

Pre-bid queries for SITC of Core Switch under TPCODL								Query No.
S.N.	Section	Page no	Clause serial No	Clause description	Clarification /Change requested	Justification	TPCODL's Remarks	
1	Pre- Qualification Criteria	7	1(b)	The offered products in the solution against the supply order shall be latest version and should not be end of life for next 10 years, however if any product which is declared end of life product by OEM during the supply period of material, in this case the tenderer should supply replaced model or next higher model/version of the Product.	Please amend the clause as - "The offered products in the solution against the supply order shall be latest version and should not be end of support from OEM for next 7 years, however if any product which is declared end of life product by OEM during the supply period of material, in this case the tenderer should supply replaced model or next higher model/version of the Product." The same shall be inline to SOW - page 32/141, commencement of warranty clause	Since the technology is changing rapidly, OEMs generally (on special approvals) provides confirmation of OEM support for next 7 years, requesting you to amend the 10 years service life of product to 7 years.	Tender Clause stands	1
2	13.1 Special Condition of Contract	19	Delivery Timeline	Delivery Period The devices should be delivered within 4 weeks from order issuance date and HLD/LLD/Installation of the same should be done in two (2) weeks from the date of intimation. (Client will intimate date to bidder for installation of equipment's).	Request to Amend this Clause as " The Device should be delivered within 8-10 weeks from order issuance date."	Request to allow 8-10 weeks for delivery of equipment at site.	This clause to be read as "Delivery Period The devices should be delivered within 6 weeks from order issuance date and HLD/LLD/Installation of the same should be done in two (2) weeks from the date of intimation. (Client will intimate date to bidder for installation of equipment's)."	2
3	Scope of Work	32	Clause e	Complete configuration of the device to integrate with existing DC, DRC and locational network"	Please clarify the integration required for these switches with existing network shall be on open standards based protocols ? Request if you can share the architecture to validate integration.		This clause to be read as "Complete configuration of the device includes basic setup, device hardening as per the OEM OS benchmarks, routing like OSPF, ISIS, BGP etc. that is required to integrate with existing DC devices, DRC devices and locational network device."	3
4	Scope of Work	32	Clause h	Provide Hands on Training to TPCODL Team (Minimum 2 Engineer) by OEM only.	Please specify the training scope and duration, will it be face to face or can be remote?		This clause to be read as "Provide Hands on Training to TPCODL Team (Minimum 2 Engineers) for 15 days by OEM only in face to face mode."	4
5	Technical Specification	34	1.3	Forwarding Rate: ≥ 1440 Mpps	Please amend the clause as - "Forwarding rate:≥ 1000Mpps"	different OEMs have different calculations for different packet sizes to calculate the PPS value. We support the standard published value as 1000Mpps	This clause to be read as "Forwarding Rate: ≥ 1000 Mpps or >= 1 Bpps"	5
6	Technical Specification	34	1.6	VLAN IDs: 4096	Please amend the clause as - "VLAN IDs: 4094"	2 VLANs are system reserved, we support 4094 VLANs	This clause to be read as "minimum user defined VLAN IDs: 4094"	6
7	Technical Specification	34	1.9	Switch shall support Stacking or equivalent features with dedicated ports, allows links that are physically connected to two different switch to appear as a single port channel from Day 1 with all accessories. Switch in this mode must support In-Service Software Upgrade (ISSU) so there will be no packet loss or downtime during upgrade to minor version release and next major version release.	Please amend the clause as - "Switch shall support Stacking or equivalent features with dedicated ports, allows links that are physically connected to two different switch to appear as a single port channel from Day 1 with all accessories. Switch in this mode must support In-Service Software Upgrade (ISSU) / Equivalent so there will be minimal impact to the packet loss or downtime during upgrade to minor version release and next major version release."	Fixed 8x40/100G QSFP28 Ports, 2 shall be used for stacking / clustering. ISSU is applicable mainly for chassis based switches, this is a fixed configuration switch. We support Rolling stack upgrade on 7520. With rolling upgrade where each unit of the stack gets upgraded at a time. When devices are in HA - and setup has redundant links to other unit, the traffic will be switched to the other unit with minimal impact on the traffic. there are just a few packet drops during change-over to another link.	This clause to be read as "Switch shall support Stacking or equivalent features with dedicated ports preferred or existing data ports, allows links that are physically connected to two different switch to appear as a single port channel from Day 1 with all accessories. Switch in this mode must support In-Service Software Upgrade (ISSU) so there will be no packet loss or downtime during upgrade to minor version release and next major version release."	7
8	Technical Specification	34	2.1	48 x 1/10G SFP+ and 8 x 40G QSFP+ non blocking, fully populated with SFPs from day 1	Please clarify the required transceivers quantity for all 48x10G ports and 8x40G ports and type SM or MM??, also confirm if for creating HA necessary DAC cables are required, if yes, what length. Since RFP asks separate 10G MM transceivers - 192 no. For clarification please specify the total required counts for both 10G and 40G transceivers and any DAC cables so as to avoid any confusion.		"This clause to be read as: 48 ports for 1/10G SFP+ and 8 ports for 40G QSFP+, all non-blocking and fully equipped with MM SFPs from the start. The pricing for the SFPs is listed separately in the Bill of Quantities (BoQ), but the SFPs are included with the switches."	8
9	Technical Specification	34	3.5	Efficiency: ≥ 92% (80 PLUS Platinum certified)	Please remove this efficiency / 80 PLUS Platinum certified clause.	Support standard 800W power supply, actual Maximum Power Consumption (W) (Fans high, all ports 100% traffic) is ~384W, thus makes it highly efficient.	Tender Clause stands	9
10	Technical Specification	34	4.8	LISP (Locator/ID Separation Protocol),	Please amend the clause as "LISP (Locator/ID Separation Protocol) / EVPN / Equivalent".	Proprietary to one OEM	This is to be clarify that LISP is open standard protocol defined in RFC 6830. However for better competition this clause it to be removed.	10
11	Technical Specification	35	4.13	IPv4/IPv6 ACLs 2K egress and 4K ingress	Please amend the clause as "IPv4/IPv6 ACLs 1K egress and 4K ingress"	supports 8K ingress and 1K egress ACLs	Tender Clause stands	11
12	Technical Specification	35	4.17	Virtual Routing and Forwarding (VRF) instances >= 1000	Please amend the clauses as "Virtual Routing and Forwarding (VRF) instances >= 900"	supports 960 VRFs	Tender Clause stands	12
13	Technical Specification	35	4.19	MPLS: LDP, BGP VPNv4 and VPNv6, Traffic Engineering	Since MPLS is not preferred for DC deployments - Please remove this clause.	MPLS is typically not deployed in Data Center environments, we support MPLS LDP, MPLS TE. However, BGP MPLS is not supported. Most of the Data Centers deploy EVPN along with VXLAN & BGP. We support EVPN VXLAN BGP protocols.	Tender Clause stands	13
14	Technical Specification	35	5.4	IEEE 802.1w Rapid Spanning Tree Protocol (RSTP) >= 3500 instances	To generalize the specifications, requesting you to please don't limit the number of instances or spanning tree domains. Requesting you to please amend the clause as - "IEEE 802.1w Rapid Spanning Tree Protocol (RSTP)"	We support 4096 —maximum number of ports including all Spanning Tree domains and 1024- maximum number of STP-protected VLANs (dot1d and dot1w)	Tender Clause stands	14
15	Technical Specification	35	5.5	IEEE 802.1s Multiple Spanning Tree Protocol (MSTP) >= 64	Please amend the clause as "IEEE 802.1s Multiple Spanning Tree Protocol (MSTP)"	We support Spanning Tree— 1024 maximum number of VLANs on all MSTP instances	Tender Clause stands	15
16	Technical Specification	36	8.1	Automation: Netconf/YANG, RESTCONF	Please amend the clause as "Automation: NETCONF/YANG/RESTCONF"	supports RESTCONF	Tender Clause stands	16
17	32		Scope of work and Service level agreement	a) The warranty of the equipment's carries for 7 years warranty. Vendor shall provide maintenance of the equipment's for a period 7 years as per terms and laid in this document. Conditions laid in this document.	Solution will be of 7 years and not 10		Tender Clause stands	1
18	34		Specification # 2.1	48 x 1/10G SFP+ and 8 x 40G QSFP+ non blocking, fully populated with SFPs from day 1	48 x 1/10/25G and 4 x 40G QSFP+ non-blocking, fully populated with SFPs from day 1.		"This clause to be read as: 48 ports for 1/10G SFP+ and 8 ports for 40G QSFP+, all non-blocking and fully equipped with MM SFPs from the start. The pricing for the SFPs is listed separately in the Bill of Quantities (BoQ), but the SFPs are included with the switches."	8
19	34		1.2	Switching Capacity: ≥ 1.56 Tbps	up to 3.2Tbps for high-backbone capacity for DC		Tender Clause stands	17

20		1.3	Forwarding Rate: ≥ 1440 Mpps	Up to 1 Bpps (Billions packet per second)		This clause to be read as "Forwarding Rate: ≥ 1000 Mpps or >= 1 Bpps"	5
21		1.7	MAC Address Table Size: ≥ 256K entries	Up to 82K or more		Tender Clause stands	18
22			Data Center Bridging (DCB): Priority-based Flow Control (PFC)	Support for Flow control, MAC Security		this clause to be read as "Data Center Bridging (DCB): Priority-based Flow Control (PFC), MAC security from Day 1"	19
23			Data Center Bridging Exchange (DCBX)	Data Center Bridging Exchange (DCBX) or equivalent		this clause to be read as "Data Center Bridging (DCB): Priority-based Flow Control (PFC), MAC security from Day 1"	19
24			General Specifications				
25			Form Factor: 1U rack-mountable	Yes			
26			Switching Capacity: ≥ 1.56 Tbps	Yes	Greater 4 Tbps	Tender Clause stands	17
27			Forwarding Rate: ≥ 1440 Mpps	Yes	2000 Mpps or 2 Bpps	This clause to be read as "Forwarding Rate: ≥ 1000 Mpps or >= 1 Bpps"	5
28			Forwarding Latency: ≤ 1 μs	Yes	800 ns		
29			System / Packet Buffer: ≥ 32 MB	Yes			
30			VLAN IDs: 4096	Yes	4094 Actually	This clause to be read as "minimum user defined VLAN IDs: 4094"	6
31			MAC Address Table Size: ≥ 256K entries	Yes	288K	Tender Clause stands	18
32			Switch shall have minimum 16 GB RAM and 16 TB SSD	Yes	16GB RAM And 50 GB SSD storage		
33			Switch shall support Stacking or equivalent features with dedicated ports, allows links that are physically connected to two different switch to appear as a single port channel from Day 1 with all accessories. Switch in this mode must support In-Service Software Upgrade (ISSU) so there will be no packet loss or downtime during upgrade to minor version release and next major version release.	Yes	There are no separate ports, stacking will be done on the 40G/100G ports available on the switch as Uplink/Stacking(VC for Juniper) ports	This clause to be read as "Switch shall support Stacking or equivalent features with dedicated ports preferred or existing data ports, allows links that are physically connected to two different switch to appear as a single port channel from Day 1 with all accessories. Switch in this mode must support In-Service Software Upgrade (ISSU) so there will be no packet loss or downtime during upgrade to minor version release and next major version release."	7
34			Ports				
35			48 x 1/10G SFP+ and 8 x 40G QSFP+ non blocking	Yes		"This clause to be read as: 48 ports for 1/10G SFP+ and 8 ports for 40G QSFP+, all non-blocking and fully equipped with MM SFPs from the start. The pricing for the SFPs is listed separately in the Bill of Materials (BoM), but the SFPs are included with the switches."	8
36			Power Supply				
37			Dual Power: 1:1 Redundant internal hot-swappable	Yes			
38			Input Voltage: 100-240V AC	Yes			
39			Frequency: 50 to 60 Hz	Yes			
40			Power Consumption: ≤ 600W	Yes	Each Power supply however is 650W		
41			Efficiency: ≥ 92% (80 PLUS Platinum certified)	Partial	80 Plus Silver PSU Efficiency	Tender Clause stands	9
42			Layer 3 Features				
43			Routing Protocols:				
44			OSPF, OSPFv3	Yes			
45			BGP, BGP4+	Yes			
46			Static Routing	Yes			
47			IS-IS, IS-IS for IPv6	Yes			
48			PIM-SM, PIM-DM	Yes			
49			VRRP ≥ 400 groups, VRRP support for both IPv4 and IPv6	Partial	Vrrp support for both IPv4 and IPv6 is available, but, number of Vrrp groups is 255	Tender Clause stands	20
50			LISP (Locator/ID Separation Protocol), VXLAN (Virtual Extensible LAN) fully support for BGP EVPN (Ethernet VPN)	NO	Proprietary to a particular OEM, functionality can be achieved via BGP or EVPN-VXLAN	This is to be clarify that LISP is open standard protocol defined in RFC 6830. However for better competition this clause it to be removed.	10
51			IPv4/IPv6 Dual Stack: IPv4/IPv6 multicast routing	Yes			
52			IPv4/IPv6 QoS	Yes			
53			IPv4/IPv6 ACLs 2K egress and 4K ingress	Partial	Max ACLs are 2K Egress and 1.5K Ingress	Tender Clause stands	11
54			IPv4 Routing Table ≥ 128 K entries	Yes	IPv4 unicast routes: 2,000,000 prefixes (RIB); 351,000 prefixes (FIB); 211,000 host routes; 64 ECMP paths		
55			IPv6 Routing Table ≥ 128K entries	Yes	IPv6 unicast routes: 500,000 prefixes (RIB); 172,000 prefixes (FIB); 106,000 host routes		
56			Multicast Routing Table: ≥ 16K entries	Yes	IPv4 multicast routes: 106,000; • IPv6 multicast routes: 52,000		
57			Virtual Routing and Forwarding (VRF) instances	Yes	2000	Tender Clause stands	12
58			No of ECMP path ≥ 16	Yes	IPv4 unicast routes: 2,000,000 prefixes (RIB); 351,000 prefixes (FIB); 211,000 host routes; 64 ECMP paths		
59			MPLS: LDP, BGP VPNv4 and VPNv6, Traffic Engineering	Yes	Covered under L3 VPN	Tender Clause stands	13
60			Layer 2 Features				
61			VLANs: Port-based VLANs,	Yes			
62			IEEE 802.1Q VLAN tagging	Yes			
63			Spanning Tree Protocols: IEEE 802.1D Spanning Tree	Yes			
64			IEEE 802.1w Rapid Spanning Tree Protocol (RSTP)	Yes	3500 instances on RSTP looks like a typographic error.	Tender Clause stands	14
65			IEEE 802.1s Multiple Spanning Tree Protocol (MSTP)	Yes		Tender Clause stands	15
66			Link Aggregation: IEEE 802.3ad Link Aggregation Control Protocol (LACP)	Yes			
67			Multi-chassis Link Aggregation (MLAG)	Yes	MC-LAG is supported		
68			Port Mirroring: Local and Remote Port Mirroring	Yes			
69			Data Center Bridging (DCB): Priority-based Flow Control (PFC), MAC security	Yes	MAC Security indicates that MACSEC is needed. Is this understanding correct or something else needed for MAC Security. Also if, MACSEC is needed is it needed from Day 1?	this clause to be read as "Data Center Bridging (DCB): Priority-based Flow Control (PFC), MAC security from Day 1"	19
70			Enhanced Transmission Selection (ETS)	Yes	Under DCBX		
71			Data Center Bridging Exchange (DCBX)	Yes		this clause to be read as "Data Center Bridging (DCB): Priority-based Flow Control (PFC), MAC security from Day 1"	19
72			Security Features				
73			Access Control Lists (ACLs): Layer 2/3/4 ACLs,	Yes			
74			IPv4 and IPv6 ACLs,	Yes			
75			Port Security: MAC address filtering,	Yes			
76			Network Access Control: IEEE 802.1X,	Yes			
77			RADIUS/TACACS+ authentication,	Yes			
78			DHCP Snooping: DHCP Snooping with option 82	Yes			
79			IP Source Guard	Yes			
80			Dynamic ARP Inspection	Yes			
81							
82							

83				Quality of Service (QoS)			
84				Classification: IEEE 802.1p CoS	Yes		
85				DSCP	Yes		
86				Traffic classification based on ACLs, IP precedence	Yes		
87				Queueing: 8 hardware queues per port	Yes		
88				Weighted Fair Queueing (WFQ)	Partial	SD-WRR is supported	Tender Clause stands
89				Strict Priority (SP) queueing	Yes		
90				Congestion Management: WRED (Weighted Random Early Detection)	Yes		
91				Priority Flow Control (PFC)	Yes		
92				Management and Automation			
93				Management Interfaces: Console port	Yes		
94				Out-of-band management Ethernet port	Yes		
95				USB management port	Yes		
96				Network Management: SNMP v1/v2c/v3	Yes		
97				Zero Touch Provisioning (ZTP)	Yes		
98				syslog	Yes		
99				NetFlow or sFlow	Yes	sFlow	
100				RESTful API	Yes		
101				OpenFlow	Partial	OpenStack Neutron Plug-in	
102				Automation: Netconf/YANG, RESTCONF	Partial	Netconf/YANG is supported.	Tender Clause stands
103				Web Interface: HTTPS	NO	Not recommended to use the Web Interface for DC switches	This clause to be read as "web interface: https if applicable"
104				CLI: SSH and Telnet	Yes		
105				Configuration: Dual firmware images, auto rollback	Yes		
106				Configuration rollback	Yes		
107				Environmental Specifications			
108				Operating Temperature: 0°C to 40°C (32°F to 104°F)	Yes		
109				Storage Temperature: -40°C to 70°C (-40°F to 158°F)	Yes		
110				Operating Humidity: 10% to 90% non-condensing	Yes	5% to 90% (noncondensing)	
111				Storage Humidity: 5% to 95% non-condensing	Yes	0% to 95% (noncondensing)	
112				Certifications and Compliance			
113				Safety: UL 60950-1 second edition or later	Yes	Enhanced UL 62368-1 is supported	
114				CAN/CSA-C22.2 No. 60950-1 second edition or later	Yes	Enhanced CAN/CSA-C22.2 No. 62368-1-14 Information Technology Equipment—Safety is supported	
115				IEC 60950-1 second edition or later	Yes	Enhanced IEC 62368-1: 2014 2nd Edition Information Technology Equipment—Safety (All country deviations): CB Scheme, supported along with IEC 60950-1:2005/A2:2013 Information Technology Equipment—Safety (All country deviations): CB Scheme	
116				EMC: FCC Part 15 (CFR 47) Class A	Yes		
117				ICES-003 Class A	Yes	• ICES-003 Canada Radiated and Conducted Emissions	
118				Environmental: RoHS and WEEE	Yes		

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