in the NAGSF temporary facility, disassemble it as necessary, transport it to the new data-center in B101 including its racks, reassemble it, and reconnect it to the NU LAN via the firewall.

[RQ196] The Contractor shall provide all cabling necessary to connect the TOR switches to the distribution.

[RQ197] The Contractor shall perform the NU backend infrastructure move after the completion of the NU LAN, and within a planned service outage of a maximum of 48h.

The Purchaser will take responsibly for data backup prior to this move.

5.8 Option: Additional NS IT backend capacity

5.8.1 Equipment

[RQ198] The Contractor shall purchase the equipment in the specifications and quantities presented in Appendix A, Category GIS.

5.8.2 Installation

Additional capacity on the NS backend might be required for a NATO project, augmenting the existing installation with additional servers and storage.

This additional capacity is expected by the Purchaser to fit inside the same rack provided for §5.4.1.

[RQ199] The Contractor shall install and connect the cyber equipment inside the PFE racks in the data-center, as an augmentation of the capacity already procured in this contract, as per §5.5.2.

5.9 Option: Complementary inter-buildings fiber cabling

Complementary cabling might be required to augment the capacity of the camp fiber distribution for a NATO project.

Should this option be validated, the Contractor will be asked to validate the Purchaser estimations during the site survey.

[RQ200] The Contractor shall deliver 500m of 96 cores multimode fiber cabling.

[RQ201] The Contractor shall lay down the fiber between buildings B101 and T101, following the cable trays inside both buildings and the pits-and-ducts system in the camp.

6 Non-functional requirements

6.1 EMI Requirements

[RQ202] The Contractor shall install the AGS CIS such that the radio disturbance characteristics of equipment and systems adheres to [EN55022:2010/AC:2011] or equivalent.

[RQ203] The Contractor shall install the AGS CIS such that the immunity to electromagnetic interference of equipment and systems adheres to [EN55024:2010] or equivalent.

[RQ204] The Contractor shall install the AGS CIS such that the harmonic current emissions remains within the limits specify by [IEC61000-3-2:2014] or equivalent.

6.2 Safety Requirements

[RQ205] The Contractor shall ensure that all components, as far as those are not explicitly named with bands or models by the Purchaser, are compliant with national legislation on Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (RoHS).

[RQ206] The Contractor shall follow the process required by the safety normative and deliver all the required associated documentation.

[RQ207] The Contractor shall install the system such to allow for safe and ergonomic replacement of hardware components.

Contractor installed cabling shall be low smoke, low toxicity, halogen free and PVC free. No mercury, CFC/HCFC, flammable materials, nor material which could constitute a health hazard shall be included.

[RQ208] Contractor installed single cables shall comply with [IEC60332-1:2004].

[RQ209] Contractor installed cable bundles shall comply with [IEC60332 3 10:2000+A1:2008].

[RQ210] The Contractor shall install the system that the system complies with the European Commission Directive [2006/42/EC] on Machinery and national implementing legislation.

[RQ211] The Contractor shall ensure that all the labels and information, as far as relevant for safety, on any of the equipment is presented in English.

[RQ212] The Contractor shall install the system such that all necessary safeguards are incorporated to ensure the safety of users and operating and maintenance personnel from electrical, thermal, and mechanical hazards.

[RQ213] Where applicable, the Contractor shall place appropriate notices and markings on equipment special reference to points where hot surfaces or dangerous voltages may be encountered and where precautions are to be taken against radiation hazards.

6.3 DUVRI

Italian law stipulates that contractors must comply with an administrative safety procedure called *Documento Unico per la Valutazione dei Rischi da Interferenze* (DUVRI) prior to accessing sites for infrastructure works, which this contract is considered as.

The Purchaser will provide a point of contact in the NAGSF staff to advise and facilitate the delivery of the DUVRI documents.

[RQ214] The contractor shall provide all DUVRI-related documentation to the Purchaser point of contact in compliance with the law.

[RQ215] The contractor shall factor in its schedule the administrative time necessary for Italian authorities to validate the documentation and issue the authorization.

7 Purchaser-furnished equipment and services

7.1 Infrastructure

7.1.1 Power

Power distribution, including Uninterrupted Power Supplies (UPS) is provided by the Purchaser. UPS are implemented at the level of each individual building rather than for each device.

7.1.2 Environmental control

Environment control, including Heating, Ventilation and Air Conditioning (HVAC) is provided by the Purchaser.

7.1.3 Campus cabling

The Campus cabling interconnects Building Distribution Switches and Campus switches within one site.

The connection between switches in different buildings across the campus is done using single mode [OS1] fiber optic cabling.

For connection between buildings single mode fiber is used compliant with the 10GBASE-LX specifications as contained in [IEEE 802.3:2012].

The campus fiber optic cabling is terminated using [LC] connectors on patch panels.

7.1.4 Vertical Cabling

Vertical Cabling refers to the cabling between LAN switches.

The connection between End-user Access and Building Distribution switches, within a building, is implemented with multi-mode 50/125 µm OM3 fibre optic cabling.

The connection between switches is compliant with the 10GBASE-LX and occasionally 10GBASE-SR specifications as contained in [IEEE 802.3:2012].

Vertical fibre optic cabling is implemented terminating with [LC] connectors on patch panels.

7.1.5 Horizontal Cabling

The horizontal cabling refers to the cabling between access switches and end-user-devices.

Depending on the actually available cabling at each work position, the Contractor shall anticipate the following cabling options for each work position:

- Option A: The NU LAN relies on CAT-6 copper cabling and the NS LAN relies on 50/125µm OM3 fibre optic cabling.
- Option B: Both the NU and the NS LAN rely on 50/125µm OM3 fiber optic cabling.

Option A is the default for most connections in NAGSF.

7.1.6 Warehouse storage

Secure storage will be made available for the Contractor to stage its equipment between the shipment delivery and the integration works.

The access list to the storage areas will be controlled by the Purchaser CIS Support Unit (CSU).

7.2 ICT equipment

7.2.1 Networking and end-user equipment

The Purchaser has procured some of the equipment necessary for the installation of the NAGSF CIS.

The list and specifications of PFE equipment is in Appendix B of this statement of work.

Explicit mentions of this equipment and what the Contractor is expected to do with it are made in §5.

7.2.2 NS Voice over Secure IP phones

The Purchaser will provide 148 existing Secure Voice over IP phones to the Purchaser to reconnect to the new NS voice LAN.

These phones are of the following models:

- Cisco 7962 (TEMPEST C).
- Cisco 8841 (TEMPEST C).

7.2.3 Licenses

Some of the Licenses necessary for the NAGSF CIS are provided by the Purchaser as part of its Enterprise Agreement with the following OEM: Microsoft, McAfee, VMWare, and Splunk.

The NATO desktop, bundling the Microsoft end-user-device OS and Office baseline with cyber-security external components will be handed over to the Contractor for integration.

In most other cases, the Purchaser will install these licenses itself as part of its post-integration activities.

7.2.4 Cryptographic equipment

The cryptographic equipment necessary for the connection between OPS and FL areas will be provided separately by the Purchaser.

These cryptos are Thales TCE 621C.

The Contractor shall include the cryptos in its network design, however all keying and GRE tunnels configuration will be performed by the Purchaser.

7.2.5 Distribution and core switches racks

Each building has a number of network distribution rooms at each floor, hosting the patch panels and other passive equipment.

The rooms already contain racks that shall be used for the installation of the distribution and core switches.

7.2.6 Data-center racks

The Purchaser provides the racks for the data-center, cyber capability, and TOR switches installation.

These racks are fitted with the ancillaries (cable management, KVM) necessary for the AGS CIS integration, are already on site and will be inspectable by the Contractor during its site survey.

7.3 Advanced capability

The Purchaser is installing early 2023 an advanced capability for a subset of the users in the new NAGSF facility.

This advanced capability is based on:

- An NS LAN based on fiber optics switches extended from the current point of presence.
- Workstations.
- An NU LAN based on wireless access points extended from the current point of presence.
- An NU LAN based on copper twisted pair switches for voice extended from the current point of presence.
- Workstations on the users desks connected to the LAN.

8 System testing

8.1 Process

The System Testing and acceptance stage entails the verification of the functional and non-functional requirements contained in the SoW.

[RQ216] Following system installation, the Contractor shall conduct the subsystem-level verification, at the site (physical installation aspects, hardware integrity).

As part of the Provisional System Test (PST), and following the Security Accreditation of the AGS CIS, the Purchaser will conduct network-level verification tests against selected NGCS nodes.

The Purchaser reserves the right to approve or reject the Contractor's test activities, including test documentation, test procedures, test conduct, analysis performed and test results.

[RQ217] The Contractor shall execute the SAT and shall provide the appropriate personnel and tools and equipment to successfully complete the tests.

The Purchaser will witness the execution of SAT and lead those tests involving the verification of NGCS connectivity to other nodes.

8.2 Responsibilities

[RQ218] All the NAGSF CIS testing shall be the responsibility of the Contractor who shall provide all the personnel, documentation, equipment, test data and facilities required for installation, commissioning and execution of the tests.

[RQ219] The Contractor shall support Purchaser led Validation activities to confirm that the solution is fit for purpose.

[RQ220] The Contractor shall be entirely responsible for the co-ordination and performance of the tests, and shall ensure that an adequate number of Contractor's engineers and technicians are present to ensure the timely completion of all tests.

[RQ221] The Contractor shall provide the necessary duly calibrated test equipment, tools and any other items required for the satisfactory completion of the tests and the recording of their results. This shall include but not be limited to the following:

- Performance measurement instruments.
- Protocol analyzers.
- Installation tools.
- Test Plans and Procedures.
- Any transmission services/resources required to achieve test configuration.

[RQ222] Software tools supporting requirements coverage, defect management and test management shall be selected and hosted by the Purchaser and used by the Contractor. For any internal work, the Contractor may use their own internal tools, but the tools used for the Contractor’s internal work shall be able to natively interface with the tools selected and hosted by the Purchaser in order to keep all TV&V related data for the project in the Purchaser tools.

[RQ223] The Contractor shall assign and provide a Test Director and Test Operators and the Purchaser and/or his designated Representative will attend and witness the Formal Test Phases.

During Formal Test Phases, the Purchaser will have the right to demand repetition of failed tests, proof of the validity of the test equipment calibration, and performance of reasonable additional tests in order to clarify doubtful or marginal results.

[RQ224] The Contractor shall make available to the Purchaser, all facilities, information and assistance necessary to permit a valid interpretation of the test results.

[RQ225] For the formal test phases, the Test Environment shall be under the configuration control of the Purchaser during the testing period. That means, that every change that is to be implemented needs to be approved by the Purchaser. Prior to the commencement of the tests, the Test Environment shall be baselined and no changes to hardware, software, firmware and/or configuration shall be introduced by the Contractor unless explicitly authorized in writing by the Purchaser. Failure to do so by the Contractor shall render the complete testing null and void.

[RQ226] The Contractor shall identify the Contractor’s requirements for configuration and support of the Purchaser’s test facility, reference environments and/or required interconnections. The Contractor shall also configure the Test Environment and the System under Test to allow for the identified support.

8.3 Principles

[RQ227] All deliverables to include hardware, software and firmware supplied by the Contractor under this contract shall be verified or validated to meet the requirements of this contract.

[RQ228] The Contractor shall define in the Test and Acceptance Plan how, where and when the verification and validation for all the CIS and non-CIS will be executed, including reference to the delivery batches. This shall reference the verification and validation Approach and Phases as defined in this document.

[RQ229] The verification and validation schedule shall meet the requirements driven by project milestones. The initial schedule shall be defined in the Project Master Schedule and the definition of capability batches and test phases shall be defined in the Test and Acceptance Plan.

[RQ230] The Contractor shall integrate the PFE into his test programme to the extent that PFE is an integral part of the system, sub-system or network.

[RQ231] The Contractor shall not proceed to a formal test until authorized by the Purchaser.

[RQ232] The Contractor shall deliver all test, verification and validation material developed and used under the Contract to the Purchaser.

[RQ233] Formal acceptance testing, including installation testing, shall be performed always on an environment with the up to date security settings, latest approved patches and antivirus applied and on a solution that has followed the security guidelines and policies.

[RQ234] If the verification method per requirement is not provided beforehand by the Purchaser, the verification method shall either be test or demonstration. Any deviation to this requirement is subject to Purchaser approval.

The Purchaser has the right to request substitution of planned tests with unplanned tests, providing the unplanned tests can be executed within the agreed test schedule or other arrangements can be agreed.

8.4 Project Master Test Plan

[RQ235] The Contractor shall provide, as part of the PIP, a comprehensive Project Master Test Plan (PMTP) that details the requirements of this statement of work, and applies the given approach to the project. The plan shall also indicate the stage at which FSA shall be held.

[RQ236] The Contractor shall provide a flow diagram that identifies the overall sequence of tests, the location, and Contractor and Purchaser equipment and personnel involved in each test, and the relationship of test events to project milestones.

[RQ237] The Contractor shall describe in the PMTP the global organization, including relationships between the different actors involved (that shall cover all testing stages).

[RQ238] ---

[RQ239] The Contractor shall provide to the Purchaser's Independent Validation and Verification (IV&V) representative a test plan composed of:

- Requirement Traceability Matrix (RTM) for the contract requirements.
- Test Cases (business test cases and system test cases) and procedures.
- Test Readiness Review checklist.
- Waiver request.
- Test configuration.

[RQ240] The Contractor shall describe in the PMTP how the following objectives will be met:

- Compliance with the requirements of the Contract.
- Verification that the design produces the capability required.
- Compatibility among internal system components.
- Compliance with the statement of work requirements.
- Compliance with external system interfaces and/or systems.
- Confidence that system defects are detected early and tracked through to correction, including re-test and regression approach.
- Compliance with Purchaser policy and guidance (i.e. security regulations, etc.).
- Product Quality Criteria (Functional suitability, performance efficiency, compatibility, usability, reliability, security, maintainability, portability).

[RQ241] The PMTP shall include the Contractor's approach to Test Reviews, including for each TV&V event, Test Readiness Reviews and Event Review Meetings.

[RQ242] The Contractor shall create an Event Test Plan (ETP) per each event detailing all the information required for that event.

[RQ243] Other specific content required in the plan is defined throughout this statement of work. Any deviation shall be managed as a formal change request.

8.4.1 RTM

[RQ244] The RTM shall include all functional and non-functional requirements, to track the TV&V status of all requirements throughout the Contract execution (especially during the TV&V activities).

[RQ245] The RTM shall also trace the requirements to the design and define how the requirements will be validated or verified at each of the TV&V activities.

[RQ246] The RTM shall guarantee the two-way link between requirements (SRS) and technical specifications.

8.4.2 Test cases and procedures

[RQ247] The Contractor shall translate each requirement in the statement of work, in an acceptance criteria that will clearly detail how the requirement will be fully met (clear pass/fail or yes/no outcome)

[RQ248] The Contractor shall address the Purchaser's comments and update the Acceptance Criteria accordingly.

[RQ249] The Acceptance Criteria shall be agreed by both contractor and puchaser prior to the creation of the Test Cases/ Scripts.

[RQ250] The agreed Acceptance Criteria shall be translated into Test Cases to provide details of full requirements coverage.

8.4.3 Security testing

[RQ251] The Contractor shall support the execution Purchaser furnished System Test and Validation Plan (STVP) delivered during the Configuration Guidance, to ensure that the Security testing, including verification of compliance with NATO CIS Security Regulations is applied. This is an integral part of the TV&V process.

The STVP will support the accreditation of the System Platform. This document will be approved by NATO Office of Security."

8.5 Provisional system testing

[RQ252] Provisional System Testing (PST) shall cover the verification of all requirements specified in this SoW.

[RQ253] PST shall only start after the Purchaser acceptance of the test plan.

[RQ254] The Contractor shall execute a dry run test intended for the Contractor for verify test readiness for testing.

[RQ255] Following successful dry run, the Contractor shall notify the Purchaser of its readiness to test, after which he shall schedule and execute the PST.

[RQ256] The Contractor shall propose dates for PST at least 4 weeks in advance, to ensure availability of the Purchaser IV&V staff on the testing site.

[RQ257] The PST Entry Conditions shall include:

- Completed the installation and configuration of the AGS CIS as specified in this SoW.
- Successful dry-run test.

[RQ258] The PST Exit Conditions shall include:

- Successful completion of the verification of the specifications, functions and implementation specified in this SoW.
- Resolution of potential discrepancies.

8.6 Test Report

[RQ259] Following the PST, the Contractor shall submit the PST Report.

A successful PST followed by the Purchaser's approval of the PST report is one of the conditions for the Provisional System Acceptance (PSA).

[RQ260] The PST test report shall be generated and provided to the Purchaser as a compilation of the test sheets used and filled during the execution of the tests, with the signatures of the Contractor and the Purchaser representatives attending the test.

[RQ261] The Contractor shall label the Test Sheet after each test indicating a PASS, CONDITIONAL, FAIL or NOT-RUN result.

[RQ262] The Contractor shall declare a test as PASS if the entirety of the expected results were obtained when running the test.

[RQ263] The Contractor shall describe more background detail and reasoning when the test result is declared CONDITIONAL, FAIL or NOT-RUN.

[RQ264] The test report shall be augmented with any additional information the Contractor considers of interest to be recorded and presented in support of the PSA.

[RQ265] For the PST report, the following process shall apply:

- The Contractor delivers the test report two weeks after the completion of the tests.
- The Purchaser reviews and gives its approval two weeks after receipt of the test report.

[RQ266] The PST Report shall include the following:

- Time and location of the test.
- A red-lined copy of the Test Procedures used, including any deviations approved by the Purchaser.
- The names and signatures of test personnel, plus witnesses.
- Block diagram of the actual test arrangements (if different from the one in the Test Procedure), with a list of test equipment used and calibration date.
- Discrepancies observed and remedial action taken, including the disposition of any written observation entered on the test results sheets by the Purchaser.

[RQ267] The Contractor shall sign all completed Test Sheets, while the execution of the tests unfolds, witnessed by the Purchaser, who shall countersign them to certify agreement with the content.

8.7 Final system testing

[RQ268] In the case PSA has been granted by the Purchaser despite Class 2 deficiencies exposed in the PST report, the Contractor shall organize a final system acceptance test (FST).

The FST is built on the same principles than the PST, but its scope is limited to the CONDITIONAL, FAIL or NOT-RUN results of PST.

[RQ269] Following the FST, the Contractor shall submit the final test report.

In the case FST was necessary, a successful FST followed by the Purchaser's approval of the FST report is one of the conditions for the Final System Acceptance (FSA).

9 Security accreditation

9.1 Introduction

The intention of CIS Security is to properly protecting a CIS and the information handled by it through the application of various CIS Security measures.

System Accreditation to achieve Authorization to Operate (ATO) will be carried out by the Purchaser and involves the development of Security Accreditation documentation by the Purchaser.

9.2 Minimum Security Standards

All of the installations shall be compliant with the "Facility Design Criteria and Installation of Equipment for the Processing of Classified Information" (SDIP-29/2).

Security measures such as the proper distance between the equipment and red & black cable separation shall be implemented in accordance with SDIP-29/1. The system implementation needs to be security-conscious from the onset, and remain flexible to incorporate additional security measures in a scalable and manageable fashion, as required.

The AGS CIS adheres to:

- [AC/322-D/0048-REV2].
- [AC/322-D/0030-REV5].
- [AC/322-D/0047-REV2].
- "Enclosure F" of [C-M(2002)49].
- [AC/35-D/2004-REV3].
- [AC/35-D/2005-REV2].

The AGS CIS implements [NCSA Directive Number 5].

The AGS CIS implements configuration hardening for the equipment.

9.3 TEMPEST requirements

[RQ270] Whenever equipment is requested to be delivered with a TEMPEST B or C specification in this contract, a certificate of compliance with the prescribed test limits contained within SDIP-27/2 for Level B and C equipment shall be required from the Contractor.

[RQ271] The certificate shall apply to the exact manufacturer's part number.

[RQ272] The certificate shall be issued by:

- Either the contractor's National Security Authority.
- Or an accredited testing body, in which case documentation shall be provided with the technical proposal proving that the testing body (the Contractor or a clearly identified subcontractor) has the authority from its National Security Authority to provide this specific TEMPEST level B or C certification.

The NAGSF Sigonella site draws more than 100 kVA, therefore the power filtering is not essential for this contract.

9.4 Responsibilities

The Purchaser will prepare the Security Accreditation Plan.

[RQ273] The Contractor shall ensure that the installations and testing are carried out in accordance with the relevant minimum security standards.

[RQ274] In support of the Purchaser's Security Accreditation efforts, the Contractor shall provide the necessary installation drawings and configuration details, as far as implemented by the Contractor, upon request from the Purchaser.

10 Integrated product support

10.1 Integrated support concept

[RQ275] All repairs beyond the capability of the Operating Unit shall be carried out by the Contractor under the terms of the applicable warranty either in the Contractor factory depot if the faulty equipment is returned to the Contractor facility.

10.2 Material Data Sheet

The Material Data Sheet (MDS) will be the main document used for communication between the Contractor and Purchaser on equipment and supplies delivery.

[RQ276] The MDS shall be used to support:

- Shipments manifests.
- Customs.
- Configuration Tree.
- Inventory.

[RQ277] The MDS shall include the following data elements:

- Contract Line Item Identification Number (CLIN).
- NATO Stock Number (NSN, if known).
- Item Name.
- Expendable or Non-Expendable Code.
- True Manufacturer Part Identification.
- True Manufacturer code or complete name and address.
- Vendor/Contractor Code or complete name and address.
- Vendor/Contractor part number.
- Quantity ordered.
- Order Unit.
- Serialized item tag.
- Serial Number.
- Software Revision Level.
- Hardware Revision Level.
- Serial Number Attributes.
- Accountable Item Flag.
- Currency.
- Price.
- Warranty Expiration Date.

- Extended Line Item Description (if applicable).
- Part Number of Next Higher Assembly.
- Quantity in Next Higher Assembly.

[RQ278] Software licenses shall also be handed over to the Purchaser accompanied with an MDS form.

MDS forms are communicated in the form of Microsoft Excel Spreadsheets. When used for inventories they will be converted to pdf documents and signed.

10.3 Packaging

[RQ279] The Contractor shall, for the purpose of transportation, package, crate, or otherwise prepare items in accordance with the best commercial practices for the types of supplies involved, giving due consideration to shipping and other hazards associated with the transportation of consignments overseas.

[RQ280] Any special packaging materials required for the shipment of items shall be provided by the Contractor at no extra cost to the Purchaser.

[RQ281] The packages, palettes and/or containers in which supplies are transported shall, in addition to normal mercantile marking, show on a separate nameplate the name of this project, contract number and shipping address.

[RQ282] Packing lists shall accompany each shipment, which shall include the following:

- The Purchaser's contract number.
- The NATO project number.
- Names and addresses of the Contractor and the Purchaser.
- Names and addresses of the Carrier, Consignor and Consignee (if different from Contractor or Purchaser).
- Final destination address and POC.
- Method of shipment.
- MDS form for the whole shipment of for each box.
- When applicable, EU Customs Form 302.

[RQ283] Two copies of the packing lists shall be fastened in a weather-proof, sealed envelope on the outside of each box, palette and/ or container, and one packing list shall be put inside each container/box.

10.4 Handling and storage

[RQ284] The Contractor shall be responsible for all handling and storage of equipment, packages, boxes and containers during the project. The Contractor shall also be responsible for organizing and operating any handling equipment and storage facilities required.

The Purchaser is responsible for arranging all that is necessary to access the sites where equipment is handled or stored.

[RQ285] All equipment, materials and tools shall be stored in containers provided by the Contractor during the installation period. These containers shall be located on site and shall be equipped with system security lock, which shall be locked when the containers are not under the direct supervision of the Contractor.

[RQ286] In the case of goods requiring export licenses the Contractor shall ensure that all required forms and certificates are provided and that all procedures for such goods are followed.

10.5 Transportation

[RQ287] The Contractor shall be responsible for transportation of all equipment furnished under this Contract from its site in a NATO nation to final destination. The Contractor shall be responsible for any insurance covering these shipments.

[RQ288] The Contractor shall also be responsible for transportation of repaired/ replacement items under warranty or CLS arrangements to the original location. Return of unserviceable equipment to Contractor facility for (warranty) repair/replacement is the responsibility of the Purchaser.

[RQ289] The Contractor shall provide the Purchaser POC with a Notice of Shipment one week before each shipment. One additional copy of the packing list shall be attached to this notice. All equipment under this project shall be transported in close co-ordination with the Purchaser's POC.

All packages, boxes and containers will be inspected visually by the Purchaser's POC at final destination to ensure that no damage has occurred during transport and that all packages, boxes and containers detailed in the packing list have been accounted for. The Purchaser will in no case open any packages, boxes or containers.

[RQ290] The Contractor shall provide a Transportation Report within two weeks after each shipment has arrived at final destination. The Transportation Report shall include:

- A copy of the packing list.
- Date of arrival at final destination.
- Date of delivery acceptance by the Purchaser's POC at final destination.
- Signature of delivery acceptance by the Purchaser's POC at final destination.

10.6 Customs clearance

[RQ291] The Contractor shall be responsible for customs clearance of all shipments into the destination countries. It is the Contractor's responsibility to take into account delays at customs. It shall therefore consider eventual delays and arrange for shipment in time. Under no circumstances can the Purchaser be held responsible for delays incurred, even when utilizing Purchaser provided EU Custom Forms 302.

[RQ292] Prior to a shipment by the Contractor, the Purchaser shall upon request issue an EU Custom Form 302 which in some cases is required for the duty free import/export of goods. The Contractor shall be responsible for requesting the issue of a form 302 ten days prior to shipment. The request for a form 302 shall be accompanied by one additional packing list. The request is normally processed by the Purchaser within three working days. The requested 302 form will be sent by courier. The original 302 forms shall accompany the shipment and therefore no fax or electronic copy will be used, nor provided to the Contractor.

[RQ293] If a country refuses to accept the Form 302 and requires the payment of customs duties, the Contractor shall pay these customs duties and the Purchaser shall reimburse the Contractor at actual cost against presentation of pertinent supporting documents. Should such an event occur, the Contractor shall immediately inform the Purchaser by the fastest means available and before paying, obtain from the Customs Officer a written statement establishing that this Country refuses to accept the Form 302.

10.7 Warranty

[RQ294] The Contractor shall warrant that all equipment and software furnished under this Contract and all installation work performed under this Contract conform to the requirements and is free of any defect in material, code or workmanship for a period starting at date of FSA plus 1 year.

[RQ295] The Contractor shall fix/repair/replace all items received as per its internal procedures with the highest priority allocated.

[RQ296] If the Contractor becomes aware at any time before acceptance by the Purchaser that a defect exists in any supplies, the Contractor shall coordinate with the Purchaser and promptly correct the defect.

[RQ297] Defect magnetic and electronic media storage devices (*e.g.* hard drives) shall remain NATO property, at no additional cost, and not be returned to the Contractor when being replaced. Any such defect storage devices shall be replaced by the Contractor with new storage devices at no additional cost to the Purchaser.

[RQ298] The Contractor shall be responsible for the provision of any alternative or superseding items, should the original part be no longer available, ensuring compliance with the original design provided by this Contract.

[RQ299] During the warranty period, the Contractor shall be responsible for supplying all COTS hardware and software upgrades and updates. The availability of COTS hardware and software upgrades and updates shall be made known to the Purchaser and, if proposed for introduction by the Contractor for whatever reason, including any corrective action for an identified fault, shall always be subject to Purchaser approval.

[RQ300] The Contractor shall not be responsible for the correction of defects in Purchaser furnished property, except for defects in installation, unless the Contractor performs, or is obligated to perform, any modifications or other work on such property. In that event, the Contractor shall be responsible for correction of defects that result from the modifications or other work.

[RQ301] The Contractor shall provide a priced option for the Purchaser to request additional warranty under the same conditions on a yearly basis.

10.8 Inventory

[RQ302] The Contractor shall prepare a system inventory which shall be provided prior to shipment to the Purchaser in electronic format as an Excel Spreadsheet. This shall be furnished as equipment inventories as part of the SIDP.

[RQ303] The inventories shall include each item delivered and will be compiled under the following categories:

- Equipment (with breakdown to LRU).
- Tools, Test Equipment, and Accessories.
- Spare Parts.
- Manuals and Drawings (as-built drawings, cable and wiring diagrams, and installation drawings and plans).
- Software.

[RQ304] The inventory information shall be provided to the Purchaser prior to shipment to each site with an MDS form.

10.9 Marking of Items and Components

The marking of items and components, with the true manufacturer part is to ensure proper and quick identification of major equipment assembly, sub-assembly, module, down to the LRU level.

This information is also necessary for positive identification to support deployment activities, for maintenance purposes, and to prevent loss of items that have been separated from their original packages or containers.

[RQ305] Marking shall be accomplished in a manner that will not adversely affect the life, utility and control with easy access when installed.

11 Configuration Management

11.1 Introduction

[RQ306] The Contractor shall be responsible for establishing and maintaining an effective CM organization to implement the CM programme and manage the CM functions (configuration identification and documentation, configuration control, configuration status accounting, configuration audits).

[RQ307] The Contractor shall be responsible for the application of all necessary Configuration Management (CM) procedures until Final System Acceptance, in accordance with the Contract and the requirements detailed below.

[RQ308] The Contractor shall ensure that all manufacturing integration and testing of all hardware and software items designated for delivery in the Schedule of Supplies and Services are fully controlled by the Configuration Management processes in accordance with ACMP-2009.

11.2 Configuration Management Plan

[RQ309] The Contractor shall submit as part of the PIP, a Configuration Management Plan (CMP) documenting the Configuration Management system and procedures that shall be employed during the period of this Contract.

11.3 Physical configuration audit

[RQ310] The Contractor shall provide as part of the documentation a physical configuration audit ensuring the compliance of the installation with the as-built-drawings.

11.4 Cable & Asset Management

NATO uses the “Patch Manager” Cable & Asset Management Software Solution to document end to end connectivity from core switches to all end-user devices through the passive distribution.

The NATO Patch Manager system is available only from an internal NATO network that the Contractor is not expected to reach, however Patch Manager is able to import Microsoft Excel templates.

[RQ311] The Contractor shall deliver full documentation based on the Purchaser provided templates for each horizontal and vertical cable segment between switches, wireless access points, and end-user-devices installed under this contract.

[RQ312] Both contract-provided and purchaser-provided switches shall be documented by the Contractor in Patch Manager importable format.

12 Documentation

12.1 Documentation formats and exchanges

[RQ313] The Contractor shall submit all documentation and management products to the Purchaser in electronic format whenever possible.

The acceptable means for the Contractor to send these products to the Purchaser are:

- Use of an Internet-based cloud, either part of the Contractor’s customer-facing corporate environment, or through a commercial cloud provider (*e.g.* Microsoft OneDrive, Google Drive, DropBox) reachable by the NCI Agency staff, in line with corporate, national and NATO security guidelines.
- In the case the Contractor already has already access to the Purchaser NR Reach network, a dedicated OneDrive for Business folder can be created on the Contractor’s Reach account to distribute files.

- Email, keeping in mind attachment size limitations.
- Exceptionally through physical media (*e.g.* DVD).

The acceptable formats for the Contractor to send all documentation products to the Purchaser are:

- For drafts and working documents: all Microsoft Office formats, PDF.
- For final documents: PDF whenever possible, except for technical products (*e.g.* Visio diagrams, Excel MDS forms…).

The NCI Agency is not able to validate digital signatures against commercial certificates providers, and uses an internal certificate server for its own purposes that is not reachable from external parties.

NR and above documentation will have to be sent in accordance with applicable national legislations and the Project Security Instructions §15.

[RQ314] The Contractor shall use a consistent naming scheme for the project files, which shall be presented in the PIP.

12.2 Documentation reproduction and reuse rights

[RQ315] Non-COTS documentation shall neither be marked with corporate logos nor contain warnings limiting the rights to use or reproduction. Every page shall include a header and footer indicating the highest NATO classification of content on that page.

[RQ316] In addition, the training material delivered through this contract shall permit further training sessions to be delivered directly by the User in the future.

12.3 Structure and content

This paragraph is applicable to the documentation produced by the Contractor.

[RQ317] All documentation shall contain the following information:

- Title.
- Document Number.
- Amendment Sheet.
- Issue Number and Date of Issue.
- List of Effective Pages.
- Table of Contents - this shall be broken down to list sections / chapters, major paragraphs, sub-paragraphs together with title and page.
- List and titles of drawings, illustrations, tables and abbreviations.
- Main text.
- Glossary and symbols legend.

[RQ318] The pages of the documentation shall be consecutively numbered.

[RQ319] All documentation shall be in the English language.

[RQ320] Each page shall contain the appropriate classification of the documentation stamped or typewritten in the center at the top and bottom of each page.

[RQ321] All Contractor developed drawings and schematic diagrams shall be of the same length as other pages of the manuals.

[RQ322] The appropriate NATO classification shall be the top and bottom of each drawing and, in addition, each drawing shall also contain the security classification in the identification block of the drawing.

12.4 COTS documentation

[RQ323] The Contractor shall provide Original Equipment Manufacturer (OEM) manuals for all commercial off the shelf (COTS) hardware and software installed.

[RQ324] The documentation shall cover, for all installed components, the following topics:

- Installation instructions.
- Physical, power and environmental data.
- Functional descriptions.
- Performance data.
- Descriptions of all indicators, switches, switch positions, displays etc.
- Operating instructions.
- Interfaces to external systems.
- Corrective and preventive maintenance instructions.
- Fault isolation and fault finding techniques.
- Support equipment/tools description.

[RQ325] OEM COTS manuals shall be supplemented to make them fully acceptable for Purchaser use if an OEM COTS manual does not cover the topics required above.

12.5 Maintenance Manuals

This paragraph concerns maintenance manuals produced by the Contractor or COTS manufacturers.

[RQ326] The Contractor shall create, update, maintain and deliver the Maintenance Manual, where possible based on the existing COTS-vendor OEM manuals and documentation, supplemented with adaptations and additions relevant to the products furnished under this Contract.

[RQ327] The Maintenance Manual shall define the required maintenance tools and test equipment.

[RQ328] The Maintenance Manuals shall include:

- Overview of the complete system, describing all maintenance significant items and their interdependencies.
- All information, illustrations and procedures required for the installation, configuration, provisioning, testing, repairing, replacing and troubleshooting of a CI.
- Performance data, environmental conditions, physical data, and power requirements.
- References to the OEM COTS manuals.
- Backup and restore instructions.
- Preventive maintenance schedules.

The structure and contents of the Maintenance Manual shall address all corrective and preventive maintenance tasks.

12.6 As-built documentation

This paragraph concerns the documentation, created by the Contractor, of the system as built by the contractor reflecting the installation at FSA.

[RQ329] The Contractor shall provide as-built installation documentation which reflects the complete installation conducted by the Contractor.

[RQ330] The as-built documentation provided shall include:

- A Building Layout Plan showing the location of all Contractor installed assets.
- A Cable Distribution Plan showing cable distribution for all Contractor installed cabling, per security classification.
- A Rack Layout Plan for all AGS CIS racks.
- A Cable Management Plan, clearly identifying the location and labelling of each cable, together with the terminations at both ends and the use of the cable. Labelling standards will be provided by the Purchaser during the configuration guidance session.
- A Physical and Logical Element Interconnection plan, identifying all components that make up the AGS CIS and their interconnections.
- Configurations, as far as these are implemented by the Contractor, or provided by the Purchaser for inclusion in the documentation.

13 Training

13.1 VTC room system training

[RQ331] The Contractor shall provide training to the User on the VTC room system.

[RQ332] The training shall cover all operations of the training room system, for users and conference organizers.

[RQ333] The training shall be delivered to 20 users in 4 groups of 5.

[RQ334] The training shall last half a day per group.

[RQ335] Electronic copies of the training material shall be provided to the Purchaser in advance to the training sessions.

14 Quality assurance

14.1 Introduction

The purpose of the quality assurance requirements is twofold.

- The first objective is to ensure that the Contractor provides all deliverables at the required level of quality by utilizing a professional, best practice quality assurance framework and through internal quality control independent from the Contractor's project organization.
- The second objective of these requirements is to minimize the duration of the review cycles and decrease the review workload by ensuring that the Contractor provides mature deliverables only.

[RQ336] The Contractor shall adhere to its company Quality Management System (QMS) for the execution of this contract.

14.2 Government Quality Assurance (GQA) plan

The GQA multilateral agreement, existing between NATO countries and NATO organizations, is laid down in the NATO Standardization Agreement [STANAG 4107], "Mutual Acceptance of Government Quality Assurance". The Contractor shall recognize and accept the application of [STANAG 4107] for this contract and sub-contracts thereof.

[RQ337] The Contractor shall comply with the requirements of [STANAG 4107]. In addition, the Contractor shall use [AQAP 2070] as guidance to the delegation of GQA.

14.3 QA Plan

[RQ338] As part of the Project Implementation Plan, the Contractor shall establish, document and maintain a Quality Assurance Plan (QAP).

[RQ339] The QAP shall assure the quality of all deliverables and non-deliverable items throughout the duration of the contract and provide assurance that all activities are performed in accordance with the requirements of this contract. The QAP shall not exceed 5 pages.

[RQ340] The Contractor's QAP shall be compliant with [STANAG 4107] and AQAP-2110 and AQAP-2210.

[RQ341] The QAP may be tailored by the Contractor for adaption to the Contractor's own QAP or any other QAP, only if the resulting QAP is equivalent to a QAP as mandated by the above referenced AQAPs. This tailoring by the Contractor shall be subject to acceptance by the Purchaser.

[RQ342] The QAP shall apply to all hardware, software, documentation, activities, services and supplies that are designed, developed, acquired, maintained or used, including deliverable and non-deliverable items.

[RQ343] The QAP shall ensure that procedures are developed, implemented and maintained to adequately control the development, design, production, testing and configuration of all deliverables.

[RQ344] The QAP shall also ensure that the exchange of deliverables from the Contractor to the Purchaser shall be adequately controlled, and that no deliverables shall be presented by the Contractor without adequate quality control and sign-off by the Contractor's QA Manager.

The QAP proposed by the Contractor is subject to approval by the Purchaser.

14.4 QA Organization

[RQ345] The Contractor shall implement an effective QA organization to implement the QAP and manage the QA functions.

[RQ346] QA personnel shall have sufficient responsibility, authority, organizational freedom and organizational independence to review and evaluate activities, identify problems and initiate or recommend corrective actions.

14.5 QA Planning

[RQ347] The QAP implemented by the Contractor shall be described in the QAP (QAP). The Contractor shall provide the QAP as part of the PIP.

[RQ348] The QAP shall identify, document and justify the organizational structure, roles and responsibilities, quality gates, tasks, milestones and procedures to be used by the Contractor to implement the QAP and fulfil the requirements of this Contract.

[RQ349] All Contractor and Purchaser activities and milestones related to QA shall be identified and included in the project's master schedule.

14.6 QA Reporting

[RQ350] The Contractor shall maintain a QA log during the lifetime of the project in which records are kept accounting for all QA-activities, most notably all QA reviews. All accounting shall be done through dating and sign off by the responsible QA person.

[RQ351] The QA log shall enable the Purchaser to verify if and when a deliverable has been QA reviewed and by whom and with what result.

15 Project Security Instructions

15.1 Security Aspects Letter

In the performance of this contract, the prime Contractor and any Sub-contractor(s) are required to comply with NATO security regulations under the responsibility of the NATO Security Accreditation Authority (SAA) and National Security Agency (NSA) of the nation in which the work is performed or in the contracts involving NS.

[RQ352] All classified information and material shall be protected in accordance with the NATO security regulations.

[RQ353] In particular, the Contractor shall:

- Appoint an officer to be responsible for supervising and directing security measures in relation to the Request for Proposals (RFP), contract or sub-contract.
- Submit in due time to the NSA the personal particulars of the persons the contractor wishes to employ on the project with a view to obtaining PSCs at the required level where NC information and above is involved.
- Maintain, under the responsibility of the appointed security officer, a continuing relationship with the NSA and / or the Contracting Authority in order to ensure that all NATO classified information involved in the bid, contract or sub-contract is properly safeguarded.
- Limit the copying of any classified materiel (including documents) to the absolute minimum to perform the contract.
- Supply the NSA, when so requested by the latter, with any information on the persons who will be required to have access to NATO classified information.
- Maintain a record of all employees, including subcontractors, taking part in the project and who have been cleared for access to NATO classified information. This record must show the period of validity and the level of the clearances.
- Deny access to NATO classified information to any persons other than those authorized to have access by the NSA and in the case of NS information as determined by their Security Clearance and need-to-know.
- Limit the dissemination of NATO classified information to the smallest number of persons as is consistent with the proper execution of the contract or sub- contract.
- Comply with any request that persons to be entrusted with NATO classified information sign a statement undertaking to safeguard that information and signifying their understanding of their obligations under national legislation on the safeguarding of classified information, and that they recognize that they may have comparable obligations under the laws of the other NATO nations in which they may have access to classified information.
- Report to the Security Officer and to its NSA any breaches or suspected breaches of security, suspected sabotage or subversive activity, any breach giving rise to doubts as to the trustworthiness of an employee, any changes in the ownership, supervisory or managerial staff of the facility or any changes that affect the security arrangements and security status of the facility, and any other information which may be required by the NSA, such as reports on holdings of NATO classified information or materiel.
- Obtain the approval of the project office and NSA before beginning negotiations with a view to sub-contracting any part of the work which would involve the Sub-contractor having possible access to NATO classified information, and to place the Sub-contractor under appropriate security obligations which in no case may be less stringent than those provided for its own contract.

- Undertake not to utilize, other than for the specific purpose of the bid, contract or sub-contract, without the written permission of the project office or the prime Contractor, any NATO classified information supplied to him, and return to the project office all classified information referred to above, as well as that developed in connection with the contract or sub-contract unless such information has been destroyed, or its retention has been duly authorized by the contracting office or the sub-contracting officer. Such NATO classified information shall be returned at such time as the contracting office may direct. and
- Comply with any procedure established with respect to the dissemination of NATO classified information in connection with the contract or sub-contract.

[RQ354] Any person taking part in the performance of work shall possess the appropriate NATO security clearance issued by their NSA. The level of this clearance must be at least equal to the security category of the materiel, the related information and specifications being accessed. Any person provided administrative credentials to a system will require a clearance of a higher level than the classification level of the system itself.

[RQ355] Unless specifically authorized to do so by the project office, the Contractor shall not pass on any NATO classified information to any third party to whom a request to supply goods or services has been submitted.

[RQ356] No change in level of classification or de-classification of documentation or materiel shall be carried out unless written authority in this respect is obtained from the project office.

[RQ357] No CIS shall be used for processing classified information without prior accreditation by the responsible authorities.

[RQ358] Failure to implement these provisions shall result in termination of the contract under the non-financial termination clause.

[RQ359] The contractor shall destroy or return any classified information provided or generated under the contract unless the contracting authority has given written approval to retain such classified information, *e.g.* for warranty purposes.

[RQ360] The Contractor shall be required to acknowledge receipt of an accompanying SAL and Project Security Instruction (PSI) that is made part of the applicable contract and confirm that it understands the security aspects defined. With respect to contracts involving only NS information the Contractor shall also be required to confirm that it will comply with the provisions of the Contract Security Clause and specifically that any company CIS used to handle or process NS classified information has been appropriately security accredited.

15.2 Security Classification Guide

The security classification guide indicates the degree of classification of the data and materiel (equipment, information, technical manuals, specifications…) which may be handled in the performance of work under this contract and which must be safeguarded in accordance with the provisions of this letter.

This guidance establishes the mapping of NATO classification categorization associated to CIS architecture, engineering, and NATO sites information. It must be used to determine the minimum sensitivity of material and the protection of such. This guide shall be used by all NATO, Project Management Team (PMT), Concept Design Team (CDT), and Contractor personnel, including consultants, (both retained and prospective) involved with the project.

Classified material is categorized at four levels indicating the magnitude of potential harm to NATO/national security, if the information is subject to unauthorized disclosure:

- NATO R3STRICTED (NR) would be detrimental to the interest or effectiveness of NATO.

- NATO CONFID3NTIAL (NC) would cause damage to NATO.
- NATO S3CRET (NS) would cause grave damage to NATO.
- COSMIC TOP S3CRET (CTS) would cause exceptionally grave damage NATO.

NATO UNCLASSIFIED (NU) is used to indicate that the information is related to official NATO business.

The codes NR, NC, NS, CTS and NU, are used in the guideline to reference its corresponding classification category.

The classification identifying the overall effort, goal, mission and purpose of this project design phase is NATO UNCLASSIFIED (NU).

Technical manuals generated, obtained, or developed in support of classified end items will be classified at the highest level of classification of the end item.

The guideline applies to all forms of information and information sharing (hardcopy, electronic, audio, video, digital, telephonic and photographic) used to develop criteria and designs and construct or renovate the subject facilities. These may include, but not be limited to:

- As-Built documents
- Bids
- Lists of Material
- Budget documents
- Calculations
- Construction Security Plans (CSPs)
- Contracts
- Cost Estimates
- Design Guidelines
- Designs
- Evacuation Plans
- Facsimiles
- Generic Designs
- Inspection Reports
- Maintenance Plans, Manuals and Studies
- Operating Manuals
- Planning papers & reports
- Plans
- Photography
- Programming documents
- Proposals
- Repair Manuals
- Requests for Proposals
- Review Comments
- Shop Drawings
- Signage
- Specifications

- Standardized designs
- Statements of work (SOWs)
- Studies
- Submittals
- Submittal Registers
- Survey Reports
- Tests Procedures and Test Results

The Classification Guidance Matrix shall be used to identify the minimum Security Classification Level. In addition Originators of information shall review the Security Classification based on potential harm to NATO in case of unauthorized disclosure.

Document	Minimum Expected Security Classification	Comment
The Project Implementation Plan	NU	
The Project Implementation Plan	NU	
Project Status Reports	NU	
Minutes of Project Progress Review Meetings	NU NR	NU in general. NR or higher when sensitive information disclosed (see also Constraining Information)
The Risk Management Plan	NU	
The Quality Assurance Plan	NU	
QA Log	NU	
The Configuration Management Plan	NU	
The Functional Configuration Audit	NU	
The Physical Configuration Audit	NU	
The Design Document	NU NR	NU when not containing sensitive information. NR or higher when sensitive information are identified. See also Constraining Information
The Total Cost of Ownership Assessment Report	NU	

The Security Test and Verification Plan-template	NU	Template without results NR for template containing test linked to security sensitive systems
The Security Test and Verification Plan - completed	NR NS	NR when completed NS when identifying critical vulnerabilities.
CIS Description	NR	It is expected to contain security sensitive information.
SAP	NU	
SRA	NR	NS for sensitive systems
CSRS	NR	
SecOps	NU	NR when developed for sensitive systems (*i.e.* specific admin systems…)
SSRS	NR	
SISRS	NR	
Migration Strategy	NU	
The Transition and Migration Plan	NU	
Site Survey Reports	NU	NR when sensitive information identifying a named location or security assessment
Requirements Traceability Matrix	NU	
The Test and Acceptance Plan-template	NU	template only
The Test and Acceptance Plan-completed	NR	NR when sensitive information identifying a named location or security assessment
Test Failure Report	NR	
Off-specification Report	NU	NR for security related issues
System Version Definition Document	NU	
Test Reports-template	NU	
Test Reports-results	NR	

The Integrated Support Plan	NU	
The Transportation Report	NU	
The Logistics Support Analysis Plan	NU	
The Support Case	NU	
The In Service Support Plan	NU	
The CLS Plan (part of the In Service Support Plan)	NU	
The Monthly CLS Report	NU	
The Training Plan (part of the Integrated Support Plan)	NU	
The Issue Management Plan	NU	
The Operations Manual	NU	NU by default but classification subject to the information contained in the guide (see also Constraining Information)
COTS Manuals	NU	
The Maintenance Manual	NU	NU by default but classification subject to the information contained in the guide (see also Constraining Information)
The Software Distribution List	NU	
The Recommended Items Lists (part of the Support Case)	NU	
As built drawings	NU NR/NC	NR/NC based on sensitive information (see also Constraining Information)
Site Inventories	NU	See also Constraining Information
Documentation Plan (part of the Integrated Support Plan)	NU	
Constraining Information (higher precedence than document classification guidance) - non-exhaustive	Minimum Expected Security Classification	Comment

IP addresses identifying specific components.	NR NC	At least NR except for publicly exposed IP addresses resolvable from internet (*i.e.* external Mail Transfer Agent). NC for as built document containing IP addresses and locations.
PACS or LACS system location(s) are defined (*i.e.* diagram of the site with the location of the mechanism)	NR	
Component Security vulnerability identification including: Vulnerability reports, Inference of vulnerabilities (when components are detailed in an exhaustive manner allowing to infer existing vulnerabilities, *i.e.* firmware version + hardware + OS version + application version + usage of the solution...)	NR NC NS	NR for non-critical vulnerabilities of system and services. NC for critical vulnerabilities. NS for critical vulnerabilities of critical system (exposed services, BPS, network Infrastructure components, Site physical access security systems…)
Credentials	NR NS	Any documented credential information of any services/system will be at least NR.
Sensitive information linked to a Named location	NR	

Cat	Item	Part number	Qty	Spare
EUD	**End user devices (EUD) - All TEMPEST C**			
EUD	**NS Workstation Standard**			
EUD	Dell Optiplex 5000 - TEMPEST C		306	20
EUD	Form Factor SFF			
EUD	Microsoft Licences Windows 10 Pro (Includes Windows 11 Pro License) English, Dutch, French, German, Italian			
EUD	Processor 12th Generation Intel Core i5-12500 (6 Cores 3.0GHz to 4.6GHz/65W)			
EUD	Graphics Intel UHD Graphics 630, Performance: at least 917@ 1024x600 in ComputeMark v2.14, Triple Display Capable (1920x1200@60Hz on each display minimum); Compatible with DirectX 12 (Feature Level12.0) and OpenGL 4.5; HDMI 1.4 and Displayport			
EUD	Memory 8GB (1x8GB) DDR4 Non-ECC Memory			
EUD	Storage M.2 2230 256GB PCIe NVMe Class 35 Opal 2.0 Self Encrypting Solid State Drive //up to 2344 MB/s Seq. reads – 1366 MB/s Seq. Writes			
EUD	I/O Ports Front: USB 2.0 Type-A port with PowerShare USB 2.0 Type-A port USB 3.2 Gen 1 Type-A port USB 3.2 Gen 2x1 Type-C® port Universal audio port Rear: (4) USB 3.2 Gen 1 Type-A ports (2) USB 2.0 Type-A ports with Smart Power On (2) DisplayPort 1.4a ports			
EUD	Network 1000Base-SX, LC connector, Wake-On-LAN, PXE			
EUD	Expansion Slots 1x PCIe x16 & 1x PCIe x4			

Cat	Item	Part number	Qty	Spare
EUD	Security Trusted Platform Module (TPM) 2.0 chip on the motherboard// 27600 bytes non-volatile memory located in the TPM module; AES New Instructions (AES-NI) SecureKey, BIOS Guard, OS Guard or equivalent; PnP and BIOS setup/boot password/system configuration protection			
EUD	Lock Kensington lock slot included			
EUD	**NS Workstation High Performance**			
EUD	Dell Precision 3660 - TEMPEST C		7	1
EUD	Form Factor Tower			
EUD	Microsoft Licences Windows 10 Pro (Includes Windows 11 Pro License)			
EUD	Processor Intel® Core™ i5-12500 processor (18MB Cache, 6 Core (6P+0E), 3.0GHz to 4.6GHz (65W)) TDP			
EUD	Security SafeID including Trusted Platform Module (TPM) 2.0 (FIPs 140-2-Certificate), Smartcard keyboard (FIPS), Microsoft Windows 10 Device Guard and Credential Guard (Enterprise SKU), Microsoft Windows Bitlocker, Local hard disk data erasure via BIOS (secure erase), Self-encrypting storage drives (Opal, FIPS), SafeBIOS: includes Dell off-host BIOS check, BIOS failsafe, BIOS recovery and additional BIOS controls			
EUD	Remote management UEFI Enabled, Intel vPro Out of Band Management Technology			
EUD	Memory 16GB, 2x8GB, DDR5 up to 4400MHz expandable at least 128 GB, 4 x 32 GB, DDR5, 3600 MHz			
EUD	Local storage C1 M.2 SSD 512-GB-SSD, PCIe, NVMe™, Calss 40 (Read: 6770 MB/s // Write: 4389 MB/s)			
EUD	GPU Nvidia GeForce RTX 3060, Base Clock 1320 MHz, Floating-point performance: 12.74 TFLOPS Bus Interface: PCIe 4.0 x16, Recommended Resolutions: 1920x1080 2560x1440 3840x2160 Outputs: 1x HDMI 2.1 3x DisplayPort 1.4a			
EUD	NIC 1000Base-SX, LC connector, Wake-On-LAN, PXE			

Cat	Item	Part number	Qty	Spare
EUD	Ports Front: USB 3.2 Gen 1-Port (5 Gbit/s) with PowerShare USB 3.2-Gen 1-Port (5 Gbit/s) USB 3.2-Gen 2-Port (Typ-C, 10 Gbit/s) USB 3.2-Gen 2x2-Port (Typ-C, 20 Gbit/s) with PowerShare SD Card Reader 4.0 Rear: USB 2.0-Ports (480 Mbit/s) with Smart Power On USB 3.2-Gen 2-Ports (10 Gbit/s) USB 3.2 Gen 2-Ports (Typ C, 10 Gbit/s)			
EUD	Sound Audio-Controller Realtek ALC3246-CG, Audio out (3.5mm jack), Audio-mic combo (3.5mm) jack			
EUD	Power supply and cords ~~500W Platinum PSU and cord (according to local requirements)~~ 550W Platinum PSU and cord (according to local requirements)			
EUD	Lock Kensington lock socket			
EUD	**NS Workstation GIS**			
EUD	Dell Precision 5820 1000Base-SX - TEMPEST C		5	1
EUD	Form Factor Tower			
EUD	Microsoft Licences MS Windows 10 Pro OEM 64bit no-media			
EUD	Processor Intel Core i9-10900X			
EUD	Security Trusted Platform Module (TPM) 2.0 (or later) chip on the motherboard AES New Instructions (AES-NI), SecureKey, BIOS Guard, OS Guard or equivalent PnP and BIOS setup/boot password/system configuration protection			
EUD	Memory 32GB			
EUD	Primary Storage ~~Solid State capacity: 512 GB, performance: 560MB/sec sequential read and 530MB/sec sequential write, durability: 600 TBW, in removable flex bay, supported functions: TCG Opal, IEEE 1667, FDE AES 256~~ Dell-provided Intel NVMe PCIe SSD 512GB (Front PCIe FlexBay)			

Cat	Item	Part number	Qty	Spare
EUD	Secondary storage ~~8 TB Solid State capacity, performance: 560MB/sec sequential read and 530MB/sec sequential write, durability: 600 TBW, in removable flex bay, supported functions: TCG Opal, IEEE 1667, FDE AES 256~~ Dell-provided 8 TB, 7200 RPM, 3.5-inch, SATA, HDD, AG-Enterprise Class (FlexBay)			
EUD	GPU ~~NVIDIA Quadro P2200 4x Display Port~~ AMD Radeon™ PRO W6600.			
EUD	NIC 1000Base-SX, LC connector, Wake-On-LAN, PXE			
EUD	Sound Integrated full duplex sound card			
EUD	Power supply and cords ~~1x Power adapter and cord (according to local requirements)~~ 350W Platinum PSU and cord (according to local requirements)			
EUD	Ports 1x USB 3.2 Gen 1 Type C 1x USB 3.2 Gen 1 Type C port (DP/PowerDelivery) 6x USB 3.2 Gen 1 Type A ports 2x USB 3.2 Gen 1 Type A port (DP/PowerDelivery)			
EUD	Lock Kensington lock socket			
EUD	**NS Workstation monitor**			
EUD	24" Monitor Dell P2422H - TEMPEST C	7025SB0067589	323	25
EUD	**NS Workstation ancillaries**			
EUD	Dell KB216 Multimedia Keyboard - TEMPEST C	7050SB0045085	318	22
EUD	Dell 6 button Laser Mouse - TEMPEST C	7050SB0045086	318	22
EUD	Plantronics Blackwire 3220 - 209745-101 - TEMPEST C	5965SB0065030	318	22
EUD	CAMERA, WEB, POLYCOM STUDIO P5, 1920X1080, 1XUSB 2.0 - TEMPEST C	7050SB0070358	318	22
EUD	Kensington MicroSaver 2.0 Chassis Lock	5340SB0063389	318	22
EUD	Kensington MicroSaver 2.0 Lock Master Key	5999SB0041916	318	22
EUD	**Desktop VTC**			
EUD	POLY Studio X30 - TAA, No Radios - TEMPEST C	G2200-86615-001	2	
EUD	MONITOR, 24", DELL P2418HT LED, DP/HDMI/USB3.0/VGA, 1920X1080, TOUCHSCREEN, TEMPEST C		2	
CYB	**Cyber**			
CYB	**Gateway Security solution NS**			
CYB	SFP+ form factor, LR 10 Gb optical transceiver, long reach 10 km, SMF, duplex LC, IEEE 802.3ae 10GBASE-LR compliant	PAN-SFP-PLUS-LR	10	

Cat	Item	Part number	Qty	Spare
CYB	**Gateway Security software NS**			
CYB	Firemon ANN-SPFM-SMLO: Annual Subscription Software License and Support		2	
CYB	Firemon ANN-SPFM-SMLO-HA: Annual Subscription Software License and Support		2	
CYB	**Monitoring solution NS**			
CYB	IXIA Vision E10S System AC Chassis with fixed (48) 1G/10G; Includes license for (16) 1G/10G ports and 20Gbps of PacketStack. (991-0180)	SYS-E10S-16P-AC	1	
CYB	Ixia NVS Basic to Essential Upgrade-EMEA/APAC/LAR (909-0764)	909-0764	1	
CYB	Ixia Vision E10S, enables PacketStack Deduplication feature, perpetual licensed per system (993-0185)	LIC-E10S-DDUP	1	
CYB	Ixia NVS Basic to Essential Upgrade-EMEA/APAC/LAR (909-0764)	909-0764	1	
CYB	Ixia Vision E10S, enables PacketStack Header stripping feature, perpetual licensed per system (993-0187)	LIC-E10S-STRP	1	
CYB	Ixia NVS Basic to Essential Upgrade-EMEA/APAC/LAR (909-0764)	909-0764	1	
CYB	Ixia Vision E10S, enables PacketStack Tunneling feature, perpetual licensed per system (993-0188)	LIC-E10S-TUNL	1	
CYB	Ixia NVS Basic to Essential Upgrade-EMEA/APAC/LAR (909-0764)	909-0764	1	
CYB	Ixia Vision E10S, perpetual Port license for an additional (16) 1G/10G ports (993-0183)	LIC-E10S-16P	1	
CYB	Ixia NVS Basic to Essential Upgrade-EMEA/APAC/LAR (909-0764)	909-0764	1	
CYB	Ixia, SFP+ 10GBASE SR pluggable optical transceiver, MMF (multimode fiber), 850nm, 300m reach, LC (995-8044)	SFP-PLUS-SR-XCVR	16	
CYB	Ixia NVS Basic to Essential Upgrade-EMEA/APAC/LAR (909-0764)	909-0764	16	
CYB	IXIA Vision 1G SFP copper transceiver (995-0003)	CGI	0	
CYB	Ixia NVS Basic to Essential Upgrade-EMEA/APAC/LAR (909-0764)	909-0764	0	
CYB	IXIA Rack Mount Chassis for Flex Taps, 24 Slots, with Slot ID Labels. (955-8186)	RK-FLEX-ID-24	1	
CYB	Ixia Flex Tap, fiber, multi-mode 1G/10G/25G/50G, SR, 50um, LC, 70/30 (955-0165)	TPX-10-SR-50-70	4	
CYB	Ixia NVS Basic to Essential Upgrade-EMEA/APAC/LAR (909-0764)	909-0764	4	
CYB	Ixia PS-Ixia NVS Solution Services (972-4025) (in Europe, 2 days)	972-4025	1	
CYB	IXIA Cable Assembly Kit, LC/LC, 1G/10G, MM, 50um	705-0012-001	4	
CYB	**Full Packet Capture solution NS**			
CYB	Warranty for Net Witness S6 (per month)	NW S6 SED Core TP Appl EnhMnt 1Mo	36	
CYB	Net Witness Decoder Storage PV HD 96TB	NW-PVHDE96	1	
CYB	Warranty for Net Witness Decoder Storage (per month)	NW-PV-A-E1	36	
CYB	Net Witness Concentrator Storage PV HP 78TB	NW-PVHPE78	1	
CYB	Warranty for Concentrator (per month)	NW S6 SED Core TP Appl EnhMnt 1Mo	36	
CYB	Warranty for Concentrator storage (per month)	NW-PV-D-E1	36	
CYB	Net Witness T2, 11-50TB/day NetM perTB Perp lic	SA-NETMON-P-T2	1	
CYB	Net Witness T2, 11-50TB/day NetM perTB 1Mo	SA-NETMON-P-T2-E1	36	
CYB	**NCDP Networking NS**			

Cat	Item	Part number	Qty	Spare
CYB	Catalyst 9300 24-port data only, Network Advantage	C9300-24T-A	2	
CYB	SOLN SUPP 8X5XNBD Catalyst 9300 24-port data only, Network	CON-SSSNT-C930024A	2	
CYB	C9300 Network Advantage, 24-port license	C9300-NW-A-24	2	
CYB	Cisco Catalyst 9300 XE 16.12 UNIVERSAL	S9300UK9-1612	2	
CYB	350W AC 80+ platinum Config 1 Power Supply	PWR-C1-350WAC-P	2	
CYB	350W AC 80+ platinum Config 1 Secondary Power Supply	PWR-C1-350WAC-P/2	2	
CYB	Cabinet Jumper Power Cord, 250 VAC 13A, C14-C15 Connectors	CAB-C15-CBN	2	
CYB	50CM Type 1 Stacking Cable	STACK-T1-50CM	2	
CYB	Catalyst Stack Power Cable 30 CM	CAB-SPWR-30CM	2	
CYB	C9300 DNA Advantage, 24-Port Term Licenses	C9300-DNA-A-24	2	
CYB	C9300 DNA Advantage, 24-port - 3 Year Term License	C9300-DNA-A-24-3Y	2	
CYB	Catalyst 9300 8 x 10GE Network Module	C9300-NM-8X	2	
CYB	Network Plug-n-Play Connect for zero-touch device deployment	NETWORK-PNP-LIC	2	
CYB	CISCO OPTICAL 10 Gb optical SFP+ SR	SFP-10G-SR	32	
CYB	**VPN router NS**			
CYB	Juniper SRX-380 VPN Service Gateway (including JUNOS 36 month Licence)	SRX380-P-SYSJB-AC	2	
CYB	Juniper SRX-380 VPN Service Gateway 36 months support	SVC-ND-SRX380JB	2	
CYB	600W AC-source power supply for SRX 380	JPSU-600-AC-AFO	2	
CYB	J-Series Power Cable, EU	CBL-JX-PWR-EU	2	
CYB	Small Form Factor Pluggable 1000Base-SX Gigabit Ethernet Optics	SRX-SFP-1GE-SX	10	
CYB	Juniper compliant optical 10 Gb optical SFP+ SR	SFP-10GE-SR	8	
CYB	Juniper compliant optical 10 Gb optical SFP+ LR	SFP-10GE-LR	8	
	SRX380 rack mount kit	EX-4PST-RMK	2	
CYB	**NCDP Server Hardware NS**			
CYB	Dell VSAN-RN R7515		2	
CYB	Chassis with up to 24x2.5" Drives	379-BDTF	2	
CYB	NVMe Backplane	379-BDSX	2	
CYB	Dell VSAN-RN R7515	210-AWXP	2	
CYB	All Flash IDM, VSAN-RN R7515	350-BCBB, 350-BCBG	2	
CYB	Trusted Platform Module 2.0	461-AAEM	2	
CYB	2.5" Chassis with up to 24 NVMe Drives	321-BERW	2	
CYB	AMD EPYC 7742 2.25GHz, 64C/128T, 256M Cache (225W) DDR4-3200	338-BSWN	2	
CYB	Standard Heatsink	412-AASE	2	
CYB	Performance Optimized	370-AAIP	2	
CYB	3200MT/s RDIMMs	370-AEVR	2	
CYB	64GB RDIMM, 3200MT/s, Dual Rank	370-AEVP	24	
CYB	BOSS controller card + with 2 M.2 Sticks 240G (RAID 1),FH	403-BCHP	2	

Cat	Item	Part number	Qty	Spare
CYB	C30, No RAID for NVME chassis	780-BCDO	2	
CYB	No Controller	405-AACD	2	
CYB	No Hard Drive	400-ABHL	2	
CYB	800GB, Enterprise, NVMe, Write Intensive, U2, G4, Intel Optane P5800X with carrier	400-BMUL	2	
CYB	6.4TB Enterprise NVMe Mixed Use AG Drive U.2 Gen4 with carrier	400-BKGI	24	
CYB	UEFI BIOS Boot Mode with GPT Partition	800-BBDM	2	
CYB	No Additional Mid Fan	384-BBSO	2	
CYB	Dual, Hot-plug, Redundant Power Supply (1+1), 1100W	450-ADWM	2	
CYB	European Power Cord 220V	450-AAXU	4	
CYB	Riser Config 2, 2 x 16 FH + 2 x 16 LP PCIe slot	330-BBNL	2	
CYB	PowerEdge R7515 Motherboard, with 2 x 1Gb Onboard LOM (BCM5720)MLK	384-BCUN	2	
CYB	OpenManage Enterprise Advanced	528-BIYY	2	
CYB	iDRAC9, Enterprise 15G	385-BBOT	2	
CYB	Broadcom 57416 Dual Port 10 GbE SFP+ Network LOM Mezz Card	540-BBZE	2	
CYB	Broadcom 57414 Dual Port 10/25GbE SFP28 Adapter, PCIe Low Profile	540-BBVK	2	
CYB	Emulex LPE 31002 Dual Port 16Gb Fibre Channel HBA, PCIe Low Profile	403-BBMB	2	
CYB	PowerEdge 2U Standard Bezel	350-BBWP	2	
CYB	No Quick Sync	350-BBKU	2	
CYB	iDRAC,Legacy Password	379-BCSG	2	
CYB	iDRAC Group Manager, Enabled	379-BCQV	2	
CYB	No Operating System	611-BBBF	2	
CYB	No Media Required	605-BBFN	2	
CYB	OpenManage Integration for VMware vCenter - 1 host increment, 3 year license digitally fulfilled	634-BJBD	2	
CYB	ReadyRails™ Sliding Rails With Cable Management Arm	770-BBBR	2	
CYB	No Systems Documentation, No OpenManage DVD Kit	631-AACK	2	
CYB	PowerEdge R7515 Ship Material	343-BBMU	2	
CYB	PowerEdge R7515 CE,CCC Marking	389-DURZ	2	
CYB	PowerEdge R7515 Shipping EMEA1 (English/French/German/Spanish/Russian/Hebrew)	340-CNWP	2	
CYB	Platinum PSU Configuration	389-EFJU	2	
CYB	No Internal Optical Drive for x10 or greater HDD Chassis	429-AAIQ	2	
CYB	INFO-VSAN READY NODE	821-18369	2	
CYB	Basic Next Business Day 36 Months, 36 Month(s)	709-BBIL	2	
CYB	ProSupport and Next Business Day Onsite Service, 36 Month(s)	865-BBMY	2	
CYB	Keep Your Hard Drive For Enterprise, 36 Month(s)	711-BBIY	2	
CYB	No Installation Service Selected (Contact Sales rep for more details)	683-11870	2	
CYB	Dell compatible OPTICAL 10 Gb optical SFP+ SR	SFP-10GE-SR	**12**	
CYB	**NCDP KVM NS**			

Cat	Item	Part number	Qty	Spare
CYB	Dell Digital 16 Port KVM Switch	[A7485893] / A7485893	1	
CYB	DMPUIQ-VMCHS Server Interface Pod for VGA,USB keyboard,mouse supporting virtual media,CAC,USB2.0	[A7485901] / A7485901	16	
CYB	DMPUIQ-SRL: Serial Interface Pod for digital switches	[A7485902] / A7485902	1	
CYB	Dell 0U mounting bracket for the DMPU and DAV KVMs mounted vertically using square hole racks.	[A7485899] / A7485899	1	
CYB	3 Year Gold DMPU2016 Hardware Maintenance by Avocent	[A7547290] / A7547290	1	
CYB	Dell LED KMM, 18.5", 1U, International English Keyboard - DKMMLED185 - 001	DKMMLED185 - 001	1	
CYB	**Tier 3 Analyst Workstation NS**			
CYB	Dell Optiplex 7080 SFF - TEMPEST C		1	
CYB	OptiPlex 7000 Small Form Factor			
CYB	12th Gen Intel® Core™ i5-12500 (18 MB cache, 6 cores, 12 threads, 3.00 GHz to 4.60 GHz Turbo, 65 W)			
CYB	Windows 10 Pro (Windows 11 Pro license included), English, French, Spanish			
CYB	8 GB, 1 x 8 GB, DDR4			
CYB	256 GB, M.2 2230, PCIe NVMe, SSD, Class 35			
CYB	No Additional Hard Drive			
CYB	Intel® Integrated Graphics			
CYB	No Optical Drive			
CYB	No Media Card Reader			
CYB	No Wireless LAN Card (no WiFi enablement)			
CYB	No wireless driver			
CYB	Optional Serial Port			
CYB	240 W internal power supply unit (PSU), 85% Efficient, 80 Plus Bronze			
CYB	Dell KB216 Wired Keyboard English, US			
CYB	Dell Optical Mouse - MS116 (Black)			
CYB	No Cable Cover			
CYB	No Additional Cable			
CYB	No External Speaker			
CYB	No Stand or Mount			
CYB	Dell Applications Windows 10 & 11 DGR with Dell Optimizer, IRST			
CYB	OS-Windows Media Not Included			
CYB	ENERGY STAR Qualified			
CYB	NO RAID			
CYB	System Power Cord (EU)			
CYB	Safety/Environment and Regulatory Guide (English/French Multi-language)			
CYB	Dell Watchdog Timer			
CYB	Quick Start Guide			
CYB	Print on Demand Label			
CYB	Trusted Platform Module (Discrete TPM Enabled)			

Cat	Item	Part number	Qty	Spare
CYB	Shipping Material			
CYB	PowerDVD Software not included			
CYB	Regulatory Label for OptiPlex 7000 SFF 240W			
CYB	M.2 Caddy			
CYB	Intel Core i5 vPro Enterprise Processor Label			
CYB	BTS/BTP Shipment			
CYB	7000SFF_1H23_004D/US/BTS			
CYB	Internal Speaker			
CYB	No Additional Network Card Selected (Integrated NIC included)			
CYB	No Additional Video Ports			
CYB	No Additional Add In Cards			
CYB	EPEAT 2018 Registered (Gold)			
CYB	Intel vPro® Enterprise			
CYB	No AutoPilot			
CYB	3 Years Hardware Service with Onsite/In-Home Service After Remote Diagnosis			
CYB	No Microsoft Office License included			
CYB	No anti-virus software			
CYB	Dell SFF server rack mount			
CYB	**NCDP Virtualization Software NS**			
CYB	Red Hat Enterprise Linux Server, Standard (1 Physical Per Socket Pair or 2 Virtual Nodes) 3 year		11	
CYB	**Gateway Security solution NU**			
CYB	Palo Alto Networks PA-5410 with redundant AC power supplies	PAN-PA-5410-AC	2	
CYB	SFP+ form factor, 10Gb direct attach twin-ax passive cable with 2 transceiver ends and 5m of cable permanently bonded as an assembly, IEEE 802.3ae 10GBASE-CR compliant	PAN-SFP-PLUS-CU-5M	2	
CYB	SFP+ form factor, SR 10Gb optical transceiver, short reach 300m, OM3 MMF, duplex LC, IEEE 802.3ae 10GBASE-SR compliant	PAN-SFP-PLUS-SR	24	
CYB	Palo Alto Networks PA-5450 4 post rack mount kit, spare only (1 is included with base system)	PAN-PA-5450-RACK4	2	
CYB	Premium support 3 year, PA-5410	PAN-SVC-PREM-5410-3YR	2	
CYB	PA-5410, Threat prevention subscription, for one (1) device in an HA pair, 3 year (36 months) term. Recommended for air gapped/closed environments.	PAN-PA-5410-TP-HA2	2	
CYB	SFP+ form factor, LR 10 Gb optical transceiver, long reach 10 km, SMF, duplex LC, IEEE 802.3ae 10GBASE-LR compliant	PAN-SFP-PLUS-LR	10	
CYB	**Gateway Security software NU**			
CYB	Firemon ANN-SPFM-SMLO: Annual Subscription Software License and Support		2	
CYB	Firemon ANN-SPFM-SMLO-HA: Annual Subscription Software License and Support		2	
CYB	**Monitoring solution NU**			

Cat	Item	Part number	Qty	Spare
CYB	IXIA Vision E10S System AC Chassis with fixed (48) 1G/10G; Includes license for (16) 1G/10G ports and 20Gbps of PacketStack. (991-0180)	SYS-E10S-16P-AC	1	
CYB	Ixia NVS Basic to Essential Upgrade-EMEA/APAC/LAR (909-0764)	909-0764	1	
CYB	Ixia Vision E10S, enables PacketStack Deduplication feature, perpetual licensed per system (993-0185)	LIC-E10S-DDUP	1	
CYB	Ixia NVS Basic to Essential Upgrade-EMEA/APAC/LAR (909-0764)	909-0764	1	
CYB	Ixia Vision E10S, enables PacketStack Header stripping feature, perpetual licensed per system (993-0187)	LIC-E10S-STRP	1	
CYB	Ixia NVS Basic to Essential Upgrade-EMEA/APAC/LAR (909-0764)	909-0764	1	
CYB	Ixia Vision E10S, enables PacketStack Tunneling feature, perpetual licensed per system (993-0188)	LIC-E10S-TUNL	1	
CYB	Ixia NVS Basic to Essential Upgrade-EMEA/APAC/LAR (909-0764)	909-0764	1	
CYB	Ixia Vision E10S, perpetual Port license for an additional (16) 1G/10G ports (993-0183)	LIC-E10S-16P	1	
CYB	Ixia NVS Basic to Essential Upgrade-EMEA/APAC/LAR (909-0764)	909-0764	1	
CYB	Ixia, SFP+ 10GBASE SR pluggable optical transceiver, MMF (multimode fiber), 850nm, 300m reach, LC (995-8044)	SFP-PLUS-SR-XCVR	16	
CYB	Ixia NVS Basic to Essential Upgrade-EMEA/APAC/LAR (909-0764)	909-0764	16	
CYB	IXIA Vision 1G SFP copper transceiver (995-0003)	CGI	8	
CYB	Ixia NVS Basic to Essential Upgrade-EMEA/APAC/LAR (909-0764)	909-0764	8	
CYB	IXIA Rack Mount Chassis for Flex Taps, 24 Slots, with Slot ID Labels. (955-8186)	RK-FLEX-ID-24	1	
CYB	Ixia Flex Tap, fiber, multi-mode 1G/10G/25G/50G, SR, 50um, LC, 70/30 (955-0165)	TPX-10-SR-50-70	4	
CYB	Ixia NVS Basic to Essential Upgrade-EMEA/APAC/LAR (909-0764)	909-0764	4	
CYB	Ixia PS-Ixia NVS Solution Services (972-4025) (in Europe, 2 days)	972-4025	1	
CYB	IXIA Cable Assembly Kit, LC/LC, 1G/10G, MM, 50um	705-0012-001	4	
CYB	**Full Packet Capture solution NU**			
CYB	Net Witness S6 Network Decoder	NW-S6E-CORE_NL	1	
CYB	Warranty for S6 (per month)	NW S6 SED Core TP Appl EnhMnt 1Mo	36	
CYB	Net Witness Decoder Storage PV HD 96TB	NW-PVHDE96	1	
CYB	Warranty for Decoder Storage (per month)	NW-PV-A-E1	36	
CYB	NW S6 Ntwk Concentrator	NW-S6E-CORE_NL	1	
CYB	Warranty for Concentrator (per month)	NW S6 SED Core TP Appl EnhMnt 1Mo	36	
CYB	Net Witness Concentrator Storage PV HP 78TB	NW-PVHPE78	1	
CYB	Warranty for Concentrator storage (per month)	NW-PV-D-E1	36	
CYB	NW T2, 11-50TB/day NetM perTB Perp lic	SA-NETMON-P-T2	1	
CYB	NW T2, 11-50TB/day NetM perTB 1Mo	SA-NETMON-P-T2-E1	36	
CYB	**NCDP Networking NU**			
CYB	Catalyst 9300 24-port data only, Network Advantage	C9300-24T-A	2	
CYB	SOLN SUPP 8X5XNBD Catalyst 9300 24-port data only, Network	CON-SSSNT-C930024A	2	

Cat	Item	Part number	Qty	Spare
CYB	C9300 Network Advantage, 24-port license	C9300-NW-A-24	2	
CYB	Cisco Catalyst 9300 XE 16.12 UNIVERSAL	S9300UK9-1612	2	
CYB	350W AC 80+ platinum Config 1 Power Supply	PWR-C1-350WAC-P	2	
CYB	350W AC 80+ platinum Config 1 Secondary Power Supply	PWR-C1-350WAC-P/2	2	
CYB	Cabinet Jumper Power Cord, 250 VAC 13A, C14-C15 Connectors	CAB-C15-CBN	2	
CYB	50CM Type 1 Stacking Cable	STACK-T1-50CM	2	
CYB	Catalyst Stack Power Cable 30 CM	CAB-SPWR-30CM	2	
CYB	C9300 DNA Advantage, 24-Port Term Licenses	C9300-DNA-A-24	2	
CYB	C9300 DNA Advantage, 24-port - 3 Year Term License	C9300-DNA-A-24-3Y	2	
CYB	Catalyst 9300 8 x 10GE Network Module	C9300-NM-8X	2	
CYB	Network Plug-n-Play Connect for zero-touch device deployment	NETWORK-PNP-LIC	2	
CYB	CISCO OPTICAL 10 Gb optical SFP+ SR	SFP-10G-SR	16	
CYB	**VPN router NU**			
CYB	Juniper SRX-380 VPN Service Gateway (including JUNOS 36 month Licence)	SRX380-P-SYSJB-AC	2	
CYB	Juniper SRX-380 VPN Service Gateway 36 months support	SVC-ND-SRX380JB	2	
CYB	600W AC-source power supply for SRX 380	JPSU-600-AC-AFO	2	
CYB	J-Series Power Cable, EU	CBL-JX-PWR-EU	2	
CYB	Small Form Factor Pluggable 1000Base-SX Gigabit Ethernet Optics	SRX-SFP-1GE-SX	10	
CYB	Juniper compliant optical 10 Gb optical SFP+ SR	SFP-10GE-SR	8	
CYB	Juniper compliant optical 10 Gb optical SFP+ LR	SFP-10GE-LR	8	
	SRX380 rack mount kit	EX-4PST-RMK	2	
CYB	**NCDP Server Hardware NU**			
CYB	Dell VSAN-RN R7515		2	
CYB	Chassis with up to 24x2.5" Drives	379-BDTF	2	
CYB	NVMe Backplane	379-BDSX	2	
CYB	Dell VSAN-RN R7515	210-AWXP	2	
CYB	All Flash IDM, VSAN-RN R7515	350-BCBB, 350-BCBG	2	
CYB	Trusted Platform Module 2.0	461-AAEM	2	
CYB	2.5" Chassis with up to 24 NVMe Drives	321-BERW	2	
CYB	AMD EPYC 7742 2.25GHz, 64C/128T, 256M Cache (225W) DDR4-3200	338-BSWN	2	
CYB	Standard Heatsink	412-AASE	2	
CYB	Performance Optimized	370-AAIP	2	
CYB	3200MT/s RDIMMs	370-AEVR	2	
CYB	64GB RDIMM, 3200MT/s, Dual Rank, 16Gb	370-AEVP	24	
CYB	BOSS controller card + with 2 M.2 Sticks 240G (RAID 1),FH	403-BCHP	2	
CYB	C30, No RAID for NVME chassis	780-BCDO	2	
CYB	No Controller	405-AACD	2	

Cat	Item	Part number	Qty	Spare
CYB	No Hard Drive	400-ABHL	2	
CYB	800GB, Enterprise, NVMe, Write Intensive, U2, G4, Intel Optane P5800X with carrier	400-BMUL	4	
CYB	6.4TB Enterprise NVMe Mixed Use AG Drive U.2 Gen4 with carrier	400-BKGI	24	
CYB	UEFI BIOS Boot Mode with GPT Partition	800-BBDM	2	
CYB	No Additional Mid Fan	384-BBSO	2	
CYB	Dual, Hot-plug, Redundant Power Supply (1+1), 1100W	450-ADWM	2	
CYB	European Power Cord 220V	450-AAXU	4	
CYB	Riser Config 2, 2 x 16 FH + 2 x 16 LP PCIe slot	330-BBNL	2	
CYB	PowerEdge R7515 Motherboard, with 2 x 1Gb Onboard LOM (BCM5720)MLK	384-BCUN	2	
CYB	OpenManage Enterprise Advanced	528-BIYY	2	
CYB	iDRAC9, Enterprise 15G	385-BBOT	2	
CYB	Broadcom 57416 Dual Port 10 GbE SFP+ Network LOM Mezz Card	540-BBZE	2	
CYB	Broadcom 57414 Dual Port 10/25GbE SFP28 Adapter, PCIe Low Profile	540-BBVK	2	
CYB	Emulex LPE 31002 Dual Port 16Gb Fibre Channel HBA, PCIe Low Profile	403-BBMB	2	
CYB	PowerEdge 2U Standard Bezel	350-BBWP	2	
CYB	No Quick Sync	350-BBKU	2	
CYB	iDRAC,Legacy Password	379-BCSG	2	
CYB	iDRAC Group Manager, Enabled	379-BCQV	2	
CYB	No Operating System	611-BBBF	2	
CYB	No Media Required	605-BBFN	2	
CYB	OpenManage Integration for VMware vCenter - 1 host increment, 3 year license digitally fulfilled	634-BJBD	2	
CYB	ReadyRails™ Sliding Rails With Cable Management Arm	770-BBBR	2	
CYB	No Systems Documentation, No OpenManage DVD Kit	631-AACK	2	
CYB	PowerEdge R7515 Ship Material	343-BBMU	2	
CYB	PowerEdge R7515 CE,CCC Marking	389-DURZ	2	
CYB	PowerEdge R7515 Shipping EMEA1 (English/French/German/Spanish/Russian/Hebrew)	340-CNWP	2	
CYB	Platinum PSU Configuration	389-EFJU	2	
CYB	No Internal Optical Drive for x10 or greater HDD Chassis	429-AAIQ	2	
CYB	INFO-VSAN READY NODE	821-18369	2	
CYB	Basic Next Business Day 36 Months, 36 Month(s)	709-BBIL	2	
CYB	ProSupport and Next Business Day Onsite Service, 36 Month(s)	865-BBMY	2	
CYB	Keep Your Hard Drive For Enterprise, 36 Month(s)	711-BBIY	2	
CYB	No Installation Service Selected (Contact Sales rep for more details)	683-11870	2	
CYB	Dell compatible OPTICAL 10 Gb optical SFP+ SR	SFP-10GE-SR	12	
CYB	**NCDP KVM NU**			
CYB	Dell Digital 16 Port KVM Switch	[A7485893] / A7485893	1	
CYB	DMPUIQ-VMCHS Server Interface Pod for VGA,USB keyboard,mouse supporting virtual media,CAC,USB2.0	[A7485901] / A7485901	16	

Cat	Item	Part number	Qty	Spare
CYB	DMPUIQ-SRL: Serial Interface Pod for digital switches	[A7485902] / A7485902	1	
CYB	Dell 0U mounting bracket for the DMPU and DAV KVMs mounted vertically using square hole racks.	[A7485899] / A7485899	1	
CYB	3 Year Gold DMPU2016 Hardware Maintenance by Avocent	[A7547290] / A7547290	1	
CYB	Dell LED KMM, 18.5", 1U, International English Keyboard - DKMMLED185 - 001	DKMMLED185 - 001	1	
CYB	**Tier 3 Analyst Workstation NU**			
CYB	Dell Optiplex 7080 SFF		1	
CYB	OptiPlex 7000 Small Form Factor			
CYB	12th Gen Intel® Core™ i5-12500 (18 MB cache, 6 cores, 12 threads, 3.00 GHz to 4.60 GHz Turbo, 65 W)			
CYB	Windows 10 Pro (Windows 11 Pro license included), English, French, Spanish			
CYB	8 GB, 1 x 8 GB, DDR4			
CYB	256 GB, M.2 2230, PCIe NVMe, SSD, Class 35			
CYB	No Additional Hard Drive			
CYB	Intel® Integrated Graphics			
CYB	No Optical Drive			
CYB	No Media Card Reader			
CYB	~~Intel Wi-Fi 6E 2x2 AX211 Bluetooth 5.2 Wireless Card with Internal Antenna~~			
CYB	~~Wireless Driver, Intel AX211~~			
CYB	Optional Serial Port			
CYB	240 W internal power supply unit (PSU), 85% Efficient, 80 Plus Bronze			
CYB	Dell KB216 Wired Keyboard English, US			
CYB	Dell Optical Mouse - MS116 (Black)			
CYB	No Cable Cover			
CYB	No Additional Cable			
CYB	No External Speaker			
CYB	No Stand or Mount			
CYB	Dell Applications Windows 10 & 11 DGR with Dell Optimizer, IRST			
CYB	OS-Windows Media Not Included			
CYB	ENERGY STAR Qualified			
CYB	NO RAID			
CYB	System Power Cord (EU)			
CYB	Safety/Environment and Regulatory Guide (English/French Multi-language)			
CYB	Dell Watchdog Timer			
CYB	Quick Start Guide			
CYB	Print on Demand Label			
CYB	Trusted Platform Module (Discrete TPM Enabled)			
CYB	Shipping Material			
CYB	PowerDVD Software not included			

Cat	Item	Part number	Qty	Spare
CYB	Regulatory Label for OptiPlex 7000 SFF 240W			
CYB	M.2 Caddy			
CYB	Intel Core i5 vPro Enterprise Processor Label			
CYB	BTS/BTP Shipment			
CYB	7000SFF_1H23_004D/US/BTS			
CYB	Internal Speaker			
CYB	No Additional Network Card Selected (Integrated NIC included)			
CYB	No Additional Video Ports			
CYB	No Additional Add In Cards			
CYB	EPEAT 2018 Registered (Gold)			
CYB	Intel vPro® Enterprise			
CYB	No AutoPilot			
CYB	3 Years Hardware Service with Onsite/In-Home Service After Remote Diagnosis			
CYB	No Microsoft Office License included			
CYB	No anti-virus software			
CYB	Dell SFF server rack mount			
CYB	**NCDP Virtualization Software NS**			
CYB	Red Hat Enterprise Linux Server, Standard (1 Physical Per Socket Pair or 2 Virtual Nodes) 3 year		11	
CYB	**Tier 2 uplift**			
CYB	Dell Controller DD6900 NFS CIFS[PowerProtect DD6900]		1	
CYB	*Components*			
CYB	SYSTEM DD6900 NFS CIFS	321-BEYX	1	
CYB	DD 1.92TB internal Cache SSD	400-BHKT	2	
CYB	DD 10GBASE-T IO MODULE 4PORT NDC	406-BBPC	1	
CYB	DD 12G 4 port SAS HBA	406-BBPF	2	
CYB	DD 10GSFP IO MODULE 4Port Full Height	406-BBPD	2	
CYB	XCVR 10GbE SR SFP	407-BCHR	4	
CYB	DD 3M SAS HD FLEX	470-ADZE	1	
CYB	ProSupport Plus Mission Critical Operating Environment Software Support Maintenance, 60 Month(s)	487-BBNY	1	
CYB	Education Services - Dell EMC Proven Professional Exam Voucher Expire1YR	423-10139	1	
CYB	DD6900 Field Install kit	750-ABNU	1	
CYB	LICENSE BASE DD OE =IA	528-BYIF	1	
CYB	Software			
CYB	DD OS 7.2=IA	619-APHZ	1	
CYB	*Service*			
CYB	ProDeploy Plus for PowerProtect Data Domain 6XXX 9XXX	683-23696	1	
CYB	*ProDeploy Plus for PowerProtect Data Domain 6XXX 9XXX Deployment Verification*	683-23697	1	

Cat	Item	Part number	Qty	Spare
CYB	Education Services - PowerProtect DD Systems Admin Instructor Led Training	423-10095	1	
CYB	Parts Only Warranty 12 Months, 12 Month(s)	709-BBNH	1	
CYB	*ProSupport Plus and 4Hr Mission Critical Initial, 12 Month(s)*	199-BBBF	1	
CYB	ProSupport Plus and 4Hr Mission Critical Extension, 48 Month(s)	199-BBBG	1	
CYB	DD DS60 SHELF Field[PowerProtect DD 4TB DS60 - 120TB		1	
CYB	*Components*			
CYB	HDD 12G DISK PK 15X4TB SAS FL DS60	400-BMDQ	1	
CYB	ProSupport Plus Mission Critical DD New 1TB Software Support Maintenance, 60 months	487-BBNI	60	
CYB	ProSupport Plus Mission Critical DD Boost 1TB Software Support Maintenance, 60 months	487-BBMZ	60	
CYB	ProSupport Plus Mission Critical DD Replication 1TB Software Support, Maintenance, 60 Month(s)	487-BBNE	60	
CYB	DD New Software 1TB Raw=CB	528-BYIR	60	
CYB	DS60 4TB Active 1TB Raw=CB	528-CQOF	60	
CYB	DD Boost Software 1TB Raw=CB	528-BYIS	60	
CYB	DD Replication Software 1TB Raw=CB	528-BYIT	60	
CYB	Service			
CYB	*ProSupport PLUS Mission Critical DD Raw DS60 4TB Active 1TB Sftwr Spt-Maint, 60 Month(s)*	487-BHRY	60	
CYB	ProDeploy Plus for DSXX	683-23660	1	
CYB	ProDeploy Plus for DSXX Deployment Verification	683-23661	1	
CYB	Parts Only Warranty 12 Months, 12 Month(s)	709-BBNH	1	
CYB	ProSupport Plus and 4Hr Mission Critical Initial, 12 Month(s)	199-BBBF	1	
CYB	ProSupport Plus and 4Hr Mission Critical Extension, 48 Month(s)	199-BBBG	1	
CYB	DD Spare Base[DD6900 FC Card]	210-BCLU	1	
CYB	UPG 16GBIT FC IO Module 4PORT	406-BBQH	1	
CYB	XCVR 16GFC SFP	407-BCHS	4	
NS	**NS distribution**			
NS	**NS DC Layer**			
NS	Nexus 9300 with 28p 100G and 8p 400G	N9K-C93600CD-GX	2	
NS	SNTC-24X7X4 Nexus 9300 with 28p 100G and 8p 400G	CON-SNTP-N9KC936G	2	
NS	Dummy PID for Airflow Selection Port-side Exhaust	NXK-AF-PE	2	
NS	Nexus 3K/9K Fixed Accessory Kit, 1RU front and rear removal	NXK-ACC-KIT-1RU	2	
NS	Nexus Fan, 35CFM, port side exhaust airflow	NXA-FAN-35CFM-PE	12	
NS	Nexus AC 1100W PSU - Port Side Exhaust	NXA-PAC-1100W-PE2	4	
NS	Cabinet Jumper Power Cord, 250 VAC 10A, C14-C13 Connectors	CAB-C13-CBN	4	
NS	OPT OUT FOR "Default" DCN Subscription Selection	C1-SUBS-OPTOUT	2	
NS	Dummy PID for mode selection	MODE-NXOS	2	
NS	Nexus 9500, 9300 Base NX-OS Software Rel 10.2.1(64-bit)	NXOS-64-10.2.1F	2	
NS	10GBASE-SR SFP Module	SFP-10G-SR=	20	

Cat	Item	Part number	Qty	Spare
NS	10GBASE-LR SFP Module	SFP-10G-LR=	12	
NS	**NS Core Layer**			
NS	Catalyst 9500 48-port x 1/10/25G + 4-port 40/100G, Advantage	C9500-48Y4C-A	2	
NS	Cisco pluggable SSD storage	C9K-F1-SSD-BLANK	2	
NS	Catalyst 9500 Type 4 front to back cooling Fan	C9K-T1-FANTRAY	4	
NS	C9500 Network Stack, Advantage	C9500-NW-A	2	
NS	Cisco Catalyst 9500H XE.17.5 UNIVERSAL	SC9500HUK9-175	2	
NS	No SSD Card Selected	C9500-SSD-NONE	2	
NS	650W AC Config 4 Power Supply front to back cooling	C9K-PWR-650WAC-R	2	
NS	650W AC Config 4 Power Supply front to back cooling	C9K-PWR-650WAC-R/2	2	
NS	Power Cord Jumper, C13-C14 Connectors, 2 Meter Length	CAB-C13-C14-2M	4	
NS	C9500 DNA Advantage, Term License	C9500-DNA-48Y4C-A	2	
NS	Prime Infrastructure Lifecycle & Assurance Term - Smart Lic	PI-LFAS-T	6	
NS	Network Plug-n-Play Connect for zero-touch device deployment	NETWORK-PNP-LIC	2	
NS	10GBASE-SR SFP Module	SFP-10G-SR=	16	
NS	10GBASE-LR SFP Module	SFP-10G-LR=	12	
NS	SOLN SUPP 8X5XNBD Catalyst 9500 48-port 25/100G only, Adva	CON-SSSNT-C9504YA4	2	
NS	SOLN SUPP SW SUBC9500 DNA Advantage	CON-SSTCM-C9524QA	2	
NS	Cisco Catalyst 9500 DNA Advantage 3 Year License	C9500-DNA-A-3Y	2	
NS	PI Dev Lic for Lifecycle & Assurance Term 3Y	PI-LFAS-AP-T-3Y	6	
NS	**NS Distribution layer**			
NS	Catalyst 9500 24x1/10/25G and 4-port 40/100G, Advantage	C9500-24Y4C-A	2	
NS	SNTC-24X7X4 Catalyst 9500 24-port 25/100G only, Adva	CON-SNTP-C95024YA	2	
NS	C9500 Network Stack, Advantage	C9500-NW-A	2	
NS	UNIVERSAL	S9500UK9-169	2	
NS	650W AC Config 4 Power Supply front to back cooling	C9K-PWR-650WAC-R	2	
NS	650W AC Config 4 Power Supply front to back cooling	C9K-PWR-650WAC-R/2	2	
NS	Power Cord, 250VAC 10A CEE 7/7 Plug, EU	CAB-9K10A-EU	4	
NS	Cisco pluggable SSD storage	C9K-F1-SSD-BLANK	2	
NS	Catalyst 9500 Type 4 front to back cooling Fan	C9K-T1-FANTRAY	4	
NS	C9500 DNA Premier, 24Y4C Port , Term License	C9500-DNA-24Y4C-P	2	
NS	C9500 DNA Premier 12Q/16X / 24Y4C 3Year Term License	C9500-DNA-L-P-3Y	2	
NS	ISE BASE Term License	ISE-BASE-T	50	
NS	ISE BASE Tracker Term 3Y	ISE-BASE-TRK-3Y	50	
NS	ISE PLS Term License	ISE-PLS-T	50	
NS	ISE PLS Tracker Term 3Y	ISE-PLS-TRK-3Y	50	
NS	StealthWatch 1 FPS Term License	SWATCH-T	200	

Cat	Item	Part number	Qty	Spare
NS	ISE BASE Tracker Term 3Y	SWATCH-TRK-3Y	200	
NS	Prime Infrastructure Lifecycle & Assurance Term - Smart Lic	PI-LFAS-T	6	
NS	PI Dev Lic for Lifecycle & Assurance Term 3Y	PI-LFAS-AP-T-3Y	6	
NS	Network Plug-n-Play Connect for zero-touch device deployment	NETWORK-PNP-LIC	2	
NS	10GBASE-SR SFP Module	SFP-10G-SR=	0	
NS	10GBASE-LR SFP Module	SFP-10G-LR=	8	
NS	**NS Access Layer**			
NS	Catalyst 9300 48 GE SFP Ports, modular uplink Switch	C9300-48S-A	24	
NS	C9300 Network Advantage, 48-port license	C9300-NW-A-48	24	
NS	Cisco Catalyst 9300 XE 16.12 UNIVERSAL	S9300UK9-1612	24	
NS	715W AC 80+ platinum Config 1 Power Supply	PWR-C1-715WAC-P	24	
NS	715W AC 80+ platinum Config 1 SecondaryPower Supply	PWR-C1-715WAC-P/2	24	
NS	Cabinet Jumper Power Cord, 250 VAC 13A, C14-C15 Connectors	CAB-C15-CBN	48	
NS	Catalyst 9300 8 x 10GE Network Module	C9300-NM-8X	24	
NS	50CM Type 1 Stacking Cable	STACK-T1-50CM	24	
NS	1M Type 1 Stacking Cable	STACK-T1-1M	12	
NS	Catalyst Stack Power Cable 30 CM	CAB-SPWR-30CM	0	
NS	Catalyst Stack Power Cable 150 CM	CAB-SPWR-150CM	0	
NS	C9300 DNA Advantage, 48-Port Fiber Term Licenses	C9300-DNA-A-48S	24	
NS	Cisco ThousandEyes Enterprise Agent IBN Embedded	TE-EMBEDDED-T	24	
NS	Prime Infrastructure Lifecycle & Assurance Term - Smart Lic	PI-LFAS-T	24	
NS	Network Plug-n-Play Connect for zero-touch device deployment	NETWORK-PNP-LIC	24	
NS	1000BASE-T SFP transceiver module for Category 5 copper wire	GLC-TE=	8	
NS	100BASE-FX SFP for GE SFP port on 3750,3560.2970,2960	GLC-GE-100FX=	0	
NS	1000BASE-SX SFP transceiver module, MMF, 850nm, DOM	GLC-SX-MMD=	550	
NS	1000BASE-LX/LH SFP transceiver module, MMF/SMF, 1310nm, DOM	GLC-LH-SMD=	8	
NS	10GBASE-SR SFP Module	SFP-10G-SR=	0	
NS	10GBASE-LR SFP Module	SFP-10G-LR=	40	
NS	SOLN SUPP 8X5XNBD Catalyst 9300 48 GE SFP Ports, modular u	CON-SSSNT-C93004SA	24	
NS	SOLN SUPP SW SUBC9300 DNA Advantage	CON-SSTCM-C93A48S	24	
NS	C9300 DNA Advantage, 48-Port Fiber, 3 Year Term License	C9300-DNA-A-48S-3Y	24	
NS	ThousandEyes - Enterprise Agents	TE-EMBEDDED-T-3Y	24	
NS	PI Dev Lic for Lifecycle & Assurance Term 3Y	PI-LFAS-AP-T-3Y	24	
NS	**NS External SW**			
NS	Catalyst 9500 24x1/10/25G and 4-port 40/100G, Advantage	C9500-24Y4C-A	2	
NS	SNTC-24X7X4 Catalyst 9500 24-port 25/100G only, Adva	CON-SNTP-C95024YA	2	
NS	C9500 Network Stack, Advantage	C9500-NW-A	2	

Cat	Item	Part number	Qty	Spare
NS	UNIVERSAL	S9500UK9-169	2	
NS	650W AC Config 4 Power Supply front to back cooling	C9K-PWR-650WAC-R	2	
NS	650W AC Config 4 Power Supply front to back cooling	C9K-PWR-650WAC-R/2	2	
NS	Power Cord, 250VAC 10A CEE 7/7 Plug, EU	CAB-9K10A-EU	4	
NS	Cisco pluggable SSD storage	C9K-F1-SSD-BLANK	2	
NS	Catalyst 9500 Type 4 front to back cooling Fan	C9K-T1-FANTRAY	4	
NS	C9500 DNA Premier, 24Y4C Port , Term License	C9500-DNA-24Y4C-P	2	
NS	C9500 DNA Premier 12Q/16X / 24Y4C 3Year Term License	C9500-DNA-L-P-3Y	2	
NS	ISE BASE Term License	ISE-BASE-T	50	
NS	ISE BASE Tracker Term 3Y	ISE-BASE-TRK-3Y	50	
NS	ISE PLS Term License	ISE-PLS-T	50	
NS	ISE PLS Tracker Term 3Y	ISE-PLS-TRK-3Y	50	
NS	StealthWatch 1 FPS Term License	SWATCH-T	200	
NS	ISE BASE Tracker Term 3Y	SWATCH-TRK-3Y	200	
NS	Prime Infrastructure Lifecycle & Assurance Term - Smart Lic	PI-LFAS-T	6	
NS	PI Dev Lic for Lifecycle & Assurance Term 3Y	PI-LFAS-AP-T-3Y	6	
NS	Network Plug-n-Play Connect for zero-touch device deployment	NETWORK-PNP-LIC	2	
NS	10GBASE-SR SFP Module	SFP-10G-SR=	20	
NS	10GBASE-LR SFP Module	SFP-10G-LR=	20	
NS	**NS DSMS**			
NS	Catalyst 9300 24-port data only, Network Advantage	C9300-24T-A	3	
NS	C9300 Network Advantage, 24-port license	C9300-NW-A-24	3	
NS	Cisco Catalyst 9300 XE 17.5 UNIVERSAL UNIVERSAL	SC9300UK9-175	3	
NS	350W AC 80+ platinum Config 1 Power Supply	PWR-C1-350WAC-P	3	
NS	350W AC 80+ platinum Config 1 Secondary Power Supply	PWR-C1-350WAC-P/2	3	
NS	Cabinet Jumper Power Cord, 250 VAC 13A, C14-C15 Connectors	CAB-C15-CBN	6	
NS	No SSD Card Selected	C9300-SSD-NONE	3	
NS	No Stack Cable Selected	C9300-STACK-NONE	3	
NS	No Stack Power Cable Selected	C9300-SPWR-NONE	3	
NS	TE agent for IOSXE on C9K	TE-C9K-SW	3	
NS	C9300 DNA Advantage, 24-port Term Licenses	C9300-DNA-A-24	3	
NS	Prime Infrastructure Lifecycle & Assurance Term - Smart Lic	PI-LFAS-T	3	
NS	Cisco DNA Spaces Extend Term License for Catalyst Switches	D-DNAS-EXT-S-T	3	
NS	Cisco ThousandEyes Enterprise Agent IBN Embedded	TE-EMBEDDED-T	3	
NS	Catalyst 9300 4 x 1GE Network Module	C9300-NM-4G	3	
NS	Network Plug-n-Play Connect for zero-touch device deployment	NETWORK-PNP-LIC	3	
NS	SOLN SUPP 8X5XNBD Catalyst 9300 24-port data only, Network	CON-SSSNT-C93002TA	3	

Cat	Item	Part number	Qty	Spare
NS	SOLN SUPP SW SUBC9300 DNA Advantage	CON-SSTCM-C93A24	3	
NS	C9300 DNA Advantage, 24-Port, 3 Year Term License	C9300-DNA-A-24-3Y	3	
NS	PI Dev Lic for Lifecycle & Assurance Term 3Y	PI-LFAS-AP-T-3Y	3	
NS	Cisco DNA Spaces Extend for Catalyst Switching - 3Year	D-DNAS-EXT-S-3Y	3	
NS	ThousandEyes - Enterprise Agents	TE-EMBEDDED-T-3Y	3	
NS	1000BASE-LX/LH SFP transceiver module, MMF/SMF, 1310nm, DOM	GLC-LH-SMD=	3	
NS	1000BASE-SX SFP transceiver module, MMF, 850nm, DOM	GLC-SX-MMD=	3	
NS	**RECN-NS**			
NS	Cisco Catalyst C8200-1N-4T Router	C8200-1N-4T	3	
NS	Cisco Catalyst 8200 Edge 16GB memory	MEM-C8200-16GB	3	
NS	Cisco Catalyst 8000 Edge M.2 USB 16GB	M2USB-16G	3	
NS	AC Power Cord (Europe), C13, CEE 7, 1.5M	CAB-ACE	3	
NS	Cisco Catalyst 8000 Edge RFID - 1RU	C-RFID-1R	3	
NS	U.S. Export Restriction Compliance license for C8000 series	C8000-HSEC	3	
NS	Cisco Catalyst 8200 Rack mount kit - 19" 1R	C8200-RM-19-1R	3	
NS	Network Plug-n-Play Connect for zero-touch device deployment	NETWORK-PNP-LIC	3	
NS	Cisco Catalyst 8200 Edge NIM Blank	C8200-NIM-BLANK	3	
NS	Cisco Catalyst 8200 Edge PIM Blank	C8200-PIM-BLANK	3	
NS	TE agent for IOSXE on Enterprise Routing	TE-R-SW	3	
NS	IOS XE Autonomous boot up mode for Unified image	IOSXE-AUTO-MODE	3	
NS	UNIVERSAL	SC8KBEUK9-176	3	
NS	1000BASE-SX SFP transceiver module, MMF, 850nm, DOM	GLC-SX-MMD	12	
NS	1000BASE-LX/LH SFP transceiver module, MMF/SMF, 1310nm, DOM	GLC-LH-SMD	12	
NS	Cisco DNA Advantage On-Prem Lic 3Y - upto 1G (Aggr, 2G)	DNA-P-T2-A-3Y	3	
NS	Solution Support for SW - DNA Advantage OnPrem Lic, T2, 3Y	SVS-PDNA-T2-A3Y	3	
NS	Cisco DNA Advantage Stack - upto 1G (Aggr, 2G)	DSTACK-T2-A	3	
NS	Cisco Network Advantage Stack - upto 1G (Aggr, 2G)	NWSTACK-T2-A	3	
NS	Cisco Umbrella for DNA Advantage	SDWAN-UMB-ADV	3	
NS	Cisco DNA Center On Prem Deployment Option for WAN	DNAC-ONPREM-PF	3	
NS	SOLN SUPP 24X7X4 Cisco Catalyst C8200	CON-SSSNP-C82001N4	3	
NU	**NU distribution**			
NU	**NU DC Layer**			
NU	Nexus 9300 with 28p 100G and 8p 400G	N9K-C93600CD-GX	2	
NU	SNTC-24X7X4 Nexus 9300 with 28p 100G and 8p 400G	CON-SNTP-N9KC936G	2	
NU	Dummy PID for Airflow Selection Port-side Exhaust	NXK-AF-PE	2	
NU	Nexus 3K/9K Fixed Accessory Kit, 1RU front and rear removal	NXK-ACC-KIT-1RU	2	
NU	Nexus Fan, 35CFM, port side exhaust airflow	NXA-FAN-35CFM-PE	12	

Cat	Item	Part number	Qty	Spare
NU	Nexus AC 1100W PSU - Port Side Exhaust	NXA-PAC-1100W-PE2	4	
NU	Cabinet Jumper Power Cord, 250 VAC 10A, C14-C13 Connectors	CAB-C13-CBN	4	
NU	OPT OUT FOR "Default" DCN Subscription Selection	C1-SUBS-OPTOUT	2	
NU	Dummy PID for mode selection	MODE-NXOS	2	
NU	Nexus 9500, 9300 Base NX-OS Software Rel 10.2.1(64-bit)	NXOS-64-10.2.1F	2	
NU	10GBASE-SR SFP Module	SFP-10G-SR=	20	
NU	10GBASE-LR SFP Module	SFP-10G-LR=	12	
NU	10GBASE-SR SFP Module	SFP-10G-SR=	24	
NU	40GBASE-CR4 Passive Copper Cable, 1m	QSFP-H40G-CU1M	12	
NU	**NU Core Layer**			
NU	Catalyst 9500 48-port x 1/10/25G + 4-port 40/100G, Advantage	C9500-48Y4C-A	2	
NU	Cisco pluggable SSD storage	C9K-F1-SSD-BLANK	2	
NU	Catalyst 9500 Type 4 front to back cooling Fan	C9K-T1-FANTRAY	4	
NU	C9500 Network Stack, Advantage	C9500-NW-A	2	
NU	Cisco Catalyst 9500H XE.17.5 UNIVERSAL	SC9500HUK9-175	2	
NU	No SSD Card Selected	C9500-SSD-NONE	2	
NU	650W AC Config 4 Power Supply front to back cooling	C9K-PWR-650WAC-R	2	
NU	650W AC Config 4 Power Supply front to back cooling	C9K-PWR-650WAC-R/2	2	
NU	Power Cord Jumper, C13-C14 Connectors, 2 Meter Length	CAB-C13-C14-2M	4	
NU	C9500 DNA Advantage, Term License	C9500-DNA-48Y4C-A	2	
NU	Prime Infrastructure Lifecycle & Assurance Term - Smart Lic	PI-LFAS-T	6	
NU	Network Plug-n-Play Connect for zero-touch device deployment	NETWORK-PNP-LIC	2	
NU	10GBASE-SR SFP Module	SFP-10G-SR=	16	
NU	10GBASE-LR SFP Module	SFP-10G-LR=	12	
NU	SOLN SUPP 8X5XNBD Catalyst 9500 48-port 25/100G only, Adva	CON-SSSNT-C9504YA4	2	
NU	SOLN SUPP SW SUBC9500 DNA Advantage	CON-SSTCM-C9524QA	2	
NU	Cisco Catalyst 9500 DNA Advantage 3 Year License	C9500-DNA-A-3Y	2	
NU	PI Dev Lic for Lifecycle & Assurance Term 3Y	PI-LFAS-AP-T-3Y	6	
NU	**NU Distribution layer**			
NU	Catalyst 9500 24x1/10/25G and 4-port 40/100G, Advantage	C9500-24Y4C-A	2	
NU	SNTC-24X7X4 Catalyst 9500 24-port 25/100G only, Adva	CON-SNTP-C95024YA	2	
NU	C9500 Network Stack, Advantage	C9500-NW-A	2	
NU	UNIVERSAL	S9500UK9-169	2	
NU	650W AC Config 4 Power Supply front to back cooling	C9K-PWR-650WAC-R	2	
NU	650W AC Config 4 Power Supply front to back cooling	C9K-PWR-650WAC-R/2	2	
NU	Power Cord, 250VAC 10A CEE 7/7 Plug, EU	CAB-9K10A-EU	4	
NU	Cisco pluggable SSD storage	C9K-F1-SSD-BLANK	2	

Cat	Item	Part number	Qty	Spare
NU	Catalyst 9500 Type 4 front to back cooling Fan	C9K-T1-FANTRAY	4	
NU	C9500 DNA Premier, 24Y4C Port , Term License	C9500-DNA-24Y4C-P	2	
NU	C9500 DNA Premier 12Q/16X / 24Y4C 3Year Term License	C9500-DNA-L-P-3Y	2	
NU	ISE BASE Term License	ISE-BASE-T	50	
NU	ISE BASE Tracker Term 3Y	ISE-BASE-TRK-3Y	50	
NU	ISE PLS Term License	ISE-PLS-T	50	
NU	ISE PLS Tracker Term 3Y	ISE-PLS-TRK-3Y	50	
NU	StealthWatch 1 FPS Term License	SWATCH-T	200	
NU	ISE BASE Tracker Term 3Y	SWATCH-TRK-3Y	200	
NU	Prime Infrastructure Lifecycle & Assurance Term - Smart Lic	PI-LFAS-T	6	
NU	PI Dev Lic for Lifecycle & Assurance Term 3Y	PI-LFAS-AP-T-3Y	6	
NU	Network Plug-n-Play Connect for zero-touch device deployment	NETWORK-PNP-LIC	2	
NU	10GBASE-SR SFP Module	SFP-10G-SR=	0	
NU	10GBASE-LR SFP Module	SFP-10G-LR=	8	
NU	**NU Access Layer**			
NU	Catalyst 9300 48-port PoE+, Network Advantage	C9300-48P-A	32	
NU	C9300 Network Advantage, 48-port license	C9300-NW-A-48	32	
NU	Cisco Catalyst 9300 XE 17.5 UNIVERSAL UNIVERSAL	SC9300UK9-175	32	
NU	715W AC 80+ platinum Config 1 Power Supply	PWR-C1-715WAC-P	32	
NU	715W AC 80+ platinum Config 1 SecondaryPower Supply	PWR-C1-715WAC-P/2	32	
NU	Cabinet Jumper Power Cord, 250 VAC 13A, C14-C15 Connectors	CAB-C15-CBN	64	
NU	No SSD Card Selected	C9300-SSD-NONE	32	
NU	50CM Type 1 Stacking Cable	STACK-T1-50CM	28	
NU	100CM Type 1 Stacking Cable	STACK-T1-1M	6	
NU	No Stack Power Cable Selected	C9300-SPWR-NONE	32	
NU	TE agent for IOSXE on C9K	TE-C9K-SW	32	
NU	C9300 DNA Advantage, 48-Port Term Licenses	C9300-DNA-A-48	32	
NU	Cisco DNA Premier Add-On Session Opt Out (No Fulfillment)	C1-ADD-OPTOUT	32	
NU	Prime Infrastructure Lifecycle & Assurance Term - Smart Lic	PI-LFAS-T	32	
NU	Cisco DNA Spaces Extend Term License for Catalyst Switches	D-DNAS-EXT-S-T	32	
NU	Cisco ThousandEyes Enterprise Agent IBN Embedded	TE-EMBEDDED-T	32	
NU	Catalyst 9300 8 x 10GE Network Module	C9300-NM-8X	32	
NU	Network Plug-n-Play Connect for zero-touch device deployment	NETWORK-PNP-LIC	32	
NU	1000BASE-T SFP transceiver module for Category 5 copper wire	GLC-TE=	0	
NU	100BASE-FX SFP for GE SFP port on 3750,3560.2970,2960	GLC-GE-100FX=	0	
NU	1000BASE-SX SFP transceiver module, MMF, 850nm, DOM	GLC-SX-MMD=	24	
NU	1000BASE-LX/LH SFP transceiver module, MMF/SMF, 1310nm, DOM	GLC-LH-SMD=	10	

Cat	Item	Part number	Qty	Spare
NU	10GBASE-SR SFP Module	SFP-10G-SR=	18	
NU	10GBASE-LR SFP Module	SFP-10G-LR=	42	
NU	SOLN SUPP 8X5XNBD Catalyst 9300 48-port PoE+, Network Adva	CON-SSSNT-C93004PA	32	
NU	SOLN SUPP SW SUBC9300 DNA Advantage	CON-SSTCM-C93A48	32	
NU	C9300 DNA Advantage, 48-Port, 3 Year Term License	C9300-DNA-A-48-3Y	32	
NU	PI Dev Lic for Lifecycle & Assurance Term 3Y	PI-LFAS-AP-T-3Y	32	
NU	Cisco DNA Spaces Extend for Catalyst Switching - 3Year	D-DNAS-EXT-S-3Y	32	
NU	ThousandEyes - Enterprise Agents	TE-EMBEDDED-T-3Y	32	
NU	**NU External SW**			
NU	Catalyst 9500 24x1/10/25G and 4-port 40/100G, Advantage	C9500-24Y4C-A	2	
NU	SNTC-24X7X4 Catalyst 9500 24-port 25/100G only, Adva	CON-SNTP-C95024YA	2	
NU	C9500 Network Stack, Advantage	C9500-NW-A	2	
NU	UNIVERSAL	S9500UK9-169	2	
NU	650W AC Config 4 Power Supply front to back cooling	C9K-PWR-650WAC-R	2	
NU	650W AC Config 4 Power Supply front to back cooling	C9K-PWR-650WAC-R/2	2	
NU	Power Cord, 250VAC 10A CEE 7/7 Plug, EU	CAB-9K10A-EU	4	
NU	Cisco pluggable SSD storage	C9K-F1-SSD-BLANK	2	
NU	Catalyst 9500 Type 4 front to back cooling Fan	C9K-T1-FANTRAY	4	
NU	C9500 DNA Premier, 24Y4C Port , Term License	C9500-DNA-24Y4C-P	2	
NU	C9500 DNA Premier 12Q/16X / 24Y4C 3Year Term License	C9500-DNA-L-P-3Y	2	
NU	ISE BASE Term License	ISE-BASE-T	50	
NU	ISE BASE Tracker Term 3Y	ISE-BASE-TRK-3Y	50	
NU	ISE PLS Term License	ISE-PLS-T	50	
NU	ISE PLS Tracker Term 3Y	ISE-PLS-TRK-3Y	50	
NU	StealthWatch 1 FPS Term License	SWATCH-T	200	
NU	ISE BASE Tracker Term 3Y	SWATCH-TRK-3Y	200	
NU	Prime Infrastructure Lifecycle & Assurance Term - Smart Lic	PI-LFAS-T	6	
NU	PI Dev Lic for Lifecycle & Assurance Term 3Y	PI-LFAS-AP-T-3Y	6	
NU	Network Plug-n-Play Connect for zero-touch device deployment	NETWORK-PNP-LIC	2	
NU	10GBASE-SR SFP Module	SFP-10G-SR=	20	
NU	10GBASE-LR SFP Module	SFP-10G-LR=	20	
NU	**T10x NU Distribution**			
NU	Catalyst 9300 48-port PoE+, Network Advantage	C9300-48P-A	2	
NU	C9300 Network Advantage, 48-port license	C9300-NW-A-48	2	
NU	Cisco Catalyst 9300 XE 17.5 UNIVERSAL UNIVERSAL	SC9300UK9-175	2	
NU	715W AC 80+ platinum Config 1 Power Supply	PWR-C1-715WAC-P	2	
NU	715W AC 80+ platinum Config 1 SecondaryPower Supply	PWR-C1-715WAC-P/2	2	

Cat	Item	Part number	Qty	Spare
NU	Cabinet Jumper Power Cord, 250 VAC 13A, C14-C15 Connectors	CAB-C15-CBN	4	
NU	No SSD Card Selected	C9300-SSD-NONE	2	
NU	50CM Type 1 Stacking Cable	STACK-T1-50CM	2	
NU	100CM Type 1 Stacking Cable	STACK-T1-1M	0	
NU	No Stack Power Cable Selected	C9300-SPWR-NONE	2	
NU	TE agent for IOSXE on C9K	TE-C9K-SW	2	
NU	C9300 DNA Advantage, 48-Port Term Licenses	C9300-DNA-A-48	2	
NU	Cisco DNA Premier Add-On Session Opt Out (No Fulfillment)	C1-ADD-OPTOUT	2	
NU	Prime Infrastructure Lifecycle & Assurance Term - Smart Lic	PI-LFAS-T	2	
NU	Cisco DNA Spaces Extend Term License for Catalyst Switches	D-DNAS-EXT-S-T	2	
NU	Cisco ThousandEyes Enterprise Agent IBN Embedded	TE-EMBEDDED-T	2	
NU	Catalyst 9300 8 x 10GE Network Module	C9300-NM-8X	2	
NU	Network Plug-n-Play Connect for zero-touch device deployment	NETWORK-PNP-LIC	2	
NU	1000BASE-T SFP transceiver module for Category 5 copper wire	GLC-TE=	20	
NU	100BASE-FX SFP for GE SFP port on 3750,3560.2970,2960	GLC-GE-100FX=	0	
NU	1000BASE-SX SFP transceiver module, MMF, 850nm, DOM	GLC-SX-MMD=	2	
NU	1000BASE-LX/LH SFP transceiver module, MMF/SMF, 1310nm, DOM	GLC-LH-SMD=	10	
NU	10GBASE-SR SFP Module	SFP-10G-SR=	0	
NU	10GBASE-LR SFP Module	SFP-10G-LR=	4	
NU	SOLN SUPP 8X5XNBD Catalyst 9300 48-port PoE+, Network Adva	CON-SSSNT-C93004PA	2	
NU	SOLN SUPP SW SUBC9300 DNA Advantage	CON-SSTCM-C93A48	2	
NU	C9300 DNA Advantage, 48-Port, 3 Year Term License	C9300-DNA-A-48-3Y	2	
NU	PI Dev Lic for Lifecycle & Assurance Term 3Y	PI-LFAS-AP-T-3Y	2	
NU	Cisco DNA Spaces Extend for Catalyst Switching - 3Year	D-DNAS-EXT-S-3Y	2	
NU	ThousandEyes - Enterprise Agents	TE-EMBEDDED-T-3Y	2	
NU	**NU DSMS**			
NU	Catalyst 9300 24-port data only, Network Advantage	C9300-24T-A	3	
NU	C9300 Network Advantage, 24-port license	C9300-NW-A-24	3	
NU	Cisco Catalyst 9300 XE 17.5 UNIVERSAL UNIVERSAL	SC9300UK9-175	3	
NU	350W AC 80+ platinum Config 1 Power Supply	PWR-C1-350WAC-P	3	
NU	350W AC 80+ platinum Config 1 Secondary Power Supply	PWR-C1-350WAC-P/2	3	
NU	Cabinet Jumper Power Cord, 250 VAC 13A, C14-C15 Connectors	CAB-C15-CBN	6	
NU	No SSD Card Selected	C9300-SSD-NONE	3	
NU	No Stack Cable Selected	C9300-STACK-NONE	3	
NU	No Stack Power Cable Selected	C9300-SPWR-NONE	3	
NU	TE agent for IOSXE on C9K	TE-C9K-SW	3	
NU	C9300 DNA Advantage, 24-port Term Licenses	C9300-DNA-A-24	3	

Cat	Item	Part number	Qty	Spare
NU	Prime Infrastructure Lifecycle & Assurance Term - Smart Lic	PI-LFAS-T	3	
NU	Cisco DNA Spaces Extend Term License for Catalyst Switches	D-DNAS-EXT-S-T	3	
NU	Cisco ThousandEyes Enterprise Agent IBN Embedded	TE-EMBEDDED-T	3	
NU	Catalyst 9300 4 x 1GE Network Module	C9300-NM-4G	3	
NU	Network Plug-n-Play Connect for zero-touch device deployment	NETWORK-PNP-LIC	3	
NU	SOLN SUPP 8X5XNBD Catalyst 9300 24-port data only, Network	CON-SSSNT-C93002TA	3	
NU	SOLN SUPP SW SUBC9300 DNA Advantage	CON-SSTCM-C93A24	3	
NU	C9300 DNA Advantage, 24-Port, 3 Year Term License	C9300-DNA-A-24-3Y	3	
NU	PI Dev Lic for Lifecycle & Assurance Term 3Y	PI-LFAS-AP-T-3Y	3	
NU	Cisco DNA Spaces Extend for Catalyst Switching - 3Year	D-DNAS-EXT-S-3Y	3	
NU	ThousandEyes - Enterprise Agents	TE-EMBEDDED-T-3Y	3	
NU	1000BASE-LX/LH SFP transceiver module, MMF/SMF, 1310nm, DOM	GLC-LH-SMD=	3	
NU	1000BASE-SX SFP transceiver module, MMF, 850nm, DOM	GLC-SX-MMD=	3	
NU	**NU WLC**			
NU	Cisco Catalyst 9800-L Wireless Controller_Fiber Uplink	C9800-L-F-K9	2	
NU	Cisco Catalyst 9800 Series Wireless Controller DTLS License	LIC-C9800-DTLS-K9	2	
NU	C9800L UNIVERSAL (NETWORK ESSENTIALS)	SC9800LK9-1612	2	
NU	C9800 Wireless Controller Rack Mount Tray	C9800L-RMNT	2	
NU	Cisco Catalyst 9800 L Wireless Controller Power Supply	C9800-AC-110W	2	
NU	AC Power Cord, Type C5, Europe	CAB-AC-C5-EUR	2	
NU	Network Plug-n-Play Connect for zero-touch device deployment	NETWORK-PNP-LIC	2	
NU	10GBASE-SR SFP Module	SFP-10G-SR=	12	
NU	SOLN SUPP 24X7X4 Cisco Catalyst 9800-L Wireless Controlle	CON-SSSNP-C9800LFL	2	
NU	**NU WAP**			
NU	Cisco Catalyst 9136I Series, Internal Antennas,-E Regulator	C9136I-E	200	
NU	SOLN SUPP 8X5XNBD Cisco Catalyst 9136I Series, Internal A	CON-SSSNT-C9136IEX	200	
NU	SNTC-24X7X4 Cisco Catalyst 9136I Series	CON-SNTP-C9136I	200	
NU	Network Plug-n-Play Connect for zero-touch device deployment	NETWORK-PNP-LIC	200	
NU	Wireless Cisco DNA On-Prem Advantage,	CDNA-A-C9136	200	
NU	C9136I Cisco DNA On-Prem Advantage 3Y Term,Trk Lic	DNA-A-3Y-C9136	200	
NU	Ceiling Grid Clip for APs & Cellular Gateways-Recessed	AIR-AP-T-RAIL-R	200	
NU	802.11 AP Low Profile Mounting Bracket (Default)	AIR-AP-BRACKET-1	200	
NU	Wireless Cisco DNA On-Prem Advantage, Term Lic	AIR-DNA-A	200	
NU	Wireless Cisco DNA On-Prem Advantage, 3Y Term Lic	AIR-DNA-A-3Y	200	
NU	Prime AP Term Licenses	PI-LFAS-AP-T	200	
NU	PI Dev Lic for Lifecycle & Assurance Term 3Y	PI-LFAS-AP-T-3Y	200	
NU	Wireless Cisco DNA On-Prem Advantage, Term, Tracker Lic	AIR-DNA-A-T	200	

Cat	Item	Part number	Qty	Spare
NU	Wireless Cisco DNA On-Prem Advantage, 3Y Term, Tracker Lic	AIR-DNA-A-T-3Y	200	
NU	AIR CISCO DNA Perpetual Network Stack	AIR-DNA-NWSTACK-A	200	
NU	Cisco DNA Spaces Extend Option for Cisco DNA 1Yr Term	D-DNAS-EXT-T	200	
NU	Cisco DNA Spaces Extend Option for Cisco DNA 3Y	D-DNAS-EXT-3Y	200	
NU	**NU Hangar Ext**			
NU	Catalyst 9000 Compact Switch 8 port PoE+, 240W, Adv	C9200CX-8P-2X2G-A	4	
NU	SOLN SUPP 24X7X4 Catalyst 9000 Compact Switch 8 port PoE+	CON-SSSNP-C920CXYZ	4	
NU	C9200CX Network Advantage, 8-port license	C9200CX-NW-A-8	4	
NU	Europe AC Type A Power Cable	CAB-TA-EU	4	
NU	UNIVERSAL	SCAT9200CXUK9-178	4	
NU	C9200CX Cisco DNA Advantage, 8-Port Term Licenses	C9200CX-DNA-A-8	4	
NU	C9200CX Cisco DNA Advantage, 3Y Term License, 8P	C9200CX-DNAA8-3Y	4	
NU	SOLN SUPP SW SUB C9200CX Cisco DNA Advantage, 8-Port Term	CON-SSTCM-C9201CCD	4	
NU	Prime Infrastructure Lifecycle & Assurance Term - Smart Lic	PI-LFAS-T	4	
NU	PI Dev Lic for Lifecycle & Assurance Term 3Y	PI-LFAS-AP-T-3Y	4	
NU	Network Plug-n-Play Connect for zero-touch device deployment	NETWORK-PNP-LIC	4	
NU	19 in Rackmount for 9200CX switches	RACKMNT-19-CMPACT	4	
VTC	**Video teleconferencing room - All TEMPEST C**			
VTC	**Core - AV Control**			
VTC	Extron - IPCP Pro 255Q xi w/LinkLicense - TEMPEST C	IPCP Pro 255Q xi	1	
VTC	Extron - Four IEC Outlets	IPL EXP PDU4H	1	
VTC	Extron - Entry Level Version for 16 Endpoints	NAVigator	1	
VTC	Extron - NAVigator 96 Endpoints Upgrade	LinkLicense	1	
VTC	**Core - AV Network**			
VTC	Cisco - Catalyst 9300 48-port PoE+, Network Essentials - TEMPEST C	C9300-48P-E	1	
VTC	Cisco - Upgrade option 1100W AC 80+ platinum Config 1 Power Supply	PWR-C1-1100WAC-UP	1	
VTC	Cisco - 1100W AC 80+ platinum Config 1 Secondary Power Supply	PWR-C1-1100WAC-P/2	1	
VTC	Cisco - C9300 DNA Essentials, 48-port - 3 Year Term License	C9300-DNA-E-48-3Y	1	
VTC	**Core - Audio**			
VTC	Extron - Dante Digital Matrix Processor w/ 12 AEC - TEMPEST C	DMP 128 FlexPlus C AT	1	
VTC	Extron - Four Channel Dante Amp, 100 watts at 70 volts	NetPA U 1004-70V	1	
VTC	**Core - Camera Routing**			
VTC	Blackmagic - Smart Videohub CleanSwitch 12x12 - TEMPEST C	VHUBSMTCS6G1212	1	
VTC	Blackmagic - Teranex Mini SDI to HDMI 8K HDR	CONVN8TRM/AA/SDIH	1	
VTC	**Core - AV Bridge**			
VTC	Extron - 4K HDMI and Audio to USB Scaling Bridge - TEMPEST C	MediaPort 300	1	
VTC	Extron - Four Input USB 10G Switcher	SW4 USB Pro	1	

Cat	Item	Part number	Qty	Spare
VTC	**Core - AVoIP**			
VTC	Extron - 1G HDMI Scaling Decoder - TEMPEST C	NAV SD 101	2	
VTC	Extron - 1G HDMI Encoder	NAV E 101	2	
VTC	**Core - VTC Codec**			
VTC	Poly - Poly G7500 4k Base Unit TAA No-Radio - TEMPEST C	G7200-87340-125	1	
VTC	**Core - Rack**			
VTC	Trip Lite - Tripp Lite 18U Soundproof Rack Enclosure - TEMPEST C	SRQ18U	1	
VTC	**Room - Control**			
VTC	Extron - 12” Ultra-wide Tabletop TouchLink Pro Touchpanel (White) - TEMPEST C	TLP Pro 1230WTG	1	
VTC	**Room - Displays**			
VTC	NEC - MultiSync MA551 - TEMPEST C	MA551	16	1
VTC	Extron - 1G Pro AV over IP Scaling Decoder - HDMI	NAV SD 101	16	1
VTC	Urben - Floor Mount	TBD	12	1
VTC	Various - Ceiling Mount for 55" Display	NA	4	1
VTC	**Room - Connection Points (Lectern/Table/ContentPC)**			
VTC	Extron - 1G Pro AV over IP Scaling Encoder - HDMI - TEMPEST C	NAV E 101	3	
VTC	Blackbox - KVS4-HX - Secure KVM Peripheral Defender - HDMI, CAC	KVS4-8001HX	2	
VTC	StarTech - Hybrid Universal Laptop Docking Station with 100W Power Delivery	DK30C2DPEP	2	
VTC	Extron - SuperSpeed USB Extender Kit	UCS FTR 900 Kit	1	
VTC	**Room - Audio**			
VTC	Extron - 6.5" 2-Way Ceiling Spkrs, 70/100V, Complete Pair - TEMPEST C	SF 26CT	8	
VTC	**Room - PTZ Cameras**			
VTC	Panasonic - Panasonic 4K30 SDI/HDMI PTZ Camera with 24x Optical Zoom (White) - TEMPEST C	AW-UE50WEJ	5	
VTC	**Room - Microphone**			
VTC	Sennheiser - TeamConnect Ceiling 2 (white) - TEMPEST C	507488	1	
VTC	**Cabling and Small Material**			
VTC	Various - Network, Audio, Video cabling, accessoires and small material - TEMPEST C		1	
DC	**Data centre**			
DC	**HCI Node**			
DC	HPE ProLiant DL325 Gen10 Plus v2 8SFF Configure-to-order Server	P38471-B21	5	
DC	HPE ProLiant DL325 Gen10 Plus v2 8SFF Configure-to-order Server	P38471-B21 B19	5	
DC	HPE ProLiant DL325 Gen10 Plus v2 vSAN WW FIO Tracking	P52170-B21	5	
DC	Processors			
DC	AMD EPYC 7543P 2.8GHz 32-core 225W Processor for HPE	P38717-B21	5	
DC	Factory Integrated	P38717-B21 0D1	5	
DC	HPE ProLiant DL325 Gen10 Plus v2 High Performance Heat Sink Kit	P41197-B21	5	
DC	Memory			

Cat	Item	Part number	Qty	Spare
DC	HPE 32GB (1x32GB) Dual Rank x4 DDR4-3200 CAS-22-22-22 Registered Smart Memory Kit	P07646-B21	40	
DC	Factory Integrated	P07646-B21 0D1	40	
DC	PCI Risers			
DC	HPE DL325 Gen10 Standard x8/x16 FIO Primary Riser	-	5	
DC	HPE DL325 Gen10 Plus x16 Low Profile PCIe Riser Kit	P17264-B21	5	
DC	Factory Integrated	P17264-B21 0D1	5	
DC	Boot Disk			
DC	HPE ProLiant DL325 Gen10 Plus v2 2SFF U.3 Enablement Kit	P38386-B21	5	
DC	Factory Integrated	P38386-B21 0D1	5	
DC	HPE ProLiant DL325 Gen10 Plus v2 2SFF NVMe Tri-Mode Cable Kit	P39168-B21	5	
DC	Factory Integrated	P39168-B21 0D1	5	
DC	Broadcom MegaRAID MR216i-a x16 Lanes without Cache NVMe/SAS 12G Controller for HPE Gen10 Plus	P26325-B21	5	
DC	Factory Integrated	P26325-B21 0D1	5	
DC	HPE 240GB SATA 6G Read Intensive SFF BC Multi Vendor SSD	P40496-B21	10	
DC	Factory Integrated	P40496-B21 0D1	10	
DC	vSAN NVMe Readyness			
DC	HPE ProLiant DL325 Gen10 Plus v2 8SFF U.3 BC Backplane Kit	P38476-B21	5	
DC	HPE ProLiant DL325 Gen10 Plus v2 8SFF NVMe Direct Attach Cable Kit	P39174-B21	5	
DC	Network Adapters			
DC	Broadcom BCM57414 Ethernet 10/25Gb 2-port SFP28 OCP3 Adapter for HPE	P10115-B21	5	
DC	Factory Integrated	P10115-B21 0D1	5	
DC	Broadcom BCM57414 Ethernet 10/25Gb 2-port SFP28 Adapter for HPE	P26262-B21	10	
DC	Factory Integrated	P26262-B21 0D1	10	
DC	Security option			
DC	HPE Trusted Platform Module 2.0 Gen10 Plus Black Rivets Kit	P13771-B21	5	
DC	Factory Integrated	P13771-B21 0D1	5	
DC	HPE Gen10 Plus Chassis Intrusion Detection Kit	P14604-B21	5	
DC	Factory Integrated	P14604-B21 0D1	5	
DC	Power and Cooling			
DC	HPE ProLiant DL325 Gen10 Plus v2 Max Performance Fan Kit	P38506-B21	5	
DC	Factory Integrated	P38506-B21 0D1	5	
DC	HPE 800W Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit	P38995-B21	10	
DC	Factory Integrated	P38995-B21 0D1	10	
DC	Racking			
DC	HPE ProLiant DL300 Gen10 Plus 1U SFF Easy Install Rail Kit	P26485-B21	5	
DC	Factory Integrated	P26485-B21 0D1	5	
DC	HPE ProLiant DL300 Gen10 Plus 1U Cable Management Arm for Rail Kit	P26489-B21	5	

Cat	Item	Part number	Qty	Spare
DC	Factory Integrated	P26489-B21 0D1	5	
DC	Licenses			
DC	HPE iLO Advanced 1-server License with 3yr Support on iLO Licensed Features	BD505A	5	
DC	Factory Integrated	BD505A 0D1	5	
DC	HPE OneView w/o iLO including 3yr 24x7 Support 1-server FIO LTU	P8B31A	5	
DC	Support			
DC	HPE 3Y Complete Care Addon Essential with Comprehensive Defective Material Retention Service	HU4D7A3	5	
DC	HPE Proliant DL325 Gen10 Plus V2 Support	HU4D7A3 ZSC	5	
DC	HPE iLO Advanced Non Blade Support	HU4D7A3 R2M	5	
DC	HPE One View w/o Ilo Support	HU4D7A3 SVP	5	
DC	SFP			
DC	MODULE, TRANSCEIVER, SFP, RJ45, 1000BASE-T, CAT5, CISCO GLC-TE		6	
DC	Cabling			
DC	SFP-H25G-CU2M= 25GBASE-CU SFP28 Cable 2 Meter		70	
DC	SFP-H25G-CU3M= 25GBASE-CU SFP28 Cable 3 Meter		70	
DC	**HCI Node drives**			
DC	Cache disk			
DC	1x 800GB NVME Gen 4 High Performance Disk | HPE Basic Carrier	P40569-B21	10	1
DC	Capacity disk			
DC	1x 6.4 TB NVME Gen 4 Mainstream Disk | HPE Basic Carrier	P47840-B21	60	5
DC	**Management server**			
DC	HPE ProLiant DL360 Gen10 Plus 8SFF NC Configure-to-order Server	P28948-B21	1	1
DC	DL360 Gen10 Plus 8SFF CTO Server	P28948-B21 B19	1	1
DC	Processors			
DC	Intel Xeon-Silver 4309Y 2.8GHz 8-core 105W Processor for HPE	P36920-B21	1	1
DC	Factory Integrated	P36920-B21 0D1	1	1
DC	HPE ProLiant DL360 Gen10 Plus Standard Heat Sink Kit	P37863-B21	1	1
DC	Factory Integrated	P37863-B21 0D1	1	1
DC	Memory			
DC	HPE 16GB (1x16GB) Dual Rank x8 DDR4-3200 CAS-22-22-22 Registered Smart Memory Kit	P06031-B21	2	2
DC	Factory Integrated	P06031-B21 0D1	2	2
DC	HPE DDR4 DIMM Blank Kit	P07818-B21	1	1
DC	Factory Integrated	P07818-B21 0D1	1	1
DC	PCI Risers			
DC	HPE DL360 Gen10 Plus Standard FIO x8/x16 FIO Primary Riser	-	1	1
DC	Boot Disk			
DC	HPE ProLiant DL360 Gen10 Plus 8SFF x1 Tri-Mode 24G U.3 BC Backplane Kit	P26431-B21	1	1

Cat	Item	Part number	Qty	Spare
DC	Factory Integrated	P26431-B21 0D1	1	1
DC	Broadcom MegaRAID MR416i-a x16 Lanes 4GB Cache NVMe/SAS 12G Controller for HPE Gen10 Plus	P26279-B21	1	1
DC	Factory Integrated	P26279-B21 0D1	1	1
DC	HPE 96W Smart Storage Lithium-ion Battery with 145mm Cable Kit	P01366-B21	1	1
DC	Factory Integrated	P01366-B21 0D1	1	1
DC	HPE 480GB SATA 6G Read Intensive SFF BC Multi Vendor SSD	P40497-B21	2	2
DC	Factory Integrated	P40497-B21 0D1	2	2
DC	HPE RAID 1 Drive 1 FIO Setting	339778-B21	1	1
DC	Network Adapters			
DC	Intel I350-T4 Ethernet 1Gb 4-port BASE-T OCP3 Adapter for HPE	P08449-B21	1	1
DC	Factory Integrated	P08449-B21 0D1	1	1
DC	Broadcom BCM57414 Ethernet 10/25Gb 2-port SFP28 Adapter for HPE	P26262-B21	1	1
DC	Factory Integrated	P26262-B21 0D1	1	1
DC	Security option			
DC	HPE Trusted Platform Module 2.0 Gen10 Plus Black Rivets Kit	P13771-B21	1	1
DC	Factory Integrated	P13771-B21 0D1	1	1
DC	HPE Gen10 Plus Chassis Intrusion Detection Kit	P14604-B21	1	1
DC	Factory Integrated	P14604-B21 0D1	1	1
DC	Power and Cooling			
DC	HPE ProLiant DL36X Gen10 Plus High Performance Fan Kit	P26477-B21	1	1
DC	Factory Integrated	P26477-B21 0D1	1	1
DC	HPE 500W Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit	865408-B21	2	2
DC	Factory Integrated	865408-B21 0D1	2	2
DC	Racking			
DC	HPE ProLiant DL300 Gen10 Plus 1U SFF Easy Install Rail Kit	P26485-B21	1	1
DC	Factory Integrated	P26485-B21 0D1	1	1
DC	HPE ProLiant DL300 Gen10 Plus 1U Cable Management Arm for Rail Kit	P26489-B21	1	1
DC	Factory Integrated	P26489-B21 0D1	1	1
DC	Licenses			
DC	HPE iLO Advanced 1-server License with 3yr Support on iLO Licensed Features	BD505A	1	1
DC	Factory Integrated	BD505A 0D1	1	1
DC	HPE OneView w/o iLO including 3yr 24x7 Support 1-server FIO LTU	P8B31A	1	1
DC	Support			
DC	HPE 3Y Complete Care Addon Critical with Comprehensive Defective Material Retention Service	HU4D4A3	1	1
DC	HPE Proliant DL360 Gen10+ Support	HU4D4A3 ZSA	1	1
DC	HPE iLO Advanced Non Blade Support	HU4D4A3 R2M	1	1
DC	HPE One View w/o Ilo Support	HU4D4A3 SVP	1	1

Cat	Item	Part number	Qty	Spare
DC	**Backup server**			
DC	HPE ProLiant DL380 Gen10 12LFF NC Configure-to-order Server	P19718-B21	1	
DC	HPE DL380 G10 CTO Mod-X 12LFF WO NIC	P19718-B21 B19	1	
DC	Processors			
DC	Intel Xeon-Silver 4214R (2.4GHz/12-core/100W) FIO Processor Kit for HPE ProLiant DL380 Gen10	P23550-L21	1	
DC	Memory			
DC	HPE 32GB (1x32GB) Dual Rank x4 DDR4-2933 CAS-21-21-21 Registered Smart Memory Kit	P00924-B21	4	
DC	Factory Integrated	P00924-B21 0D1	4	
DC	PCI Risers			
DC	HPE DL380 Gen10 Standard x8/x16/x8 FIO Primary Riser	-	1	
DC	Boot Disk			
DC	HPE DL38X Gen10 2SFF Premium HDD Front NVMe or Front/Rear SAS/SATA Kit	826687-B21	1	
DC	Factory Integrated	826687-B21 0D1	1	
DC	HPE 300GB SAS 12G Mission Critical 15K SFF SC 3-year Warranty Multi Vendor HDD	870753-B21	2	
DC	Factory Integrated	870753-B21 0D1	2	
DC	Data Disks			
DC	HPE Smart Array P816i-a SR Gen10 (16 Internal Lanes/4GB Cache/SmartCache) 12G SAS Modular Controller	804338-B21	1	
DC	Factory Integrated	804338-B21 0D1	1	
DC	HPE 96W Smart Storage Lithium-ion Battery with 145mm Cable Kit	P01366-B21	1	
DC	Factory Integrated	P01366-B21 0D1	1	
DC	HPE 12TB SAS 12G Business Critical 7.2K LFF SC 1-year Warranty Helium 512e Multi Vendor HDD	881779-B21	12	
DC	Factory Integrated	881779-B21 0D1	12	
DC	Network Adapters			
DC	HPE Ethernet 10/25Gb 2-port FLR-SFP28 BCM57414 Adapter	817709-B21	1	
DC	Factory Integrated	817709-B21 0D1	1	
DC	HPE Ethernet 10/25Gb 2-port SFP28 BCM57414 Adapter	817718-B21	2	
DC	Factory Integrated	817718-B21 0D1	2	
DC	Security option			
DC	HPE Trusted Platform Module 2.0 Gen10 Option	864279-B21	1	
DC	Factory Integrated	864279-B21 0D1	1	
DC	HPE Gen10 Chassis Intrusion Detection Kit	867824-B21	1	
DC	Factory Integrated	867824-B21 0D1	1	
DC	Power and Cooling			
DC	HPE 800W Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit	865414-B21	2	
DC	Factory Integrated	865414-B21 0D1	2	
DC	Racking			
DC	HPE 2U Cable Management Arm for Easy Install Rail Kit	733664-B21	1	

Cat	Item	Part number	Qty	Spare
DC	Factory Integrated	733664-B21 0D1	1	
DC	HPE 2U Large Form Factor Easy Install Rail Kit	733662-B21	1	
DC	Factory Integrated	733662-B21 0D1	1	
DC	Licenses			
DC	HPE iLO Advanced 1-server License with 3yr Support on iLO Licensed Features	BD505A	1	
DC	Factory Integrated	BD505A 0D1	1	
DC	HPE OneView w/o iLO including 3yr 24x7 Support 1-server FIO LTU	P8B31A	1	
DC	Support			
DC	HPE 3Y Complete Care Addon Critical with Comprehensive Defective Material Retention Service	HU4D4A3	1	
DC	HPE DL38x Gen10 Support	HU4D4A3 WAH	1	
DC	HPE iLO Advanced Non Blade Support	HU4D4A3 R2M	1	
DC	HPE One View w/o Ilo Support	HU4D4A3 SVP	1	
DC	**Apollo SAN**			
DC	HPE Apollo 4510 Gen10 Configure-to-Order Chassis	864668-B21	1	
DC	HPE Apollo 4510 Gen10 Chassis	864668-B21 B19	1	
DC	Compute Node			
DC	HPE XL450 Gen10 1x Node Svr	864625-B21 B19	1	
DC	HPE ProLiant XL450 Gen10 Configure-to-order Server Node for Apollo 4510 Gen10 Chassis	864625-B21	1	
DC	Factory Integrated	864625-B21 0D1	1	
DC	Processors			
DC	Intel Xeon-Gold 6252 (2.1GHz/24-core/150W) FIO Processor Kit for HPE ProLiant XL450 Gen10.	P10772-L21	1	
DC	Intel Xeon-Gold 6252 (2.1GHz/24-core/150W) Processor Kit for HPE ProLiant XL450 Gen10	P10772-B21	1	
DC	Factory Integrated	P10772-B21 0D1	1	
DC	Memory			
DC	HPE 16GB (1x16GB) Single Rank x4 DDR4-2933 CAS-21-21-21 Registered Smart Memory Kit	P00920-K21	12	
DC	Factory Integrated	P00920-K21 0D1	12	
DC	PCIe Risers			
DC	HPE Apollo 4500 Gen10 CPU0 x2/CPU1 x2 FIO I/O Module	882020-B21	1	
DC	Boot Disks			
DC	HPE Smart Array P408i-a SR Gen10 (8 Internal Lanes/2GB Cache) 12G SAS Modular Controller	804331-B21	1	
DC	Factory Integrated	804331-B21 0D1	1	
DC	HPE Apollo 4500 Gen10 Smart Array E208i-a/P408i-a SAS Cable Kit	874779-B21	1	
DC	Factory Integrated	874779-B21 0D1	1	
DC	HPE 96W Smart Storage Lithium-ion Battery with 145mm Cable Kit	P01366-B21	1	
DC	Factory Integrated	P01366-B21 0D1	1	
DC	HPE 480GB SATA 6G Mixed Use SFF SC Multi Vendor SSD	P18432-K21	2	
DC	Factory Integrated	P18432-K21 0D1	2	

Cat	Item	Part number	Qty	Spare
DC	Data Disks			
DC	HPE Smart Array P408i-p SR Gen10 (8 Internal Lanes/2GB Cache) 12G SAS PCIe Plug-in Controller	830824-B21	1	
DC	Factory Integrated	830824-B21 0D1	1	
DC	HPE Apollo 4500 Gen10 Smart Array E208i-p/P408i-p SAS Cable Kit	874777-B21	1	
DC	Factory Integrated	874777-B21 0D1	1	
DC	HPE 18TB SAS 12G Business Critical 7.2K LFF LP 1-year Warranty Helium 512e ISE Multi Vendor HDD	P37669-K21	60	
DC	Factory Integrated	P37669-K21 0D1	60	
DC	Network Adapters			
DC	HPE Ethernet 10/25Gb 2-port FLR-SFP28 BCM57414 Adapter	817709-B21	1	
DC	Factory Integrated	817709-B21 0D1	1	
DC	HPE Ethernet 10/25Gb 2-port SFP28 BCM57414 Adapter	817718-B21	2	
DC	Factory Integrated	817718-B21 0D1	2	
DC	Security option			
DC	HPE Trusted Platform Module 2.0 Gen10 Option	864279-B21	1	
DC	Factory Integrated	864279-B21 0D1	1	
DC	Power and Cooling			
DC	HPE 1600W Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit	830272-B21	4	
DC	Factory Integrated	830272-B21 0D1	4	
DC	Racking			
DC	HPE 4U Server Rail Kit	878571-B21	1	
DC	Factory Integrated	878571-B21 0D1	1	
DC	HPE s6500 Chassis Handles Kit	608477-B21	1	
DC	Factory Integrated	608477-B21 0D1	1	
DC	Licenses			
DC	HPE OneView including 3yr 24x7 Support Physical 1-server LTU	E5Y34A	1	
DC	Support			
DC	HPE 3Y Complete Care Addon Critical with Comprehensive Defective Material Retention Service	HU4D4A3	1	
DC	HPE Apollo 4510 Gen10 Support	HU4D4A3 ZBH	1	
DC	HPE One View w/Ilo Support	HU4D4A3 SVN	1	
GIS	**Option: Additional NS IT backend capacity**			
GIS	**HCI Node**			
GIS	HPE ProLiant DL325 Gen10 Plus v2 8SFF Configure-to-order Server	P38471-B21	5	
GIS	HPE ProLiant DL325 Gen10 Plus v2 8SFF Configure-to-order Server	P38471-B21 B19	5	
GIS	HPE ProLiant DL325 Gen10 Plus v2 vSAN WW FIO Tracking	P52170-B21	5	
GIS	Processors			
GIS	AMD EPYC 7543P 2.8GHz 32-core 225W Processor for HPE	P38717-B21	5	
GIS	Factory Integrated	P38717-B21 0D1	5	

Cat	Item	Part number	Qty	Spare
GIS	HPE ProLiant DL325 Gen10 Plus v2 High Performance Heat Sink Kit	P41197-B21	5	
GIS	Memory			
GIS	HPE 32GB (1x32GB) Dual Rank x4 DDR4-3200 CAS-22-22-22 Registered Smart Memory Kit	P07646-B21	40	
GIS	Factory Integrated	P07646-B21 0D1	40	
GIS	PCI Risers			
GIS	HPE DL325 Gen10 Standard x8/x16 FIO Primary Riser	-	5	
GIS	HPE DL325 Gen10 Plus x16 Low Profile PCIe Riser Kit	P17264-B21	5	
GIS	Factory Integrated	P17264-B21 0D1	5	
GIS	Boot Disk			
GIS	HPE ProLiant DL325 Gen10 Plus v2 2SFF U.3 Enablement Kit	P38386-B21	5	
GIS	Factory Integrated	P38386-B21 0D1	5	
GIS	HPE ProLiant DL325 Gen10 Plus v2 2SFF NVMe Tri-Mode Cable Kit	P39168-B21	5	
GIS	Factory Integrated	P39168-B21 0D1	5	
GIS	Broadcom MegaRAID MR216i-a x16 Lanes without Cache NVMe/SAS 12G Controller for HPE Gen10 Plus	P26325-B21	5	
GIS	Factory Integrated	P26325-B21 0D1	5	
GIS	HPE 240GB SATA 6G Read Intensive SFF BC Multi Vendor SSD	P40496-B21	10	
GIS	Factory Integrated	P40496-B21 0D1	10	
GIS	vSAN NVMe Readyness			
GIS	HPE ProLiant DL325 Gen10 Plus v2 8SFF U.3 BC Backplane Kit	P38476-B21	5	
GIS	HPE ProLiant DL325 Gen10 Plus v2 8SFF NVMe Direct Attach Cable Kit	P39174-B21	5	
GIS	Network Adapters			
GIS	Broadcom BCM57414 Ethernet 10/25Gb 2-port SFP28 OCP3 Adapter for HPE	P10115-B21	5	
GIS	Factory Integrated	P10115-B21 0D1	5	
GIS	Broadcom BCM57414 Ethernet 10/25Gb 2-port SFP28 Adapter for HPE	P26262-B21	10	
GIS	Factory Integrated	P26262-B21 0D1	10	
GIS	Security option			
GIS	HPE Trusted Platform Module 2.0 Gen10 Plus Black Rivets Kit	P13771-B21	5	
GIS	Factory Integrated	P13771-B21 0D1	5	
GIS	HPE Gen10 Plus Chassis Intrusion Detection Kit	P14604-B21	5	
GIS	Factory Integrated	P14604-B21 0D1	5	
GIS	Power and Cooling			
GIS	HPE ProLiant DL325 Gen10 Plus v2 Max Performance Fan Kit	P38506-B21	5	
GIS	Factory Integrated	P38506-B21 0D1	5	
GIS	HPE 800W Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit	P38995-B21	10	
GIS	Factory Integrated	P38995-B21 0D1	10	
GIS	Racking			
GIS	HPE ProLiant DL300 Gen10 Plus 1U SFF Easy Install Rail Kit	P26485-B21	5	

Cat	Item	Part number	Qty	Spare
GIS	Factory Integrated	P26485-B21 0D1	5	
GIS	HPE ProLiant DL300 Gen10 Plus 1U Cable Management Arm for Rail Kit	P26489-B21	5	
GIS	Factory Integrated	P26489-B21 0D1	5	
GIS	Licenses			
GIS	HPE iLO Advanced 1-server License with 3yr Support on iLO Licensed Features	BD505A	5	
GIS	Factory Integrated	BD505A 0D1	5	
GIS	HPE OneView w/o iLO including 3yr 24x7 Support 1-server FIO LTU	P8B31A	5	
GIS	Support			
GIS	HPE 3Y Complete Care Addon Essential with Comprehensive Defective Material Retention Service	HU4D7A3	5	
GIS	HPE Proliant DL325 Gen10 Plus V2 Support	HU4D7A3 ZSC	5	
GIS	HPE iLO Advanced Non Blade Support	HU4D7A3 R2M	5	
GIS	HPE One View w/o Ilo Support	HU4D7A3 SVP	5	
GIS	SFP			
GIS	MODULE, TRANSCEIVER, SFP, RJ45, 1000BASE-T, CAT5, CISCO GLC-TE		6	
GIS	Cabling			
GIS	SFP-H25G-CU2M= 25GBASE-CU SFP28 Cable 2 Meter		70	
GIS	SFP-H25G-CU3M= 25GBASE-CU SFP28 Cable 3 Meter		70	
GIS	**HCI Node drives**			
GIS	Cache disk			
GIS	1x 800GB NVME Gen 4 High Performance Disk | HPE Basic Carrier	P40569-B21	10	
GIS	Capacity disk			
GIS	1x 6.4 TB NVME Gen 4 Mainstream Disk | HPE Basic Carrier	P47840-B21	60	
GIS	**Management server**			
GIS	HPE ProLiant DL360 Gen10 Plus 8SFF NC Configure-to-order Server	P28948-B21	1	
GIS	DL360 Gen10 Plus 8SFF CTO Server	P28948-B21 B19	1	
GIS	Processors			
GIS	Intel Xeon-Silver 4309Y 2.8GHz 8-core 105W Processor for HPE	P36920-B21	1	
GIS	Factory Integrated	P36920-B21 0D1	1	
GIS	HPE ProLiant DL360 Gen10 Plus Standard Heat Sink Kit	P37863-B21	1	
GIS	Factory Integrated	P37863-B21 0D1	1	
GIS	Memory			
GIS	HPE 16GB (1x16GB) Dual Rank x8 DDR4-3200 CAS-22-22-22 Registered Smart Memory Kit	P06031-B21	2	
GIS	Factory Integrated	P06031-B21 0D1	2	
GIS	HPE DDR4 DIMM Blank Kit	P07818-B21	1	
GIS	Factory Integrated	P07818-B21 0D1	1	
GIS	PCI Risers			
GIS	HPE DL360 Gen10 Plus Standard FIO x8/x16 FIO Primary Riser	-	1	

Cat	Item	Part number	Qty	Spare
GIS	Boot Disk			
GIS	HPE ProLiant DL360 Gen10 Plus 8SFF x1 Tri-Mode 24G U.3 BC Backplane Kit	P26431-B21	1	
GIS	Factory Integrated	P26431-B21 0D1	1	
GIS	Broadcom MegaRAID MR416i-a x16 Lanes 4GB Cache NVMe/SAS 12G Controller for HPE Gen10 Plus	P26279-B21	1	
GIS	Factory Integrated	P26279-B21 0D1	1	
GIS	HPE 96W Smart Storage Lithium-ion Battery with 145mm Cable Kit	P01366-B21	1	
GIS	Factory Integrated	P01366-B21 0D1	1	
GIS	HPE 480GB SATA 6G Read Intensive SFF BC Multi Vendor SSD	P40497-B21	2	
GIS	Factory Integrated	P40497-B21 0D1	2	
GIS	HPE RAID 1 Drive 1 FIO Setting	339778-B21	1	
GIS	Network Adapters			
GIS	Intel I350-T4 Ethernet 1Gb 4-port BASE-T OCP3 Adapter for HPE	P08449-B21	1	
GIS	Factory Integrated	P08449-B21 0D1	1	
GIS	Broadcom BCM57414 Ethernet 10/25Gb 2-port SFP28 Adapter for HPE	P26262-B21	1	
GIS	Factory Integrated	P26262-B21 0D1	1	
GIS	Security option			
GIS	HPE Trusted Platform Module 2.0 Gen10 Plus Black Rivets Kit	P13771-B21	1	
GIS	Factory Integrated	P13771-B21 0D1	1	
GIS	HPE Gen10 Plus Chassis Intrusion Detection Kit	P14604-B21	1	
GIS	Factory Integrated	P14604-B21 0D1	1	
GIS	Power and Cooling			
GIS	HPE ProLiant DL36X Gen10 Plus High Performance Fan Kit	P26477-B21	1	
GIS	Factory Integrated	P26477-B21 0D1	1	
GIS	HPE 500W Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit	865408-B21	2	
GIS	Factory Integrated	865408-B21 0D1	2	
GIS	Racking			
GIS	HPE ProLiant DL300 Gen10 Plus 1U SFF Easy Install Rail Kit	P26485-B21	1	
GIS	Factory Integrated	P26485-B21 0D1	1	
GIS	HPE ProLiant DL300 Gen10 Plus 1U Cable Management Arm for Rail Kit	P26489-B21	1	
GIS	Factory Integrated	P26489-B21 0D1	1	
GIS	Licenses			
GIS	HPE iLO Advanced 1-server License with 3yr Support on iLO Licensed Features	BD505A	1	
GIS	Factory Integrated	BD505A 0D1	1	
GIS	HPE OneView w/o iLO including 3yr 24x7 Support 1-server FIO LTU	P8B31A	1	
GIS	Support			
GIS	HPE 3Y Complete Care Addon Critical with Comprehensive Defective Material Retention Service	HU4D4A3	1	
GIS	HPE Proliant DL360 Gen10+ Support	HU4D4A3 ZSA	1	

Cat	Item	Part number	Qty	Spare
GIS	HPE iLO Advanced Non Blade Support	HU4D4A3 R2M	1	
GIS	HPE One View w/o Ilo Support	HU4D4A3 SVP	1	
GIS	**Backup server**			
GIS	HPE ProLiant DL380 Gen10 12LFF NC Configure-to-order Server	P19718-B21	1	
GIS	HPE DL380 G10 CTO Mod-X 12LFF WO NIC	P19718-B21 B19	1	
GIS	Processors			
GIS	Intel Xeon-Silver 4214R (2.4GHz/12-core/100W) FIO Processor Kit for HPE ProLiant DL380 Gen10	P23550-L21	1	
GIS	Memory			
GIS	HPE 32GB (1x32GB) Dual Rank x4 DDR4-2933 CAS-21-21-21 Registered Smart Memory Kit	P00924-B21	4	
GIS	Factory Integrated	P00924-B21 0D1	4	
GIS	PCI Risers			
GIS	HPE DL380 Gen10 Standard x8/x16/x8 FIO Primary Riser	-	1	
GIS	Boot Disk			
GIS	HPE DL38X Gen10 2SFF Premium HDD Front NVMe or Front/Rear SAS/SATA Kit	826687-B21	1	
GIS	Factory Integrated	826687-B21 0D1	1	
GIS	HPE 300GB SAS 12G Mission Critical 15K SFF SC 3-year Warranty Multi Vendor HDD	870753-B21	2	
GIS	Factory Integrated	870753-B21 0D1	2	
GIS	Data Disks			
GIS	HPE Smart Array P816i-a SR Gen10 (16 Internal Lanes/4GB Cache/SmartCache) 12G SAS Modular Controller	804338-B21	1	
GIS	Factory Integrated	804338-B21 0D1	1	
GIS	HPE 96W Smart Storage Lithium-ion Battery with 145mm Cable Kit	P01366-B21	1	
GIS	Factory Integrated	P01366-B21 0D1	1	
GIS	HPE 12TB SAS 12G Business Critical 7.2K LFF SC 1-year Warranty Helium 512e Multi Vendor HDD	881779-B21	12	
GIS	Factory Integrated	881779-B21 0D1	12	
GIS	Network Adapters			
GIS	HPE Ethernet 10/25Gb 2-port FLR-SFP28 BCM57414 Adapter	817709-B21	1	
GIS	Factory Integrated	817709-B21 0D1	1	
GIS	HPE Ethernet 10/25Gb 2-port SFP28 BCM57414 Adapter	817718-B21	2	
GIS	Factory Integrated	817718-B21 0D1	2	
GIS	Security option			
GIS	HPE Trusted Platform Module 2.0 Gen10 Option	864279-B21	1	
GIS	Factory Integrated	864279-B21 0D1	1	
GIS	HPE Gen10 Chassis Intrusion Detection Kit	867824-B21	1	
GIS	Factory Integrated	867824-B21 0D1	1	
GIS	Power and Cooling			
GIS	HPE 800W Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit	865414-B21	2	
GIS	Factory Integrated	865414-B21 0D1	2	

Cat	Item	Part number	Qty	Spare
GIS	Racking			
GIS	HPE 2U Cable Management Arm for Easy Install Rail Kit	733664-B21	1	
GIS	Factory Integrated	733664-B21 0D1	1	
GIS	HPE 2U Large Form Factor Easy Install Rail Kit	733662-B21	1	
GIS	Factory Integrated	733662-B21 0D1	1	
GIS	Licenses			
GIS	HPE iLO Advanced 1-server License with 3yr Support on iLO Licensed Features	BD505A	1	
GIS	Factory Integrated	BD505A 0D1	1	
GIS	HPE OneView w/o iLO including 3yr 24x7 Support 1-server FIO LTU	P8B31A	1	
GIS	Support			
GIS	HPE 3Y Complete Care Addon Critical with Comprehensive Defective Material Retention Service	HU4D4A3	1	
GIS	HPE DL38x Gen10 Support	HU4D4A3 WAH	1	
GIS	HPE iLO Advanced Non Blade Support	HU4D4A3 R2M	1	
GIS	HPE One View w/o Ilo Support	HU4D4A3 SVP	1	
GIS	**Apollo SAN**			
GIS	HPE Apollo 4510 Gen10 Configure-to-Order Chassis	864668-B21	1	
GIS	HPE Apollo 4510 Gen10 Chassis	864668-B21 B19	1	
GIS	Compute Node			
GIS	HPE XL450 Gen10 1x Node Svr	864625-B21 B19	1	
GIS	HPE ProLiant XL450 Gen10 Configure-to-order Server Node for Apollo 4510 Gen10 Chassis	864625-B21	1	
GIS	Factory Integrated	864625-B21 0D1	1	
GIS	Processors			
GIS	Intel Xeon-Gold 6252 (2.1GHz/24-core/150W) FIO Processor Kit for HPE ProLiant XL450 Gen10.	P10772-L21	1	
GIS	Intel Xeon-Gold 6252 (2.1GHz/24-core/150W) Processor Kit for HPE ProLiant XL450 Gen10	P10772-B21	1	
GIS	Factory Integrated	P10772-B21 0D1	1	
GIS	Memory			
GIS	HPE 16GB (1x16GB) Single Rank x4 DDR4-2933 CAS-21-21-21 Registered Smart Memory Kit	P00920-K21	12	
GIS	Factory Integrated	P00920-K21 0D1	12	
GIS	PCIe Risers			
GIS	HPE Apollo 4500 Gen10 CPU0 x2/CPU1 x2 FIO I/O Module	882020-B21	1	
GIS	Boot Disks			
GIS	HPE Smart Array P408i-a SR Gen10 (8 Internal Lanes/2GB Cache) 12G SAS Modular Controller	804331-B21	1	
GIS	Factory Integrated	804331-B21 0D1	1	
GIS	HPE Apollo 4500 Gen10 Smart Array E208i-a/P408i-a SAS Cable Kit	874779-B21	1	
GIS	Factory Integrated	874779-B21 0D1	1	
GIS	HPE 96W Smart Storage Lithium-ion Battery with 145mm Cable Kit	P01366-B21	1	
GIS	Factory Integrated	P01366-B21 0D1	1	

Cat	Item	Part number	Qty	Spare
GIS	HPE 480GB SATA 6G Mixed Use SFF SC Multi Vendor SSD	P18432-K21	2	
GIS	Factory Integrated	P18432-K21 0D1	2	
GIS	Data Disks			
GIS	HPE Smart Array P408i-p SR Gen10 (8 Internal Lanes/2GB Cache) 12G SAS PCIe Plug-in Controller	830824-B21	1	
GIS	Factory Integrated	830824-B21 0D1	1	
GIS	HPE Apollo 4500 Gen10 Smart Array E208i-p/P408i-p SAS Cable Kit	874777-B21	1	
GIS	Factory Integrated	874777-B21 0D1	1	
GIS	HPE 18TB SAS 12G Business Critical 7.2K LFF LP 1-year Warranty Helium 512e ISE Multi Vendor HDD	P37669-K21	60	
GIS	Factory Integrated	P37669-K21 0D1	60	
GIS	Network Adapters			
GIS	HPE Ethernet 10/25Gb 2-port FLR-SFP28 BCM57414 Adapter	817709-B21	1	
GIS	Factory Integrated	817709-B21 0D1	1	
GIS	HPE Ethernet 10/25Gb 2-port SFP28 BCM57414 Adapter	817718-B21	2	
GIS	Factory Integrated	817718-B21 0D1	2	
GIS	Security option			
GIS	HPE Trusted Platform Module 2.0 Gen10 Option	864279-B21	1	
GIS	Factory Integrated	864279-B21 0D1	1	
GIS	Power and Cooling			
GIS	HPE 1600W Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit	830272-B21	4	
GIS	Factory Integrated	830272-B21 0D1	4	
GIS	Racking			
GIS	HPE 4U Server Rail Kit	878571-B21	1	
GIS	Factory Integrated	878571-B21 0D1	1	
GIS	HPE s6500 Chassis Handles Kit	608477-B21	1	
GIS	Factory Integrated	608477-B21 0D1	1	
GIS	Licenses			
GIS	HPE OneView including 3yr 24x7 Support Physical 1-server LTU	E5Y34A	1	
GIS	Support			
GIS	HPE 3Y Complete Care Addon Critical with Comprehensive Defective Material Retention Service	HU4D4A3	1	
GIS	HPE Apollo 4510 Gen10 Support	HU4D4A3 ZBH	1	
GIS	HPE One View w/Ilo Support	HU4D4A3 SVN	1	
CAB	**Option: Additional NS IT backend capacity**			
CAB	**Cabling**			
CAB	500m multimode 96 cores fiber optics		1	