



संत लौंगोवाल अभियांत्रिकी एवं प्रौद्योगिकी संस्थान
लौंगोवाल, जिला-संगरूर, पंजाब-148106
(भारत सरकार, मा.स.वि.म. के अधीन समविश्वविद्यालय)
Sant Longowal Institute of Engineering & Technology
Longowal, District-Sangrur, Punjab- 148106
(Deemed University under MHRD, Government of India)

संदर्भ सं/Ref.No. SLIET/PCR/47/17/1493 -1500

दिनांक/Date: 27/02/2018

(Registered Post)

M/s _____


Sub: Notice for inviting quotation for purchase of material.

This Institute intends to purchase the following items as per requirement of ACSS dept. Please send your quotation to the undersigned in a sealed cover duly super scribed on envelop "Quotation for distribution switch and SFP module" so as to reach latest by closing date i.e. 19.03.2018.

S. No.	Specification of equipment	Qty.	Remarks
1.	Distribution Switch (12 Gigabit Ethernet SFP) (Detailed description as per Annexure-A)	02	
2.	1000BASE SE-LX/LH SFP Module (Detailed description as per Annexure-A)	10	

The Terms & Conditions for submitting quotation are as under:-

- 1) It may be noted that quotation received through registered/speed post only shall be considered. The institute is located in a remote area and it takes 5 to 7 days to reach the mail, therefore, quotation be dispatched well in time to avoid any sort of delay.
- 2) Rate of GST, if extra must be mentioned clearly.
- 3) Quotation other than those addressed to Deputy Registrar (Store & Purchase) will not be entertained.
- 4) The Prices quoted must be FOR SLIET, Longowal.
- 5) Quotations received later than due date will not be accepted.
- 6) Duly signed quotation must be sent on the letter head of the party.
- 7) As per instructions, if purpose of quotation is not super scribed on envelop and quotation is opened by mistake, then it will be rejected.
- 8) EMD of Rs. 30,000/- in the shape of DD, FDR or banker's cheque valid for a period of 45 days beyond the final bid validity period is required to be submitted along with quotation.
- 9) The other terms & conditions for submitting the quotation are given overleaf which must be read carefully before submitting the quotation.
- 10) Configuration of Distribution switch will be done by the supplier.


Deputy Registrar (Store & Purchase)

I: Distribution Switch (12 Gigabit Ethernet SFP) Specification

A	Switch Architecture
1	The Switch should have atleast 12 SFP+ 10Gbps ports
2	The Switch should support additional 4 x 10 Gigabit Ethernet network modules for future expandability
3	The Switch should support dual redundant power supplies.
4	The Switch should also support 440W DC power supply.
5	The Switch should be Stackable with 480Gbps stacking bandwidth from Day 1 with Stack Power capabilities.
6	The Switch Architecture should be able to Stack atleast 4 Switches together.
7	The Switch stack should be based on Distributed forwarding Architecture, where in each stack member forwards its own information on network.
8	The Switch Stack Architecture should have centralized control and Management plane with Active Switch and all the information should be Synchronized with Standby Switch.
9	The Switch should support Stateful Switchover (SSO) when switching over from Active to Standby switch in a Stack.
10	The Switch Stack Architecture should be Plug & Play for attaching or removing any switch from the stack without any downtime.
11	The Switch Stack Architecture should allow the end user to stack 24 Port Switch with 48 Port of the same model.
12	The Switch should be based on a Modular OS Architecture capable of hosting applications.
13	The Switch should have RJ45 & Mini USB Console Ports for Management
14	The Switch should have USB 2.0 for OS Management (uploading, downloading & booting of OS and Configuration)
15	The Switch should have Front to Back Airflow system.
16	The Switch should have Multicore CPU Architecture.
17	The Switch should have atleast 2GB of Flash for storing OS and other Logs.
18	The Switch should have atleast 4GB of DRAM.
19	The Switch should have atleast 1 10/100/1000 dedicated Ethernet Management Port
20	The Switch should have atleast 3 fans and incase of failure of any one of those the other fans should automatically speed up. Fans should be field replaceable.
21	The Switch should have power savings mechanism wherein it should reduce the power consumption on ports not being used.
22	The switch should be Rack Mountable and should not take space more than 1RU.
B	Switch Performance

1	The Switch should have atleast 320G nonblocking switching bandwidth.
2	The switch should have atleast 227Mpps of forwarding rate.
3	The Switch should have atleast 480Gbps Stack Bandwidth.
4	The Switch should support atleast 32000 MAC Addresses
5	The Switch should support atleast 24000 IPv4 routes
6	The Switch should support atleast 4000 VLAN ID's & 1000 SVI's.
7	The Switch support support 9198 bytes of Jumbo Frames
C	Layer 3 Features
1	The switch should support routing protocols such OSPF, BGPv4, IS-ISv4 from Day-1
2	The Switch should support IPv6 Routing capable protocols such as OSPFv3 in hardware.
3	The Switch should support Policy Based Routing (PBR) from Day-1
4	The Switch should support IP Multicast and PIM, PIM Sparse Mode, PIM Dense Mode, PIM Sparse-dense Mode & Source-Specific Multicast for Wired Clients.
5	The switch should support basic IP Unicast routing protocols (static, RIPv1 & RIPv2) should be supported.
6	The switch should support IPv6 & IPv4 Policy Based Routing (PBR)
D	Layer 2 Features
1	The Switch should be able to discover (on both IPv4 & IPv6 Network) the neighboring device giving the details about the platform, IP Address, Link connected through etc, thus helping in troubleshooting connectivity problems..
2	The switch should support Detection of Unidirectional Links (in case of fiber cut) and to disable them to avoid problems such as spanning-tree loops.
3	The switch should support centralized VLAN Management, VLANs created on the core switch should be propogated automatically.
4	The switch should support 802.1d, 802.1s, 802.1w Spanning-Tree & itsEnhancement for fast convergence.
5	The switch should support 802.1q VLAN encapsulation.
6	The switch should support 802.3ad (LACP) to combine multiple network links for increasing throughput and providing redundancy.
E	Network Security Features
1	The switch should have Port security to secure the access to an access or trunk port based on MAC address to limit the number of learned MAC addresses to deny MAC address flooding.

2	The switch should support DHCP snooping to prevent malicious users from spoofing a DHCP server and sending out rouge addresses.
3	The switch should support Dynamic ARP inspection (DAI) to ensure user integrity by preventing malicious users from exploiting the insecure nature of ARP.
4	The switch should support IP source guard to prevent a malicious user from spoofing or taking over another user's IP address by creating a binding table between the client's IP and MAC address, port, and VLAN.
5	The switch should support Unicast Reverse Path Forwarding (RPF) feature to mitigate problems caused by the introduction of malformed or forged (spoofed) IP source addresses into a network by discarding IP packets that lack a verifiable IP source address.
6	The switch should support Bidirectional data support on the SPAN port to allow the intrusion detection system (IDS) to take action when an intruder is detected.
7	The switch should support flexible & multiple authentication mechanism, including 802.1X, MAC authentication bypass, and web authentication using a single, consistent configuration.
8	The switch should support RADIUS change of authorization and downloadable Access List for comprehensive policy management capabilities.
9	The switch should support Private VLANs to restrict traffic between hosts in a common segment by segregating traffic at Layer 2, turning a broadcast segment into a nonbroadcast multiaccess like segment to provide security & isolation between switch ports, which helps ensure that users cannot snoop on other users' traffic.
10	The switch should support Multidomain authentication to allow an IP phone and a PC to authenticate on the same switch port while placing them on appropriate voice and data VLAN.
11	The switch should support MAC address notification to allow administrators to be notified of users added to or removed from the network.
12	The switch should support IGMP filtering to provide multicast authentication by filtering out nonsubscribers and limits the number of concurrent multicast streams available per port.
13	The switch should support VLAN ACLs on all VLANs prevent unauthorized data flows from being bridged within VLANs.
14	The switch should support IPv6 ACLs that can be applied to filter IPv6 traffic.
15	The switch should support Port-based ACLs for Layer 2 interfaces to allow security policies to be applied on individual switch ports.

16	The switch should support Secure Shell (SSH) Protocol, Kerberos, and Simple Network Management Protocol Version 3 (SNMPv3) to provide network security by encrypting administrator traffic during Telnet and SNMP sessions.
17	The switch should support TACACS and RADIUS authentication to facilitate centralized control of the switch and restricts unauthorized users from altering the configuration.
18	The switch should support Multilevel security on console access to prevent unauthorized users from altering the switch configuration.
19	The switch should support Bridge protocol data unit (BPDU) Guard to shut down Spanning Tree PortFast-enabled interfaces when BPDUs are received to avoid accidental topology loops.
20	The switch should support Spanning Tree Root Guard (STRG) to prevent edge devices not in the network administrator's control from becoming Spanning Tree Protocol root nodes.
21	The Switch should support IPv6 RA Guard, DHCPv6 guard, IPv6 Snooping to prevent any Man-in-middle attack.
22	The Switch should support Dynamic VLAN, Downloadable ACLs, Multi-Auth VLAN Assignment, MAC Based Filtering & Web Authentication security mechanism.
F	Quality of Service (QoS) & Control
1	The Switch should support Advanced Modular QoS Policies
2	The Switch should be capable of Downloading Downloadable Access List from network security engine based on user identity.
3	The Switch should be capable of Queuing, Policing, Shaping and marking Wired Traffic based on Class of Service (CoS) or DSCP.
4	The switch should support IP SLA feature set to verify services guarantee based on business critical IP Applications
5	The switch should support Auto QoS for certain device types and enable egress queue configurations.
6	The switch should support 802.1p CoS and DSCP Field classification using marking and reclassification on a per-packet basis by source and destination IP address, MAC address, or Layer 4 Transmission Control Protocol/User Datagram Protocol (TCP/UDP) port number.
7	The switch should support Shaped round robin (SRR) scheduling to ensure differential prioritization of packet flows by intelligently servicing the ingress queues and egress queues. Weighted tail drop (WTD) to provide congestion avoidance at the ingress and egress queues before a disruption occurs. Strict priority queuing to ensure that the highest priority packets are serviced ahead of all other traffic.

8	The Switch should support Rate limiting based on source and destination IP address, source and destination MAC address, Layer 4 TCP/UDP information, or any combination of these fields, using QoS ACLs (IP ACLs or MAC ACLs), class maps, and policy maps.
9	The Switch should support Eight egress queues per port for wired traffic to enable differentiated management of different traffic types across the stack for wired traffic.
G	Standards & Compliance (Switch Should support all the mentioned Standards)
1	IEEE 802.1s
2	IEEE 802.1w
3	IEEE 802.1x
4	IEEE 802.1x-Rev
5	IEEE 802.3ad
6	IEEE 802.3x full duplex on 10BASE-T, 100BASE-TX, and 1000BASE-T ports
7	IEEE 802.1D Spanning Tree Protocol
8	IEEE 802.1p CoS Prioritization
9	IEEE 802.1Q VLAN
10	IEEE 802.3 10BASE-T specification
11	IEEE 802.3u 100BASE-TX specification
12	IEEE 802.3ab 1000BASE-T specification
13	IEEE 802.3z 1000BASE-X specification
14	RMON I and II standards
15	SNMPv1, SNMPv2c, and SNMPv3
H	Safety & Compliance (Switch should support all of the mentioned standards)
1	FCC Part 15 (CFR 47) Class A
2	ICES-003 Class A
3	EN 55022 Class A
4	CISPR 22 Class A
5	AS/NZS 3548 Class A
6	BSMI Class A (AC input models only)
7	VCCI Class A
8	EN 55024, EN300386, EN 50082-1, EN 61000-3-2, EN 61000-3-3
9	EN61000-4-2, EN61000-4-3, EN61000-4-4, EN61000-4-5, EN61000-4-6, EN 61000-6-1
10	UL 60950-1, CAN/CSA-C22.2 No. 60950-1, EN 60950-1, IEC 60950-1, CCC, CE Marking
11	UL 60950-1 Second Edition
12	CAN/CSA-C22.2 No. 60950-1 Second Edition
13	EN 60950-1 Second Edition
14	IEC 60950-1 Second Edition
15	GOST

16	NOM (obtained by partners and distributors)
17	47CFR Part 15 (CFR 47) Class A (FCC Part 15 Class A)
18	AS/NZS CISPR22 Class A
19	CISPR22 Class A
20	EN55022 Class A
21	ICES003 Class A
22	VCCI Class A
23	EN61000-3-2
24	EN61000-3-3
25	KN22 Class A
26	KCC
27	CNS13438 Class A
28	EN55024
29	CISPR24
30	KN24
I	With Hardware Warranty
J	02 Years support from vendor.

2: 1000BASE SE-LX/LH SFP Module Specification

1.	Fully complies with the IEEE 802.3z 1000BaseLX standard
2.	For Both Multimode and Single-Mode Fibers

Terms & Conditions:

- Configuration of Distribution Switch will be done by the supplier