FINAL AND FROZEN TECHNICAL SPECIFICATION OF

"NETWORK SWITCH POE+, 48 PORT, LAYER 3, GIGABIT MANAGED – 01 NO. AND NETWORK SWITCH POE+, 48 PORT, LAYER 2, GIGABIT MANAGED – 06 NOS."

ENQUIRY NO. & DATE	**IICB/PUR/504/569/44/20-21 DATED 18.11.2020**
ONLINE PRE-BID CONFERENCE HELD ON	**27.11.2020 AT 03:00PM (IST)**
LAST DATE OF SUBMISSION OF BID :	**21.12.2020 upto 03:00 PM (IST)**

Final and Frozen Technical Specifications

Annexure – A

Network Switch 48 Port Layer 3 POE+ Distribution Switch
With minimum of 6 No. of 10G SFP Slots/Ports
& 6 No. of 10G SFP compatible MM Transceiver populated

1. **Technical Specifications and Other Terms & Conditions:**

1.1 Technical Specifications:

Sr. No	Specifications
1	**Architecture**
	The switch should have at least 48 RJ-45 autosensing 10/100/1000 PoE+ ports. minimum 6x SFP+ 10GbE ports and The Switch should support,1 RJ-45 serial console port,1 RJ-45 out-of-band management port and 1 USB port
	The Switch with minimum of 6 10G SFP Ports and 6 no. of 10G SFP compatible MM Transceiver must be populated
	The switch should have 512MB flash, 2 GB SDRAM
	At least 216 Gbps switching capacity
	The switch shall have switching throughput of minimum 190 million pps
	MAC Address table size of 32,000 entries
2	**Quality of Service (QoS)**
	The Switch should support Advanced classifier-based QoS to classifies traffic using multiple match criteria based on Layers 2, 3, and 4 information and apply QoS policies such as setting priority level and rate limit to selected traffic on a port, VLAN, or entire switch
3	**Management**
	The Switch should support configuration and management through a secure Web browser or a CLI located on a remote device
	The Switch should support RADIUS/TACACS to link a custom list of CLI commands to an individual network administrator's login and also provides an audit trail
	The Switch should support Device Link Detection Protocol (DLDP)
4	**IPv6 management**
	The Switch should capable of being managed whether the attached network is running IPv4 or IPv6; supports pingv6, tracertv6, Telnetv6, TFTPv6, DNSv6, syslogv6, FTPv6, SNMPv6, DHCPv6, and RADIUS for IPv6
5	**Resiliency and high availability**
	The Switch shall have the capability to extend the control plane across multiple active switches making it a virtual switching fabric, enabling interconnected switches to perform as single Layer-2 switch,The switch should support up to nine switches can be combined to deliver unmatched scalability of virtualized access layer switches and flatter two-tier networks and switch should support single IP managemnet up to nine Switch
	The Switch should support Internal Dual Redundant Power Supply
6	**Manageability**
	The Switch should provide independent primary and secondary operating system files for backup while upgrading
	The Switch should support Multiple configuration files
	The Switch should support pingv6, tracertv6, Telnetv6, TFTPv6, DNSv6, and ARPv6
7	**Layer 2 switching**
	The Switch should have 32K MAC address table
	The Switch should support IEEE 802.1Q with 4K simultaneous VLAN IDs
8	**Layer 3 routing**
	The Switch should support Static IP routing
	The Switch should support Routing Information Protocol (RIP)v1 and RIPv2 routing
9	**Security**
	Access control lists (ACLs)
	The Switch should provide IP Layer 2 to Layer 4 traffic filtering and support global ACL, VLAN ACL, port ACL, and IPv6 ACL
	The Switch should support secure encryption of all access methods (CLI, GUI, or MIB) through SSHv2, SSL, HTTPS and/or SNMPv3

	The Switch should support Guest VLAN to provide a browser-based environment to authenticated clients that is similar to IEEE 802.1X
	The Switch should provide security policies to users accessing a network
	The Switch should support IPv6 source guard
10	**Environmental Features**
	The Switch should reduces power consumption in accordance with IEEE 802.3az
	Operating temperature of 0°C to 45°C
	Safety and Emission standards including UL 60950-1; IEC 60950-1; VCCI Class A; EN 55022 Class A
11	**Warranty:** The Switch must support minimum Three Years NBD Support

1.2 Other Terms & Conditions:

a. The OEM for Wired and Wireless should be in Gartner Magic Leader Quadrant for Wired and Wireless for Last three years preferred.
b. The Supplied Switches must be compatible with existing HP Intelligent management Center (iMC 5.1).
c. Installation, Configuration, Service, Network Management, Integration with existing system, any other accessories or any labor cost etc. must be included along with the order.
d. Supply and Installation must be at Salt Lake IICB TRUE Campus, Kolkata.
e. All Switches may be from same OEM

Annexure – B

Network Switch 48 Port Layer 2 POE+ Access Switch
With minimum of 2 No. of 10G SFP Slots/Ports
& 1 No. of 10G SFP compatible MM Transceiver populated

2. Technical Specifications and Other Terms & Conditions:

2.1 Technical Specifications:

Sr. No	Specifications
1	**Architecture**
	48 RJ-45 autosensing 10/100/1000 Mbps PoE + ports and Minimum 2 * 10G SFP+ slot; 1 RJ-45 (serial RS-232C) or USB micro-B console port
	The Switch must have minimum of 2 No. of 10G SFP Slots/Ports & 1 No. of 10G SFP compatible MM Transceiver populated
	Shall have minimum 1GB DRAM and 512MB Flash
	Packet buffer size of minimum 12 MB
	Shall have switching capacity of 176 Gbps for providing non-blocking performance
	Shall have up to 112 million pps switching throughput to achieve wire-speed forwarding
	Shall have POE+ budget of minimum 370W
2	**Layer 2 Features**
	MAC address table size of 16000 entries
	Shall support up to IEEE 802.1Q (4,094 VLAN IDs) and 512 VLANs simultaneously
	Shall support GARP VLAN Registration Protocol or equivalent feature to allow automatic learning and dynamic assignment of VLANs
	IPv6 host and Dual stack (IPv4/IPv6) support to provide transition mechanism from IPv4 to IPv6
3	**Layer 3 Features**
	The Switch should support Routing Information Protocol (RIP) v1 and RIP v2 routing and static routing.
4	**QoS and Security Features**
	Access Control Lists for traffic filtering

		Source-port filtering or equivalent feature to allow only specified ports to communicate with each other
		IEEE 802.1x to provide port-based user authentication with multiple 802.1x authentication sessions per port
5		**Management Features**
		Configuration through the CLI, console, Telnet, SSH and browser-based management GUI (SSL)
		SNMPv1, v2, and v3 and Remote monitoring (RMON) support
6		**Environmental Features**
		Operating temperature of 0°C to 45°C
		Safety and Emission standards including EN 60950; IEC 60950; VCCI Class A; FCC part 15 Class A
7		**Warranty:** The Switch must support minimum Three Years NBD Support

Other Terms & Conditions:

a. The OEM for Wired and Wireless should be in Gartner Magic Leader Quadrant for Wired and Wireless for Last three years preferred.
b. The Supplied Switches must be compatible with existing HP Intelligent management Center (iMC 5.1).
c. Installation, Configuration, Service, Network Management, Integration with existing system, any other accessories or any labor cost etc. must be included along with the order.
d. Supply and Installation must be at Salt Lake IICB TRUE Campus, Kolkata.
e. All Switches may be from same OEM

Burso 04.12.2000

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