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# Dr.AMBEDKAR INSTITUTE OF TECHNOLOGY

BDA Outer Ring Road, Mallathahally, Bengaluru – 560 056
Tel – 080- 23211232 & Mob No -9986003865

AIT/SS/3142/2024-25 Date: 27.02.2025

## TENDER NOTIFICATION

Sealed quotations are invited from Reputed/ Authorized firms for supply, installation, testing & commissioning of the following:

**A) 1/10/56 G Core switch and 1/10G Transceiver Components to Data Centre.**

**B) Wi-Fi Network to Dr.AIT Hostels.**

Details and specification of requirements can be downloaded from college website **www.drait.edu.in.** The sealed quotation should be submitted on or before **25.03.2025 by 1:00 PM** along with a DD of **Rs.500/-** for each item. Quotations will be opened on the same day i.e. **25.03.2025 at 4.00 PM.**

**Sd/- Principal** **Sd/- Secretary, PVPWT**

**Dr. AMBEDKAR INSTITUTE OF TECHNOLOGY**

(An Autonomous Institution, Aided by Govt. of Karnataka, Affiliated to VTU & Approved by AICTE, New Delhi)

BDA Outer Ring Road, Near Jnanabharathi Campus, Mallathalli, Bengaluru – 560 056

Country Code (91) + STD Code 080, Tel – 23211232, MOB NO -9986003865

Website: www.drait.edu.in e-mail: principal@drait.edu.in

AIT/SS/3142/2024- 25 Date: 27.02.2025

To,

M/s. _____

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Sub:- Invitation quotations for supply, installation, testing & commissioning of 1/10/56 G Core Switch and 1/10 G Transceiver Components to Data Center - Reg.

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1. You are invited to submit your most competitive price for supply, installation, testing & commissioning of 1/10/56 G Core Switch and 1/10 G Transceiver Components to Data Center with the following description.

| Sl# | Part No. | Description/Specifications | Qty. | Rate Rs. | Amount Rs. |
|---|---|---|---|---|---|
| 1 | JL658A | HPE Aruba Networking CX 6300M 24-port SFP + and 4-port SFP56 Switch | 01 No | | |
| 2 | JL085A | HPE Aruba Networking X371 12VDC 250W 100-240VAC Power Supply | 02 Nos | | |
| 3 | J9150D | HPE Aruba Networking 10G SFP+ LC SR 300m OM3 MMF Transceiver | 06 Nos | | |
| 4 | JL745A | HPE Aruba Networking 1G SFP LC SX 500m MMF TAA Transceiver | 06 Nos | | |
| 5 | AJ835A | HPE LC to LC Multi-mode OM3 2-Fiber 2.0m 1-Pack Fiber Optic Cable | 12 Nos | | |

**Note: Details Description/Specification is herewith enclosed.**

2. Bid Price
   a) The quotation shall be for the full quantity as described above. Corrections if any, should be made by strike off and rewrite with new figure duly attested with date.
   b) All duties, taxes and other levies (Show separately) payable by the supplier shall be included in the total price of the tender amount.
   c) The rates quoted by the bidder shall be fixed for the product and escalation clause not allowed.
   d) The prices should be quoted in Indian Rupees only.
3. Each bidder shall submit only one quotation.
4. Validity of Quotation: The validity of the quotation should be mentioned in the tender which is not less than 90 days.
5. No advance payment.
6. Evaluation of Quotations
   The purchaser will evaluate and compare the quotations determined to be substantially responsive i.e. which are
   a) properly signed,(b) confirm to the terms and conditions, and (c) specifications.

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7. Award of Contract
   The purchase order will be placed with the supplier whose quotation has been determined to be substantially responsive and who has offered the lowest evaluated quotation price.
8. The bidder whose bid is accepted will be notified of the award of contract by the purchaser prior to expiration of the quotation validity period. The terms of the accepted offer shall be incorporated in the purchase order.
9. Payment shall be made after delivery, satisfactory installation and Demonstration as per our specification.
10. You can obtain tender form from the Store section by paying Rs.500/- in DD OR can download from the website of the Institution www.drait.edu.in. and should be accompanied by DD for Rs.500/- as tender document fees. DD should be in favor of Principal Dr.AIT, Bangalore.
11. You are requested to provide your offer latest by 1.00 pm on **25.03.2025** along with a bank draft at 2% of the bidding amount or tender price(Including taxes) on the total amount in favour of "The Principal, Dr.AIT Bangalore ,"as EMD/Quotations that do not accompany EMD are liable to be rejected.
    If lower bidder fails to supply as per the quotation the EMD will be forfeited
12. Quotations will be opened on **25.03.2025 at** 4.00 pm in the Principal's chamber.
13. Sealed quotations shall be addressed to the purchaser at the following address: The Principal, Dr. Ambedkar Institute of Technology, Stores Section, Mallathahalli, Bangalore – 560 056. with super scribing
    **"Quotation of supply, installation, testing & commissioning of Core Switch to Data Center".**
14. Insurance
    The goods supplied under the contract shall be fully insured in Indian Rupees against loss or damage incidental to manufacture or acquisition, transportation, storage and delivery.
15. The Guarantee & warranty period must be specified clearly.
16. The bidder shall provide the copy of the following.
    i) Previous year I.T Filed copy.
    ii) GST Number
    iii) Copy of PAN.
    iv) Venders list of the previous supply & at least two performance certificates from the Venders.
    v) Previous two years Audit report.
17. Bidders Should Qualify Eligibility Criteria as mentioned in the specification.
18. Notwithstanding the above, the purchaser reserves the right to accept or reject any of the quotations / to cancel the bidding process and reject all quotations without assigning any reasons at any time prior to the award of the purchase/ supply order.
19. We look forward to receiving your quotations and thank you for your interest in this procurement.

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| | Dr.AMBEDKAR INSTITUTE OF TECHNOLOGY,BANGALORE-56 | |
|---|---|---|
| S. No | Data Centre Detailed Core switch Specification | Compliance Yes/No |
| 1 | **Architecture of CX6300 Series Specifications** | |
| | Shall be 19" Rack Horizontal surface mounting Core switch | |
| | The switch should support two field-replaceable and hot- swappable power supply loaded from day one.the switch should have 1x USB-C Console Port,1x OOBM port,1x USB Type A Host port,1x Bluetooth dongle to be used with CX Mobile App | |
| | should have Memory and Flash:8 GB DDR4, 32 GB eMMC,Packet Buffer:8 MB Packet Buffer Memory | |
| | The Switch should support Minimum of 28000 MAC address | |
| | The switch should have minimum 61,000 Ipv4 Unicast Routes ,32K Ipv6 Unicast Routes ,8K Ipv4 Multicast Routes,8K Ipv6 Multicast Routes,8K Igmp Groups ,4K Mld Groups 4,000 ,Ipv4/Ipv6/MAC ACL Entries (Ingress) 5000/1250/5000 and Ipv4/Ipv6/MAC ACL Entries (Egress) 2000/500/2000 | |
| | The switch should have two fan tray slots and should comes with two fan installed | |
| | The switch should support Auto-MDIX provides automatic adjustments for straight- through or crossover cables on all 10/100/1000 ports. | |
| 2 | **Switch -Option** | |
| | The should have CPU Quad Core ARM Cortex™ A72 @ 1.8GHz | |
| | The should have 24x ports 10/100/1000 SFP and 4x 1/10/25/50G SFP ports | |
| | The switch should have 880 Gbps of Switching Capacity and 660 Mpps Throughput Capacity | |
| 3 | **IPv6 feature** | |
| | IPv6 host enables switches to be managed in an IPv6 network | |
| | Dual stack transitions from IPv4 to IPv6, supporting connectivity for both protocols | |
| | MLD snooping forwards IPv6 multicast traffic to the appropriate interface | |
| | IPv6 ACL/QoS supports ACL and QoS for IPv6 network traffic | |
| | IPv6 routing supports Static and OSPFv3 protocols | |
| | RA guard, DHCPv6 protection, dynamic IPv6 lockdown, and ND snooping | |
| 4 | **High Availability And Resiliency** | |
| | The swith should support Stack Size:10 members, Max. Stacking Distance Up to 10 kms with long range transceivers, Stacking Bandwidth 200 Gbps, Switched Virtual Interfaces 1,024 | |
| | The Switch should have Hot Swappable Power Supplies | |
| | The Switch should support Bidirectional Forward Detection (BFD) to enable sub-second failure detection for rapid routing protocol re-balancing | |
| | The Switch should support Virtual Router Redundancy Protocol (VRRP) to allow groups of two routers to dynamically create highly available routed environments in IPV4 and IPV6 networks | |
| | The Switch should support Uni-directional Link Detection (UDLD) to monitor link connectivity and shut down ports at both ends if uni- directional traffic is detected, preventing loops in STP- based networks | |
| | The Switch should support IEEE 802.3ad LACP supports up to 256 LAGs, each with up to 8 links per LAG and provide support for static or dynamic groups and a user-selectable hashing algorithm | |
| | The Switch should support IEEE 802.1s Multiple Spanning Tree provides high link availability in VLAN environments where multiple spanning trees are required and legacy support for IEEE 802.1d and IEEE 802.1w | |
| | The Switch should support IEEE 802.3ad link-aggregation-control protocol (LACP) and port trunking supports static and dynamic trunks where each trunk supports up to eight links (ports) per static trunk | |
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| 5 | **Management** | |
| | The switch should have - AOS-CX ,Mobile App, Mobility and IoT performance,- Layer 2 Switching - Layer 3 Services,- Layer 3 Routing | |
| | The Switch should support Built-in programmable and easy to use REST API interface | |
| | The Switch should support On-premises and cloud- based management | |
| | The Switch should support Zero-Touch Provisioning (ZTP) simplifies installation of switching infrastructure using DHCP-based | |
| | The Switch should have Scalable ASIC-based wire speed network monitoring and accounting with no impact on network performance. | |
| | The Switch should support Industry-standard CLI with a hierarchical structure | |
| | The Switch should support Management security restricts access to critical configuration commands, provides multiple privilege levels with password protection, and local and remote syslog capabilities allow logging of all access | |
| | The Switch should support SNMP v2c/v3 provides SNMP read and trap support of industry standard Management Information Base (MIB), and private extensions sFlow (RFC 3176) | |
| | The Switch should support Remote monitoring (RMON) with standard SNMP to monitor essential network functions. Supports events, alarms, history, and statistics groups as well as a private alarm extension group; RMON, XRMON, and sFlow provide advanced monitoring and reporting capabilities for statistics, history, alarms and events | |
| | The Switch should support TFTP and SFTP support offers different mechanisms for configuration updates; | |
| | The Switch should support Debug and sampler utility support ping and traceroute for IPv4 and IPv6 | |
| | The Switch should support Network Time Protocol (NTP) synchronizes timekeeping among distributed time servers and clients | |
| | The Switch should support IEEE 802.1AB Link Layer Discovery Protocol (LLDP) advertises and receives management information from adjacent devices on a network, facilitating easy mapping by network management applications | |
| | The Switch should support Dual flash images provides independent primary and secondary operating system files for backup while upgrading | |
| | The Switch should support Assignment of descriptive names to ports for easy identification | |
| | The Switch should support Multiple configuration files which can be stored to a flash image | |
| | The Switch should support Ingress and egress port monitoring enable more efficient network problem solving | |
| | The Switch should support Unidirectional link detection (UDLD) monitors the link between two switches and blocks the ports on both ends of the link if the link goes down at any point between the two devices | |
| | The Switch should support Power down mode to deliver energy savings by allowing the switch to power down most of the switch, except a clock which will boot up the switch when scheduled | |
| | The Switch should support IP SLA for Voice monitors quality of voice traffic using the UDP Jitter and UDP Jitter for VoIP tests | |
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| | The Switch should support IP performance optimization to provide a set of tools to improve the performance of IPv4 networks including directed broadcasts, customization of TCP parameters, support of ICMP error packets, and extensive display capabilities | |
| | The Switch should support Dual IP stack to maintain separate stacks for IPv4 and IPv6 to ease the transition from an IPv4-only network to an IPv6-only network design | |
| 9 | **Convergence** | |
| | The Switch should support IP multicast routing includes PIM Sparse and Dense modes to route IP multicast traffic | |
| | The Switch should support IP multicast snooping (data-driven IGMP) to prevent flooding of IP multicast traffic | |
| | The Switch should support Protocol Independent Multicast for IPv6 and support one-to- many and many-to-many media casting use cases such as IPTV over IPv6 networks | |
| | The Switch should support LLDP-MED (Media Endpoint Discovery) to define a standard extension of LLDP that stores values for parameters such as QoS and VLAN to automatically configure network devices such as IP phones | |
| | The Switch should support multiple method of PoE allocations (allocation by usage or class, with LLDP and LLDP-MED) to allocate PoE power for more efficient power management and energy savings | |
| | The Switch should support Auto VLAN configuration for voice RADIUS VLAN uses a standard RADIUS attribute and LLDP-MED to automatically configure a VLAN for IP phones | |
| 10 | **Security** | |
| | The Switch should support integrated trusted platform module (TPM) for platform integrity. This ensure the boot process started from a trusted combination of switches. | |
| | The Switch should supportAccess control list (ACL) support for both IPv4 and IPv6 to allow for filtering traffic to prevent unauthorized users from accessing the network, or for controlling network traffic to save resources. rules can either deny or permit traffic to be forwarded. rules can be based on a Layer 2 header or a Layer 3 protocol header | |
| | The Switch should supportACLs filtering based on the IP field, source/ destination IP address/subnet, and source/ destination TCP/UDP port number on a per-VLAN or per-port basis | |
| | The Switch should support Remote Authentication Dial-In User Service (RADIUS) | |
| | The Switch should support Terminal Access Controller Access-Control System (TACACS+) delivers an authentication tool using TCP with encryption of the full authentication request to provide additional security | |
| | The Switch should support Control Plane Policing sets rate limit on control protocols to protect CPU overload from DOS attacks | |
| | The Switch should support multiple user authentication methods. Uses an IEEE 802.1X supplicant on the client in conjunction with a RADIUS server to authenticate in accordance with industry standards | |
| | The Switch should support Web-based authentication provides a browser-based environment, similar to IEEE 802.1X, to authenticate clients that do not support IEEE 802.1X | |
| | The Switch should support MAC-based client authentication | |
| | The Switch should support Concurrent IEEE 802.1X, Web, and MAC authentication schemes per switch port accepts up to 32 sessions of IEEE 802.1X, Web, and MAC authentications | |
| | The Switch should support DHCP protection blocks DHCP packets from unauthorized DHCP servers, preventing denial-of-service attacks | |

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| 6 | **Multicast** | |
| | The Switch should support IGMP Snooping to allow multiple VLANs to receive the same IPv4 multicast traffic, lessening network bandwidth demand by reducing multiple streams to each VLAN | |
| | The Switch should support Multicast Listener Discovery (MLD) enables discovery of IPv6 multicast listeners; supports MLD v1 and v2 | |
| | The Switch should support Protocol Independent Multicast (PIM) defines modes of IPv4 and IPv6 multicasting to allow one-to-many and many-to-many transmission of information and support PIM Sparse Mode (SM) and Dense Mode (DM) for both IPv4 and IPv6 | |
| | The Switch should support Internet Group Management Protocol (IGMP) and Any-Source Multicast (ASM) to manage IPv4 multicast networks; supports IGMPv1, v2, and v3 | |
| | The Switch should support Multicast Service Discovery Protocol (MSDP) to efficiently routes multicast traffic through core networks | |
| 7 | **Layer 2 Switching** | |
| | The Switch should support VLAN and tagging for IEEE 802.1Q (4094 VLAN IDs) | |
| | The Switch should support Jumbo packet to improves the performance of large data transfers and support frame size of up to 9198 bytes | |
| | The Switch should support IEEE 802.1v protocol VLANs to isolate select non-IPv4 protocols automatically into their own VLANs | |
| | The Switch should support Rapid Per-VLAN Spanning Tree (RPVST+) to allow each VLAN to build a separate spanning tree to improve link bandwidth usage. | |
| | The Switch should support MVRP to allow automatic learning and dynamic assignment of VLANs | |
| | The Switch should support VXLAN encapsulation (tunnelling) protocol for overlay network that enables a more scalable virtual network deployment | |
| | The Switch should support Bridge Protocol Data Unit (BPDU) tunnelling to Transmits STP BPDUs transparently | |
| | The Switch should support Port mirroring duplicates port traffic (ingress and egress) to a monitoring port; and support minimum 4 mirroring groups | |
| | The Switch should support STP supports standard IEEE 802.1D STP, IEEE 802.1w Rapid Spanning Tree Protocol (RSTP) for faster convergence, and IEEE 802.1s Multiple Spanning Tree Protocol (MSTP) | |
| | The Switch should support Internet Group Management Protocol (IGMP) Controls and manages the flooding of multicast packets in a Layer 2 network | |
| 8 | **Layer 3 Routing** | |
| | The Switch should support Border Gateway Protocol (BGP) provides IPv4 and IPv6 routing. | |
| | The Switch should support Equal-Cost Multipath (ECMP) enables multiple equal-cost links in a routing environment to increase link redundancy and scale bandwidth | |
| | The Switch should support Multi-protocol BGP (MP-BGP) enables sharing of IPv6 routes using BGP and connections to BGP peers using IPv6 | |
| | The Switch should support Open shortest path first (OSPF) delivers faster convergence. | |
| | The Switch should support OSPFv2 for IPv4 routing and OSPFv3 for IPv6 routing | |
| | The Switch should support Static IP routing provides manually configured routing | |
| | The Switch should support Policy-based routing and usesa classifier to select traffic that can be forwarded based on policy set by the network administrator | |
| | The Switch should support Static IPv4 and IPv6 routing to provide simple manually configured IPv4 and IPv6 routes | |

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