

క్రయ ఆదేశ / PURCHASE ORDER

క్ర.ఆ.సం. / PO. No. IITH/CC/KOTARO/2024/3109

దినాంక / DATE: 28-02-2025

సేవ మే / To,

M/s.Locuz Enterprise Solutions Pvt Ltd

8th Floor, Krishe Sapphire, Main Road Madhapur

Hyderabad – 500 081, India

Mobile: 9490004037, Email: prasad.kankipati@locuz.com.

ప్రియ మహోదయ / Dear Sir,

విషయ/Sub: Supply and installation of Enterprise Grade Campus Distribution Switch and other items- Reg.

సందర్భ/ Ref: Your Quotation No: LESL/2025/IITH/9999 Dated: 13.02.2025

Tender no: IITH/CC/KOTARO/2024/O/T052G Dated: 06.02.2025.

Kindly arrange to supply the following items on the terms & conditions mentioned below and overleaf.

క్ర.సం./S I. No.	మదొం కా వివరణ / Descriptions of the item(s)	మాత్రా / Qty.	యూనిట్ మూల్య/ Unit Price ₹	రాశి/ Amount ₹	
1.	Enterprise Grade Campus Distribution Switches	6	669120.00	40,14,721.00	
2.	Compatible Tranceivers	66	21,503.65	14,19,241.00	
3.	PoE access switches	10	1,69,766.90	16,97,669.00	
				(+) GST@18%	12.83,693.00
(Rupees Eighty Four Lakh Fifteen Thousand Three Hundred and Twenty Four Only) కుల/ TOTAL				84,15,324.00	

నియమ ంవం షర్తెం / TERMS & CONDITIONS (కృపయా పీఠె కా పృఠ ఢీ డెఖెం/ Please See Overleaf also)

- మూల్య/Prices : Inclusive all, FOR IIT Hyderabad (Major Bill of materials as per the Annexure A).
- సుపుర్దగీ స్థల /Place of Delivery : IIT Hyderabad KANDI campus, please confirm before dispatch.
- సుపుర్దగీ అనుసూచీ/Delivery Schedule : Within 12 weeks from the date of receipt of P.O
- పరిసమాపన క్షతి/ Liquidated Damage: As time is the essences of this order, the date of delivery should be strictly adhered to, otherwise the Director IITH reserves the right not accept the delivery in part or full and to claim liquidated damages at 0.5% per week subject to a maximum of 10% the total value of Purchase Order.
- భుగతాన/Payment : items,90% payment will be made against Delivery and remaining 10% after installation, commissioning & acceptance by IIT Hyd and submission of Performance Bank Guarantee for the value of 5% of the order value valid for a period of warranty period plus 60 days. The Invoice should be in the name of The Director, IIT Hyderabad.
- వారంఢీ / Warranty: Three (03) years comprehensive warranty from the date of acceptance of the equipment by IIT Hyderabad.
- Security Deposit:
 - Within fifteen (15) days of the award of contract, the vendor shall furnish a Security Deposit amounting to 5% of the purchase order value in the form of Insurance Surety Bonds, Account Payee, Demand Draft, Fixed Deposit Receipt, Banker's Cheque or Bank guarantee from any commercial Banks or payment online of a scheduled bank in the name of Director, IIT Hyd favouring the Director, IIT Hyd.

- b. The Security Deposit should be valid for a period of 3 Years CAMC + 60 days, as the same will extend the same as Performance Bank Guarantee. Hence while preparing the BG, the time required for delivery and installation and warranty + 60 days needs to be accounted for to cover the BG validity period.
- c. This Security Deposit will be refunded to the vendor only on satisfactory completion of all contractual obligations as per this Tender and Purchase Order issued against this Tender. Bank Guarantee wherever mentioned in this document may be read as "Bank Guarantee from any Scheduled Bank" only. The Bank Guarantee should be submitted in Hard Copy to IITH and the issuing Bank should send the IFN 760 COV Bank Guarantee Advice Messages to our bankers through SFMS (Structured Finance Messaging System).

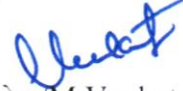
8. जीएसटी एवं आरटीजीएस विवरण /GST & RTGS Details:

- a. Mentioning of GST Number of both IIT Hyderabad and of Supplier on Invoice is Mandatory.
- b. RTGS/NEFT Details must be printed on the Invoice or be submitted along with Invoice.
- c. Delivery challan must be submitted along with Invoice.

9. Other details as per the tender no: IITH/CC/KOTARO/2024/O/T052G Dated: 06.02.2025


कृपया इस आदेश की पावती दें / Kindly acknowledge receipt of this Order.

भवदीय / Yours Sincerely,



(एम वेंकटेश / M Venkatesh)

(वरिष्ठ सहायक रजिस्ट्रार / Senior Assistant Registrar)

द्वारा निर्मित/ Prepared by:  28/02/25 समीक्षक/ Reviewed by: _____

TF: 64

- 1) लेखा अनुभाग / Account Section [निधि: संस्थान/ Funds: Institute:Chair (CC) OH-31/IRG]
- 2) वर्ग / Category: गैर-उपभोग्य / Non- Consumable
- 3) मांगकर्ता / Indenter -Prof. Kotaro Kataoka, Dept of Computer Centre.
- 4) भंडार अनुभाग / Stores Section 5) गार्ड फाइल / Guard File 6) फाइल प्रति / File Copy

शिपिंग पता / Shipping Address:

सेवा में / To,

सहायक कुलसचिव (भं. एवं क्र.) / The Assistant Registrar (S&P),

भंडार एवं क्रय अनुभाग / Stores & Purchase Section,

कमरा नं. एस. एफ. 3, सड़क स्तर / Room No. SF3, Street Floor,

प्रशासनिक भवन / Administrative Building,

भारतीय प्रौद्योगिकी संस्थान हैदराबाद / Indian Institute of Technology Hyderabad,

कंदी, संगारेड्डी- 502 285, तेलंगाना, भारत / Kandi, Sangareddy-502 285, Telangana, India.

M: 8331036071 / 6072

Tel: 040 2301 6823

नियम और शर्तें / TERMS AND CONDITIONS

- 1) दरों की स्वीकृति और आपूर्ति की अन्य सभी शर्तों की पुष्टि करते हुए आदेश की पावती वापसी डाक से भेजी जानी चाहिए। The Order should be acknowledged by return of post confirming the acceptance of rates and all other conditions of supply.
- 2) इस आदेश की दरों को आपके मूल उद्धरण के साथ जांचा जाना चाहिए और आपूर्ति को प्रभावित करने से पहले मूल्य या विशिष्टताओं में किसी भी बदलाव को हमारी स्वीकृति के लिए सूचित किया जाना चाहिए। इस आदेश की संख्या और तारीख को बिल में और इस आपूर्ति से संबंधित सभी पत्राचार में उद्धृत किया जाना चाहिए। The rates of this order must be checked with your original quotation and any variation in price or specifications must

- be intimated for our acceptance before effecting the supply. The number & date of this order must be quoted in the bill and in all correspondences relating to this supply.
- 3) इस संस्थान के भंडार अनुभाग में किसी भी कार्य दिवस में अपराह्न 3.00 बजे से पहले निःशुल्क डिलीवरी। सार्वजनिक अवकाशों के अलावा इस संस्थान में सभी शनिवार और रविवार को अवकाश रहता है। Free delivery at Stores Section of this Institute before 3.00 P.M on any working day. All Saturdays and Sundays are observed as closed holidays in this Institute in addition to Public Holidays.
 - 4) अतिरिक्त शुल्क जैसे पैकिंग, अग्रेषण, बिक्री कर, बीमा, डाक, चुंगी आदि का भुगतान तब तक नहीं किया जाएगा जब तक कि आदेश में विशेष रूप से इसका उल्लेख न किया गया हो और भुगतानकर्ता की नकद/धन रसीद या मूल वाउचर द्वारा समर्थित हो। Additional charges such as Packing, Forwarding, Sales Tax, Insurance, Postal, Octroi etc, will not be paid unless specifically mentioned in order and supported by payee's cash / money receipts or original vouchers.
 - 5) माल को सुरक्षित और पर्याप्त रूप से पैक किया जाना चाहिए। सभी पैकेजों में पैकिंग सूची भी रखनी चाहिए। खेप को केवल रेल द्वारा भेजा जाना चाहिए जब तक कि अन्यथा आदेश में न कहा गया हो। भुगतान किए गए भाड़े, रेलवे रसीदों के साथ पैकिंग सूची की प्रतियों को आदेश संदर्भ उद्धृत करते हुए सीधे पंजीकृत डाक द्वारा इस कार्यालय को भेजा जाना है। उपकरणों/उपकरणों के मामले में, सर्किट आरेख और संचालन/रखरखाव नियमावली की दो प्रतियां प्रस्तुत की जानी चाहिए। सफल स्थापना की तारीख से कम से कम 12 महीने की अवधि के लिए उपकरण / उपकरणों को किसी भी निर्माण त्रुटि के प्रति गारंटी दी जानी चाहिए। यदि गारंटी/वारंटी अवधि के दौरान उपकरण का कोई हिस्सा या पूरा उपकरण खराब पाया जाता है, तो उसे हमारे परिसर में निःशुल्क बदलना/मरम्मत करना होगा। The goods should be securely and adequately packed. Packing list must also be kept in all packages. The consignment should be dispatched only by rail unless otherwise stated in the order. Freight paid, railway receipts, together with copies of packing list are to be sent to this office directly by Registered Post quoting the order reference. IN THE CASE OF INSTRUMENTS / EQUIPMENTS, TWO COPIES OF THE CIRCUIT DIAGRAM AND OPERATION / MAINTENANCE MANUAL SHOULD BE FURNISHED. The Equipment's / Instruments should be guaranteed against any manufacturing defects for a period of at least 12 months from the date of successful installation. In case any part or whole of the equipment is found to be defective during the guarantee / warranty period, then the same will have to be replaced / repaired free of cost at our premises.
 - 6) बिक्री कर के मद में शुल्कों को तभी स्वीकार किया जाएगा जब बिल में बिक्री कर पंजीकरण संख्या का उल्लेख किया गया हो। The charges on account of Sales Tax will be admitted only if the Sales Tax Registration Number is mentioned in the Bill.
 - 7) a) भुगतान का दावा तीन प्रतियों में तैयार किए गए पूर्व-प्राप्त बिलों के माध्यम से किया जाना चाहिए, जहां आवश्यक हो, एक राजस्व स्टॉप पर हस्ताक्षर किए जाएंगे। Payments should be claimed through pre-receipted bills drawn in triplicate original copy being signed over a revenue stamp where necessary.
b) बिल स्याही, बाल पेन या टंकित करके तैयार किए जाने चाहिए। The bills should be prepared in Ink, Ball Pen or Typewritten.
c) बिल / इनवॉइस के साथ बैंक विवरण अनिवार्य है। Bank details along with the invoice is mandatory.
 - 8) भुगतान केनरा बैंक, आईआईटी हैदराबाद शाखा, कंदी, संगारेड्डी - 502 285, तेलंगाना राज्य पर आहरित आदाता खाते में रेखांकित चेक द्वारा सामग्री की प्राप्ति और स्वीकृति पर किया जाएगा। Payments will be made on receipt and acceptance of material by crossed account payee cheque drawn on Canara Bank, IIT Hyderabad Branch, Kandi, Sangareddy - 502 285, Telangana State.
 - 9) इस कार्यालय के पूर्व अनुमोदन के बिना बैंक के माध्यम से आर/आर स्वीकार नहीं किया जाएगा। R/R through bank will not be accepted without the prior approval of this office.
 - 10) हमारा बैंक केनरा बैंक, आईआईटी हैदराबाद शाखा, कंदी, संगारेड्डी - 502 285, तेलंगाना राज्य है। किसी अन्य बैंक के माध्यम से दस्तावेज स्वीकार नहीं किए जाएंगे। Our bankers are Canara Bank, IIT Hyderabad Branch, Kandi, Sangareddy - 502 285, Telangana state. Documents through any other bank will not be accepted.
 - 11) सभी क्षतिग्रस्त या अस्वीकृत सामान आपकी लागत और जोखिम पर लौटाया जाएगा और उस पर किए गए आकस्मिक व्यय आपसे वसूल किए जाएंगे। All damaged or unapproved goods shall be returned at your cost and risk and the incidental expenses incurred thereon shall be recoverable from you.
 - 12) मुद्रित शर्तें यदि कोई उद्धरण के साथ भेजी जाती हैं तो हम पर बाध्य नहीं होगी। Printed conditions if any sent along with the quotation shall not be binding on us.
 - 13) सुपुर्दगी की तिथि का कड़ाई से पालन किया जाना चाहिए, ऐसा न करने पर क्रय आदेश रद्द किया जा सकता है। The date of delivery should be strictly adhered to failing which the Purchase Order is liable to be cancelled.
 - 14) **जोखिम क्रय:** यदि आप क्रय आदेश में निर्धारित अधिकतम सुपुर्दगी अवधि के भीतर ऑर्डर की गई सामग्री को सुपुर्द करने में असफल रहते हैं, तो हम उन्हीं वस्तुओं का इस तरह क्रय कर सकते हैं, जो हमारे लिए उचित होगा। और, यदि हम समान सामग्री(ओं) की हमारी खरीद की प्रक्रिया में कोई अतिरिक्त लागत लगाते हैं, तो आप उसका भुगतान करने के लिए उत्तरदायी हैं। **RISK PURCHASE:** If you fail to deliver the ordered material within the maximum delivery period stipulated in the purchase order, we may procure the same items in such a manner as it deemed appropriate for us. And, if we happen to incur any additional cost in the process of our procurement of similar material(s), you are liable to pay the same.
 - 15) **मध्यस्थता / Arbitration:**
a) जब तक विवादों के सभी मामलों में अन्यथा निर्दिष्ट नहीं किया जाता है, जो आपसी बातचीत से नहीं सुलझाया जा सकता है, विवादों या मतभेदों को अंततः सुलझाया जाएगा और जो भारतीय मध्यस्थता अधिनियम, 1940 के नियमों के अनुरूप मध्यस्थता द्वारा दोनों पक्षों पर बाध्यकारी होगा। सभी विवाद या

PO NO: ITH/CC/KOTARO/2024/3109 Dt: 28.02.2025

Technical Specifications of Enterprise Grade Campus Distribution Switches - Qty 6 in High Availability with 36 Months Warranty and Support			Aruba 8100 Series
Sr. No	Specifications	Compliance (Yes/No)	Remarks
1	Switch should have at least 24 ports of 1GbE/10GbE (SFP/SFP+) ports and 4 * QSFP28 (40GbE/100GbE) from day one. The switch shall be populated with compatible Transceivers of the same OEM as with the quoted switches from day 1 as per BoQ.	Complied	24 ports of 1GbE/10GbE (SFP/SFP+) 4 ports of 40GbE/100GbE (QSFP+/QSFP28)
2	Switch shall have switched capacity of minimum 1.2 Tbps or more from Day-1		1.28 Tbps/952 Mpps
3	Switch should have dual, redundant, field-replaceable, hot-swappable power supplies and field-replaceable, hot-swappable fans from Day-1	Complied	Redundant, Field-replaceable and hot-swappable power supplies & Fans
4	The switch should have Modular operating system with individual software modules to be upgraded for higher availability from Day-1		
5	Switch should have min. 16GB DRAM and 32 GB Flash Memory and 32MB packet buffer from Day-1	Complied	16GB RAM, 32GB Flash/Storage, Packet buffer - 32MB
6	Switch should support minimum 120K MAC table, 4K ACLs, 4K Multicast routes from Day-1	Complied	MAC address table size - 147,45 ACL entries ingress - IPv4 16,384, IPv6 4,096, MAC 16,384 ACL entries egress - IPv4 2,048, IPv6 512, MAC 2,048 IPv4 multicast routes 4,096 IPv6 multicast routes 4,096
7	Switch should support 9K byte maximum Jumbo frames from Day-1	Complied	maximum jumbo frame size of 9K bytes
8	Switch should have one RJ-45 serial or USB-C console port, RJ-45 Ethernet Management port and USB Interface from Day-1	Complied	RJ-45 serial and USB-C console; RJ-45 Ethernet port; USB-Type A
9	Should support IEEE Standards of Ethernet: IEEE 802.1D, 802.1s, 802.1w, 802.1x, 802.3ad, 802.3x, 802.1p, 802.1Q, ERPS/RRRP/RRPP or equivalent, DLDP/UDLD or equivalent, and Private VLAN for traffic isolation from Day-1	Complied	IEEE 802.1D, 802.1s, 802.1w, 802.1x, 802.3ad, 802.3x, 802.1p, 802.1Q, ERPS, UDLD, private vlan for traffic isolation
10	Should provide storm protection to limit unknown broadcast, multicast, or unicast storms with user-defined thresholds from Day-1		Packet storm protection

Technical Proposal for Switches and Transceivers

11	Shall support Layer 3 routing features including RIPv2, RIPv2, OSPF, OSPFv3, BGP, MP-BGP, VRRP, PIM-DM, PIM-SM, PIM-SSM, MSDP, Policy based routing, VRF, RoCEv2, Data Center Bridging, Explicit Congestion Notification from day 1. If any licenses are required, it shall be included from Day 1	Complied	Support all the mentioned Layer 3 protocols
12	<p>The switches must support VXLAN (Virtual Extensible LAN) for network virtualization and overlay networks from Day-1</p> <p>The VXLAN functionality should include support for VXLAN routing (VTEP), VXLAN bridging, and VXLAN gateway capabilities.</p> <p>Licensing Requirements: The VXLAN feature set must be available as a permanent or perpetual license, not tied to a subscription model.</p> <p>If a permanent or perpetual license is not available, the bidder must quote the licenses/subscriptions for the entire solution for the next 7 years from the date of commissioning. The proposed solution must include all necessary licenses or subscriptions to enable and ensure comprehensive coverage for VXLAN capabilities from Day-1 for the next 7 years, without the need for periodic renewal by IIT Hyderabad. Comprehensive VXLAN licenses in the switches are mandatory throughout the expected operational period of min 7 years by IIT Hyderabad.</p>		
13	The switches must support Static VXLAN, Dynamic VXLAN with BGP-EVPN, Port PBR VXLAN support, Route-map support BGP EVPN AF from Day-1.		
14	Switch should support IPv4/ IPv6 multicast in VXLAN/EVPN overlay from Day-1		
15	Switch should support VXLAN ARP/ND suppression, VXLAN distributed anycast gateway from Day-1		
16	Optionally the Switch shall support Dynamic Segmentation or equivalent feature that support dynamic, role-based segmentation, enabling automated policy enforcement based on user, device, and application roles across wired and wireless networks, without relying on static VLAN assignments.		
17	Switch should support Static and Dynamic IPv6 routing from Day-1		
	Switch should support Dual IP stack from Day-1		
19	Switch should support Software defined network (SDN) capability by supporting multiple programmatic interfaces including REST APIs, Python scripts or equivalent from Day-1		
			Quad Core CPU
21	Switch shall support switch virtualization feature for combining dual switches into a single logical unit with active-active control planes. Required software/ licenses/ modules/cables to be provided from day 1.		
24	Switch should support hitless software upgrades when connected in virtual stack from Day-1		

Technical Proposal for Switches and Transceivers

25	Shall support advanced telemetry and automation features to easily identify and troubleshoot network, system, application, and security related issues from Day-1	Complied	HPE Aruba Networking Analytics Engine (NAE) for advanced telemetry and automation
26	Switch should have built in mechanism to automatically interrogate and analyse events that can impact networks health from Day-1		
27	Switch should support management features SSHv2, SNMPv2c, SNMPv3, RMON, sFlow/Net flow or equivalent and IPSLA from Day-1	Complied	SSHv2, SNMPv2c, SNMPv3, RMON, sFlow & IPSLA
28	Switch should support Quality of Service (QoS) Strict priority (SP) queuing and Deficit Weighted Round Robin (DWRR), Congestion avoidance from Day-1	Complied	Quality of Service (QoS):- Strict priority (SP) queuing and Deficit Weighted Round Robin (DWRR). Enables congestion avoidance
29	Switch should support Management security like restriction of access to critical configuration commands; offer multiple privilege levels with password protection; ACLs to permit SNMP access; local and remote Syslog capabilities for logging of all access activities from Day-1	Complied	Supports management Security features
	Switch should support IPFIX from Day-1		IPFIX
31	Switch should support IEEE 802.1AB Link Layer Discovery Protocol (LLDP) from Day-1	Complied	IEEE 802.1AB Link Layer Discovery Protocol (LLDP)
32	Switch should support IEEE 802.1D STP, IEEE 802.1w Rapid Spanning Tree Protocol (RSTP) for faster convergence, and IEEE 802.1s Multiple Spanning Tree Protocol (MSTP) from Day-1	Complied	IEEE 802.1D STP, IEEE 802.1w & IEEE 802.1s
			Port Mirroring
34	Switch should support Internet Group Management Protocol (IGMPv1, v2, and v3) and Multicast Listener Discovery (MLDv1 and v2) from Day-1	Complied	IGMPv1, v2, and v3 & MLDv1 and v2
35	Switch should have integrated trusted platform module (TPM) or equivalent for platform integrity to ensure the boot process is from trusted source from Day-1		
36	The switch should be compatible with and should integrate with IIT Hyderabad's existing Aruba Airwave Monitoring platform / Cisco DNAC for unified network monitoring from Day-1		
37	All Proposed switches and transceivers quoted in the BoQ should be from the same OEM for interoperability and ease of management.	Complied	Yes, all the proposed switches and transceivers will be of same OEM.
38	OEM will be preferred with consistent presence in Leader's quadrant of Gartner's Magic Quadrant for Wired and Wireless LAN Access Infrastructure for the last five years (Optional for Make in India products). Also please note that the Gartner's Magic Quadrant report is not applicable for Make In India products throughout the tender		
39	Bidder must submit Part Coded Bill of Materials of the offered Product		
40	Supported Transceivers need to be provided as per the solution from Day 1.		

Technical Proposal for Switches and Transceivers

41	Environmental Features: Operating temperature of 0°C to 40°C		(0°C to 40°C) up to 5000 ft
43	Must support access control list rules (layer 4 or more) from Day-1		Supports ACL rules
44	Supported Stack cables need to be provided as per the solution from Day 1.		
45	The switch should support Rate limiting to set per-port ingress enforced maximums and perport, per-queue minimums from Day-1		
46	Bidder shall ensure to propose enterprise grade switches and not SMB category. Bidder should submit the datasheets of the proposed switches and transceivers along with clear pictures of the connector types of transceivers/ switches. SMB category shall be rejected.	Complied	Enterprise grade switches provided with datasheets.
Solution			
47	Solution should be proposed with all the required licenses to work from Day-1		
48	The Total solution should come with all required feature licenses from first day of installation		
50	The Total solution should have technical support for software, Software upgrades for 36 months		
51	The Total solution should come with the latest and updated version available at no extra cost		
Warranty & Support			
52	Warranty & Support: Switches should have a 3 Year Hardware and Software Warranty. Additional Licenses: Shall be Permanent mode if available from the OEM or shall be supplied for 7 years which should be quoted in the bid. Service :24x7x365 online OEM TAC support for 3 years Bidder and OEM: 8x5xNBD RMA for Hardware problems for 3 years Software upgrades/updates shall be included as part of the warranty	Complied	Warranty & Support: Switches should have a 3 Year Hardware and Software Warranty. Service :24x7x365 online OEM TAC support for 3 years Bidder and OEM: 8x5xNBD RMA for Hardware problems for 3 years Software upgrades/updates shall be included as part of the warranty
53	All the quoted Distribution Switches should be from same OEM as of quoted transceivers and below mentioned Access switches.		

2.1.2 1.2 Transceivers

Item 1.2 Transceivers for Distribution Switches (OEM should be same as with quoted Distribution switch)

1.2 (a)10G Multimode Transceivers

	Specifications	Compliance (Yes/No)
	10Gbps	Complied

Technical Proposal for Switches and Transceivers

	Multi-mode - OM4 supported	Complied
	LC	Complied
	Same as Switch OEM	Complied
	Upto 150 Mtr	Complied

1.2 (b) 10G Single mode Transceivers

	Specifications	Compliance (Yes/No)
	10Gbps	Complied
	Single mode	Complied
	LC	Complied
	Same as Switch OEM	Complied
	10 KM	Complied

	Specifications	Compliance (Yes/No)
	1Gbps	Complied
	Single mode	Complied
	LC	Complied
	Same as Switch OEM	Complied
	10 KM	Complied

	Specifications	Compliance (Yes/No)
	40 Gbps	Complied
	Single mode	Complied
	LC	Complied
	Same as Switch OEM	Complied
	10 KM	Complied

	Specifications	Compliance (Yes/No)
	40 Gbps	Complied
	Multi-mode - OM4 supported	Complied
	LC	Complied
	Same as Switch OEM	Complied
	Up to 150 mtr	Complied

Technical Proposal for Switches and Transceivers

2.1.3 Item - 2: Enterprise Grade Campus Access PoE+ Switch - 24 ports - 10 no's

Solution should support all the below-mentioned features from Day One. Additional licenses or Additional Modules or Parts, Mounting Kits, brackets and required material,

Antennas, any hardware or software required for the proposed solution must be mentioned in the Bid. The requirement is for the replacement of PoE Access switches in Academic Block-C of IIT Hyderabad.

Technical Specifications for Enterprise Grade Campus Access PoE+ Switches - Qty 10 with 36 Months Warranty and Support			Offered "Aruba 6200F Series"
Sr. No	Specifications	Compliance (Yes/No)	Remarks
1	The Switch should have 24 x ports 10/100/1000 BASE-T PoE+ ports and 4 x 1/10 SFP+ ports from Day 1	Complied	24x ports 10/100/1000BASE-T Class 4 PoE Ports, supporting up to 30W per port 4x 1/10G SFP ports
2	The switch should have 128 Gbps of Switching Capacity and 95 Mpps Throughput Capacity from Day 1		128 Gbps of Switching Capacity and upto 95.2 Mpps Throughput Capacity
3	Switch shall have minimum 8GB SDRAM, 16 GB flash and 6 MB Packet buffer size from Day 1	Complied	Memory:- 8 GB DDR4 Flash:- 16 GB eMMC Packet buffer total (available+reserved):- 8 MB (6 MB + 2 MB)
4	The switch should support stacking on uplink port or dedicated stack module. It should have Stacking Performance of minimum 40 Gbps. The switch should support a minimum of 8 switches in single stack. Switch should be given with all the necessary stacking cables / modules from day 1	Complied	Stacking bandwidth:- 40Gbps Stacking of up to 8 switches
5	The Switch should support 32000 MAC address from Day 1		MAC Table Capacity: - 32,768
6	Switch shall support IEEE 802.3af and IEEE 802.3at PoE standards with minimum 370W PoE budget from Day 1	Complied	Supports IEEE 802.3af and IEEE 802.3at PoE standards with minimum 370W PoE budget
7	Switch should support PoE Power High availability during scheduled reboots and firmware upgrades from Day 1	Complied	High availability with always-on PoE that supplies PoE power evenduring scheduled reboots and firmware upgrades
8	The switch should have minimum 2K IPv4 and 1K IPv6 Unicast Routes, 2K IPv4 and 1K IPv6 ACL Entries from Day 1	Complied	IPv4 unicast routes:- 2,048 IPv4 unicast routes:- 1,024 IPv4/IPv6/MAC ACL entries (ingress):- 5,120/1,280/5,120 IPv4/IPv6/MAC ACL entries (egress):- 2,048/512/2,048
			Quad Core ARM Cortex™ A72 @ 1.8 GHz
10	Switch shall support Dual stack (IPv4 and IPv6) transitions, MLD snooping, IPv6 ACL/QoS, RA guard, DHCPv6 protection, dynamic IPv6 lockdown, and ND snooping from day 1	Complied	Dual stack (IPv4 and IPv6) transitions, MLD snooping, IPv6 ACL/QoS, RA guard, DHCPv6 Guard, dynamic IPv6 lockdown, and ND snooping
11	The Switch should support Uni-directional Link Detection (UDLD) or equivalent from Day 1		Supports UDLD
12	Software defined network (SDN) capability by supporting multiple programmatic interfaces including REST APIs, Python scripts or equivalent from Day 1		Supports REST APIs and Python scripting

Technical Proposal for Switches and Transceivers

13	The Switch should support Zero-Touch Provisioning (ZTP) or equivalent technology support from Day 1		
14	Switch shall support sFlow/Netflow or equivalent from Day 1		Supports sflow
15	The Switch should support IP SLA or equivalent feature from day 1	Complied	IP SLA for Voice monitors quality of voice traffic using the UDP Jitter for VoIP tests
16	The Switch should have support Rapid Per-VLAN Spanning Tree (RPVST+)/PVRST+ or any protocol that allows multiple VLANs to be mapped to a single spanning tree instance or multiple instances from day 1	Complied	RPVST+, RSTP, MSTP, VXLAN encapsulation protocols
17	<p>The switches must support VXLAN (Virtual Extensible LAN) for network virtualization and overlay networks from Day-1</p> <p>The VXLAN functionality should include support for VXLAN routing (VTEP), VXLAN bridging, and VXLAN gateway capabilities.</p> <p>Licensing Requirements: The VXLAN feature set must be available as a permanent or perpetual license, not tied to a subscription model.</p> <p>If a permanent or perpetual license is not available, the bidder must quote the licenses/subscriptions for the entire solution for the next 7 years from the date of commissioning.</p> <p>The proposed solution must include all necessary licenses or subscriptions to enable and ensure comprehensive coverage for VXLAN capabilities from Day-1 for the next 7 years without the need for periodic renewal by IIT Hyderabad.</p> <p>next 7 years, without the need for periodic renewal by IIT Hyderabad. Comprehensive VXLAN licenses in the switches are mandatory throughout the expected operational period of min 7 years by IIT Hyderabad.</p>		
18	Switch should have integrated trusted platform module (TPM) or equivalent for platform integrity to ensure the boot process is from trusted source from Day 1	Complied	Integrated trusted platform module (TPM)
19	The Switch should have support for Static IP routing, RIP V1/V2, RIPng, OSPFv2, OSPFv3 for IPv6 routing protocols from day 1		RIPV2, RIPng, OSPFV2, OSPFv3
20	The Switch should support Control Plane Policing sets rate limit on control protocols to protect CPU overload from DOS attacks from Day 1		
21	The Switch should support Switch CPU protection to provide automatic protection against malicious network traffic trying to shut down the switch from Day 1		Support Switch CPU protection
22	Switch should support management features SSHv2, SNMPv2c, SNMPv3, RMON from Day-1		SSHv2, SNMPv1/v2c/v3, RMON
23	Switch should support Internet Group Management Protocol (IGMPv1, v2, and v3) and Multicast Listener Discovery (MLDv1 and v2) from Day-1		IGMPv1, v2, and v3) & (MLDv1 and v2)
24	The switch shall support for RoHS (EN 50581:2012) regulations rom Day-1		Supports RoHS

Technical Proposal for Switches and Transceivers

25	3-year support and support should be provided directly from OEM. It should start after completion of the commissioning		Included in BOM.
26	All Proposed switches and transceivers quoted in the BoQ should be from the same OEM for interoperability and ease of management.	Complied	All proposed components will be of the same OEM.
27	OEM will be preferred with consistent presence in Leader's quadrant of Gartner's Magic Quadrant for Wired and Wireless LAN Access Infrastructure for the last five years		
28	Environmental Features: Operating temperature of 0°C to 40°C		0°C to 45°C
29	Supported Stack cables need to be provided as per the solution from Day 1.		Included in BOM.
30	The switch should support Rate limiting to sets per-port ingress enforced maximums and perport, per-queue minimums		Support Rate Limiting
31	Bidder shall ensure to propose enterprise grade switches and not SMB category. Bidder should submit the datasheets of the proposed switches along with clear pictures of the connector types of transceivers/ switches. SMB category shall be rejected.	Complied	Enterprise grade switch is quoted along with datasheets.
	Solution		
32	Solution should be proposed with all the required licenses to work from Day-1		
33	The Total solution should come with all required feature licenses from first day of installation		
		Complied	3 years hardware warranty included in BOM
35	The Total solution should have technical support for software. Software upgrades for 36 months		
36	The switch should be compatible with and should be integrated with IIT Hyderabad's existing Aruba Airwave Monitoring platform or Cisco DNAC for unified network monitoring from Day-1		
37	The Total solution should come with the latest and updated version available at no extra cost		
	Warranty & Support		
38	Warranty & Support: Switches should have a 3 Year Hardware and Software Warranty. Additional Licenses: Shall be Permanent mode if available from the OEM or shall be supplied for 7 years which should be quoted in the bid. Service :24x7x365 online OEM TAC support for 3 years Bidder and OEM: 8x5xNBD RMA for Hardware problems for 3 years Software upgrades/updates shall be included as part of the warranty	Complied	Warranty & Support: Switches should have a 3 Year Hardware and Software Warranty. Service :24x7x365 online OEM TAC support for 3 years Bidder and OEM: 8x5xNBD RMA for Hardware problems for 3 years Software upgrades/updates shall be included as part of the warranty
39	All the quoted Access Switches should be from same OEM as of Distribution switches and it's Transceivers		

3 Bill of Materials:

Part Number	Description	Quantity
	Item - 1.1 Distribution Switch	
R9W86A	HPE Aruba Networking CX 8100 24x10G SFP+ 4x40/100G QSFP28 FB Airflow 3Fan 2AC PSU Switch Bundle	6
R9W86A ACJ	INCLUDED Power Cord - India localization	6
H83V3E	Aruba 3Y FC NBD Exch E/R 8100 24SFP+ FB SVC [for R9W86A]	6
JL307A	HPE Aruba Networking 100G QSFP28 to QSFP28 3m Direct Attach Copper Cable	6
	Item - 1.2 Transceivers	
J9150D	HPE Aruba Networking 10G SFP+ LC SR 300m OM3 MMF Transceiver	28
J9151E	HPE Aruba Networking 10G SFP+ LC LR 10km SMF Transceiver	6
J4859D	HPE Aruba Networking 1G SFP LC LX 10km SMF Transceiver	26
JH232A	HPE Networking X142 40G QSFP+ LC LR4 SM Transceiver	4
JH231A	HPE Networking X142 40G QSFP+ MPO SR4 Transceiver	2
	Item - 2 : Access Switch - 24 Ports PoE	
JL725B	HPE Aruba Networking CX 6200F 24G Class4 PoE 4SFP+ 370W Switch	10
JL725B ACJ	INCLUDED Power Cord - India localization	10
H73V3E	Aruba 3Y FC NBD Exch E/R 6200F 24G CL4 4SFP+ 370W SVC [for JL725B]	10
J9283D	HPE Aruba Networking 10G SFP+ to SFP+ 3m Direct Attach Copper Cable	10