

**Pre Bid Queries for Supply and Installation of IT Infra Equipment's against Tender Enquiry No. TPCODL/P&S/100000110/2020-21**

Sl. No.	Detailed Reference to Tender Document. Please specify Document No / Clause No / Page No	Description as per Bid Document	Remarks - Query / Clarification	Response from TPCODL
1	<b>Doc No:</b> NIT No.: TPCODL/P&S/100000110/2021-22/ Annexure II- Technical Specification/ Network Switches: 24 Port L2 Switch/Point 9/ Page 20.	Switch should support min 16 K MAC addresses and min 4000 active VLANs.	Switch should support min 16 K MAC addresses and min 2000 active VLANs.  For Access switch deployment, 2K simultaneous VLANs will be sufficient	Bids will be evaluated as per tender document.
2	<b>Doc No:</b> NIT No.: TPCODL/P&S/100000110/2021-22/ Annexure II- Technical Specification/ Network Switches: 24 Port L2 Switch/Point 18/ Page 20.	The OEM must feature in the Leaders/ Challengers segment of the Gartner Magic Quadrant for Data Center networking in last 3 years	This perticular clause of keep major OEM out of the competition.Kindly amend the same for wider OEM participation.Kindly amend as <b>"The OEM must feature in the Leaders/ Challengers segment of the Gartner Magic Quadrant for Data Center or wired and wireless networking in last 3 years</b>	Bids will be evaluated as per tender document.
3	<b>Doc No:</b> NIT No.: TPCODL/P&S/100000110/2021-22/ Annexure II- Technical Specification/ Network Switches: 24 Port- 10 Gig access switch L3/Point 2/ Page 20.	Switch shall have 16 GB RAM and 16 GB Flash	Please amend <b>"Switch shall have 16 GB RAM and 16 GB Flash/SSD.</b>	Bids will be evaluated as per tender document.
4	<b>Doc No:</b> NIT No.: TPCODL/P&S/100000110/2021-22/ Annexure II- Technical Specification/ Network Switches: 24 Port- 10 Gig access switch L3/Point 8/ Page 20.	Switching system shall have minimum 2 Tbps of switching fabric and minimum 1450 Mpps of forwarding rate.	As per the calacultation and hardware port combination requested it forwarding calculation should be 1000 Mpps or less it coming.Kindly amend the same for wider OEM particiaption <b>"Switching system shall have minimum 2 Tbps of switching fabric and minimum 1000 Mpps of forwarding rate.</b>	Bids will be evaluated as per tender document.
5	<b>Doc No:</b> NIT No.: TPCODL/P&S/100000110/2021-22/ Annexure II- Technical Specification/ Network Switches: 24 Port- 10 Gig access switch L3/Point 11/ Page 20.	Switch shall support application visibility and traffic monitoring with minimum 128 K sflow/jflow/netFlow entries.	Most of the OEM has option to run application telemetry by default and they dont required such very high number flow entries to deliver the functionality.Kindly amend the same as "Switch should support atleast 4K flow entries "	Bids will be evaluated as per tender document.
6	<b>Doc No:</b> NIT No.: TPCODL/P&S/100000110/2021-22/ Annexure II- Technical Specification/ Network Switches: 24 Port- 10 Gig access switch L3/Point 13/ Page 20.	The device should be IPv6 certified from day one	Kindly amend the same as <b>"The device should be IPv6 ready/ certified from day one</b>	Bids will be evaluated as per tender document.
7	<b>Doc No:</b> NIT No.: TPCODL/P&S/100000110/2021-22/ Annexure II- Technical Specification/ Network Switches: 24 Port- 10 Gig access switch L3/Point 14/ Page 21.	Should support IEEE Standards of Ethernet: IEEE 802.1D, 802.1s, 802.1w, 802.1x, 802.3ad, 802.1ae (256-bit and 128-bit AES), 802.3x, 802.1p, 802.1Q, 1588v2	Most of the hardware is still not ready for 1588v2 or Sync or PTP protocol and NTP is widely use for time synchronization.Moreover most of the OEM also using GRE/IPSec / or Vxlan Tunneling features which will give security and interoperability. <b>Kindly dilute MacSec or 802.1ae (256-bit and 128-bit AES) and 1588V2 for wider OEM participation.</b> For wider OEM participation please amend as "Should support IEEE Standards of Ethernet: IEEE 802.1D, 802.1s, 802.1w, 802.1x, 802.3ad, 802.1ae (256-bit and 128-bit AES) or GRE /IPsec or IP tunneling, 802.3x, 802.1p, 802.1Q, 1588v2 or NTP or PTP or equipavent.	"Switch should support IEEE Standards of Ethernet: IEEE 802.1D, 802.1s, 802.1w, 802.3ad, 802.3x, 802.1p, 802.1Q, 802.3, 802.3u, 802.3ab, 802.3z & 1588 or Network Time Protocol (NTP) "
8	<b>Doc No:</b> NIT No.: TPCODL/P&S/100000110/2021-22/ Annexure II- Technical Specification/ Network Switches: 24 Port- 10 Gig access switch L3/Point 15/ Page 21.	Switches should support MACSec encryption (MACSec - 256) for switch-to-switch (internetwork device) security.	most of the OEM also using GRE/IPSec / or Vxlan Tunneling features which will give security and interoperability.Kindly amend the same as <b>"Switches should support MACSec encryption (MACSec -256) or Ipsec or IPTunneling or GRE or equivalent for switch-to-switch (inter- network device) security.</b>	Switches should support MACSec encryption (MACSec -256) or Ipsec or IPTunneling or GRE or equivalent for switch-to-switch (inter- network device) security.
9	<b>Doc No:</b> NIT No.: TPCODL/P&S/100000110/2021-22/ Annexure II- Technical Specification/ Network Switches: 24 Port- 10 Gig access switch L3/Point 17/ Page 21.	Must support BGP, IS-IS, VRF, VXLAN, OSPF , EIGRP, PIM SM, IP SLA, and MPLS.	EIGRP is proportoty protocol and this will keep keep all major OEM out of bidding process.Kindly remove the EIGRP for wider OEM participation.Kindly amend the same as <b>"Must support BGP, IS-IS, VRF, VXLAN, OSPF , PIM SM, IP SLA or equivalent and MPLS.</b>	Must support BGP, IS-IS, VRF, VXLAN, OSPF , PIM SM, IP SLA or equivalent and MPLS.
10	<b>Doc No:</b> NIT No.: TPCODL/P&S/100000110/2021-22/ Annexure II- Technical Specification/ Network Switches: 24 Port- 10 Gig access switch L3/Point 19/ Page 21.	Switch should support management features like SSHv2, SNMPv2c, SNMPv3, IGMP, Netconf/YANG.	Most of the OEM support RestAPI functionality for Automation.Kindly amend the same as <b>"Switch should support management features like SSHv2, SNMPv2c, SNMPv3, IGMP, Netconf/YANG or API or RestAPI</b>	Bids will be evaluated as per tender document.
11	<b>Doc No:</b> NIT No.: TPCODL/P&S/100000110/2021-22/ Annexure II- Technical Specification/ Network Switches: 24 Port- 10 Gig access switch L3/Point 28/ Page 21.	The oEM must feature in the Leaders/ Challengers segment of the Gartner Magic Quadrant for Data Center networking in last 3 years	This perticular clause of keep major OEM out of the competition.Kindly amend the same for wider OEM participation.Kindly amend as <b>"The OEM must feature in the Leaders/ Challengers segment of the Gartner Magic Quadrant for Data Center or wired and wireless networking in last 3 years</b>	Bids will be evaluated as per tender document.
12	<b>Doc No:</b> NIT No.: TPCODL/P&S/100000110/2021-22/ Annexure II- Technical Specification/ Network Switches: 24 Port- 1 Gig Core switch L3/Point 3/ Page 21.	Switch shall have 4 GB RAM and 4 GB Flash	Most of the OEM has Architecture where OS Kernels and Firmware will run on specific hardware ex. 2GB RAM and 2 GB FLASH. There are few OEMs in the industry they required higher RAM and FLash size to run their complex OS.Kindly amend the same as , <b>"Switch shall have 2 GB RAM and 2 GB Flash</b>	Bids will be evaluated as per tender document.
13	<b>Doc No:</b> NIT No.: TPCODL/P&S/100000110/2021-22/ Annexure II- Technical Specification/ Network Switches: 24 Port- 1 Gig Core switch L3/Point 9/ Page 22.	Switch should support atleast 16K flow entries	Most of the OEM has option to run application telemetry by default and they dont required such very high number flow entries to deliver the functionality.Kindly amend the same as <b>"Switch should support atleast 2K flow entries "</b>	Bids will be evaluated as per tender document.

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14	<b>Doc No:</b> NIT No.: TPCODL/P&S/1000000110/2021-22/ Annexure II- Technical Specification/ Network Switches: 24 Port- 1 Gig Core switch L3/Point 14/ Page 22.	Should support advance Layer 3 protocol like EIGRP, VRF, VXLAN, IS-IS, OSPF.	EIGRP is proprototy protocol and this will keep keep all major OEM out of bidding process.Kindly remove the EIGRP for wider OEM participation.Kindly amend the same as " <b>Should support advance Layer 3 protocol like VRF, VXLAN, IS-IS, OSPF.</b> "	Must support BGP, IS-IS, VRF, VXLAN, OSPF , PIM SM, IP SLA or equivalent and MPLS.
15	<b>Doc No:</b> NIT No.: TPCODL/P&S/1000000110/2021-22/ Annexure II- Technical Specification/ Network Switches: 24 Port- 1 Gig Core switch L3/Point 24/ Page 22.	The OEM must feature in the Leaders/ Challengers segment of the Gartner Magic Quadrant for Data Center networking in last 3 years	This perticular clause of keep major OEM out of the competition.Kindly amend the same for wider OEM participation.Kindly amend as " <b>The OEM must feature in the Leaders/ Challengers segment of the Gartner Magic Quadrant for Data Center or wired and wireless networking in last 3 years</b> "	Bids will be evaluated as per tender document.
16	<b>Doc No:</b> NIT No.: TPCODL/P&S/1000000110/2021-22/ Annexure II- Technical Specification/ Router/Point 5/ Page 23.	Router should have minimum 2 GB RAM and 8 GB Flash from day 1.	<p>Please change this Clause to</p> <p>Router should have minimum 2GB RAM and 512MB Flash from day 1</p> <p>Our router is having distributed forwarding architecture where each line card will froward the traffic. Our router is having management module and service processing module and each module is having DDR RAM. Whereas centralised architecture router will process everything in Management module that is why higher flash are required.</p> <p>Our management module is having 2GB DDR SDRAM and 512 MB flash on each management module and service processing module is having 4GB DDR SDRAM</p> <p>Our Router network operating system don't have layered software designed ,so we have made a light kernel with all features built in it.</p> <p>The other OEMs have created layered software and to run the added features, they required higher RAM and Flash to deliver the required performance.</p>	Bids will be evaluated as per tender document.
17	<b>Doc No:</b> NIT No.: TPCODL/P&S/1000000110/2021-22/ Annexure II- Technical Specification/ Router/Point 16/ Page 23.	The OEM must feature in the Leaders/ Challengers segment of the Gartner Magic Quadrant for Data Center networking in last 3 years	<p>Please modify this clause to</p> <p>The OEM must feature in the Leaders/ Challengers segment of the Gartner Magic Quadrant for Data Center networking / /Wired and Wireless LAN access in last 3 years.</p> <p>in the given tender, campus wired component is required. So request you to please add Wired and Wireless LAN access in last 3 years</p>	Bids will be evaluated as per tender document.
18	<b>Doc No:</b> NIT No.: TPCODL/P&S/1000000110/2021-22/ Annexure II- Technical Specification/ Firewall/Point 1/ Page 23.	The proposed security solution must be in the Leader's quadrant in the Gartner "Magic Quadrant for Enterprise Network Firewalls" for atleast 5 years	<p>The proposed security solution must be in the Leader's quadrant in the Gartner "Magic Quadrant for Enterprise/Network Firewalls" for atleast 3 years</p> <p>Gratner has stopped publishing report for "Enterprise Firewall" It is "Network Firewall".</p>	<p>Both are same.</p> <p>Bids will be evaluated as per tender document.</p>
19	<b>Doc No:</b> NIT No.: TPCODL/P&S/1000000110/2021-22/ Annexure II- Technical Specification/ Firewall/Point 4/ Page 23.	Solution Architecture should be distributed deployment - NGFW firewall enabled & centralized Management for Policy management, advance Logging, Reporting features.	<p>The NGFW architecture should have Control Plane separated from the Data Plane in the Device architecture itself, whereby Control Plane should handle Management functions like configuration, logging, reporting and route update &amp; Data Plane should handle Signature matching (like exploits, virus, spyware), Security processing (like apps, users, content/URL, policy match, SSL decryption, app decoding etc) &amp; Network Processing (like flow control, route lookup, MAC lookup, QoS, NAT etc)</p> <p>Few NGFW vendor support all Management, logging and reporting features on box with Control Plane separated from the Data Plane in the Device architecture itself</p>	Bids will be evaluated as per tender document.
20	<b>Doc No:</b> NIT No.: TPCODL/P&S/1000000110/2021-22/ Annexure II- Technical Specification/ Firewall/Point 6/ Page 23.	Proposed solution shall not have been reported for any backdoor vulnerability in their operating system of NGFW in past 3 years.	Proposed solution shall not have been reported for any backdoor vulnerability.	Bids will be evaluated as per tender document.
21	<b>Doc No:</b> NIT No.: TPCODL/P&S/1000000110/2021-22/ Annexure II- Technical Specification/ Firewall/Point 7/ Page 23.	Minimum 2 Gbps of enterprise mix Threat Prevention throughput. The bidder must produce datasheet as publicly available document.	<p>Next Generation Threat prevention throughput 1.6 Gbps or more measured with Application control, IPS, antivirus, antimalware, anti-spyware, antibot, zeroday protection, file blocking, and logging enabled, utilizing 64 KB HTTP/appmix/imix transactions</p> <p>Threat Prevention performance must be measured with all security functions as requested under real world Layer 7 performance with mix of transactions or mix of packets and not only one specific packet size to avoid performance bottleneck. It should not be measured with only IPS, Application control and Logging Enabled as these security controls are not enough to prevent latest advance attacks. Otherwise, performance will drastically reduce in real world traffic mix.</p>	Bids will be evaluated as per tender document.
22	<b>Doc No:</b> NIT No.: TPCODL/P&S/1000000110/2021-22/ Annexure II- Technical Specification/ Firewall/Point 8/ Page 23.	The sized appliance should support minimum 2.4M concurrent sessions	<p>The sized appliance should support minimum 300,000 concurrent sessions with threat prevention features enabled.</p> <p>Number of Concurrent Connection must be measured on layer 7 traffic with all Threat Prevention features enabled and not in ideal testing condition to avoid performance bottleneck. Otherwise Concurrent Connection count will drastically reduce.</p>	Bids will be evaluated as per tender document.
23	<b>Doc No:</b> NIT No.: TPCODL/P&S/1000000110/2021-22/ Annexure II- Technical Specification/ Firewall/Point 9/ Page 23.	The sized appliance should support minimum 65000 new sessions per second	<p>The sized appliance should support minimum 50000 new sessions per second utilizing 1 byte HTTP transactions.</p> <p>It is always recommended to measure new connections with smaller transactions size like 1 byte and not with 64 byte or more. Otherwise, New connection count will degrade more than 50% in real world/ production environment</p>	Bids will be evaluated as per tender document.

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24	Doc No: NIT No.: TPCODL/P&S/1000000110/2021-22/ Annexure II- Technical Specification/ Firewall/Point 11/ Page 23.	The platform must be supplied with minimum 16 x 10/100/1000GE RJ45 inbuilt interfaces excluding Management interface, 2x1G SFP & 1x10G SFP+ Fiber Interface, and should support additional latest 2x2.5G Copper Interface. The device should be quoted in HA.	The platform must be supplied with minimum 8 x 10/100/1000GE RJ45 inbuilt interfaces excluding Management interface.The device should be quoted in HA. Request to remove SFP and SFP+ interfaqce support considering the required performance. It will also provide level play field for major leading OEMs.	Bids will be evaluated as per tender document.
25	Doc No: NIT No.: TPCODL/P&S/1000000110/2021-22/ Annexure II- Technical Specification/ Firewall/Point 12/ Page 23.	Appliance should support dual power supply and SSD support from day 1	Appliance should support dual power supply and internal storage support from day 1	Bids will be evaluated as per tender document.
26	Doc No: NIT No.: TPCODL/P&S/1000000110/2021-22/ Annexure II- Technical Specification/ Firewall/Point 17/ Page 24.	Application control database must contain more than 8000 known applications.	Application control database must contain more than 3500 known applications.  Application database can be different vendor to vendor. Some vendor will identify and control more application using lower number of signature by decoding and heuristic approach. So request to amend the clause	Bids will be evaluated as per tender document.
27	Doc No: NIT No.: TPCODL/P&S/1000000110/2021-22/ Annexure II- Technical Specification/ Firewall/Point 18/ Page 24.	Firewall must support unlimited policy option.	Firewall must support minimum 1000 policy  Unlimited policy will not be recommended considering best practice.	Bids will be evaluated as per tender document.
28	Doc No: NIT No.: TPCODL/P&S/1000000110/2021-22/ Annexure II- Technical Specification/ Firewall/Point 19/ Page 24.	Solution must have a distributed setup i.e. Firewalls in High Availability and separate dedicated Management Server	Firewalls in High Availability mode from day 1. Solution also should support on device or centralized management with complete feature parity on firewall administration.  Few NGFW vendor support all Management, logging and reporting features on box. Request to amend the clause as "should support on device or centralized management"	Bids will be evaluated as per tender document.
29	Doc No: NIT No.: TPCODL/P&S/1000000110/2021-22/ Annexure II- Technical Specification/ Firewall/Point 26/ Page 24.	Solution must have the granularity of administrators that works on parallel on same policy without interfering each other	Solution must have the granularity of administrators that works on parallel on policy without interfering each other Solution could not allow to edit same policy on parallel to avoid conflict. Policy should be locked for other admins when an admin works on the a policy	Bids will be evaluated as per tender document.
30	Doc No: NIT No.: TPCODL/P&S/1000000110/2021-22/ Annexure II- Technical Specification/ Firewall/Point 27/ Page 24.	The management must provide a security rule hit counter in the security policy	The NGFW must provide a security rule hit counter in the security policy	Bids will be evaluated as per tender document.
31	Doc No: NIT No.: TPCODL/P&S/1000000110/2021-22/ Annexure II- Technical Specification/ Firewall/Point 30/ Page 24.	Solution must support adding exceptions to IPS enforcement from the log record	Request to remove	Bids will be evaluated as per tender document.
32	Doc No: NIT No.: TPCODL/P&S/1000000110/2021-22/ Annexure II- Technical Specification/ Datacenter 36U/42U Rack/ Point 2/ Page 25.	Rack should have Proper Locks with handles on both front and rear doors with unique key	Please get the lock changed to front door with Slam lock and rear door with handle lock with common key.	Bid will be evaluated as per tender specification
33	Doc No: NIT No.: TPCODL/P&S/1000000110/2021-22/ Annexure II- Technical Specification/ Datacenter 36U/42U Rack/ Point 6/ Page 25.	All Floor Mounting accessories required to set up the rack. Castors and levelling legs	The rack can be placed on Castor or Levelling Legs	Bid will be evaluated as per tender specification
34	Doc No: NIT No.: TPCODL/P&S/1000000110/2021-22/ Annexure II- Technical Specification/ Datacenter 36U/42U Rack/ Point 10/ Page 25.	Minimum 1000 Kg load and 1400 Kgs overall	Please change the Maximum Load Rating to 1000Kgs	Bid will be evaluated as per tender specification
35	Doc No: NIT No.: TPCODL/P&S/1000000110/2021-22/ Annexure II- Technical Specification/ Datacenter 36U/42U Rack/ Point 11/ Page 25.	Rack should conform to UL Listed	Please remove UL listing.	Bid will be evaluated as per tender specification
36	Doc No: NIT No.: TPCODL/P&S/1000000110/2021-22/ Annexure II- Technical Specification/ Datacenter 36U/42U Rack/ Point 13/ Page 25.	Server rack should be of APC / Rittal / Valvack / Netrack Make	Please include Schneider Electric President in the make.	Bid will be evaluated as per tender specification
37	Doc No: NIT No.: TPCODL/P&S/1000000110/2021-22/ Annexure II- Technical Specification/ Server- Type 1/ Point 2/ Page 26.	Chipset: Intel C600 series chipset or better	Request you to please upgrade to Intel® C620 chipset, in line with asked processor The asked processor fits into this new chipset only.	Bid will be evaluated as per tender specification

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38	<b>Doc No:</b> NIT No.: TPCODL/P&S/1000000110/2021-22/ Annexure II- Technical Specification/ Server-Type 1/ Point 16/ Page 27.	Cables & Accessories: All required LC-LC cable, Ethernet cable, Power cables, sliding rails, mounting kit etc. to be provided	Please mention the required length of LC-LC Cables for FC HBA and 10G SFP+ adpters This will give clarity to quote right cables	Length of LC-LC Cables for FC HBA and 10G SFP+ adpters will be as per the supplied material and its placement within the Data Centre
39	<b>Doc No:</b> NIT No.: TPCODL/P&S/1000000110/2021-22/ Annexure II- Technical Specification/ Server-Type 2/ Point 2/ Page 28.	Chipset: Intel C600 series chipset or better	Request you to please upgrade to Intel® C620 chipset, in line with asked processor The asked processor fits into this new chipset only.	Bid will be evaluated as per tender specification
40	<b>Doc No:</b> NIT No.: TPCODL/P&S/1000000110/2021-22/ Annexure II- Technical Specification/ Server-Type 2/ Point 16/ Page 29.	Cables & Accessories: All required LC-LC cable, Ethernet cable, Power cables, sliding rails, mounting kit etc. to be provided	Please mention the required length of LC-LC Cables for FC HBA and 10G SFP+ adpters This will give clarity to quote right cables	Length of LC-LC Cables for FC HBA and 10G SFP+ adpters will be as per the supplied material and its placement within the Data Centre
41	<b>Doc No:</b> NIT No.: TPCODL/P&S/1000000110/2021-22/ Annexure II- Technical Specification/ Server-Type 3/ Point 1/ Page 29.	Processor: Server should be configured with 1*12C Intel® Xeon® Silver 4214R Processor (16.5M Cache, 2.40 GHz) or higher	Request you to upgrade to latest generation Intel Xeon Silver 16 core 4314 processor( 24 MB Cache, 2.40 GHz)or higher Latest processor with higher performance and longer supportability	Bid will be evaluated as per tender specification
42	<b>Doc No:</b> NIT No.: TPCODL/P&S/1000000110/2021-22/ Annexure II- Technical Specification/ Server-Type 3/ Point 2/ Page 29.	Chipset: Intel C600 series chipset or better	Request you to please upgrade to Intel® C620 chipset, in line with asked processor The asked processor fits into this new chipset only.	Bid will be evaluated as per tender specification
43	<b>Doc No:</b> NIT No.: TPCODL/P&S/1000000110/2021-22/ Annexure II- Technical Specification/ Server-Type 3/ Point 16/ Page 30.	Cables & Accessories: All required LC-LC cable, Ethernet cable, Power cables, sliding rails, mounting kit etc. to be provided	Please mention the required length of LC-LC Cables for FC HBA and 10G SFP+ adpters This will give clarity to quote right cables	Length of LC-LC Cables for FC HBA and 10G SFP+ adpters will be as per the supplied material and its placement within the Data Centre
44	<b>Doc No:</b> NIT No.: TPCODL/P&S/1000000110/2021-22/ Annexure II- Technical Specification/ Server-Type 4/ Point 1/ Page 31.	Processor: Server should be configured with 1*12C Intel® Xeon® Silver 4214R Processor (16.5M Cache, 2.40 GHz) or higher	Request you to upgrade to latest generation Intel Xeon Silver 4309Y processor( 12 MB Cache, 2.80 GHz)or higher Latest processor with higher performance and longer supportability	Bid will be evaluated as per tender specification
45	<b>Doc No:</b> NIT No.: TPCODL/P&S/1000000110/2021-22/ Annexure II- Technical Specification/ Server-Type 4/ Point 2/ Page 31.	Chipset: Intel C600 series chipset or better	Request you to please upgrade to Intel® C620 chipset, in line with asked processor The asked processor fits into this new chipset only.	Bid will be evaluated as per tender specification
46	<b>Doc No:</b> NIT No.: TPCODL/P&S/1000000110/2021-22/ Annexure II- Technical Specification/ Server-Type 4/ Point 16/ Page 31.	Cables & Accessories: All required LC-LC cable, Ethernet cable, Power cables, sliding rails, mounting kit etc. to be provided	Please mention the required length of LC-LC Cables for FC HBA and 10G SFP+ adpters This will give clarity to quote right cables	Length of LC-LC Cables for FC HBA and 10G SFP+ adpters will be as per the supplied material and its placement within the Data Centre
47	<b>Doc No:</b> NIT No.: TPCODL/P&S/1000000110/2021-22/ Annexure II- Technical Specification/ Server-Type 5/ Point 1/ Page 32.	Processor: Server should be configured with 1*12C Intel® Xeon® Silver 4214R Processor (16.5M Cache, 2.40 GHz) or higher	Request you to upgrade to latest generation Intel Xeon Silver 16 core 4314 processor( 24 MB Cache, 2.40 GHz)or higher Latest processor with higher performance and longer supportability	Bid will be evaluated as per tender specification
48	<b>Doc No:</b> NIT No.: TPCODL/P&S/1000000110/2021-22/ Annexure II- Technical Specification/ Server-Type 5/ Point 2/ Page 32.	Chipset: Intel C600 series chipset or better	Request you to please upgrade to Intel® C620 chipset, in line with asked processor The asked processor fits into this new chipset only.	Bid will be evaluated as per tender specification
49	<b>Doc No:</b> NIT No.: TPCODL/P&S/1000000110/2021-22/ Annexure II- Technical Specification/ Server-Type 5/ Point 16/ Page 33.	Cables & Accessories: All required LC-LC cable, Ethernet cable, Power cables, sliding rails, mounting kit etc. to be provided	Please mention the required length of LC-LC Cables for FC HBA and 10G SFP+ adpters This will give clarity to quote right cables	length of LC-LC Cables for FC HBA and 10G SFP+ adpters will be as per the supplied material and its placement within the Data Centre
50	<b>Doc No:</b> NIT No.: TPCODL/P&S/1000000110/2021-22/ Annexure II- Technical Specification/ Tape Library/ Point 1/ Page 34.	<ul style="list-style-type: none"> <li>The Enterprise Class Tape library of minimum 1020TB of native storage capacity using LTO-7 Tapes to be quoted</li> <li>Scalable upto 3060TB native storage capacity.</li> <li>Required LTO-7 tape library with 240 Data cartridge slots and scalable up to 510 slots, 1 robotic arm and 10 cleaning cartridge along with minimum 1-2 numbers of LTO-7 FC Drives and scalable upto 20 drives.</li> <li>Tape drives should support LTO-7 tapes</li> </ul>	Request you to please change the asked scalability of cartridge slots from 510 to 280 maximum. Please confirm whether your ask is for 2 LTO7 drives with 240 cartridge slots from Day 1. This will give us a chance to propose with fully complied product	2 LTO7 drives , 240 data catridges slots scalable up to 510, initially 240 catridges required .
51	<b>Doc No:</b> NIT No.: TPCODL/P&S/1000000110/2021-22/ Bill of Material/ Point 1/ Page 40.	FC Tape Library with tapes - IBM /fujitsu	Please include "DELL" as a preferred make  Dell is a leading OEM for the product, Globally. Also Fujitsu has stopped India operations and cannot be proposed by any bidder - that leave IBM only, without any competition. Inclusion of DELL will make the bid competitive	FC Tape Library with tapes - IBM /fujitsu/DELL/Quantum/HP

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52	<b>Doc No:</b> NIT No.: TPCODL/P&S/100000110/2021-22/ Annexure VII- Scope of Work/Service Level Agreement / Point 7- Delivery Time/ Page 47	The devices should be delivered within 4 weeks and installation of the same should be done in 2 weeks from the date of intimation. (Client will intimate date to bidder for installation of equipment's). Delivery will be accepted at Odisha, India.	Amend Delivery Time to 6-8 weeks and installation to 3-4 weeks as because of Covid delivery is getting impacted.	The delivery requirement is as per tender documents. Bidders to offer their best delivery schedule if they are not able to meet the delivery schedule as per the tender documents
53	<b>Doc No:</b> NIT No.: TPCODL/P&S/100000110/2021-22. <b>Section:</b> 5. Firewall-SI no.1. <b>Page no.</b> 23.	The proposed security solution must be in the Leader's quadrant in the Gartner "Magic Quadrant for Enterprise Network Firewalls" for atleast 5 years	The proposed security solution must be in the Leader's quadrant in the Gartner "Magic Quadrant for Enterprise/Network Firewalls" for atleast 3 years <b>Justification:</b> Gartner has stopped publishing report for "Enterprise Firewall" It is "Network Firewall".	Both are same.  Bids will be evaluated as per tender document.
54	<b>Doc No:</b> NIT No.: TPCODL/P&S/100000110/2021-22. <b>Section:</b> 5. Firewall-SI no.6. <b>Page no.</b> 23.	Proposed solution shall not have been reported for any backdoor vulnerability in their operating system of NGFW in past 3 years.	Proposed solution shall not have any unpatched/open backdoor vulnerability in their operating system of NGFW in past 3 years. <b>Justification:</b> Every product would have vulnerabilities but it is important that these must be fixed/patched on priority. Security systems are need to be updated on continuous basis to cope with any up coming threat. If there there is no vulnerability means no changes in software and no new features added to the same. if unpatched vulnerability is the concern then TPCODL should ask for such system that have not been exposed to any vulnerability since it has developed.	Bids will be evaluated as per tender document.
55	<b>Doc No:</b> NIT No.: TPCODL/P&S/100000110/2021-22. <b>Section:</b> 5. Firewall- SI no.11. <b>Page no.</b> 23.	The platform must be supplied with minimum 16 x 10/100/1000GE RJ45 inbuilt interfaces excluding Management interface, 2x1G SFP & 1x10G SFP+ Fiber Interface, and should support additional latest 2x2.5G Copper Interface. The device should be quoted in HA.	The platform must be supplied with minimum 16 x 10/100/1000GE RJ45 inbuilt interfaces excluding Management interface, 4x1G SFP & 4x10G SFP+ Fiber Interface. The device should be quoted in HA. <b>Justification:</b> Only one or two OEM has 2.5G interface on firewall	Bids will be evaluated as per tender document.
56	<b>Doc No:</b> NIT No.: TPCODL/P&S/100000110/2021-22. <b>Section:</b> 5. Firewall- SI no.9. <b>Page no.</b> 23.	The sized appliance should support minimum 65000 new sessions per second	The sized appliance should support minimum 240,000 new sessions per second <b>Justification:</b> In the point no.8 concurrent session has been asked for 2.4 million, hence new session should be at least 10% of the concurrent session other wise it will become bottle neck solution	Bids will be evaluated as per tender document.
57	<b>Doc No:</b> NIT No.: TPCODL/P&S/100000110/2021-22. <b>Section:</b> 5. Firewall-SI no.17. <b>Page no.</b> 23.	Application control database must contain more than 8000 known applications.	Application control database must contain more than 3000+ known applications & should have options for custom application signature <b>Justification:</b> OEM specific point, thus request you to make the changes to make this generic to ensure maximum participation	Bids will be evaluated as per tender document.
58	<b>Doc No:</b> NIT No.: TPCODL/P&S/100000110/2021-22. <b>Section:</b> 5. Firewall-SI no.18. <b>Page no.</b> 23.	Firewall must support unlimited policy option	Please remove this point <b>Justification:</b> This is OEM specific point, and will hinder other Gartner leaders OEM's from participating freely . Every system has capacity limitation fac is some OEM accept the same and some dose not. Hence request you to do changes and make this generic so that maximum participation can be ensured.	Bids will be evaluated as per tender document.
59	<b>Doc No:</b> NIT No.: TPCODL/P&S/100000110/2021-22. <b>SI: 8 Servers - Type1. Page no.</b> 26.	Chipset: Intel C600 series chipset or better	Request you to please upgrade to Intel® C620 chipset, in line with asked processor <b>Justification:</b> The asked processor fits into this new chipset only.	Bid will be evaluated as per tender specification
60	<b>Doc No:</b> NIT No.: TPCODL/P&S/100000110/2021-22. <b>SI: 8 Servers - Type1. Page no.</b> 27.	Cables & Accessories: All required LC-LC cable, Ethernet cable, Power cables, sliding rails, mounting kit etc. to be provided	Please mention the required length of LC-LC Cables for FC HBA and 10G SFP+ adpters <b>Justification:</b> This will give clarity to quote right cables	length of LC-LC Cables for FC HBA and 10G SFP+ adpters will be as per the supplied material and its placement within the Data Centre
61	<b>Doc No:</b> NIT No.: TPCODL/P&S/100000110/2021-22. <b>SI: 8 Servers - Type 2. Page no.</b> 28.	Chipset: Intel C600 series chipset or better	Request you to please upgrade to Intel® C620 chipset, in line with asked processor <b>Justification:</b> The asked processor fits into this new chipset only.	Bid will be evaluated as per tender specification
62	<b>Doc No:</b> NIT No.: TPCODL/P&S/100000110/2021-22. <b>SI: 8 Servers - Type 2. Page no.</b> 29.	Cables & Accessories: All required LC-LC cable, Ethernet cable, Power cables, sliding rails, mounting kit etc. to be provided	Please mention the required length of LC-LC Cables for FC HBA and 10G SFP+ adpters <b>Justification:</b> This will give clarity to quote right cables	length of LC-LC Cables for FC HBA and 10G SFP+ adpters will be as per the supplied material and its placement within the Data Centre
63	<b>Doc No:</b> NIT No.: TPCODL/P&S/100000110/2021-22. <b>SI: 8 Servers - Type3. Page no.</b> 29.	Processor: Server should be configured with 1*12C Intel® Xeon® Silver 4214R Processor (16.5M Cache, 2.40 GHz) or higher	Request you to upgrade to latest generation Intel Xeon Silver 16 core 4314 processor( (24 MB Cache, 2.40 GHz)or higher <b>Justification:</b> Latest processor with higher performance and longer supportability	Bid will be evaluated as per tender specification
64	<b>Doc No:</b> NIT No.: TPCODL/P&S/100000110/2021-22. <b>SI: 8 Servers - Type 3. Page no.</b> 29.	Chipset: Intel C600 series chipset or better	Request you to please upgrade to Intel® C620 chipset, in line with asked processor <b>Justification:</b> The asked processor fits into this new chipset only.	Bid will be evaluated as per tender specification
65	<b>Doc No:</b> NIT No.: TPCODL/P&S/100000110/2021-22. <b>SI: 8 Servers - Type3. Page no.</b> 30.	Cables & Accessories: All required LC-LC cable, Ethernet cable, Power cables, sliding rails, mounting kit etc. to be provided	Please mention the required length of LC-LC Cables for FC HBA and 10G SFP+ adpters <b>Justification:</b> This will give clarity to quote right cables	length of LC-LC Cables for FC HBA and 10G SFP+ adpters will be as per the supplied material and its placement within the Data Centre
66	<b>Doc No:</b> NIT No.: TPCODL/P&S/100000110/2021-22. <b>SI: 8 Servers - Type4. Page no.</b> 31	Processor: Server should be configured with 1*12C Intel® Xeon® Silver 4214R Processor (16.5M Cache, 2.40 GHz) or higher	Request you to upgrade to latest generation Intel Xeon Silver 4309Y processor( (12 MB Cache, 2.80 GHz)or higher <b>Justification:</b> Latest processor with higher performance and longer supportability	Bid will be evaluated as per tender specification
67	<b>Doc No:</b> NIT No.: TPCODL/P&S/100000110/2021-22. <b>SI: 8 Servers - Type4. Page no.</b> 31	Chipset: Intel C600 series chipset or better	Request you to please upgrade to Intel® C620 chipset, in line with asked processor <b>Justification:</b> The asked processor fits into this new chipset only.	Bid will be evaluated as per tender specification

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69	<b>Doc No:</b> NIT No.: TPCODL/P&S/1000000110/2021-22. <b>Sl: 8</b> Servers - Type5. <b>Page no.</b> 32	Processor: Server should be configured with 1*12C Intel® Xeon® Silver 4214R Processor (16.5M Cache, 2.40 GHz) or higher	Request you to upgrade to latest generation Intel Xeon Silver 16 core 4314 processor( (24 MB Cache, 2.40 GHz)or higher Justification: Latest processor with higher performance and longer supportability	Bid will be evaluated as per tender specification
70	<b>Doc No:</b> NIT No.: TPCODL/P&S/1000000110/2021-22. <b>Sl: 8</b> Servers - Type5. <b>Page no.</b> 32	Chipset: Intel C600 series chipset or better	Request you to please upgrade to Intel® C620 chipset, in line with asked processor Justification: The asked processor fits into this new chipset only.	Bid will be evaluated as per tender specification
71	<b>Doc No:</b> NIT No.: TPCODL/P&S/1000000110/2021-22. <b>Sl: 8</b> Servers - Type5. <b>Page no.</b> 33	Cables & Accessories: All required LC-LC cable, Ethernet cable, Power cables, sliding rails, mounting kit etc. to be provided	Please mention the required length of LC-LC Cables for FC HBA and 10G SFP+ adpters Justification: This will give clarity to quote right cables	length of LC-LC Cables for FC HBA and 10G SFP+ adpters will be as per the supplied material and its placement within the Data Centre
72	<b>Doc No:</b> NIT No.: TPCODL/P&S/1000000110/2021-22. <b>Sl: 9</b> Tape Library - <b>Page no.</b> 34	<ul style="list-style-type: none"> <li>The Enterprise Class Tape library of minimum 1020TB of native storage capacity using LTO-7 Tapes to be quoted</li> <li>Scalable upto 3060TB native storage capacity.</li> <li>Required LTO-7 tape library with 240 Data cartridge slots and scalable up to 510 slots, 1 robotic arm and 10 cleaning cartridge along with minimum 1-2 numbers of LTO-7 FC Drives and scalable upto 20 drives.</li> <li>Tape drives should support LTO-7 tapes</li> </ul>	Request you to please change the asked scalability of cartridge slots from 510 to 280 maximum. Please confirm whether your ask is for 2 LTO7 drives with 240 cartridge slots from Day 1. Justification: This will give us a chance to propose with fully complied product	2 LTO7 drives , 240 data catridges slots scalable up to 510, initially 240 catridges required .
73	<b>Doc No:</b> NIT No.: TPCODL/P&S/1000000110/2021-22. <b>Bill of Materials Page no.</b> 40	FC Tape Library with tapes - IBM /fujitsu	Please include "DELL" as a preferred make Justification: Dell is a leading OEM for the product, Globally. Also Fujitsu has stopped India operations and cannot be proposed by any bidder - that leave IBM only, without any competition. Inclusion of DELL will make the bid competitive	FC Tape Library with tapes - IBM /fujitsu/DELL/Quantum/HP
74	<b>Doc No:</b> NIT No.: TPCODL/P&S/1000000110/2021-22. <b>Section:</b> 5. Firewall-SI no.1. <b>Page no.</b> 23.	The proposed security solution must be in the Leader's quadrant in the Gartner "Magic Quadrant for Enterprise Network Firewalls" for atleast 5 years	The proposed security solution must be in the Leader's quadrant in the Gartner "Magic Quadrant for Enterprise/Network Firewalls" for atleast 3 years. Justification: Gratner has stopped publishing report for "Enterprise Firewall" It is "Network Firewall".	Both are same.  <b>Bids will be evaluated as per tender document.</b>
75	<b>Doc No:</b> NIT No.: TPCODL/P&S/1000000110/2021-22. <b>Section:</b> 5. Firewall-SI no.6. <b>Page no.</b> 23.	Proposed solution shall not have been reported for any backdoor vulnerability in their operating system of NGFW in past 3 years.	Proposed solution shall not have any unpatched/open backdoor vulnerability in their operating system of NGFW in past 3 years. Justification: Every product would have vulnerabilities but it is important that these must be fixed/patched on priority. Security systems are need to be updated on continuous basis to cope with any up coming threat. If there there is no vulnerability means no changes in software and no new features added to the same. if unpatched vulnerability is the concern then TPCODL should ask for such system that have not been exposed to any vulnerability since it has developed.	Bids will be evaluated as per tender document.
76	<b>Doc No:</b> NIT No.: TPCODL/P&S/1000000110/2021-22. <b>Section:</b> 5. Firewall- SI no.11. <b>Page no.</b> 23.	The platform must be supplied with minimum 16 x 10/100/1000GE RJ45 inbuilt interfaces excluding Management interface, 2x1G SFP & 1x10G SFP+ Fiber Interface, and should support additional latest 2x2.5G Copper Interface. The device should be quoted in HA.	The platform must be supplied with minimum 16 x 10/100/1000GE RJ45 inbuilt interfaces excluding Management interface, 4x1G SFP & 4x10G SFP+ Fiber Interface. The device should be quoted in HA. Justification: Only one or two OEM has2.5G interface on firewall	Bids will be evaluated as per tender document.
77	<b>Doc No:</b> NIT No.: TPCODL/P&S/1000000110/2021-22. <b>Section:</b> 5. Firewall- SI no.9. <b>Page no.</b> 23.	The sized appliance should support minimum 65000 new sessions per second	The sized appliance should support minimum 240,000 new sessions per second Justification:In the point no.8 concurrent session has been asked for 2.4 million, hence new session should be at leaset 10% of the concurrent seesion other wise it will become bottle neck solution	Bids will be evaluated as per tender document.
78	<b>Doc No:</b> NIT No.: TPCODL/P&S/1000000110/2021-22. <b>Section:</b> 5. Firewall-SI no.17. <b>Page no.</b> 23.	Application control database must contain more than 8000 known applications.	Application control database must contain more than 3000+ known applications & should have options for custom application signatureOEM Justification: specific point, thus request you to make the changes to make this generic to ensure maximum participation	Bids will be evaluated as per tender document.
79	<b>Doc No:</b> NIT No.: TPCODL/P&S/1000000110/2021-22. <b>Section:</b> 5. Firewall-SI no.18. <b>Page no.</b> 23.	Firewall must support unlimited policy option	Please remove this point  This is OEM specific point, and will hinder other Gartner leaders OEM's from participating freely . Every system has capacity limitation fac is some OEM accept the same and some dose not. Hence request you to do changes and make this generic so that maximum participation can be ensured.	Bids will be evaluated as per tender document.
80	<b>Doc No:</b> NIT No.: TPCODL/P&S/1000000110/2021-22. <b>Clause:</b> 3 <b>Page no.</b> 21.	Network Switches: Switch - 24 port - 1Gig Core switch L3	Switch shall have 4 GB RAM and 4 GB Flash  Most of the OEM has Architecture where OS Kernels and Firmware will run on specific hardware ex. 2GB RAM and 2 GB FLASH. There are few OEMs in the industry they required higher RAM and FLash size to run their complex OS.Kindly amend the same as ,"Switch shall have 2 GB RAM and 2 GB Flash	Bids will be evaluated as per tender document.
81	<b>Doc No:</b> NIT No.: TPCODL/P&S/1000000110/2021-22. <b>Clause:</b> 9. <b>Page no.</b> 22.	Network Switches: Switch - 24 port - 1Gig Core switch L3	Switch should support atleast 16K flow entries  Most of the OEM has option to run application telemetry by default and they dont required such very high number flow entries to deliver the functionality.Kindly amend the same as "Switch should support atleast 2K flow entries "	Bids will be evaluated as per tender document.
82	<b>Doc No:</b> NIT No.: TPCODL/P&S/1000000110/2021-22. <b>Clause:</b> 14 <b>Page no.</b> 22.	Network Switches: Switch - 24 port - 1Gig Core switch L3	Should support advance Layer 3 protocol like EIGRP, VRF, VXLAN, IS-IS, OSPF.  EIGRP is proportoty protocol and this will keep keep all major OEM out of bidding process.Kindly remove the EIGRP for wider OEM participation.Kindly amend the same as "Should support advance Layer 3 protocol like VRF, VXLAN, IS-IS, OSPF.	Should support advance Layer 3 protocol like VRF, VXLAN, IS-IS, OSPF.

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83	Doc No: NIT No.: TPCODL/P&S/1000000110/2021-22. Clause: 24 Page no. 22.	Network Switches: Switch - 24 port - 1Gig Core switch L3	The OEM must feature in the Leaders/ Challengers segment of the Gartner Magic Quadrant for Data Center networking in last 3 years  This perticular clause of keep major OEM out of the competition.Kindly amend the same for wider OEM participation.Kindly amend as "The OEM must feature in the Leaders/ Challengers segment of the Gartner Magic Quadrant for Data Center or wired and wireless networking in last 3 years	Bids will be evaluated as per tender document.
84	Doc No: NIT No.: TPCODL/P&S/1000000110/2021-22. Clause: 2 Page no. 20.	Network Switches: Switch - 24 port - 10 Gig access switch L3	Switch shall have 16 GB RAM and 16 GB Flash Justification: Please amend "Switch shall have 16 GB RAM and 16 GB Flash/SSD.	Bids will be evaluated as per tender document.
85	Doc No: NIT No.: TPCODL/P&S/1000000110/2021-22. Clause: 8 Page no. 20.	Network Switches: Switch - 24 port - 10 Gig access switch L3	Switching system shall have minimum 2 Tbps of switching fabric and minimum 1450 Mpps of forwarding rate. Justification: As per the calacultation and hardware port combination requested it forwarding calculation should be 1000 Mpps or less it coming.Kindly amend the same for wider OEM particiaption "Switching system shall have minimum 2 Tbps of switching fabric and minimum 1000 Mpps of forwarding rate.	Bids will be evaluated as per tender document.
86	Doc No: NIT No.: TPCODL/P&S/1000000110/2021-22. Clause: 11 Page no. 20.	Network Switches: Switch - 24 port - 10 Gig access switch L3	Switch shall support application visibility and traffic monitoring with minimum 128 K sflow/jflow/netFlow entries. Justification: Most of the OEM has option to run application telemetry by default and they dont required such very high number flow entries to deliver the functionality.Kindly amend the same as "Switch should support atleast 4K flow entries "	Bids will be evaluated as per tender document.
87	Doc No: NIT No.: TPCODL/P&S/1000000110/2021-22. Clause: 13 Page no. 20.	Network Switches: Switch - 24 port - 10 Gig access switch L3	The device should be IPv6 certified from day one Justification: Kindly amend the same as "The device should be IPv6 ready/ certified from day one	Bids will be evaluated as per tender document.
88	Doc No: NIT No.: TPCODL/P&S/1000000110/2021-22. Clause: 14 Page no. 21.	Network Switches: Switch - 24 port - 10 Gig access switch L3	Should support IEEE Standards of Ethernet: IEEE 802.1D, 802.1s, 802.1w, 802.1x, 802.3ad, 802.1ae (256-bit and 128-bit AES), 802.3x, 802.1p, 802.1Q, 1588v2 Justification: Most of the hardware is still not ready for 1588v2 or Sync or PTP protocol and NTP is widely use for time synchronization.Moreover most of the OEM also using GRE/IPSec / or Vxlan Tunneling features which will give security and interoperability.Kindly dilute MacSec or 802.1ae (256-bit and 128-bit AES) and 1588V2 for wider OEM participation. For wider OEM participation please amend as "Should support IEEE Standards of Ethernet: IEEE 802.1D, 802.1s, 802.1w, 802.1x, 802.3ad, 802.1ae (256-bit and 128-bit AES) or GRE /IPsec or IP tunneling, 802.3x, 802.1p, 802.1Q, 1588v2 or NTP or PTP or equivapent.	"Switch should support IEEE Standards of Ethernet: IEEE 802.1D, 802.1s, 802.1w, 802.3ad, 802.3x, 802.1p, 802.1Q, 802.3, 802.3u, 802.3ab, 802.3z & 1588 or Network Time Protocol (NTP) ".
89	Doc No: NIT No.: TPCODL/P&S/1000000110/2021-22. Clause: 15 Page no. 21.	Network Switches: Switch - 24 port - 10 Gig access switch L3	Switches should support MACSec encryption (MACSec -256) for switch-to-switch (inter- network device) security. Justification: most of the OEM also using GRE/IPSec / or Vxlan Tunneling features which will give security and interoperability.Kindly amend the same as "Switches should support MACSec encryption (MACSec -256) or Ipsec or IPTunneling or GRE or equivalent for switch-to-switch (inter- network device) security.	Switches should support MACSec encryption (MACSec -256) or Ipsec or IPTunneling or GRE or equivalent for switch-to-switch (inter- network device) security.
90	Doc No: NIT No.: TPCODL/P&S/1000000110/2021-22. Clause: 17 Page no. 21.	Network Switches: Switch - 24 port - 10 Gig access switch L3	Must support BGP, IS-IS, VRF, VXLAN, OSPF, EIGRP, PIM SM, IP SLA, and MPLS. Justification: EIGRP is proportoty protocol and this will keep keep all major OEM out of bidding process.Kindly remove the EIGRP for wider OEM participation.Kindly amend the same as "Must support BGP, IS-IS, VRF, VXLAN, OSPF, PIM SM, IP SLA or equivalent and MPLS.	Must support BGP, IS-IS, VRF, VXLAN, OSPF, PIM SM, IP SLA, and MPLS.
91	Doc No: NIT No.: TPCODL/P&S/1000000110/2021-22. Clause: 19 Page no. 21.	Network Switches: Switch - 24 port - 10 Gig access switch L3	Switch should support management features like SSHv2, SNMPv2c, SNMPv3, IGMP, Netconf/YANG. Justification: Most of the OEM support RestAPI functionality for Automation.Kindly amend the same as "Switch should support management features like SSHv2, SNMPv2c, SNMPv3, IGMP, Netconf/YANG or API or RestAPI	Bids will be evaluated as per tender document.
92	Doc No: NIT No.: TPCODL/P&S/1000000110/2021-22. Clause: 28 Page no. 21.	Network Switches: Switch - 24 port - 10 Gig access switch L3	The OEM must feature in the Leaders/ Challengers segment of the Gartner Magic Quadrant for Data Center networking in last 3 years Justification: This perticular clause of keep major OEM out of the competition.Kindly amend the same for wider OEM participation.Kindly amend as "The OEM must feature in the Leaders/ Challengers segment of the Gartner Magic Quadrant for Data Center or wired and wireless networking in last 3 years	Bids will be evaluated as per tender document.
93	Doc No: NIT No.: TPCODL/P&S/1000000110/2021-22. Clause: 18 Page no. 20.	Network Switches: Switch - 24 Port L2 Switch	The OEM must feature in the Leaders/ Challengers segment of the Gartner Magic Quadrant for Data Center networking in last 3 years Justification: This perticular clause of keep major OEM out of the competition.Kindly amend the same for wider OEM participation.Kindly amend as "The OEM must feature in the Leaders/ Challengers segment of the Gartner Magic Quadrant for Data Center or wired and wireless networking in last 3 years	Bids will be evaluated as per tender document.
94	Doc No: NIT No.: TPCODL/P&S/1000000110/2021-22. SI: 8 Servers - Type1. Page no. 26.	Chipset: Intel C600 series chipset or better	Request you to please upgrade to Intel® C620 chipset, in line with asked processor Justification:The asked processor fits into this new chipset only.	Bid will be evaluted as per tender specification
95	Doc No: NIT No.: TPCODL/P&S/1000000110/2021-22. SI: 8 Servers - Type1. Page no. 27.	Cables & Accessories: All required LC-LC cable, Ethernet cable, Power cables, sliding rails, mounting kit etc. to be provided	Please mention the required length of LC-LC Cables for FC HBA and 10G SFP+ adpters Justification: This will give clarity to quote right cables	length of LC-LC Cables for FC HBA and 10G SFP+ adpters will be as per the supplied material and its placement within the Data Centre
96	Doc No: NIT No.: TPCODL/P&S/1000000110/2021-22. SI: 8 Servers - Type 2. Page no. 28.	Chipset: Intel C600 series chipset or better	Request you to please upgrade to Intel® C620 chipset, in line with asked processor The asked processor fits into this new chipset only.	Bid will be evaluted as per tender specification
97	Doc No: NIT No.: TPCODL/P&S/1000000110/2021-22. SI: 8 Servers - Type 2. Page no. 29.	Cables & Accessories: All required LC-LC cable, Ethernet cable, Power cables, sliding rails, mounting kit etc. to be provided	Please mention the required length of LC-LC Cables for FC HBA and 10G SFP+ adpters Justification: This will give clarity to quote right cables	length of LC-LC Cables for FC HBA and 10G SFP+ adpters will be as per the supplied material and its placement within the Data Centre

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99	Doc No: NIT No.: TPCODL/P&S/1000000110/2021-22. Sl: 8 Servers - Type 3. Page no. 29.	Chipset: Intel C600 series chipset or better	Request you to please upgrade to Intel® C620 chipset, in line with asked processor The asked processor fits into this new chipset only.	Bid will be evaluated as per tender specification
100	Doc No: NIT No.: TPCODL/P&S/1000000110/2021-22. Sl: 8 Servers - Type3. Page no. 30.	Cables & Accessories: All required LC-LC cable, Ethernet cable, Power cables, sliding rails, mounting kit etc. to be provided	Please mention the required length of LC-LC Cables for FC HBA and 10G SFP+ adpters Justification: This will give clarity to quote right cables	length of LC-LC Cables for FC HBA and 10G SFP+ adpters will be as per the supplied material and its placement within the Data Centre
101	Doc No: NIT No.: TPCODL/P&S/1000000110/2021-22. Sl: 8 Servers - Type4. Page no. 31	Processor: Server should be configured with 1*12C Intel® Xeon® Silver 4214R Processor (16.5M Cache, 2.40 GHz) or higher	Request you to upgrade to latest generation Intel Xeon Silver 4309Y processor( 12 MB Cache, 2.80 GHz)or higher Justification:Latest processor with higher performance and longer supportability	Bid will be evaluated as per tender specification
102	Doc No: NIT No.: TPCODL/P&S/1000000110/2021-22. Sl: 8 Servers - Type4. Page no. 31	Chipset: Intel C600 series chipset or better	Request you to please upgrade to Intel® C620 chipset, in line with asked processor Justification: The asked processor fits into this new chipset only.	Bid will be evaluated as per tender specification
103	Doc No: NIT No.: TPCODL/P&S/1000000110/2021-22. Sl: 8 Servers - Type4. Page no. 31	Cables & Accessories: All required LC-LC cable, Ethernet cable, Power cables, sliding rails, mounting kit etc. to be provided	Please mention the required length of LC-LC Cables for FC HBA and 10G SFP+ adpters. Justification:This will give clarity to quote right cables	length of LC-LC Cables for FC HBA and 10G SFP+ adpters will be as per the supplied material and its placement within the Data Centre
104	Doc No: NIT No.: TPCODL/P&S/1000000110/2021-22. Sl: 8 Servers - Type5. Page no. 32	Processor: Server should be configured with 1*12C Intel® Xeon® Silver 4214R Processor (16.5M Cache, 2.40 GHz) or higher	Request you to upgrade to latest generation Intel Xeon Silver 16 core 4314 processor( 24 MB Cache, 2.40 GHz)or higher Latest processor with higher performance and longer supportability	Bid will be evaluated as per tender specification
105	Doc No: NIT No.: TPCODL/P&S/1000000110/2021-22. Sl: 8 Servers - Type5. Page no. 32	Chipset: Intel C600 series chipset or better	Request you to please upgrade to Intel® C620 chipset, in line with asked processor The asked processor fits into this new chipset only.	Bid will be evaluated as per tender specification
106	Doc No: NIT No.: TPCODL/P&S/1000000110/2021-22. Sl: 8 Servers - Type5. Page no. 33	Cables & Accessories: All required LC-LC cable, Ethernet cable, Power cables, sliding rails, mounting kit etc. to be provided	Please mention the required length of LC-LC Cables for FC HBA and 10G SFP+ adpters. This will give clarity to quote right cables	length of LC-LC Cables for FC HBA and 10G SFP+ adpters will be as per the supplied material and its placement within the Data Centre
107	Doc No: NIT No.: TPCODL/P&S/1000000110/2021-22. Sl: 9 Tape Library - Page no. 34	<ul style="list-style-type: none"> <li>The Enterprise Class Tape library of minimum 1020TB of native storage capacity using LTO-7 Tapes to be quoted</li> <li>Scalable upto 3060TB native storage capacity.</li> <li>Required LTO-7 tape library with 240 Data cartridge slots and scalable up to 510 slots, 1 robotic arm and 10 cleaning cartridge along with minimum 1-2 numbers of LTO-7 FC Drives and scalable upto 20 drives.</li> <li>Tape drives should support LTO-7 tapes</li> </ul>	Request you to please change the asked scalability of cartridge slots from 510 to 280 maximum. Please confirm whether your ask is for 2 LTO7 drives with 240 cartridge slots from Day 1. This will give us a chance to propose with fully complied product	2 LTO7 drives , 240 data catridges slots scalable up to 510, initially 240 catridges required .
108	Doc No: NIT No.: TPCODL/P&S/1000000110/2021-22. Bill of Materials Page no. 40	FC Tape Library with tapes - IBM /fujitsu	Please include "DELL" as a preferred make. Dell is a leading OEM for the product, Globally. Also Fujitsu has stopped India operations and cannot be proposed by any bidder - that leave IBM only, without any competition. Inclusion of DELL will make the bid competitive	FC Tape Library with tapes - IBM /fujitsu/DELL/Quantum/HP
109	NIT No.: TPCODL/P&S/1000000110/2021-22/Bill of material/P.g.40/S.No.1	FC Tape Library with tapes	Requesting to include Quantum in Preferable OEM's list. Quantum Tape library comply for the required specifications. Hence requesting to include Quantum in Preferable OEM's list.	FC Tape Library with tapes - IBM /fujitsu/DELL/Quantum/HP
110	NIT No.: TPCODL/P&S/1000000110/2021-22/9. Tape Library/P.g.34/S.No.1	<ul style="list-style-type: none"> <li>The Enterprise Class Tape library of minimum 1020TB of native storage capacity using LTO-7 Tapes to be quoted</li> <li>Scalable up to 3060 TB native storage capacity.</li> <li>Required LTO-7 tape library with 240 Data cartridge slots and scalable up to 720 slots, 1 robotic arm and 10 Cleaning slots along with minimum 1-2numbers of LTO-7 Drives and scalable up to 20 drives.</li> <li>Tape drives should support LTO-7 tapes</li> </ul>	LTO Drives comes in Half height and Full height configuration. Half Height Drives are lesser reliable comparing to Full Height Drives along with some additional Technical Challenges. Hence, Request you to kindly mention as Full Height LTO-7 Drives.  Having a Full Height Drives is an important advantage for the infrastructure for the reliable Backup infra. As Full Height Drives technically is much better and reliable Drives. Maximum uncompressed speeds valid for full height drives. Half height drives may not attain the same speed. Kindly Refer to the open link: <a href="https://en.wikipedia.org/wiki/Linear_Tape-Open">https://en.wikipedia.org/wiki/Linear_Tape-Open</a>	Bid will be evaluated as per tender specification
111	NIT No.: TPCODL/P&S/1000000110/2021-22/9. Tape Library/P.g.34/S.No.10	The Tape Library should be SMI-S/ (SNMP& SMTP) compl	SMI-S was an old functionality, It was used in earlier models but latest functionality is being utilized by SNMP. Hence request you to pls remove the SMI-S from the Clause and make it as "The Tape Library should be SMMP complaint. SMI-S was an old functionality, It was used in earlier models but latest functionality is being utilized by SNMP. Hence request you to pls remove the SMI-S from the Clause and make it as "The Tape Library should be SMMP complaint.	SNMP and SMTP required
112	NIT No.: TPCODL/P&S/1000000110/2021-22/9. Tape Library/P.g.34/S.No.14	Tape library shifting and movement of old and new library within datacenter building should be under vendor scope	Movement of Old Tape Library should be coming under Bidder's scope. Installation of the New Tape Library should be on Vendor/ OEM scope only. As bidders takes care of this opertaion generally and OEM of some product may not be knwing the activity of moving the older tapes and may create the unwanted situation for EU. Hence requesting you to put this Bidders scope to move the older Tape.	Bid will be evaluated as per tender specification



**Pre Bid Queries for Supply and Installation of IT Infra Equipment's against Tender Enquiry No. TPCODL/P&S/100000110/2020-21**

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113	NIT No.: TPCODL/P&S/100000110/2021-22/9. Tape Library/P.g.34/S.No.15	Tape Library must support capacity expansion and path failover.	Path Fail is not explaining which path failover. There is two path failover in the Library, One is Data path Fail over and other is Control Path Failover. Data path provides the redundancy to the Data path and Control path Failover provides redundancy for Robotic arm as that is the single Item and will not have redundancy. So having the Control path Failover provides the Redundant Control path for Robotic Arm in the Library. Hence Request you to change it to " Tape Library must support capacity expansion and Data and Control path failover. Path Fail is not explaining which path failover. There is two path failover in the Library, One is Data path Fail over and other is Control Path Failover. Data path provides the redundancy to the Data path and Control path Failover provides redundancy for Robotic arm as that is the single Item and will not have redundancy. So having the Control path Failover provides the Redundant Control path for Robotic Arm in the Library. Hence Request you to change it to " Tape Library must support capacity expansion and Data and Control path failover.	Bid will be evaluated as per tender specification
114	NIT No.: TPCODL/P&S/100000110/2021-22/9. Tape Library/P.g.34/S.No.16	Proposed equipment should have a roadmap for next 7 years.	Need clarification- Roadmap means to you is End of Sale. End of Sale means that the offered Product should be declared as on date as End of Sale. But any product end of sale can be supported and can be under AMC even after end of Sale. Request you to pls change it to"Proposed equipment should not have declared End of Sale and should provide support up to 7 Years as per the warranty".  Roadmap means to you is End of Sale. End of Sale means that the offered Product should be declared as on date as End of Sale. But any product end of sale can be supported and can be under AMC even after end of Sale. Asking Warranty terms as per the need can be factored in the BoM by submitting the proposals from the bidders.	Bid will be evaluated as per tender specification
115	NIT No.: TPCODL/P&S/100000110/2021-22/9. Tape Library/P.g.35/S.No.22	OEMs must be in the Gartner Lead quadrant of Physical Tape library for at least once in last 3 years.	Gartner does not have any magic quadrant for Physical Tape Library. Hence Request for Removal.  Kindly Remove the clause as Gartner only publish the magic Quadrant for Storage, Backup Software, PBBA, Flash Storage etc.. But not for Physical Tape Library.	Point Removed...
116	NIT No.: TPCODL/P&S/100000110/2021-22/9. Tape Library/P.g.35/S.No.23	The proposed Tape library should integrate with iNMS tools such as CA, IBM, HP etc.	Tape Library can support SNMP as a Protocol bywhich the Tape library can be integrated with the Simple Network management protocol. Specific to IBM or HP no other Tape library will be supporting. Hence pls change the clause as "The Proposed Tape Library should support SNMP for Network Management."  Clause should be standard so that it can intergrated using the Protocol as SNMP, if IBM & HP names are there then only IBM or HP will have lead to propose their own Tape Library.	The proposed Tape library should integrate with iNMS tools such as CA, IBM, HP, Nagios etc.
117	<b>1.7 Qualification Criterion</b> Point No.3, Pg. No.7	The bidder should have executed either three projects of similar nature with an order value of Rs. 3 Cr. each or two single order of Rs. 5 Cr. each or one single order of Rs.10 Cr. during last 5 years. PO Copies shall be submitted as a proof. Bidder must provide list of references and contact information for similar projects. TPCODL reserves the right to cross check the same from the references provided.	We request you to consider any three projects or two projects with total value coming to Rs. 10Cr.in last 8 years Instead of two or three projects of equal value in last 5 years	Bids will be evaluated as per tender document.
118	<b>Specifications for 24 Port L2 POE Switch</b>  9	Switch should support min 16 K MAC addresses and min 4000 active VLANS.	Switch should support min 16 K MAC addresses and min 2000 active VLANS.  For Access switch deployment, 2K simultaneous VLANs will be sufficient	Bids will be evaluated as per tender document.
119	  18	The OEM must feature in the Leaders/ Challengers segment of the Gartner Magic Quadrant for Data Center networking in last 3 years	Please modify this clause to  The OEM must feature in the Leaders/ Challengers segment of the Gartner Magic Quadrant for Data Center networking / /Wired and Wireless LAN access in last 3 years.  in the given tender, campus wired component is required. So request you to please add Wired and Wireless LAN access in last 3 years	Bids will be evaluated as per tender document.
120	<b>Network Switches: Switch - 24 port - 10 Gig access switch L3</b>  2	Switch shall have 16 GB RAM and 16 GB Flash	Please change to "Switch should have minimum 8 GB RAM and 1 GB Flash". Since switches are ASIC based, RAM and Flash are non-consequential for performance. Gbps performance is more relevant in access switch.  Our switch network operating system don't have layered software designed ,so we have made a light kernel with all features built in it.  The other OEMs have created layered software and to run the added features, they required higher RAM and Flash to deliver the required performance.	Bids will be evaluated as per tender document.
121	  6	Switch should support 2*40/100G or 8*10G/25G Network Card in Future.	Please clarify.  If we propose 32 port 10/25G switch instead of 24 port 10/25G switch from day one , will it be complied with this cluse or not.	Bidder has to meet the minimum specifications & can quote a device with higher specifications.

**Pre Bid Queries for Supply and Installation of IT Infra Equipment's against Tender Enquiry No. TPCODL/P&S/100000110/2020-21**

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122	8	Switching system shall have minimum 2 Tbps of switching fabric and minimum 1450 Mpps of forwarding rate.	Please change to "Switching system shall have minimum 1.6 Tbps of switching fabric and minimum 1145 Mpps of forwarding rate". For 24x 10/25 G and 2x40/100G port the total throughput will be 1.6Tbps and packet performance will be 1145 Mpps	Bids will be evaluated as per tender document.
123	10	Switch should support minimum 5K ACLs, 8K Multicast and 39K IPv4 & 19K IPv6 Routes or higher.	Please change to " Switch should support minimum 4K ACLs, 4K Multicast and 39K IPv4 & 19K IPv6 Routes or higher. ."  Such a higher ACL is not required in the switch, as per best practice design ACL will be put on firewall.  4000 multicast source will not be there in current network setup.  A multicast routing protocol is a mechanism for constructing a loop-free shortest path from a source host that sends data to the multiple destinations that receives the data. IPV4 uses Class D address (224.0.0.0 to 239.255.255.255) and allowing a host to send a single data stream to a subset of all hosts (group transmission) concurrently. So number of Multicast route is depend on number of multicast source in the network.	Bids will be evaluated as per tender document.
124	11	Switch shall support application visibility and traffic monitoring with minimum 128 K sflow/jflow/netFlow entries.	Please change to this clause to  Switch shall support application visibility and traffic monitoring with minimum 128 K jflow/netFlow entries or sflow.  Flow entries are required in Netflow/jflow protocol. NetFlow/jflow is OEM specific protocol which works on number of flow where as sFlow does not work based on number of flow. Sflow does not defined number of flow.  NetFlow is flow export protocols that aim at aggregating packets into flows. After that, flow records are sent to a collection point for storage and analysis. sFlow, however, has no notion of flows or packet aggregation at all.  sFlow allows for exporting packet data chunks and interface counters, which are non-typical features of flow export protocols.  While flow export can be performed with 1:1 sampling (i.e., considering every packet), this is typically not possible with sFlow, as it was not designed to do so. Sampling forms an integral part of sFlow, aiming to provide scalability for network-wide monitoring. Please remove " 802.1ae (256-bit and 128-bit AES)	Bids will be evaluated as per tender document.
125	14	Should support IEEE Standards of Ethernet: IEEE 802.1D, 802.1s, 802.1w, 802.1x, 802.3ad, 802.1ae (256-bit and 128-bit AES), 802.3x, 802.1p, 802.1Q, 1588v2	Please change to "switch should support IEEE 1588 or Network Time Protocol (NTP) "  Please change to  "Switch should support IEEE Standards of Ethernet: IEEE 802.1D, 802.1s, 802.1w, 802.3ad, 802.3x, 802.1p, 802.1Q, 802.3, 802.3u, 802.3ab, 802.3z & 1588 or Network Time Protocol (NTP) ".  MACsec encryption is required when two sites are connected on service provider P2P link. This is not required in secure campus network.  IEEE 802.1AE MACsec encryption is required when two sites are connected on service provider P2P link. This is not required in campus network.  MACsec only operates on layer 2, so it can only protect a single LAN, and offers no protection when traffic is routed. This single LAN can be a physical LAN, or a virtual LAN, such as those provided by overlay network technologies like VXLAN, GENEVE, etc.  MACsec also cannot protect against malicious layer 3 traffic coming from a different network interface, on a machine connected to multiple LANs. For example, attacks that rely on forcing traffic to leave from other interfaces, using ARP spoofing or IP redirects, cannot be prevented using MACsec alone. As always with security-related matters, careful configuration is necessary to eliminate flaws that lead to a weakening of the entire setup.  PTP and NTP is both are network time protocol.NTP is a unicast protocol. That's a point-to-point UDP transaction. PTP defaults to a multicast protocol - so broadcast messages are sent across the network for every packet.	"Switch should support IEEE Standards of Ethernet: IEEE 802.1D, 802.1s, 802.1w, 802.3ad, 802.3x, 802.1p, 802.1Q, 802.3, 802.3u, 802.3ab, 802.3z & 1588 or Network Time Protocol (NTP) ".

**Pre Bid Queries for Supply and Installation of IT Infra Equipment's against Tender Enquiry No. TPCODL/P&S/100000110/2020-21**

Sl. No.	Detailed Reference to Tender Document. Please specify Document No / Clause No / Page No	Description as per Bid Document	Remarks - Query / Clarification	Response from TPCODL
126	15	Switches should support MACSec encryption (MACSec -256) for switch-to-switch (internetwork device) security.	<p>Please remove this Clause.</p> <p>MACSec encryption is required when two sites are connected on service provider P2P link. This is not required in secure campus network.</p> <p>IEEE 802.1AE MACSec encryption is required when two sites are connected on service provider P2P link. This is not required in campus network.</p> <p>MACSec only operates on layer 2, so it can only protect a single LAN, and offers no protection when traffic is routed. This single LAN can be a physical LAN, or a virtual LAN, such as those provided by overlay network technologies like VXLAN, GENEVE, etc.</p> <p>MACSec also cannot protect against malicious layer 3 traffic coming from a different network interface, on a machine connected to multiple LANs. For example, attacks that rely on forcing traffic to leave from other interfaces, using ARP spoofing or IP redirects, cannot be prevented using MACSec alone. As always with security-related matters, careful configuration is necessary to eliminate flaws that lead to a weakening of the entire setup.</p>	Switches should support MACSec encryption (MACSec -256) or Ipsec or IPTunneling or GRE or equivalent for switch-to-switch (inter-network device) security.
127	17	Must support BGP, IS-IS, VRF, VXLAN, OSPF, EIGRP, PIM SM, IP SLA, and MPLS.	<p>Please modify this clause to</p> <p>"Must support BGP, IS-IS/OSPF, VRF, VXLAN, PIM SM, IP SLA"</p> <p>Please remove MPLS, EIGRP.</p> <p>MPLS will not be required at core switch it will be required in router. and EIGRP is OEM specific protocol.</p> <p>IS-IS and OSPF works on same algorithm. IS-IS protocol is used in service provider environment. IS-IS is a link-state routing protocol, operating by reliably flooding link state information throughout a network of routers. Like IS-IS protocol, OSPF protocol uses Dijkstra's algorithm for computing the best path through the network. Packets (datagrams) are then forwarded, based on the computed ideal path, through the network to the destination.</p> <p>So for current requirement we can use OSPF instead of IS-IS protocol.</p>	Must support BGP, IS-IS, VRF, VXLAN, OSPF, PIM SM, IP SLA, and MPLS.
128	19	Switch should support management features like SSHv2, SNMPv2c, SNMPv3, IGMP, Netconf/YANG.	<p>Please modify this clause to</p> <p>"Switch should support management features like SSHv2, SNMPv2c, SNMPv3, IGMP, Netconf/YANG/REST API.</p> <p>REST API is open standard tool used by all the OEM for network automation.</p>	Bids will be evaluated as per tender document.
129	20	Switch should support port security, DHCP snooping, Spanning tree root guard, First Hop Security. Equivalent or better feature is accepted. Bidder has to provide relevant industry standard document for same incase equivalent is proposed.	<p>Please remove DHCP snooping, and First Hop Security or make it optional.</p> <p>These features are required in Access switch where user is connected and getting the DHCP IP from DHCP host. First hop security is required at the access layer switch not at core or distribution switch.</p> <p>These protocol are applicable at access switches where end user are getting connected not at the core switch where servers or uplink of access switches are getting terminated.</p>	Bids will be evaluated as per tender document.
130	22	Should support 802.1x authentication and accounting, IPv4 and IPv6 ACLs and Dynamic VLAN assignment.	<p>Please change this clause to " Switch should support IPv4 and IPv6 ACLs and VLAN " .</p> <p>IEEE 802.1x authentication, and Dynamic VLAN assignment is not required at the campus core switch, it is required at access switch for end user.</p> <p>802.1x authentication and accounting, IPv4 and IPv6 ACLs and Dynamic VLAN assignment is not ask in DC core switch or DC access switch. These protocol are applicable at access switches where end user are getting connected not at the core switch where servers or uplink of access switches are getting terminated.</p>	Bids will be evaluated as per tender document.
131	28	The oEM must feature in the Leaders/ Challengers segment of the Gartner Magic Quadrant for Data Center networking in last 3 years	<p>Please modify this clause to</p> <p>The OEM must feature in the Leaders/ Challengers segment of the Gartner Magic Quadrant for Data Center networking / /Wired and Wireless LAN access in last 3 years.</p> <p>in the given tender, campus wired component is required. So request you to please add Wired and Wireless LAN access in last 3 years</p>	Bids will be evaluated as per tender document.

**Pre Bid Queries for Supply and Installation of IT Infra Equipment's against Tender Enquiry No. TPCODL/P&S/100000110/2020-21**

Sl. No.	Detailed Reference to Tender Document. Please specify Document No / Clause No / Page No	Description as per Bid Document	Remarks - Query / Clarification	Response from TPCODL
132	<p><b>Network Switches: Switch - 24 port - 1Gig Core switch L3</b></p> <p align="center">3</p>	Switch shall have 4 GB RAM and 4 GB Flash	<p>Please change this Clause to</p> <p>Switch shall have 2GB or more RAM and 512MB flash.</p> <p>Since switches are ASIC based, RAM and Flash and non-consequential for performance. Gbps performance is more relevant than System Memory.</p> <p>Our switch network operating system don't have layered software designed ,so we have made a light kernel with all features built in it.</p> <p>The other OEMs have created layered software and to run the added features, they required higher RAM and Flash to deliver the required performance.</p>	Bids will be evaluated as per tender document.
133	4	Switch should have dedicated slot for modular stacking, in addition to asked uplink ports. Should support for minimum 160 Gbps of stacking throughput with 8 switches in single stack support from day 1. Bidder can provide stacking or equivalent technology with asked stacking throughput without consuming the downlink/uplink port of the switch.	<p>Please change this Clause to</p> <p>Switch should have dedicated slot for modular stacking, in addition to asked uplink ports. Should support for minimum 48 Gbps of stacking throughput with 8 switches in single stack support from day 1. Bidder can provide stacking or equivalent technology with asked stacking throughput without consuming the downlink/uplink port of the switch.</p> <p>for 24 port switch, maximum 48 Gbps stack bandwidth is required for non-blocking traffic.</p>	Bids will be evaluated as per tender document.
134	9	Switch should support atleast 16K flow entries	<p>Please change to this clause to</p> <p>Switch should support atleast 16K flow entries or support sflow.</p> <p>Flow entries are required in Netflow/jflow protocol. NetFlow/jflow is OEM specific protocol which works on number of flow where as sFlow does not work based on number of flow.</p> <p>Sflow does not defined number of flow.</p> <p>NetFlow is flow export protocols that aim at aggregating packets into flows. After that, flow records are sent to a collection point for storage and analysis. sFlow, however, has no notion of flows or packet aggregation at all.</p> <p>sFlow allows for exporting packet data chunks and interface counters, which are non-typical features of flow export protocols.</p> <p>While flow export can be performed with 1:1 sampling (i.e., considering every packet), this is typically not possible with sFlow, as it was not designed to do so. Sampling forms an integral part of sFlow, aiming to provide scalability for network-wide monitoring.</p> <p>Please change to "Switch should support 64 MSTP instances or 128 or more STP Instances."</p>	Bids will be evaluated as per tender document.
135	10	Switch should support 128 or more STP Instances.	<p>STP only supports a single instance. RSTP supports fast convergence and a single instance. MSTP includes the advantages of RSTP, and supports multiple instances</p>	Bids will be evaluated as per tender document.
136	14	Should support advance Layer 3 protocol like EIGRP, VRF, VXLAN, IS-IS, OSPF.	<p>Please modify this clause to</p> <p>"Should support advance Layer 3 protocol like VRF, VXLAN IS-IS/OSPF.</p> <p>Please remove MPLS,EIGRP</p> <p>EIGRP is OEM specific protocol.</p> <p>IS-IS and OSPF works on same algorithm.</p> <p>IS-IS protocol is used in service provider enviorement.IS-IS is a link-state routing protocol, operating by reliably flooding link state information throughout a network of routers. Like IS-IS protocol ,OSPF protocol uses Dijkstra's algorithm for computing the best path through the network. Packets (datagrams) are then forwarded, based on the computed ideal path, through the network to the destination.</p> <p>So for current requirement we can use OSPF instead of IS-IS protocol.</p>	Should support advance Layer 3 protocol like VRF, VXLAN, IS-IS, OSPF.

**Pre Bid Queries for Supply and Installation of IT Infra Equipment's against Tender Enquiry No. TPCODL/P&S/100000110/2020-21**

Sl. No.	Detailed Reference to Tender Document. Please specify Document No / Clause No / Page No	Description as per Bid Document	Remarks - Query / Clarification	Response from TPCODL
137	17	Switch should support 802.1x authentication and accounting, ACLs and Dynamic VLAN assignment and MACSec-128 on hardware. Bidder can propose equivalent or better solution with proof for same functionality.	<p>Please remove MACSec-128 on hardware.</p> <p>MACsec encryption is required when two sites are connected on service provider P2P link. This is not required in secure campus network.</p> <p>IEEE 802.1AE MACsec encryption is required when two sites are connected on service provider P2P link. This is not required in campus network.</p> <p>MACsec only operates on layer 2, so it can only protect a single LAN, and offers no protection when traffic is routed. This single LAN can be a physical LAN, or a virtual LAN, such as those provided by overlay network technologies like VXLAN, GENEVE, etc.</p> <p>MACsec also cannot protect against malicious layer 3 traffic coming from a different network interface, on a machine connected to multiple LANs. For example, attacks that rely on forcing traffic to leave from other interfaces, using ARP spoofing or IP redirects, cannot be prevented using MACsec alone. As always with security-related matters, careful configuration is necessary to eliminate flaws that lead to a weakening of the entire setup.</p>	Switch should support 802.1x authentication and accounting, ACLs and Dynamic VLAN assignment. Bidder can propose equivalent or better solution with proof for same functionality.
138	19	Switch shall have 24 nos. 10/100/1000 Base-T Access ports and with 4* 1G uplink for uplink connectivity and the uplink should be upgradaable to 10G in future.	<p>Please change this cluse to</p> <p>Switch shall have 24 nos. 10/100/1000 Base-T Access ports and with 4* 1G uplink for uplink connectivity and the uplink should be upgradaable to 10G in future or suport 2x 1/10/25G port.</p> <p>As per the given specification, this will be the 1G core switch and uplink will be connected to either firewall or router on 1G. So 2 x1G port uplink will give high availability. Also if firewall or router is having 10G port then switch should have 2x 1/10G/25G port for future upgradation.</p>	Bids will be evaluated as per tender document.
139	21	Switch should support port security, DHCP snooping, Spanning tree root guard. Equivalent or better feature is accepted. Bidder has to provide relevant industry standard document for same incase equivalent is proposed.	<p>Please remove DHCP snooping, and First Hop Security or make it optional.</p> <p>These features are required in Access switch where user is connected and getting the DHCP IP from DHCP host.</p> <p>First hop security is required at the access layer switch not at core or distribution switch.</p> <p>These protocol are applicable at access switches where end user are getting connected not at the core switch where servers or uplink of access switches are getting terminated.</p>	Bids will be evaluated as per tender document.
140	23	Switch should be loaded with 4 *1G SR fiber modules as per solution	<p>Please change this Clause to</p> <p>Switch should be loaded with 2 *1G SR fiber modules as per solution.</p> <p>As per the given specification, this will be the 1G core switch and uplink will be connected to either firewall or router on 1G. So 2 x1G port uplink will give high availability. Also if firewall or router is having 10G port then switch should have 2x 1/10G/25G port for future upgradation.</p>	Bids will be evaluated as per tender document.
141	24	The OEM must feature in the Leaders/ Challengers segment of the Gartner Magic Quadrant for Data Center networking in last 3 years	<p>Please modify this clause to</p> <p>The OEM must feature in the Leaders/ Challengers segment of the Gartner Magic Quadrant for Data Center networking / /Wired and Wireless LAN access in last 3 years.</p> <p>in the given tender, campus wired component is required. So request you to please add Wired and Wireless LAN access in last 3 years</p>	Bids will be evaluated as per tender document.
142	Router: Routers for Replication (With HA) 5	Router should have minimum 2 GB RAM and 8 GB Flash from day 1.	<p>Please change this Clause to</p> <p>Router should have minimum 2GB RAM and 512MB Flash from day 1.</p> <p>Our router is having distributed forwarding architecture where each line card will froward the traffic. Our router is having management module and service processing module and each module is having DDR RAM. Whereas centralised architecture router will process everything in Management module that is why higher flash are required.</p> <p>Our management module is having 2GB DDR SDRAM and 512 MB flash on each management module and service processing module is having 4GB DDR SDRAM</p> <p>Our Router network operating system don't have layered software designed ,so we have made a light kernel with all features built in it.</p> <p>The other OEMs have created layered software and to run the added features, they required higher RAM and Flash to deliver the required performance.</p>	Bids will be evaluated as per tender document.

**Pre Bid Queries for Supply and Installation of IT Infra Equipment's against Tender Enquiry No. TPCODL/P&S/100000110/2020-21**

Sl. No.	Detailed Reference to Tender Document. Please specify Document No / Clause No / Page No	Description as per Bid Document	Remarks - Query / Clarification	Response from TPCODL
143	16	The oEM must feature in the Leaders/ Challengers segment of the Gartner Magic Quadrant for Data Center networking in last 3 years	Please modify this clause to The OEM must feature in the Leaders/ Challengers segment of the Gartner Magic Quadrant for Data Center networking / /Wired and Wireless LAN access in last 3 years.  in the given tender, campus wired component is required. So request you to please add Wired and Wireless LAN access in last 3 years	Bids will be evaluated as per tender document.
144	<b>9. Tape Library Page No. 34, 35</b> 9	The Tape Library should support UNIX, Linux and Windows operating Systems as backup clients.	If any existing environment needs to be supported, please provide details of the same.	Bid will be evaluated as per tender specification
145	23	The proposed Tape library should integrate with iNMS tools such as CA, IBM, HP etc.	iNMS tools such as CA, IBM, HP etc support is to be confirmed by the NMS tool vendor.	The proposed Tape library should integrate with iNMS tools such as CA, IBM, HP, Nagios etc.
146	<b>Bill of Material/ Preferable Make ; Pg. No.40</b>	Preferable OEMs mentioned only IBM/Fujitsu	Fujitsu does not have a direct presence in India. We request you to add HP for the same	FC Tape Library with tapes - IBM /fujitsu/DELL/Quantum/HP
147	<b>11. SAN Switch - 2 X 12/24 port 16Gbps with 30 m FC-FC cables (Pg. No. 38, 39,40)</b> 1	The switches should have non-blocking architecture with total sum of 48 FC ports in a single domain concurrently active at least 16 Gbps full duplex. It should be backward compatible. The 24 ports should produce an aggregate 768 Gbps full- duplex throughput	The RFP ask is for a 16Gbps switch. 24 ports With 16Gbps would produce an aggregate of 384Gbps full duplex throughput. Request modify 768Gbps to 384Gbps.	Bid will be evaluated as per tender specification
148	7	VSAN, IVR, NPV, Port Channel with multipath load balancing, Flow-based and zone-based QoS	These features/protocols are specific to CISCO SAN switches. Request you to remove the same.	Bid will be evaluated as per tender specification
149	17	Should have Front-to-back airflow and Back-to-front airflow.	Airflow is based On OEM design . Kindly allow the switch to be proposed with Airflow based on OEM design.	Bid will be evaluated as per tender specification
150	21	Management Access: Should have USB port for system log file downloads and firmware upgrades. It should have 10/100/1000 Mbps Ethernet (RJ- 45), in-band over Fibre Channel, serial port (RJ-45).	Request you to modify this this to 10/100 Mbps as the port available is 10/100 Mbps Ethernet (RJ-45),in-band over Fibre Channel, serial port (RJ-45)	RJ45 supports Gigabit Ethernet which is preferable as mentioned in RFP.
151	23	Shall have support for simultaneous multiple Operating Systems connectivity. License requirements if any for OS access for the following operating systems shall be provided. Unix, MS Windows 2003/ 2008/ 2012 / 2018 server, SUSE & Redhat Linux	Switch Compatibility is seen in combination with Storage and Supported OS. Windows 2003 and 2008 and Not supported natively. Kindly exclude these versions. Please indicate which Unix version compatibility is required.	Bid will be evaluated as per tender specification
152	24	The switch shall be guaranteed to be fully compatible for HBAs, Clustering solutions and OS offered with the servers.	This is checked as an end to end compatibility with Storage and not applicable as a clause in the switch specs	Bid will be evaluated as per tender specification
153	25	The switch shall be supporting SNMP (v3 and v4) management and appropriate MIBs shall be provided.	Support is for SNMP V1/V3 only. Request modification to v1/v3 and exclusion of v4	SNMP v3 and v4 are preferable
154	<b>10. SAN STORAGE (All Flash Unified) - 20 TB Usable</b> SAN Storage; Pg. No. 35, 36, 37	The All flash Storage system should be unified (Block and File), with minimum 20 TB usable capacity in RAID 5 (4+1) or equivalent of 6TB SSD and 14TB SAS 16K. Bidders must include 1 Hot Spare drive for every 8 drives. It should contain at least 512 GB cache across controllers with at least 128 GB cache per controller pair.	Not all OEMs support Unified Storage arrays in their latest range of arrays. Kindly indicate if File Services can be provided with an external File server . If Yes- please provide Capacity break up of 20TB for Block and File data.	Bid will be evaluated as per tender specification
155			With Industry moving to All Flash Larger Capacity SSD Drives Raid 6 Has become the default standard in Storage Arrays by some of the OEMs as that provides better reliability against Raid 5 with additional parity drive within the raid group. Kindly indicate if Arrays with RAID6 as a standard can be proposed.	Bid will be evaluated as per tender specification
156	Disk Type	6TB SSD, 14TB SAS 16K usable storage	SAS HDD offered in Storage Arrays are 10k rpm. Please indicate if 10k rpm can be offered in place of 15k rpm.	Bid will be evaluated as per tender specification
157	IOPS	System to deliver 1,30,000 IOPS FE for 70:30 Read Write (Random Read 50%, Sequential Read 20%, Random Write 20%, and Sequential Write 10%) with 16 or 32 KB Block size. Response time to be less than 1 ms. OEM to submit relevant performance proof document along with the proposal.	16KB OR 32KB are random workload block sizes. Random workload performance figures can be provided for the same. Please indicate block size for Sequential performance . Separate Sequential Performance figures can be provided for the same.	Bid will be evaluated as per tender specification
158	RAID Type	RAID 5, RAID 6/RAID DP	With Industry moving to All Flash Larger Capacity SSD Drives Raid 6 Has become the default standard in Storage Arrays by some of the OEMs as that provides better reliability against Raid 5 with additional parity drive within the raid group. Kindly indicate if Arrays with RAID6 as a standard can be offered.	Bid will be evaluated as per tender specification

**Pre Bid Queries for Supply and Installation of IT Infra Equipment's against Tender Enquiry No. TPCODL/P&S/100000110/2020-21**

Sl. No.	Detailed Reference to Tender Document. Please specify Document No / Clause No / Page No	Description as per Bid Document	Remarks - Query / Clarification	Response from TPCODL
159	Compatibility	Storage to work & co-exist with existing HP Backup infrastructure and software and HP switches HP SN8000B.	Please provide more details on the Existing environment and co-existence required.	Bid will be evaluated as per tender specification
160	Host Connectivity	Storage should be able to support Unified (SAN and NAS) as an integrated offering with single management tool with all mentioned protocols FC, iSCSI, CIFS, NFS etc	NAS functionality to be provided by a external File server(NAS) for CIFS and NFS support as in point 1 . So Storage would support Host Connectivity for only Block access using FC and iSCSI.	Bid will be evaluated as per tender specification
161	Migration	Should be able to migrate data from the current HP 3PAR to the proposed storage without loss of data.	Please provide details of 3PAR ( Model and OS version ) and hosts (OS and hypervisor versions)	Data migration from HP 3PAR to purposed Storage is not in the scope of Bidder
162	Management and Reporting	Storage should provide either HTML5/Java based simple to use single management interface. It should have dashboards for at-a-glance management and reporting and other functions like configuration monitor and manage. It should support any browser. Storage must have feature to extract and capture utilization and performance reports. Storage should provide reports for historical & real-time utilization trends. The storage should provide 10/20/40 Gbps Ethernet connectivity port (Copper/Fiber based) – Also converter for 1G Ethernet is to be provided as currently backend landscape is currently on 1G Ethernet (copper based)	Management ports are 1Gb Only by default. What are these 10/20/40Gbps ethernet ports specifically required for ?	Bid will be evaluated as per tender specification
163	Remote management	Storage must have feature to manage remotely via web and command line.		Bid will be evaluated as per tender specification
164	Guest Operating System Support	Storage system must support following guest operating system Windows Server 2008,2012,2018 Red hat Linux, IBM AIX, Solaris, SusE Linux and their latest versions.	Windows 2008 is not supported natively. Can only be part of a VM if the hypervisor supports the same as a guest OS. Kindly clarify if Windows 2008 is being deployed in VM or natively on the server.	Bid will be evaluated as per tender specification
165	Security	The Storage array must provide multiple levels of access control including role-based security and auditing capability. Storage should support Integration with third-party anti-virus software. License if any for listed features should be configured for entire supported capacity of the array. The proposed storage array should integrate with iNMS tools such as CA, IBM, HP etc	iNMS tools such as CA, IBM, HP etc support is to be confirmed by the NMS tool vendor.	The proposed storage array should integrate with iNMS tools such as CA, IBM, HP, Nagios etc
166	Bill of Material/ Preferable Make ; Pg. No.40	FC Tape Library with tapes - IBM /fujitsu	Kindly add HP	FC Tape Library with tapes - IBM /fujitsu/DELL/Quantum/HP
167		FC Storage (20TB Usable) - EMC/HP/NetAPP	Kindly add Lenovo	Bid will be evaluated as per tender specification
168	Annexure II/Technical Specifications/2. Network Switches: Switch - 24 port - 10 Gig access switch L3/Page 21 - Point 17	Must support BGP, IS-IS, VRF, VXLAN, OSPF, EIGRP, PIM SM, IP SLA, and MPLS.	EIGRP is an OEM-specific proprietary protocol, Can we propose solution without this protocol?	Must support BGP, IS-IS, VRF, VXLAN, OSPF, PIM SM, IP SLA, and MPLS.
169	Annexure II/Technical Specifications/5. Firewall/Page 24 - Point 19	Solution must have a distributed setup i.e. Firewalls in High Availability and separate dedicated Management Server	Should solution have inbuilt log collector or do you want dedicated log collector?	
170	Annexure II/Technical Specifications/9. Tape Library/Page 34 - Point 9	The Tape Library should support UNIX, Linux and Windows operating Systems as backup clients.	If any existing environment needs to be supported, please provide details of the same.	Bid will be evaluated as per tender specification
171	Annexure II/Technical Specifications/9. Tape Library/Page 35 - Point 23	The proposed Tape library should integrate with iNMS tools such as CA, IBM, HP etc.	support is to be confirmed by the NMS tool vendor.	The proposed Tape library should integrate with iNMS tools such as CA, IBM, HP, Nagios etc.
172	Annexure II/Technical Specifications/Bill of Materials/Page 40 - Point 1	FC Tape Library with tapes - Preferable OEM (IBM/Fujitsu)	Can we propose HPE Tape Library as the same is not mentioned in Preferable OEMs?	OEMs listed in RFP should be preferred
173	Annexure II/Technical Specifications/9. Tape Library/Page 34 - Point 13	Data migration from current LTO04 to LTO07 will be in scope of bidder.	TPCODL should provide supported backup software and backup server for LTO04 and LTO07 and staging storage.	Data migration from current LTO04 to LTO07 will not be in scope of bidder.
174	Annexure II/Technical Specifications/10. SAN STORAGE (All Flash Unified) - 20 TB Usable/Page 35 - Point 1	The All flash Storage system should be unified (Block and File), with minimum 20 TB usable capacity in RAID 5 (4+1) or equivalent of 6TB SSD and 14TB SAS 16K. Bidders must include 1 Hot Spare drive for every 8 drives. It should contain at least 512 GB cache across controllers with at least 128 GB cache per controller pair.	Not all OEMs support Unified Storage arrays in their latest range of arrays. Kindly indicate if File Services can be provided with an external File server . If Yes- please provide Capacity break up of 20TB for Block and File data.	Bid will be evaluated as per tender specification

**Pre Bid Queries for Supply and Installation of IT Infra Equipment's against Tender Enquiry No. TPCODL/P&S/100000110/2020-21**

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175	Annexure II/Technical Specifications/10. SAN STORAGE (All Flash Unified) - 20 TB Usable/Page 35 - Point 1	The All flash Storage system should be unified (Block and File), with minimum 20 TB usable capacity in RAID 5 (4+1) or equivalent of 6TB SSD and 14TB SAS 16K. Bidders must include 1 Hot Spare drive for every 8 drives. It should contain at least 512 GB cache across controllers with at least 128 GB cache per controller pair.	With Industry moving to All Flash Larger Capacity SSD Drives Raid 6 Has become the default standard in Storage Arrays by some of the OEMs as that provides better reliability against Raid 5 with additional parity drive within the raid group. Kindly indicate if Arrays with RAID6 as a standard can be proposed.	Bid will be evaluated as per tender specification
176	Annexure II/Technical Specifications/10. SAN STORAGE (All Flash Unified) - 20 TB Usable/Page 35 - Point 2	6TB SSD, 14TB SAS 16K usable storage	SAS HDD offered in Storage Arrays are 10k rpm. Please indicate if 10k rpm can be offered in place of 15k rpm.	Bid will be evaluated as per tender specification
177	Annexure II/Technical Specifications/10. SAN STORAGE (All Flash Unified) - 20 TB Usable/Page 36 - Point 4	System to deliver 1,30,000 IOPS FE for 70:30 Read Write (Random Read 50%, Sequential Read 20%, Random Write 20%, and Sequential Write 10%) with 16 or 32 KB Block size. Response time to be less than 1 ms. OEM to submit relevant performance proof document along with the proposal.	16KB OR 32KB are random workload block sizes. Random workload performance figures can be provided for the same. Please indicate block size for Sequential performance . Separate Sequential Performance figures can be provided for the same.	Bid will be evaluated as per tender specification
178	Annexure II/Technical Specifications/10. SAN STORAGE (All Flash Unified) - 20 TB Usable/Page 36 - Point 5	RAID 5, RAID 6/RAID DP	With Industry moving to All Flash Larger Capacity SSD Drives Raid 6 Has become the default standard in Storage Arrays by some of the OEMs as that provides better reliability against Raid 5 with additional parity drive within the raid group. Kindly indicate if Arrays with RAID6 as a standard can be offered.	Bid will be evaluated as per tender specification
179	Annexure II/Technical Specifications/10. SAN STORAGE (All Flash Unified) - 20 TB Usable/Page 36 - Point 11	Storage to work & co-exist with existing HP Backup infrastructure and software and HP switches HP SN8000B.	Please provide more details on the Existing environment and co-existence required.	Data migration from HP 3PAR to purposed Storage is not in the scope of Bidder
180	Annexure II/Technical Specifications/10. SAN STORAGE (All Flash Unified) - 20 TB Usable/Page 36 - Point 13	Storage should be able to support Unified (SAN and NAS) as an integrated offering with single management tool with all mentioned protocols FC, iSCSI, CIFS, NFS etc	NAS functionality to be provided by a external File server(NAS) for CIFS and NFS support as in point 1 . So Storage would support Host Connectivity for only Block access using FC and ISCSI.	Bid will be evaluated as per tender specification
181	Annexure II/Technical Specifications/10. SAN STORAGE (All Flash Unified) - 20 TB Usable/Page 36 - Point 14	Should be able to migrate data from the current HP 3PAR to the proposed storage without loss of data.	Please provide details of 3PAR ( Model and OS version ) and hosts (OS and hypervisor versions)	Data migration from HP 3PAR to purposed Storage is not in the scope of Bidder
182	Annexure II/Technical Specifications/10. SAN STORAGE (All Flash Unified) - 20 TB Usable/Page 37 - Point 17	Storage should provide either HTML5/Java based simple to use single management interface. It should have dashboards for at-a-glance management and reporting and other functions like configuration monitor and manage. It should support any browser. Storage must have feature to extract and capture utilization and performance reports. Storage should provide reports for historical & real-time utilization trends. The storage should provide 10/20/40 Gbps Ethernet connectivity port (Copper/Fiber based) – Also converter for 1G Ethernet is to be provided as currently backend landscape is currently on 1G Ethernet (copper based)	Management ports are 1Gb Only by default. What are these 10/20/40Gbps ethernet ports specifically required for ?	Bid will be evaluated as per tender specification
183	Annexure II/Technical Specifications/10. SAN STORAGE (All Flash Unified) - 20 TB Usable/Page 37 - Point 19	Storage system must support following guest operating system Windows Server 2008,2012,2018 Red hat Linux, IBM AIX, Solaris, SusE Linux and their latest versions.	Windows 2008 is not supported natively. Can only be part of a VM if the hypervisor supports the same as a guest OS. Kindly clarify if Windows 2008 is being deployed in VM or natively on the server.	Bid will be evaluated as per tender specification
184	Annexure II/Technical Specifications/10. SAN STORAGE (All Flash Unified) - 20 TB Usable/Page 38 - Point 25	The Storage array must provide multiple levels of access control including role-based security and auditing capability. Storage should support Integration with third-party anti-virus software. License if any for listed features should be configured for entire supported capacity of the array. The proposed storage array should integrate with iNMS tools such as CA, IBM, HP etc	iNMS tools such as CA, IBM, HP etc support is to be confirmed by the NMS tool vendor.	The proposed storage array should integrate with iNMS tools such as CA, IBM, HP, Nagios etc
185	Annexure II/Technical Specifications/11. SAN Switch - 2 X 12/24 port 16Gbps with 30 m FC-FC cables/Page 38 - Point 1	The switches should have non-blocking architecture with total sum of 48 FC ports in a single domain concurrently active at least 16 Gbps full duplex. It should be backward compatible. The 24 ports should produce an aggregate 768 Gbps full- duplex throughput	The RFP ask is for a 16Gbps switch. 24 ports With 16Gbps would produce an aggregate of 384Gbps full duplex throughput. Request modify 768Gbps to 384Gbps.	Bid will be evaluated as per tender specification



**Pre Bid Queries for Supply and Installation of IT Infra Equipment's against Tender Enquiry No. TPCODL/P&S/100000110/2020-21**

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186	Annexure II/Technical Specifications/11. SAN Switch - 2 X 12/24 port 16Gbps with 30 m FC-FC cables/Page 39 - Point 7	VSAN, IVR, NPV, Port Channel with multipath load balancing, Flow-based and zone-based QoS	These are specific to an OEM's switches. Request you to exclude this clause.	OEM's switches should have these features
187	Annexure II/Technical Specifications/11. SAN Switch - 2 X 12/24 port 16Gbps with 30 m FC-FC cables/Page 39 - Point 17	Should have Front-to-back airflow and Back-to-front airflow.	Airflow is based On OEM design . Kindly allow the switch to be proposed with Airflow based on OEM design.	OEM design should have Front-to-back airflow and Back-to-front airflow
188	Annexure II/Technical Specifications/11. SAN Switch - 2 X 12/24 port 16Gbps with 30 m FC-FC cables/Page 40 - Point 21	Management Access: Should have USB port for system log file downloads and firmware upgrades. It should have 10/100/1000 Mbps Ethernet (RJ- 45), in-band over Fibre Channel, serial port (RJ-45).	Request you to modify this this to 10/100 Mbps as the port available is 10/100 Mbps Ethernet (RJ-45),in-band over Fibre Channel, serial port (RJ-45)	RJ45 supports Gigabit Ethernet which is preferable as mentioned in RFP.
189	Annexure II/Technical Specifications/11. SAN Switch - 2 X 12/24 port 16Gbps with 30 m FC-FC cables/Page 40 - Point 23	Shall have support for simultaneous multiple Operating Systems connectivity. License requirements if any for OS access for the following operating systems shall be provided. Unix, MS Windows 2003/ 2008/ 2012 / 2018 server, SUSE & Redhat Linux	Switch Compatibility is seen in combination with Storage and Supported OS. Windows 2003 and 2008 and Not supported natively. Kindly exclude these versions. Please indicate which Unix version compatibility is required.	Bid will be evaluated as per tender specification
190	Annexure II/Technical Specifications/11. SAN Switch - 2 X 12/24 port 16Gbps with 30 m FC-FC cables/Page 40 - Point 24	The switch shall be guaranteed to be fully compatible for HBAs, Clustering solutions and OS offered with the servers.	This is checked as an end to end compatibility with Storage and not applicable as a clause in the switch specs	Bid will be evaluated as per tender specification
191	Annexure II/Technical Specifications/11. SAN Switch - 2 X 12/24 port 16Gbps with 30 m FC-FC cables/Page 40 - Point 25	The switch shall be supporting SNMP (v3 and v4) management and appropriate MIBs shall be provided.	Support is for SNMP V1/V3 only. Request modification to v1/v3 and exclusion of v4	SNMP v3 and v4 are preferable
192	Specifications for 24 Port L2 POE Switch	Switch should support min 16 K MAC addresses and min 4000 active VLANs.	Switch should support min 16 K MAC addresses and min 2000 active VLANs. For Access switch deployment, 2K simultaneous VLANs will be sufficient	Bids will be evaluated as per tender document.
193		The OEM must feature in the Leaders/ Challengers segment of the Gartner Magic Quadrant for Data Center networking in last 3 years	Please modify this clause to The OEM must feature in the Leaders/ Challengers segment of the Gartner Magic Quadrant for Data Center networking / /Wired and Wireless LAN access in last 3 years.  in the given tender, campus wired component is required. So request you to please add Wired and Wireless LAN access in last 3 years	Bids will be evaluated as per tender document.
194	Network Switches: Switch - 24 port - 10 Gig access switch L3	Switch shall have 16 GB RAM and 16 GB Flash	Please change to "Switch should have minimum 8 GB RAM and 1 GB Flash".  Since switches are ASIC based, RAM and Flash are non-consequential for performance. Gbps performance is more relevant in access switch.  Our switch network operating system don't have layered software designed ,so we have made a light kernel with all features built in it.  The other OEMs have created layered software and to run the added features, they required higher RAM and Flash to deliver the required performance.	Bids will be evaluated as per tender document.
195		Switch should support 2*40/100G or 8*10G/25G Network Card in Future.	Please clarify  If we propose 32 port 10/25G switch instead of 24 port 10/25G switch from day one , will it be complied with this cluse or not.	Bids will be evaluated as per tender document.
196		Switching system shall have minimum 2 Tbps of switching fabric and minimum 1450 Mpps of forwarding rate.	Please change to  "Switching system shall have minimum 1.6 Tbps of switching fabric and minimum 1145 Mpps of forwarding rate".  For 24x 10/25 G and 2x40/100G port the total throughput will be 1.6Tbps and packet performance will be 1145 Mpps	Bids will be evaluated as per tender document.

**Pre Bid Queries for Supply and Installation of IT Infra Equipment's against Tender Enquiry No. TPCODL/P&S/100000110/2020-21**

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197		Switch should support minimum 5K ACLs, 8K Multicast and 39K IPv4 & 19K IPv6 Routes or higher.	<p>Please change to " Switch should support minimum 4K ACLs, 4K Multicast and 39K IPv4 &amp; 19K IPv6 Routes or higher. ."</p> <p>Such a higher ACL is not required in the switch, as per best practice design ACL will be put on firewall.</p> <p>4000 multicast source will not be there in current network setup.</p> <p>A multicast routing protocol is a mechanism for constructing a loop-free shortest path from a source host that sends data to the multiple destinations that receives the data. IPV4 uses Class D address (224.0.0.0 to 239.255.255.255) and allowing a host to send a single data stream to a subset of all hosts (group transmission) concurrently. So number of Multicast route is depend on number of multicast source in the network.</p>	Bids will be evaluated as per tender document.
198		Switch shall support application visibility and traffic monitoring with minimum 128 K sflow/jflow/netFlow entries.	<p>Please change to this clause to</p> <p>Switch shall support application visibility and traffic monitoring with minimum 128 K jflow/netFlow entries or sflow</p> <p>Flow entries are required in Netflow/jflow protocol. NetFlow/jflow is OEM specific protocol which works on number of flow where as sFlow does not work based on number of flow.</p> <p>Sflow does not defined number of flow.</p> <p>NetFlow is flow export protocols that aim at aggregating packets into flows. After that, flow records are sent to a collection point for storage and analysis. sFlow, however, has no notion of flows or packet aggregation at all.</p> <p>sFlow allows for exporting packet data chunks and interface counters, which are non-typical features of flow export protocols.</p> <p>While flow export can be performed with 1:1 sampling (i.e., considering every packet), this is typically not possible with sFlow, as it was not designed to do so. Sampling forms an integral part of sFlow, aiming to provide scalability for network-wide monitoring.</p> <p>Please remove "802.1ae (256-bit and 128-bit AES)"</p>	Bids will be evaluated as per tender document.
199		Should support IEEE Standards of Ethernet: IEEE 802.1D, 802.1s, 802.1w, 802.1x, 802.3ad, 802.1ae (256-bit and 128-bit AES), 802.3x, 802.1p, 802.1Q, 1588v2	<p>Please change to "switch should support IEEE 1588 or Network Time Protocol (NTP) "</p> <p>Please change to</p> <p>"Switch should support IEEE Standards of Ethernet: IEEE 802.1D, 802.1s, 802.1w, 802.3ad, 802.3x, 802.1p, 802.1Q, 802.3, 802.3u, 802.3ab, 802.3z &amp; 1588 or Network Time Protocol (NTP) ".</p> <p>MACsec encryption is required when two sites are connected on service provider P2P link. This is not required in secure campus network.</p> <p>IEEE 802.1AE MACsec encryption is required when two sites are connected on service provider P2P link. This is not required in campus network.</p> <p>MACsec only operates on layer 2, so it can only protect a single LAN, and offers no protection when traffic is routed. This single LAN can be a physical LAN, or a virtual LAN, such as those provided by overlay network technologies like VXLAN, GENEVE, etc.</p> <p>MACsec also cannot protect against malicious layer 3 traffic coming from a different network interface, on a machine connected to multiple LANs. For example, attacks that rely on forcing traffic to leave from other interfaces, using ARP spoofing or IP redirects, cannot be prevented using MACsec alone. As always with security-related matters, careful configuration is necessary to eliminate flaws that lead to a weakening of the entire setup.</p> <p>PTP and NTP is both are network time protocol.NTP is a unicast protocol. That's a point-to-point UDP transaction. PTP defaults to a multicast protocol - so broadcast messages are sent across the network for every packet.</p>	"Switch should support IEEE Standards of Ethernet: IEEE 802.1D, 802.1s, 802.1w, 802.3ad, 802.3x, 802.1p, 802.1Q, 802.3, 802.3u, 802.3ab, 802.3z & 1588 or Network Time Protocol (NTP) ".

**Pre Bid Queries for Supply and Installation of IT Infra Equipment's against Tender Enquiry No. TPCODL/P&S/100000110/2020-21**

Sl. No.	Detailed Reference to Tender Document. Please specify Document No / Clause No / Page No	Description as per Bid Document	Remarks - Query / Clarification	Response from TPCODL
200		Switches should support MACSec encryption (MACSec -256) for switch-to-switch (internetwork device) security.	<p>Please remove this Clause.</p> <p>MACSec encryption is required when two sites are connected on service provider P2P link. This is not required in secure campus network.</p> <p>IEEE 802.1AE MACSec encryption is required when two sites are connected on service provider P2P link. This is not required in campus network.</p> <p>MACSec only operates on layer 2, so it can only protect a single LAN, and offers no protection when traffic is routed. This single LAN can be a physical LAN, or a virtual LAN, such as those provided by overlay network technologies like VXLAN, GENEVE, etc.</p> <p>MACSec also cannot protect against malicious layer 3 traffic coming from a different network interface, on a machine connected to multiple LANs. For example, attacks that rely on forcing traffic to leave from other interfaces, using ARP spoofing or IP redirects, cannot be prevented using MACSec alone. As always with security-related matters, careful configuration is necessary to eliminate flaws that lead to a weakening of the entire setup.</p>	Switches should support MACSec encryption (MACSec -256) or Ipsec or IPtunneling or GRE or equivalent for switch-to-switch (inter-network device) security.
201		Must support BGP, IS-IS, VRF, VXLAN, OSPF, EIGRP, PIM SM, IP SLA, and MPLS.	<p>Please modify this clause to</p> <p>"Must support BGP, IS-IS/OSPF, VRF, VXLAN, PIM SM, IP SLA"</p> <p>Please remove MPLS, EIGRP.</p> <p>MPLS will not be required at core switch it will be required in router. and EIGRP is OEM specific protocol.</p> <p>IS-IS and OSPF works on same algorithm. IS-IS protocol is used in service provider environment. IS-IS is a link-state routing protocol, operating by reliably flooding link state information throughout a network of routers. Like IS-IS protocol, OSPF protocol uses Dijkstra's algorithm for computing the best path through the network. Packets (datagrams) are then forwarded, based on the computed ideal path, through the network to the destination.</p> <p>So for current requirement we can use OSPF instead of IS-IS protocol.</p>	Must support BGP, IS-IS, VRF, VXLAN, OSPF, PIM SM, IP SLA, and MPLS.
202		Switch should support management features like SSHv2, SNMPv2c, SNMPv3, IGMP, Netconf/YANG.	<p>Please modify this clause to</p> <p>"Switch should support management features like SSHv2, SNMPv2c, SNMPv3, IGMP, Netconf/YANG/REST API.</p> <p>REST API is open standard tool used by all the OEM for network automation.</p>	Bids will be evaluated as per tender document.
203		Switch should support port security, DHCP snooping, Spanning tree root guard, First Hop Security. Equivalent or better feature is accepted. Bidder has to provide relevant industry standard document for same incase equivalent is proposed.	<p>Please remove DHCP snooping, and First Hop Security or make it optional.</p> <p>These features are required in Access switch where user is connected and getting the DHCP IP from DHCP host. First hop security is required at the access layer switch not at core or distribution switch.</p> <p>These protocol are applicable at access switches where end user are getting connected not at the core switch where servers or uplink of access switches are getting terminated.</p>	Bids will be evaluated as per tender document.
204		Should support 802.1x authentication and accounting, IPv4 and IPv6 ACLs and Dynamic VLAN assignment.	<p>Please change this clause to " Switch should support IPv4 and IPv6 ACLs and VLAN " .</p> <p>IEEE 802.1x authentication, and Dynamic VLAN assignment is not required at the campus core switch, it is required at access switch for end user.</p> <p>802.1x authentication and accounting, IPv4 and IPv6 ACLs and Dynamic VLAN assignment is not ask in DC core switch or DC access switch. These protocol are applicable at access switches where end user are getting connected not at the core switch where servers or uplink of access switches are getting terminated.</p>	Bids will be evaluated as per tender document.
205		The oEM must feature in the Leaders/ Challengers segment of the Gartner Magic Quadrant for Data Center networking in last 3 years	<p>Please modify this clause to</p> <p>The OEM must feature in the Leaders/ Challengers segment of the Gartner Magic Quadrant for Data Center networking / /Wired and Wireless LAN access in last 3 years.</p> <p>in the given tender, campus wired component is required. So request you to please add Wired and Wireless LAN access in last 3 years</p>	Bids will be evaluated as per tender document.

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206	Network Switches: Switch - 24 port - 1Gig Core switch L3  3	Switch shall have 4 GB RAM and 4 GB Flash	Please change this Clause to  Switch shall have 2GB or more RAM and 512MB flash.  Since switches are ASIC based, RAM and Flash and non-consequential for performance. Gbps performance is more relevant than System Memory.  Our switch network operating syst	Bids will be evaluated as per tender document.
207	4	Switch should have dedicated slot for modular stacking, in addition to asked uplink ports. Should support for minimum 160 Gbps of stacking throughput with 8 switches in single stack support from day 1. Bidder can provide stacking or equivalent technology with asked stacking throughput without consuming the downlink/uplink port of the switch.	Please change this Clause to  Switch should have dedicated slot for modular stacking, in addition to asked uplink ports. Should support for minimum 48 Gbps of stacking throughput with 8 switches in single stack support from day 1. Bidder can provide stacking or equivalent technology with asked stacking throughput without consuming the downlink/uplink port of the switch.  for 24 port switch, maximum 48 Gbps stack bandwidth is required for non-blocking traffic.	Bids will be evaluated as per tender document.
208	9	Switch should support atleast 16K flow entries	Please change to this clause to  Switch should support atleast 16K flow entries or support sflow.  Flow entries are required in Netflow/jflow protocol. NetFlow/jflow is OEM specific protocol which works on number of flow where as sFlow does not work based on number of flow.  Sflow does not defined number of flow.  NetFlow is flow export protocols that aim at aggregating packets into flows. After that, flow records are sent to a collection point for storage and analysis. sFlow, however, has no notion of flows or packet aggregation at all.  sFlow allows for exporting packet data chunks and interface counters, which are non-typical features of flow export protocols.  While flow export can be performed with 1:1 sampling (i.e., considering every packet), this is typically not possible with sFlow, as it was not designed to do so. Sampling forms an integral part of sFlow, aiming to provide scalability for network-wide monitoring.	Bids will be evaluated as per tender document.
209	10	Switch should support 128 or more STP Instances.	Please change to "Switch should support 64 MSTP instances or 128 or more STP Instances."  STP only supports a single instance. RSTP supports fast convergence and a single instance. MSTP includes the advantages of RSTP, and supports multiple instances	Bids will be evaluated as per tender document.
210	14	Should support advance Layer 3 protocol like EIGRP, VRF, VXLAN, IS-IS, OSPF.	Please modify this clause to  "Should support advance Layer 3 protocol like VRF, VXLAN IS-IS/OSPF.  Please remove MPLS,EIGRP.  EIGRP is OEM specific protocol.  IS-IS and OSPF works on same algorithm. IS-IS protocol is used in service provider enviorement.IS-IS is a link-state routing protocol, operating by reliably flooding link state information throughout a network of routers. Like IS-IS protocol ,OSPF protocol uses Dijkstra's algorithm for computing the best path through the network. Packets (datagrams) are then forwarded, based on the computed ideal path, through the network to the destination.  So for current requirement we can use OSPF instead of IS-IS protocol.	Should support advance Layer 3 protocol like VRF, VXLAN, IS-IS, OSPF.

**Pre Bid Queries for Supply and Installation of IT Infra Equipment's against Tender Enquiry No. TPCODL/P&S/100000110/2020-21**

Sl. No.	Detailed Reference to Tender Document. Please specify Document No / Clause No / Page No	Description as per Bid Document	Remarks - Query / Clarification	Response from TPCODL
211	17	Switch should support 802.1x authentication and accounting, ACLs and Dynamic VLAN assignment and MACSec-128 on hardware. Bidder can propose equivalent or better solution with proof for same functionality.	<p>Please remove MACSec-128 on hardware.</p> <p>MACsec encryption is required when two sites are connected on service provider P2P link. This is not required in secure campus network.</p> <p>IEEE 802.1AE MACsec encryption is required when two sites are connected on service provider P2P link. This is not required in campus network.</p> <p>MACsec only operates on layer 2, so it can only protect a single LAN, and offers no protection when traffic is routed. This single LAN can be a physical LAN, or a virtual LAN, such as those provided by overlay network technologies like VXLAN, GENEVE, etc.</p> <p>MACsec also cannot protect against malicious layer 3 traffic coming from a different network interface, on a machine connected to multiple LANs. For example, attacks that rely on forcing traffic to leave from other interfaces, using ARP spoofing or IP redirects, cannot be prevented using MACsec alone. As always with security-related matters, careful configuration is necessary to eliminate flaws that lead to a weakening of the entire setup.</p>	Switch should support 802.1x authentication and accounting, ACLs and Dynamic VLAN assignment. Bidder can propose equivalent or better solution with proof for same functionality.
212	19	Switch shall have 24 nos. 10/100/1000 Base-T Access ports and with 4* 1G uplink for uplink connectivity and the uplink should be upgradaable to 10G in future.	<p>Please change this cluse to</p> <p>Switch shall have 24 nos. 10/100/1000 Base-T Access ports and with 4* 1G uplink for uplink connectivity and the uplink should be upgradaable to 10G in future or suport 2x 1/10/25G port.</p> <p>As per the given specification, this will be the 1G core switch and uplink will be connected to either firewall or router on 1G. So 2 x1G port uplink will give high availability. Also if firewall or router is having 10G port then switch should have 2x 1/10G/25G port for future upgradation.</p>	Bids will be evaluated as per tender document.
213	21	Switch should support port security, DHCP snooping, Spanning tree root guard. Equivalent or better feature is accepted. Bidder has to provide relevant industry standard document for same incase equivalent is proposed.	<p>Please remove DHCP snooping, and First Hop Security or make it optional.</p> <p>These features are required in Access switch where user is connected and getting the DHCP IP from DHCP host.</p> <p>First hop security is required at the access layer switch not at core or distribution switch.</p> <p>These protocol are applicable at access switches where end user are getting connected not at the core switch where servers or uplink of access switches are getting terminated.</p>	Bids will be evaluated as per tender document.
214	23	Switch should be loaded with 4 *1G SR fiber modules as per solution	<p>Please change this Clause to</p> <p>Switch should be loaded with 2 *1G SR fiber modules as per solution.</p> <p>As per the given specification, this will be the 1G core switch and uplink will be connected to either firewall or router on 1G. So 2 x1G port uplink will give high availability. Also if firewall or router is having 10G port then switch should have 2x 1/10G/25G port for future upgradation.</p>	Bids will be evaluated as per tender document.
215	24	The OEM must feature in the Leaders/ Challengers segment of the Gartner Magic Quadrant for Data Center networking in last 3 years	<p>Please modify this clause to</p> <p>The OEM must feature in the Leaders/ Challengers segment of the Gartner Magic Quadrant for Data Center networking / /Wired and Wireless LAN access in last 3 years.</p> <p>in the given tender, campus wired component is required. So request you to please add Wired and Wireless LAN access in last 3 years</p>	Bids will be evaluated as per tender document.

**Pre Bid Queries for Supply and Installation of IT Infra Equipment's against Tender Enquiry No. TPCODL/P&S/100000110/2020-21**

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216	Router: Routers for Replication (With HA) 5	Router should have minimum 2 GB RAM and 8 GB Flash from day 1.	<p>Please change this Clause to</p> <p>Router should have minimum 2GB RAM and 512MB Flash from day 1</p> <p>Our router is having distributed forwarding architecture where each line card will forward the traffic. Our router is having management module and service processing module and each module is having DDR RAM. Whereas centralised architecture router will process everything in Management module that is why higher flash are required.</p> <p>Our management module is having 2GB DDR SDRAM and 512 MB flash on each management module and service processing module is having 4GB DDR SDRAM</p> <p>Our Router network operating system don't have layered software designed ,so we have made a light kernel with all features built in it.</p> <p>The other OEMs have created layered software and to run the added features, they required higher RAM and Flash to deliver the required performance.</p>	Bids will be evaluated as per tender document.
217	16	The oEM must feature in the Leaders/ Challengers segment of the Gartner Magic Quadrant for Data Center networking in last 3 years	<p>Please modify this clause to</p> <p>The OEM must feature in the Leaders/ Challengers segment of the Gartner Magic Quadrant for Data Center networking / /Wired and Wireless LAN access in last 3 years.</p> <p>in the given tender, campus wired component is required. So request you to please add Wired and Wireless LAN access in last 3 years</p>	Bids will be evaluated as per tender document.
218	SAN Storage	The All flash Storage system should be unified (Block and File), with minimum 20 TB usable capacity in RAID 5 (4+1) or equivalent of 6TB SSD and 14TB SAS 16K. Bidders must include 1 Hot Spare drive for every 8 drives. It should contain at least 512 GB cache across controllers with at least 128 GB cache per controller pair.	Not all OEMs support Unified Storage arrays in their latest range of arrays. Kindly indicate if File Services can be provided with an external File server . If Yes- please provide Capacity break up of 20TB for Block and File data.	Bid will be evaluated as per tender specification
219			With Industry moving to All Flash Larger Capacity SSD Drives Raid 6 Has become the default standard in Storage Arrays by some of the OEMs as that provides better reliability against Raid 5 with additional parity drive within the raid group. Kindly indicate if Arrays with RAID6 as a standard can be proposed.	Bid will be evaluated as per tender specification
220	Disk Type	6TB SSD, 14TB SAS 16K usable storage	SAS HDD offered in Storage Arrays are 10k rpm. Please indicate if 10k rpm can be offered in place of 15k rpm.	Bid will be evaluated as per tender specification
221	Scalability	Storage should be scalable to minimum 3 times of its usable capacity in alignment with supplied specification		Bid will be evaluated as per tender specification
222	IOPS	System to deliver 1,30,000 IOPS FE for 70:30 Read Write (Random Read 50%, Sequential Read 20%, Random Write 20%, and Sequential Write 10%) with 16 or 32 KB Block size. Response time to be less than 1 ms. OEM to submit relevant performance proof document along with the proposal.	16KB OR 32KB are random workload block sizes. Random workload performance figures can be provided for the same. Please indicate block size for Sequential performance . Separate Sequential Performance figures can be provided for the same.	Bid will be evaluated as per tender specification
223	RAID Type	RAID 5, RAID 6/RAID DP	With Industry moving to All Flash Larger Capacity SSD Drives Raid 6 Has become the default standard in Storage Arrays by some of the OEMs as that provides better reliability against Raid 5 with additional parity drive within the raid group. Kindly indicate if Arrays with RAID6 as a standard can be offered.	Bid will be evaluated as per tender specification
224	Fault Tolerance	The SAN component must be redundant against power supply, disk, cooling fan, controllers and Data Path failures. The Central Storage System must support multi-path automatic load balancing with no single point-of-failure		Bid will be evaluated as per tender specification
225	NAS details	Storage must support 64 bit file system and allow creating large single file system of at least 30TB in size. Quota management license to be configured.		Bid will be evaluated as per tender specification
226	Market Positioning	OEMs must be in the Gartner Lead quadrant of Solid-State Arrays for at least once in last 3 years		Bid will be evaluated as per tender specification
227	Storage Features	Storage should support data reduction technologies (De-Duplication or Compression) along with Thin Provisioning Feature. Licenses, if any should be included with proposed solution.		Bid will be evaluated as per tender specification

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228	Host Interface	Storage should contain minimum 8 No. of FC 16 Gb/s ports and 4 No. of 1/10GbE iSCSI (1Gb BaseT ports or 10 Gb optical ports) ports per controller. Storage should have atleast 2 ports of 12 Gbps SAS backend across controllers		Bid will be evaluated as per tender specification
229	Compatibility	Storage to work & co-exist with existing HP Backup infrastructure and software and HP switches HP SN8000B.	Please provide more details on the Existing environment and co-existence required.	Data migration from HP 3PAR to purposed Storage is not in the scope of Bidder
230	DAE & Cables	Bidder should provide the necessary DAE & extension cables required for storage commissioning along with Storage		Bid will be evaluated as per tender specification
231	Host Connectivity	Storage should be able to support Unified (SAN and NAS) as an integrated offering with single management tool with all mentioned protocols FC, iSCSI, CIFS, NFS etc	NAS functionality to be provided by a external File server(NAS) for CIFS and NFS support as in point 1 . So Storage would support Host Connectivity for only Block access using FC and iSCSI.	Bid will be evaluated as per tender specification
232	Migration	Should be able to migrate data from the current HP 3PAR to the proposed storage without loss of data.	Please provide details of 3PAR ( Model and OS version ) and hosts (OS and hypervisor versions)	Data migration from HP 3PAR to purposed Storage is not in the scope of Bidder
233	Local & Remote Replication	The storage must support local PIT protection mechanism. Should support remote hardware based (host independent) data replication to a remote site and bidirectional data copy. License for Local & remote replication capabilities to be included with solution		Bid will be evaluated as per tender specification
234	Monitoring	The storage must have built in feature to provide automated email alerts. Monitoring tool should provide a comprehensive view into the health of the storage device(s) through a centralized management console. It should be able to monitor all logical connections and physical infrastructure		Bid will be evaluated as per tender specification
235	Management and Reporting	Storage should provide either HTML5/Java based simple to use single management interface. It should have dashboards for at-a-glance management and reporting and other functions like configuration monitor and manage. It should support any browser. Storage must have feature to extract and capture utilization and performance reports. Storage should provide reports for historical & real-time utilization trends. The storage should provide 10/20/40 Gbps Ethernet connectivity port (Copper/Fiber based) – Also converter for 1G Ethernet is to be provided as currently backend landscape is currently on 1G Ethernet (copper based)	Management ports are 1Gb Only by default. What are these 10/20/40Gbps ethernet ports specifically required for ?	Bid will be evaluated as per tender specification
236	Remote management	Storage must have feature to manage remotely via web and command line.		Bid will be evaluated as per tender specification
237	Guest Operating System Support	Storage system must support following guest operating system Windows Server 2008,2012,2018 Red hat Linux, IBM AIX, Solaris, SusE Linux and their latest versions.	Windows 2008 is not supported natively. Can only be part of a VM if the hypervisor supports the same as a guest OS. Kindly clarify if Windows 2008 is being deployed in VM or natively on the server.	Bid will be evaluated as per tender specification
238	Virtualization support	Storage system must support following guest virtualization technologies – VMWare, Hyper-V, RHEV, OVM, Power VM etc.		Bid will be evaluated as per tender specification
239	Fault detection and corrective action	Automatic drive failure detection and rebuild using global hot spare. Mirrored data cache with battery backup and de-stage to flash.		Bid will be evaluated as per tender specification
240	Multi-pathing	The Central Storage System must support multipath automatic load balancing with no single point-of failure between Servers, Central Storage System and SAN		Bid will be evaluated as per tender specification

**Pre Bid Queries for Supply and Installation of IT Infra Equipment's against Tender Enquiry No. TPCODL/P&S/100000110/2020-21**

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241	Service and support warranty	Storage should have comprehensive 7 years onsite warranty. Bidder should have back to back business critical support agreement with the OEM for spares, software, hardware and escalation support. The Storage array should support continuous system monitoring, call-home notification, advanced remote diagnostics and proactive hot sparing to enhance system robustness, availability and reliability.		Bid will be evaluated as per tender specification
242	QOS	The Storage should have the capability to provide Quality of Service (QoS) for the LUNs/volumes configured in the system to ascertain desired performance level for applications.		Bid will be evaluated as per tender specification
243	Security	The Storage array must provide multiple levels of access control including role-based security and auditing capability. Storage should support Integration with third-party anti-virus software. License if any for listed features should be configured for entire supported capacity of the array. The proposed storage array should integrate with iNMS tools such as CA, IBM, HP etc	iNMS tools such as CA, IBM, HP etc support is to be confirmed by the NMS tool vendor.	The proposed storage array should integrate with iNMS tools such as CA, IBM, HP, Nagios etc
244	Cloud based management (optional feature)	Storage OEM shall provide software-as-a-service cloud management dashboard that provides Basic performance characteristics like IOPS, Throughput, configuration related analytics and Storage health reporting for trending analysis		Bid will be evaluated as per tender specification
245	Sanswitch	The switches should have non-blocking architecture with total sum of 48 FC ports in a single domain concurrently active at least 16 Gbps full duplex. It should be backward compatible. The 24 ports should produce an aggregate 768 Gbps full- duplex throughput	The RFP ask is for a 16Gbps switch. 24 ports With 16Gbps would produce an aggregate of 384Gbps full duplex throughput. Request modify 768Gbps to 384Gbps.	Bid will be evaluated as per tender specification
246	Sanswitch	VSAN, IVR, NPV, Port Channel with multipath load balancing, Flow-based and zone-based QoS	These are specific to CISCO switches. Request you to exclude this clause.	Bid will be evaluated as per tender specification
247	Sanswitch	Should have Front-to-back airflow and Back-to-front airflow.	Airflow is based On OEM design . Kindly allow the switch to be proposed with Airflow based on OEM design.	OEM design should have Front-to-back airflow and Back-to-front airflow
248	Sanswitch	Management Access: Should have USB port for system log file downloads and firmware upgrades. It should have 10/100/1000 Mbps Ethernet (RJ- 45), in-band over Fibre Channel, serial port (RJ-45).	Request you to modify this this to 10/100 Mbps as the port available is 10/100 Mbps Ethernet (RJ-45),in-band over Fibre Channel, serial port (RJ-45)	RJ45 supports Gigabit Ethernet which is preferable as mentioned in RFP.
249	Sanswitch	Provide Security by encryption- AES-GCM-256 encryption		
250	Sanswitch	Shall have support for simultaneous multiple Operating Systems connectivity. License requirements if any for OS access for the following operating systems shall be provided. Unix, MS Windows 2003/ 2008/ 2012 / 2018 server, SUSE & Redhat Linux	Switch Compatibility is seen in combination with Storage and Supported OS. Windows 2003 and 2008 and Not supported natively. Kindly exclude these versions. Please indicate which Unix version compatibility is required.	Bid will be evaluated as per tender specification
251	Sanswitch	The switch shall be guaranteed to be fully compatible for HBAs, Clustering solutions and OS offered with the servers.	This is checked as an end to end compatibility with Storage and not applicable as a clause in the switch specs	Bid will be evaluated as per tender specification
252	Sanswitch	The switch shall be supporting SNMP (v3 and v4) management and appropriate MIBs shall be provided.	Support is for SNMP V1/V3 only. Request modification to v1/v3 and exclusion of v4	SNMP v3 and v4 are preferable
253	Tap Library	The Tape Library should support UNIX, Linux and Windows operating Systems as backup clients.	If any existing environment needs to be supported, please provide details of the same.	Bid will be evaluated as per tender specification
254	Tap Library	The proposed Tape library should integrate with iNMS to	iNMS tools such as CA, IBM, HP etc support is to be confirmed by the NMS tool vendor.	The proposed Tape library should integrate with iNMS tools such as CA, IBM, HP, Nagios etc.
255	Tap Library	Tape library OEM -IBM / Fujitsu	Request to allow HPE also for Tape solution.	FC Tape Library with tapes - IBM /fujitsu/DELL/Quantum/HP
256	Doc No: NIT No.: TPCODL/P&S/100000110/2021-22. Sl: 8 Servers - Type1. Page no. 26.	Chipset: Intel C600 series chipset or better	Request you to please upgrade to Intel® C620 chipset, in line with asked processor  The asked processor fits into this new chipset only.	Bid will be evaluated as per tender specification



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257	<b>Doc No:</b> NIT No.: TPCODL/P&S/100000110/2021-22. <b>Sl: 8</b> Servers - Type1. <b>Page no.</b> 27.	Cables & Accessories: All required LC-LC cable, Ethernet cable, Power cables, sliding rails, mounting kit etc. to be provided	Please mention the required length of LC-LC Cables for FC HBA and 10G SFP+ adpters This will give clarity to quote right cables	length of LC-LC Cables for FC HBA and 10G SFP+ adpters will be as per the supplied material and its placement within the Data Centre
258	<b>Doc No:</b> NIT No.: TPCODL/P&S/100000110/2021-22. <b>Sl: 8</b> Servers - Type 2. <b>Page no.</b> 28.	Chipset: Intel C600 series chipset or better	Request you to please upgrade to Intel® C620 chipset, in line with asked processor. The asked processor fits into this new chipset only.	Bid will be evaluated as per tender specification
259	<b>Doc No:</b> NIT No.: TPCODL/P&S/100000110/2021-22. <b>Sl: 8</b> Servers - Type 2. <b>Page no.</b> 29.	Cables & Accessories: All required LC-LC cable, Ethernet cable, Power cables, sliding rails, mounting kit etc. to be provided	Please mention the required length of LC-LC Cables for FC HBA and 10G SFP+ adpters This will give clarity to quote right cables	length of LC-LC Cables for FC HBA and 10G SFP+ adpters will be as per the supplied material and its placement within the Data Centre
260	<b>Doc No:</b> NIT No.: TPCODL/P&S/100000110/2021-22. <b>Sl: 8</b> Servers - Type3. <b>Page no.</b> 29.	Processor: Server should be configured with 1*12C Intel® Xeon® Silver 4214R Processor (16.5M Cache, 2.40 GHz) or higher	Request you to upgrade to latest generation Intel Xeon Silver 16 core 4314 processor( (24 MB Cache, 2.40 GHz)or higher Latest processor with higher performance and longer supportability	Bid will be evaluated as per tender specification
261	<b>Doc No:</b> NIT No.: TPCODL/P&S/100000110/2021-22. <b>Sl: 8</b> Servers - Type 3. <b>Page no.</b> 29.	Chipset: Intel C600 series chipset or better	Request you to please upgrade to Intel® C620 chipset, in line with asked processor The asked processor fits into this new chipset only.	Bid will be evaluated as per tender specification
262	<b>Doc No:</b> NIT No.: TPCODL/P&S/100000110/2021-22. <b>Sl: 8</b> Servers - Type3. <b>Page no.</b> 30.	Cables & Accessories: All required LC-LC cable, Ethernet cable, Power cables, sliding rails, mounting kit etc. to be provided	Please mention the required length of LC-LC Cables for FC HBA and 10G SFP+ adpters. This will give clarity to quote right cables	length of LC-LC Cables for FC HBA and 10G SFP+ adpters will be as per the supplied material and its placement within the Data Centre
263	<b>Doc No:</b> NIT No.: TPCODL/P&S/100000110/2021-22. <b>Sl: 8</b> Servers - Type4. <b>Page no.</b> 31	Processor: Server should be configured with 1*12C Intel® Xeon® Silver 4214R Processor (16.5M Cache, 2.40 GHz) or higher	Request you to upgrade to latest generation Intel Xeon Silver 4309Y processor( (12 MB Cache, 2.80 GHz)or higher Latest processor with higher performance and longer supportability	Bid will be evaluated as per tender specification
264	<b>Doc No:</b> NIT No.: TPCODL/P&S/100000110/2021-22. <b>Sl: 8</b> Servers - Type4. <b>Page no.</b> 31	Chipset: Intel C600 series chipset or better	Request you to please upgrade to Intel® C620 chipset, in line with asked processor The asked processor fits into this new chipset only.	Bid will be evaluated as per tender specification
265	<b>Doc No:</b> NIT No.: TPCODL/P&S/100000110/2021-22. <b>Sl: 8</b> Servers - Type4. <b>Page no.</b> 31	Cables & Accessories: All required LC-LC cable, Ethernet cable, Power cables, sliding rails, mounting kit etc. to be provided	Please mention the required length of LC-LC Cables for FC HBA and 10G SFP+ adpters This will give clarity to quote right cables	length of LC-LC Cables for FC HBA and 10G SFP+ adpters will be as per the supplied material and its placement within the Data Centre
266	<b>Doc No:</b> NIT No.: TPCODL/P&S/100000110/2021-22. <b>Sl: 8</b> Servers - Type5. <b>Page no.</b> 32	Processor: Server should be configured with 1*12C Intel® Xeon® Silver 4214R Processor (16.5M Cache, 2.40 GHz) or higher	Request you to upgrade to latest generation Intel Xeon Silver 16 core 4314 processor( (24 MB Cache, 2.40 GHz)or higher Latest processor with higher performance and longer supportability	Bid will be evaluated as per tender specification
267	<b>Doc No:</b> NIT No.: TPCODL/P&S/100000110/2021-22. <b>Sl: 8</b> Servers - Type5. <b>Page no.</b> 32	Chipset: Intel C600 series chipset or better	Request you to please upgrade to Intel® C620 chipset, in line with asked processor The asked processor fits into this new chipset only.	Bid will be evaluated as per tender specification
268	<b>Doc No:</b> NIT No.: TPCODL/P&S/100000110/2021-22. <b>Sl: 8</b> Servers - Type5. <b>Page no.</b> 33	Cables & Accessories: All required LC-LC cable, Ethernet cable, Power cables, sliding rails, mounting kit etc. to be provided	Please mention the required length of LC-LC Cables for FC HBA and 10G SFP+ adpters This will give clarity to quote right cables	length of LC-LC Cables for FC HBA and 10G SFP+ adpters will be as per the supplied material and its placement within the Data Centre
269	<b>Doc No:</b> NIT No.: TPCODL/P&S/100000110/2021-22. <b>Section:</b> 5. Firewall-SI no.1. <b>Page no.</b> 23.	The proposed security solution must be in the Leader's quadrant in the Gartner "Magic Quadrant for Enterprise Network Firewalls" for atleast 5 years	The proposed security solution must be in the Leader's quadrant in the Gartner "Magic Quadrant for Enterprise/Network Firewalls" for atleast 3 years Gratner has stopped publishing report for "Enterprise Firewall" It is "Network Firewall".	Both are same. Bids will be evaluated as per tender document.
270	<b>Doc No:</b> NIT No.: TPCODL/P&S/100000110/2021-22. <b>Section:</b> 5. Firewall-SI no.6. <b>Page no.</b> 23.	Proposed solution shall not have been reported for any backdoor vulnerability in their operating system of NGFW in past 3 years.	Proposed solution shall not have any unpatched/open backdoor vulnerability in their operating system of NGFW in past 3 years.  Every product would have vulnerabilities but it is important that these must be fixed/patched on priority. Security systems are need to be updated on continuous basis to cope with any up coming threat. If there there is no vulnerability means no changes in software and no new features added to the same. if unpatched vulnerability is the concern then TPCODL should ask for such system that have not been exposed to any vulnerability since it has developed.	Bids will be evaluated as per tender document.
271	<b>Doc No:</b> NIT No.: TPCODL/P&S/100000110/2021-22. <b>Section:</b> 5. Firewall- SI no.11. <b>Page no.</b> 23.	The platform must be supplied with minimum 16 x 10/100/1000GE RJ45 inbuilt interfaces excluding Management interface, 2x1G SFP & 1x10G SFP+ Fiber Interface, and should support additional latest 2x2.5G Copper Interface. The device should be quoted in HA.	The platform must be supplied with minimum 16 x 10/100/1000GE RJ45 inbuilt interfaces excluding Management interface, 4x1G SFP & 4x10G SFP+ Fiber Interface. The device should be quoted in HA.  Only one or two OEM has2.5G interface on firewall	Bids will be evaluated as per tender document.
272	<b>Doc No:</b> NIT No.: TPCODL/P&S/100000110/2021-22. <b>Section:</b> 5. Firewall- SI no.9. <b>Page no.</b> 23.	The sized appliance should support minimum 65000 new sessions per second	The sized appliance should support minimum 240,000 new sessions per second  In the point no.8 concurrent session has been asked for 2.4 million, hence new session should be at leaset 10% of the concurrent seesion other wise it will become bottle neck solution	Bids will be evaluated as per tender document.
273	<b>Doc No:</b> NIT No.: TPCODL/P&S/100000110/2021-22. <b>Section:</b> 5. Firewall-SI no.17. <b>Page no.</b> 23.	Application control database must contain more than 8000 known applications.	Application control database must contain more than 3000+ known applications & should have options for custom application signature  OEM specific point, thus request you to make the changes to make this generic to ensure maximum participation	Bids will be evaluated as per tender document.

**Pre Bid Queries for Supply and Installation of IT Infra Equipment's against Tender Enquiry No. TPCODL/P&S/100000110/2020-21**

Sl. No.	Detailed Reference to Tender Document. Please specify Document No / Clause No / Page No	Description as per Bid Document	Remarks - Query / Clarification	Response from TPCODL
274	<b>Doc No:</b> NIT No.: TPCODL/P&S/100000110/2021-22. <b>Section:</b> 5. Firewall-SI no.18. <b>Page no.</b> 23.	Firewall must support unlimited policy option	Please remove this point  This is OEM specific point, and will hinder other Gartner leaders OEM's from participating freely . Every system has capacity limitation fac is some OEM accept the same and some dose not. Hence request you to do changes and make this generic so that maximum participation can be ensured.	Bids will be evaluated as per tender document.
275	<b>Doc No:</b> NIT No.: TPCODL/P&S/100000110/2021-21. <b>Clause:</b> 3 <b>Page no.</b> 21.	Network Switches: Switch - 24 port - 1Gig Core switch L3	Switch shall have 4 GB RAM and 4 GB Flash  Most of the OEM has Architecture where OS Kernels and Firmware will run on specific hardware ex. 2GB RAM and 2 GB FLASH. There are few OEMs in the industry they required higher RAM and FLash size to run their complex OS. Kindly amend the same as , "Switch shall have 2 GB RAM and 2 GB Flash	Bids will be evaluated as per tender document.
276	<b>Doc No:</b> NIT No.: TPCODL/P&S/100000110/2021-22. <b>Clause:</b> 9. <b>Page no.</b> 22.	Network Switches: Switch - 24 port - 1Gig Core switch L3	Switch should support atleast 16K flow entries.  Most of the OEM has option to run application telemetry by default and they dont required such very high number flow entries to deliver the functionality. Kindly amend the same as "Switch should support atleast 2K flow entries "	Bids will be evaluated as per tender document.
277	<b>Doc No:</b> NIT No.: TPCODL/P&S/100000110/2021-22. <b>Clause:</b> 14 <b>Page no.</b> 22.	Network Switches: Switch - 24 port - 1Gig Core switch L3	Should support advance Layer 3 protocol like EIGRP, VRF, VXLAN, IS-IS, OSPF. EIGRP is propertoty protocol and this will keep keep all major OEM out of bidding process. Kindly remove the EIGRP for wider OEM participation. Kindly amend the same as "Should support advance Layer 3 protocol like VRF, VXLAN, IS-IS, OSPF.	Should support advance Layer 3 protocol like VRF, VXLAN, IS-IS, OSPF.
278	<b>Doc No:</b> NIT No.: TPCODL/P&S/100000110/2021-22. <b>Clause:</b> 24 <b>Page no.</b> 22.	Network Switches: Switch - 24 port - 1Gig Core switch L3	The OEM must feature in the Leaders/ Challengers segment of the Gartner Magic Quadrant for Data Center networking in last 3 years  This perticular clause of keep major OEM out of the competition. Kindly amend the same for wider OEM participation. Kindly amend as "The OEM must feature in the Leaders/ Challengers segment of the Gartner Magic Quadrant for Data Center or wired and wireless networking in last 3 years	Bids will be evaluated as per tender document.
279	<b>Doc No:</b> NIT No.: TPCODL/P&S/100000110/2021-22. <b>Clause:</b> 2 <b>Page no.</b> 20.	Network Switches: Switch - 24 port - 10 Gig access switch L3	Switch shall have 16 GB RAM and 16 GB Flash  Please amend "Switch shall have 16 GB RAM and 16 GB Flash/SSD.	Bids will be evaluated as per tender document.
280	<b>Doc No:</b> NIT No.: TPCODL/P&S/100000110/2021-22. <b>Clause:</b> 8 <b>Page no.</b> 20.	Network Switches: Switch - 24 port - 10 Gig access switch L3	Switching system shall have minimum 2 Tbps of switching fabric and minimum 1450 Mpps of forwarding rate.  As per the calacultation and hardware port combination requested it forwarding calculation should be 1000 Mpps or less it coming. Kindly amend the same for wider OEM particiaption "Switching system shall have minimum 2 Tbps of switching fabric and minimum 1000 Mpps of forwarding rate.	Bids will be evaluated as per tender document.
281	<b>Doc No:</b> NIT No.: TPCODL/P&S/100000110/2021-22. <b>Clause:</b> 11 <b>Page no.</b> 20.	Network Switches: Switch - 24 port - 10 Gig access switch L3	Switch shall support application visibility and traffic monitoring with minimum 128 K sflow/jflow/netFlow entries.  Most of the OEM has option to run application telemetry by default and they dont required such very high number flow entries to deliver the functionality. Kindly amend the same as "Switch should support atleast 4K flow entries "	
282	<b>Doc No:</b> NIT No.: TPCODL/P&S/100000110/2021-22. <b>Clause:</b> 13 <b>Page no.</b> 20.	Network Switches: Switch - 24 port - 10 Gig access switch L3	The device should be IPv6 certified from day one. Kindly amend the same as "The device should be IPv6 ready/ certified from day one	Bids will be evaluated as per tender document.
283	<b>Doc No:</b> NIT No.: TPCODL/P&S/100000110/2021-22. <b>Clause:</b> 14 <b>Page no.</b> 21.	Network Switches: Switch - 24 port - 10 Gig access switch L3	Should support IEEE Standards of Ethernet: IEEE 802.1D, 802.1s, 802.1w, 802.1x, 802.3ad, 802.1ae (256-bit and 128-bit AES), 802.3x, 802.1p, 802.1Q, 1588v2 .  Most of the hardware is still not ready for 1588v2 or Sync or PTP protocol and NTP is widely use for time sincronization. Moreover most of the OEM also using GRE/IPSec / or Vxlan Tunneling features which will give security and interoperability. Kindly dilute MacSec or 802.1ae (256-bit and 128-bit AES) and 1588V2 for wider OEM participation. For wider OEM participation please amend as "Should support IEEE Standards of Ethernet: IEEE 802.1D, 802.1s, 802.1w, 802.1x, 802.3ad, 802.1ae (256-bit and 128-bit AES) or GRE /IPsec or IP tunneling, 802.3x, 802.1p, 802.1Q, 1588v2 or NTP or PTP or equivapent.	"Switch should support IEEE Standards of Ethernet: IEEE 802.1D, 802.1s, 802.1w, 802.3ad, 802.3x, 802.1p, 802.1Q, 802.3, 802.3u, 802.3ab, 802.3z & 1588 or Network Time Protocol (NTP) "
284	<b>Doc No:</b> NIT No.: TPCODL/P&S/100000110/2021-22. <b>Clause:</b> 15 <b>Page no.</b> 21.	Network Switches: Switch - 24 port - 10 Gig access switch L3	Switches should support MACSec encryption (MACSec -256) for switch-to-switch (inter- network device) security.  most of the OEM also using GRE/IPSec / or Vxlan Tunneling features which will give security and interoperability. Kindly amend the same as "Switches should support MACSec encryption (MACSec -256) or Ipsec or IPTunneling or GRE or equivalent for switch-to-switch (inter- network device) security.	Switches should support MACSec encryption (MACSec -256) or Ipsec or IPTunneling or GRE or equivalent for switch-to-switch (inter- network device) security.
285	<b>Doc No:</b> NIT No.: TPCODL/P&S/100000110/2021-22. <b>Clause:</b> 17 <b>Page no.</b> 21.	Network Switches: Switch - 24 port - 10 Gig access switch L3	Must support BGP, IS-IS, VRF, VXLAN, OSPF , EIGRP, PIM SM, IP SLA, and MPLS.  EIGRP is propertoty protocol and this will keep keep all major OEM out of bidding process. Kindly remove the EIGRP for wider OEM participation. Kindly amend the same as "Must support BGP, IS-IS, VRF, VXLAN, OSPF , PIM SM, IP SLA or equivalent and MPLS.	Must support BGP, IS-IS, VRF, VXLAN, OSPF , PIM SM, IP SLA, and MPLS.
286	<b>Doc No:</b> NIT No.: TPCODL/P&S/100000110/2021-22. <b>Clause:</b> 19 <b>Page no.</b> 21.	Network Switches: Switch - 24 port - 10 Gig access switch L3	Switch should support management features like SSHv2, SNMPv2c, SNMPv3, IGMP, Netconf/YANG.  Most of the OEM support RestAPI functionality for Automation. Kindly amend the same as "Switch should support management features like SSHv2, SNMPv2c, SNMPv3, IGMP, Netconf/YANG or API or RestAPI	Bids will be evaluated as per tender document.
287	<b>Doc No:</b> NIT No.: TPCODL/P&S/100000110/2021-22. <b>Clause:</b> 28 <b>Page no.</b> 21.	Network Switches: Switch - 24 port - 10 Gig access switch L3	The OEM must feature in the Leaders/ Challengers segment of the Gartner Magic Quadrant for Data Center networking in last 3 years  This perticular clause of keep major OEM out of the competition. Kindly amend the same for wider OEM participation. Kindly amend as "The OEM must feature in the Leaders/ Challengers segment of the Gartner Magic Quadrant for Data Center or wired and wireless networking in last 3 years	Bids will be evaluated as per tender document.

**Pre Bid Queries for Supply and Installation of IT Infra Equipment's against Tender Enquiry No. TPCODL/P&S/1000000110/2020-21**

Sl. No.	Detailed Reference to Tender Document. Please specify Document No / Clause No / Page No	Description as per Bid Document	Remarks - Query / Clarification	Response from TPCODL
288	Doc No: NIT No.: TPCODL/P&S/1000000110/2021-22. Clause: 18 Page no. 20.	Network Switches: Switch - 24 Port L2 Switch	The OEM must feature in the Leaders/ Challengers segment of the Gartner Magic Quadrant for Data Center networking in last 3 years.  This perticular clause of keep major OEM out of the competition.Kindly amend the same for wider OEM participation.Kindly amend as "The OEM must feature in the Leaders/ Challengers segment of the Gartner Magic Quadrant for Data Center or wired and wireless networking in last 3 years	Bids will be evaluated as per tender document.