THE WEST BENGAL NATIONAL UNIVERSITY OF JURIDICAL SCIENCES
(An Autonomous Law University established by the West Bengal Act No. IX of 1999)
"Dr. Ambedkar Bhavan", 12, LB Block, Sector III, Salt Lake City, Kolkata - 700 106
Phone: (033) 2335 7397/ 0510/ 2811, 2569 4700 to 30 <> Fax: (033) 2335 7422/ 0511
E-mail: ao@nujs.edu <> Website: www.nujs.edu

Ref. No.: WBNUJS/RFP/003/Network/2023-24 **DATE: 26.05.2023**

TENDER INVITED BY THE UNDERSIGNED FOR CAMPUS WIFI AND LAN NETWORK SERVICES (NETWORK) AT WBNUJS KOLKATA

The West Bengal National University of Juridical Sciences, an Autonomous Law University established under the WBNUJS Act, 1999 (West Bengal Act IX of 1999) adopted by the West Bengal Legislature in July, 1999 The University was notified under Clause (f) of Section 2 of the UGC Act, 1956 in August 2004 and has been granted affiliation by the Bar Council of India is in the process of providing **CAMPUS WIFI AND LAN NETWORK SERVICES (NETWORK) AT WBNUJS KOLKATA.**

The potential and eligible bidders are required to visit the University website (https://www.nujs.edu/home/tenders/) for submission the bid with proper documentation with in bidding schedule. Interested Bidders are also requested to check the detailed corrigendum time to time through the University Tenders Portal which may be uploaded against this tender.

Critical Dates of Tender

Sl.No.	Particulars	Date	Time
1.	Date of Publication/ Download of Tender	**26.05.2023**	**10.00 am**
2.	Pre Bid Meeting	**31.05.2023**	
3.	Bid Submission Start Date	**26.05.2023**	**10.00 am**
4.	Bid Submission Close Date	**19.06.2023**	**3.00 pm**
5.	Opening of Bids	**Intimated Later**	**3.00 pm**
6.	Validity of the Bid Documents	**90 days from the date of opening**	

All quotation and manual bid should be submitted in the respective section of The W.B. National University of Juridical Sciences.

Address for the submission:

The Registrar
The W.B. National University of Juridical Sciences
"Dr. Ambedkar Bhavan"
12, LB Block, Sector-III, Salt Lake City, Kolkata- 700 106

INSTRUCTION TO THE BIDDER

As per the decision of the University Authority, this tender document has been published on the University website (https://www.nujs.edu/home/tenders/). The bidders are required to submit hard copies of their bids at the respective section of the University.

Sd/-
Raja Chakraborty
Registrar, WBNUJS Kolkata

Raja Chakraborty
Registrar
The West Bengal National
University of Juridical Sciences
Kolkata - 700106

WBNUJS Kolkata

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IMPORTANT INFORMATION

NIT REF. NO.	:	WBNUJS/RFP/003/Network/2023-24
ITEM DESCRIPTION	:	NIT FOR CAMPUS WIFI AND LAN NETWORK SERVICES (NETWORK) AT WBNUJS KOLKATA
TENDER TYPE	:	OPEN TENDER
PERIOD OF STANDARED WARRANTY	:	5 YEARS ONSITE COMPREHENSIVE
NO. OF COVER		TWO (02) COVER SYSTEM
DATE OF PUBLICATION OF TENDER	:	**26.05.2023**
LAST DATE OF BID SUBMISSION	:	**19.06.2023 up to 3.00 pm**
DATE OF OPENING OF TECHNICAL BID	:	Intimated Later and Follow Our Website
EARNEST MONEY DEPOSIT *(EMD is refundable to the unsuccessful bidders against the application made by the unsuccessful bidders after the financial bid evaluation, No interest shall be paid against the earnest money deposited).*	:	AMOUNT **Rs.6,00,000/-** Online receipt of EMD through SBI Collect Payment Gateway as per instruction given below.

Please follow the procedure for the Online Payment of Fees through SBI Collect –

*Access **https://www.onlinesbi.sbi/sbicollect/icollecthome.htm***
*Select Category as **'Educational Institutions'***
*Select the Institutions Name as **'The West Bengal National University of Juridical Sciences'***
*Select the Payment Category as **'Earnest Money Deposit'***

Please share the SBI Collect Reference Number with a copy of EMD receipt with bidding documents for proof of payment or reconciliation of fees.

EARNEST MONEY DEPOSIT:

Earnest Money Deposit (EMD)/Bid Security as stated under IMPORTANT INFORMATION should be provided as applicable. The bid security should remain valid for a period of forty-five days beyond the final bid validity period.

A bidder's Bid Security will be forfeited if the bidder withdraws or amends its/his tender or impairs or derogates from the tender in any respect within the period of validity of the tender or if the successful bidder fails to furnish the required Performance Security within the specified period. The decision of the Competent Authority of WBNUJS Kolkata in this respect will be final and binding on all the stake holders.

EXEMPTION OF EARNERST MONEY DEPOSIT:

Earnest Money is to be submitted by the all bidders except Micro and Small Enterprises (MSEs) as defined in MSE Procurement Policy issued by Department of Micro, Small and Medium Enterprises (MSME) or is registered with the Central Purchase Organization or the concerned Ministry or Department.

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CONTACT INFORMATION:

Any queries relating to the tender document and the terms and conditions or technical specification, Bidders may contact to the following offices:

FOR ANY COMMERCIAL TERMS AND CONDITIONS:

Designated Officer:	**The Chairman, Procurement Committee**
Department:	**Store & Purchase Section, WBNUJS Kolkata**
Email ID:	**ao@nujs.edu**
Telephone No:	**+91-33-2569 4700 (Extn. 1040)**

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ANNEXURE- II

	WI-FI CONTROLLER	
S. No	**Specification / Requirement**	**Compliance (Yes/No)**
1	**Product details- Please specify**	
	Please mention Make, Model No. and Part Code	
	The Proposer shall position a hardware based controller with appropriate specifications.	
2	**Essential Features**	
	The WLC Management should be in physical appliance with 4x1G RJ-45 ports and 4 x 1/10G SFP+ ports	
	Controller should also be able to manage all of provided switches and be scalable to support 400 switches in the future using a single hardware or with clusters of hardware. If separate NMS is required to manage the switches it can be quoted but it has to be from the same OEM.	
	WLC should have Easy Setup through UPnP Network Discovery and Installation Wizard.	
	Controller should support 200 AP from day one and should be scalable up to 2000 APs in single hardware.	
	Each Controller should have capacity to handle minimum 40,000 or more Concurrent devices.	
	Each controller should support integrated user authentication capability of minimum 20,000 users without the need for any external database servers (AD/LDAP).	
	Redundancy Features: WLC Must support Active: Active with N+1 redundancy.	
	Controller should support minimum 1000 WLAN's.	
	Controller should provide air-time fairness between these different speed clients – slower clients should not be starved by the faster clients and faster clients should not adversely affected by slower clients.	
	Ability to map SSID to VLAN and dynamic VLAN support for same SSID.	
	Support automatic channel selection for interference avoidance.	
	Controller should monitor and maintain Access points related information such as IP/MAC, Model, Firmware, Radio and traffic statistics, RF/LLDP neighbors, GPS location etc.,	
	The WLAN solution should support client troubleshooting feature that allows an administrator to focus on a specific client device and its connectivity status. The tool should track the step-by-step progress of the client's connection, through 802.11 stages, RADIUS, EAP authentication, captive portal redirects, encryption key setup, DHCP, roaming, and more (depending on WLAN type).	
	The WLAN solution should support in built spectrum analysis feature.	
	The controller should supprt the ability to create different zones in which AP can be grouped logically or physically based on location eg different buildings in a campus can be configured as different zones so that each zone will have differetn configuration and policies.	
	External Captive Portal Integration - Web-services based API for external web-portals to integrate with the controller	
	Should have the capability to limit/prevent clients from using static IP addresses thereby enhancing network efficiency and preventing network conflicts.	
	WLC should support Hotspot 2.0 (passpoint).	
3	**Auto Deployment of AP's at different locations**	
	Access points can discover controllers on the same L2 domain without requiring any configuration on the access point.	
	Access points can discover controllers across Layer-3 network through DHCP or DNS option	
	APs should be site-survivable. Even if controller goes down, still APs should be able to handle client traffic locally.	
4	**Security & Monitoring**	
	Controller should support following for security & Authentication:	

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	WIRELESS SECURITY & Authentication: Open, 802.1x/EAP, PSK, WISPr, WPA, WPA2-AES, WPA-TKIP, WEP,EAP-SIM, EAP-AKA over WLAN for 802.1x, Authentication through external Radius /Directory services.	
	WLC should support WIDS/WIPS for security including Rogue AP detection and prevention, Evil-twin/AP spoofing detection and Ad-Hoc detection.	
	WLC Should support L2 Client Isolation so User cannot access each other's devices. Isolation should have option to apply on AP or SSID's.	
	Support for Walled garden "Walled Garden" functionality to allow restricted access to select destinations by unauthorized wireless users.	
	The proposed architecture should be based on controller based Architecture with thick AP deployment. While Encryption / decryption of 802.11 packets should be able to perform at the AP.	
	WLC should support OS/Device finger printing, Bandwidth rate limit, VLAN mapping.	
	WLC should support Mesh.	
	WLC should be able to present a customizable dashboard with information on the status of the WLAN network.	
	WLC should be able to raise critical alarms by sending an email. The email client on the controller should support SMTP outbound authentication and TLS encryption.	
	WLC or integrated solution should provide customised reporting with minimum 14 days of historical WLAN information.	
	Filtering of Alarms and event Log based on APs, SSID or Zones	
	Syslog support towards external syslog server	
	Controller or integrated solution should support URL Filtering and will be license-enabled when required.	
	Controller or integrated solution should support Wireless heat maps to show coverage areas and holes. It should also provide functionality to track wireless clients in heat map. Controller also should support Google maps integration.	
	Controller or integrated solution should support per user PreShared keys to each user separately for security reasons and for easy manageability of the keys. Should support atleast 4000 unique keys.	
	It should also support Role-Based Access Control, rate-limiting, device fingerprinting, 802.11w Management Frame Protection and 802.11r Fast roaming.	
	Controller should support Firewall Features including L2/L3/L4 Access Control profiles, Application Control profiles, Deep packet inspection, Device based policies etc.	
5	**QoS features**	
	Per SSID or dynamic Per user bandwidth Rate Limiting	
	Self-healing (on detection of RF interference or loss of RF coverage) and vendor should provide their Interference mitigation techniques .	
	System must support Band Steering where 5 Ghz clients are forced to connect over 5Ghz Radio to provide better load balancing among 2.4Ghz and 5Ghz Radios.	
	WLC shall support Quality of Service features like 802.11e based QoS enhancements, WMM or equivalent and U-APSD to provide best performance on Video applications.	
6	**Client/Guest Management**	
	WLC should provide a Guest Login portal in order to authenticate users that are not part of the organization.	
	WLC should be able to provide a web-based application that allows non-technical staff to create Guest accounts with validity for fixed duration like hours or days.	
7	**Management Features**	
	WLC should support administrative access through HTTPS GUI, SSH CLI.	

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	Administrative users should have account security features such as session idle timer, account lockout, password expiration, password reuse, two factor authentication. Should have option to enable captcha to make sure a human is logging into the system.	
	WLC should have library of well-documented REST-APIs to allow integration with 3rd party apps.	
	Switches and Access points can discover Controllers across Layer-3 network through DHCP or DNS option. Controller should have Mobile App for Smartphone to provision APs.	
8	**Switch Management**	
	If a separate NMS is being provided for switch management then it has to be from the same OEM.	
	Support Switch firmware and configuration management.	
	Zero Touch provisioning of switches for ease of management	
	Should support topology views of the network switches	
	Remote cli session from the controller/NMS to the switch for ease of access	
	Switches should automatically discover the controller/NMS	
	Monitor critical parameters such as CPU and memory of the switch	
9	**Other Requirements**	
	All categories of Controller, switches and Access Point should be from same OEM	
	If any of the features mentioned above requires separate license, it should be quoted along with controller.	
	Controller should be FCC certified. Should comply to certifications EN55022/EN55035 - Class A, EN/IEC 62368-1 , TEC certiified	
10	Warranty & Support	
	Controller should be quoted with 3years warranty and OEM support	
11	QUANTITY: 2 Nos.	

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	WI-FI Indoor Access Point (AP)	
SL No	**Specification / Requirement**	**Compliance (Yes/No)**
1	The APs should support the 802.11a, 802.11b, 802.11g and 802.11n, 802.11ac and 802.11ax standards.	
2	Simultaneous client support on dual band radio is essential.	
3	Shall provide Min 25 dBm Radio output power for both Radio's.	
4	Should support minimum 4x4:4 or higher MIMO on 5Ghz radio band for an aggregate capacity of around 2900 Mbps	
5	AP should be flexible hardware to be deployed as Standalone, Controller-less (Cluster), Controller-based, Cloud-based.	
6	It should have adaptive antenna technology for performance optimization and interference mitigation features. Antenna should provide Extended coverage utilizing multi-directional antenna patterns. Access point to have Polarization Diversity with Maximal Ratio Combining (PDMRC).	
7	Antenna should dynamically choose antenna patterns in real-time environment to establish the best possible connection with every device. Should support at least 50 antenna patterns combinations.	
8	The access point should be able to detect clients that have dual band capability and automatically steer those client to use the 5GHz band instead of the 2.4GHz band.	
9	The antennas to be dual polarised and should be integrated inside the access point enclosure to minimize damage and create a low profile unit that does not stand out visually.	
10	The access point should have minimum 1x 2.5 Gigabit Ethernet port and 1x 1 Gigabit Ethernet Port	
11	The access point should support 802.1q VLAN tagging	
12	The access point should support inbuilt IOT based technologies such as Bluetooth and zigbee concurrently	
13	The access point should support WPA2 and WPA3 enterprise authentication and AES/CCMP encryption. AP should support Authentication via 802.1X and Active Directory.	
14	Implement Wi-Fi alliance standards WMM, 802.11d, 802.11h and 802.11e	
15	Should support the following channelization - 20MHz, 40MHz, 80MHz, 160Mhz, 80+80Mhz	
16	The Access Point should provide for concurrent support for high definition IP Video, Voice and Data application without needing any configuration.	
17	Antenna should direct the radio signals per-device on a packet-by-packet in real-time to support high device density environments. Should have 3 dBi gain. Antenna operates without the need for device feedback to support devices using legacy standards.	
18	Channel selection based on measuring throughput capacity in real time and switching to another channel should the capacity fall below the statistical average of all channels without using background scanning as a method.	
19	The access point should support application recognition and control	
20	AP should be able to act as sensor for WIPS, Location analytics engine and Network analytics engine.	
21	Should support 1GB RAM and 512 MB flash	
22	Should support upto 60 simultaneous VoIP clients	
23	Should support min 500 clients per AP or more	
24	AP should have recovery SSID for easy access to CLI console when AP is unreachable through network.	
25	AP should support DHCP and NAT	
26	Should support tunneling such as Layer 2 Tunnelling protocol and Generic routing Encapsulation.	
27	Should support meshing technologies where cable infrastructure may not be available	

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28	Shall support 30 SSID's per AP.	
29	Shall have 1 USB port	
30	Operating Temperature: 0°C - 50°C	
31	Operating Humidity: 10 % - 95% non-condensing.	
32	Should be plenum rated and comply to RoHS and TEC (India-DoT Certified)	
33	Should be WiFi certified; WiFi certificate to be enclosed	
34	Should be WPC approved; ETA certificate to be enclosed	
35	Should support the following standards - WEEE & RoHS, EN 60950, EN 61000	
36	Device should be UL 2043 Plenum Rated.	
37	QUANTITY: 220 Nos.	

	WI-FI Outdoor AP	
	Specification / Requirement	**Compliance (Yes/No)**
1	The APs should support IEEE 802/11a/b/g/n/ac/ax standards with Dual Band Concurrent 4x4:4 streams (2.4GHz) + 4x4:4 streams (5GHz)	
2	The proposed access point should be 802.11ax (Wi-Fi 6) and Operate in dual band radio.	
3	The AP Should supports eight spatial streams on both bands for the capacity of 2.4GHz 802.11b/g/n/ac/ax 1148 Mbps and 5 GHz 802.11b/g/n/ac/ax 2400 Mbps	
4	The AP shall have 2 ports, auto MDX, auto-sensing 10/100/1000 Mbps, RJ-45 and 100/1000/2500 Mbps RJ-45. It should also have a SFP+ Interface – alternate to Ethernet, providing an integrated high speed backhaul. The second Ethernet port can be used for PoE Output to daisy chain and power APs (ideal for a mesh AP).	
5		
6	The access points should be centrally managed capacity as well to work as standalone.	
7	The access point shall support Link Aggregation (LACP) to maximize the backhaul bandwidth using both Ethernet ports.	
8		
9		
10	The Outdoor AP should support 40 MHz channelization on 2.4GHz and 20/40/80+80/160 MHz channelization on 5 GHz. It should also support MU-MIMO and OFDMA	
11	The access point should be able to operate in full MIMO mode with 802.3af/at POE. Alternatively, the AP should also support AC Input: 100-240 Vac.	
12	Security mechanisms should be in place to protect the communication between the Access Point controller and the Access Points.	
13	Since most radio interference come from the WLAN network itself the vendor should specify what mechanisms such as beam steering/ adaptive antenna technology/ beamforming are available in combination to focus the energy on the destination STA and minimize radio interference with the surrounding of the AP. The vendor should specify if the activation of such feature is still compatible with 802.11n spatial multiplexing.	
14	Since the WLAN network will be using an unlicensed band the solution should have mechanisms that reduce the impact of interference generated by other radio equipment operating in the same band. Please Describe techniques supported.	
15	The access point should be able to detect clients that have dual band capability and automatically steer those client to use the 5GHz band instead of the 2.4GHz band.	

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16	The antennas to be dual polarised and should be integrated inside the access point enclosure to minimize damage and create a low profile unit that does not stand out visually. The antennas could be omnidirectional or directional as per the requirement or site survey done by the vendor.	
17	The access point should support 802.1q VLAN tagging	
18	The access point should support WPA2/3 enterprise authentication. AP should support Authentication via 802.1X and Active Directory.	
19	Implement Wi-Fi alliance standards WMM, 802.11d, 802.11h and 802.11e	
20	The Access Point should provide for concurrent support for high definition IP Video, Voice and Data application without needing any configuration change. This feature should be demonstrable.	
21	Channel selection based on measuring throughput capacity in real time and switching to another channel should the capacity fall below the statistical average of all channels without using background scanning as a method.	
22	Should support Transmit power tuning in 1dB increments in order to reduce interference and RF hazards	
23	Device antenna gain (integrated) must be at least 3dBi.	
24	Up to 31BSSIDs on 2.4G radio and 5G radio for multiple differentiated user services (e.g. voice).	
25	Should support 500 or more clients per AP.	
26	Should support IPv6 from day one	
27	For troubleshooting purposes, the administrator should have the ability to remotely capture 802.11 and / or 802.3 frames from an access point without disrupting client access.	
28	Operating Temperature	
29	-40°F (-40°C) to 149°F (65°C)	
30	. Operating Humidity: up to 95% non-condensing.	
31	The Outdoor AP should be IP67 rated.	
32	Should be WiFi certified and WPC approved; ETA certificate to be enclosed	
33	Mechanism for physical device locking using padlock /Kensington lock / equivalent	
34	Warranty: 3 years. , QUANTITY: 10 Nos.	

Core Switch			
S. No	**Required Minimum Specification**		**Compliance (Yes/No)**
1		Distribution Switch with 24X10Gig SFP+ Ports, scalable to 4 X40G or 2x100G uplink ports.	
		The Switch should have dual redundant hot swappable AC/DC power supplies.	
		The Switch should support stacking/VSS/IRF/ equivalent and should be able to build loop free L2 network with native stacking	
		The Switch should have Micro-USB, RJ-45 for console port	
		The Switch should have at least 4 GB SSD/Flash memory	
		The Switch should have at least 4GB of DRAM.	
		The Switch should have at least 1 10/100/1000 dedicated out-of-band Management Port	
		The Switch should have at least 3 fans and 2 power supplies. Fans should be hot swappable.	

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		The switch should support low latency and low per port power consumption	
2	Switch Performance	The Switch should have at least 880Gbps or more non-blocking switching bandwidth.	
		Support at least 32,000 MAC addresses.	
		The Switch should support at least 21000 IPv4 routes and 17000 Ipv6 routes	
		The Switch should support at least 4000 VLAN ID's	
		The Switch should support upto 8k ACLs	
		The switch shall have the Mean Time Between Failure of 800,000 hours.	
		The Switch support 9216 bytes of Jumbo Frames	
3	Layer 3 Features	The Switch should have IP Static Routing IPv4/v6, RIP v1/v2, RIPng/ OSPF, ECMP, PIM-SM, VRRP v2 & v3, MSTP, RSTP ready from Day 1	
		The switch should support routing protocols such as BGPv4, OSPF v2, OSPF v3 , VRRP-E (IPv4, IPv6) ,Open Flow 1.3	
		The Switch should support IP Multicast and PIM, PIM Sparse Mode & Dense Mode	
4	Layer 2 Features	The switch should support 802.1d, 802.1s, 802.1w Spanning-Tree & its Enhancement for fast convergence.	
		The Switch should have 802.1Q VLAN tagging & 4000 VLANs per switch	
		The switch should support LACP to combine multiple network links for increasing throughput and providing redundancy.	
		The switch should support DHCP snooping to prevent malicious users from spoofing a DHCP server and sending out rough addresses.	
5	Network Security Features	The switch should support Dynamic ARP inspection (DAI) or equivalent to ensure user integrity by preventing malicious users from exploiting the insecure nature of ARP.	
		The switch should support IP source guard or equivalent 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.	
		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.	
		The switch should support flexible & multiple authentication mechanism, including 802.1X, MAC authentication	
		The switch should support MAC address notification to allow administrators to be notified of users added to or removed from the network.	
		Granular Rate Limiting function to guarantee bandwidth.	
		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.	
6	Management	CLI support to provide a common user interface and command set with all switches of the same vendor	
		RMON I / RMON II standards	
		SNMPv1, SNMPv2c, and SNMPv3	
		Switch should support operating temp from 0 to 45 degree	
		Switch/Switch OS should be NDPP and TEC Certified as per under Mandatory Testing and Certification of Telecom Equipment as notified vide Indian Telegraph (Amendment) Rules, 2017	

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		Switch should be able to be managed by centralized management platform providing features like deploying common security policies across wired and wireless network, Zero touch provisioning for new switches in the network	
		Switch should support EN 60950-1, EN 55024, EN 61000-3-2 , EN 61000-3-3 , EN 61000-4-11 & ROHS	
7	**Warranty & Support**	Switch should be quoted with 3 years Remote TAC support and onsite support should be required at any critical problem.	
		Switch should be quoted with Lifetime warranty and 3 Years NBD support (with all spare)	
		All categories of Switches, Wireless AP, Wireless Controller, Transceivers & Accessories should be from same OEM	
8	**QUANTITY**	2 Nos.	

	Layer2 POE Switch	
S. No.	**Specification Required**	**Compliance (Yes/No)**
1	**Product details - Please specify**	
1.1	Please mention Make, Model No. and Part Code.	
2	**Architecture & Port Density**	
2.1	The Switch should have minimum Twenty four (24) 10/100/1000Mbps RJ45 PoE+ ports and should have Four (4) 1G SFP ports and 2x1G RJ 45 uplink. Required SFP transceiver should be supplied align with the switch.	
2.2	The Switch should support aggregated Stacking bandwidth of 480Gbps	
2.3	Switch should be upgradable to stackable switch through a license	
3	**Performance**	
3.1	Switching Bandwidth: The Switch should provide Switch Fabric Bandwidth Capacity of 132 Gbps or more.	
3.2	Forwarding Capacity: The Switch should provide Packet Forwarding Capacity of 98 Mbps or more.	
4	**Layer 2 features**	
4.1	Should support 4K vlan Id with 1000 active VLANs	
4.2	Should support 16K MAC addresses or more.	
4.3	Should support IP multicast snooping IGMP v1, v2, v3	
4.4	Should support Jumbo Frames (up to 9K bytes)	
5	**Layer 3 features**	
5.1	Should support minimum 1K IPv4 routes and 1K IPv6 route or more	
5.2	Should support Basic IPv4 and IPv6 Static Routing, ECMP, Host Routes, Virtual Interfaces, Routed Interfaces, Route Only and Routing between directly connected subnets from day 1.	
5.3	Should support Dynamic IPv4 & IPv6 Routing protocols (OSPFv2 and OSPFv3), VRRP, VRRP for IPV4 and IPV6 protocol, and Multicast Routing Protocols through license upgrade	
6	**Security**	

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6.1	Should support RADIUS, TACACS/TACACS+ and username/password for Authentication, Authorization and Accounting (AAA) with Local User Accounts and Local User Passwords.	
6.2	Should support secure communications to the management interface and system through SSL, Secure Shell (SSHv2), Secure Copy and SNMPv3	
6.3	Should support IP Source Guard, DHCP snooping, DHCPv4, DHCPv6 and Dynamic ARP Inspection.	
6.4	Should support IPv4 and IPv6 ACLs with up to 1K rules per ACL and a minimum of 2K rules per system.	
6.5	Should support Flexible Authentication with 802.1x Authentication and MAC Authentication.	
7	**Manageability**	
7.1	Should support manageability using Network Management Software with Web based Graphical User Interface (GUI).	
7.2	Should support Integrated Standard based Command Line Interface (CLI), Telnet, TFTP, HTTP access to switch management/monitoring.	
7.3	Should support NetFlow or sFlow or equivalent.	
8	**Physical Attributes, Memory, Power Supply and Fans**	
8.1	The Switch should be compatible with 19" Universal rack.	
8.2	The Switch should have minimum 1GB of Main Memory and minimum 2GB Flash Memory.	
8.3	PoE Power Budget: The Switch should provide a minimum of 370 watts of PoE+ power.	
9	**Mandatory Compliance:**	
9.1	All categories of Switches, Transceivers & Switch OS should be from same OEM & Switch should be Ipv6 logo , ROHS and common criteria / NDPP / NDcPP certified at the time of bidding	
10	**Warranty**	
10.1	The Switching System should come with 3 years Hardware warranty and 3Yrs OEM TAC support	
11	QUANTITY: 25 Nos.	

	Distribution Switch	
Sl. No	**Specification Required**	**Compliance (Yes/No)**
1	**Product details- Please specify**	
1.1	Please mention Make, Model No. and Part Code	
2	**Architecture & Port Density**	
2.1	Switch should offer Wire-Speed Non-Blocking Switching & Routing Performance at Layer 2 & Layer 3.	
2.2	The Switch should have Twenty-Four (24) 1GbE RJ45 ports, 8 nos. SFP+ (Fiber) ports, One (1) 10GbE SFP+ Slots or One 40GbE QSFP+ Slots should be available	

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2.3	Access Switch should support Stacking up to 12 Switches with more than 960 Gbps stacking bandwidth. The ports used for stacking should be in addition to the ports mentioned in the above clause,2.2	

3	**Performance**	
3.1	Switching Bandwidth: Should provide Non-Blocking switch fabric capacity of 288 Gbps or more.	
3.2	Forwarding Capacity: Should provide wire-speed packet forwarding of 214 Mpps or more.	
4	**Layer 2 features**	
4.1	Should support 4K active VLANs	
4.2	Should support 32K MAC addresses or more.	
4.3	Shall support IP multicast snooping IGMP v1, v2, v3	
4.4	Should support Jumbo Frames (up to 9K bytes)	
5	**Layer 3 features**	
5.1	Should support minimum 15K IPv4 routes and 5K IPv6 routes or more	
5.2	Should support Basic IPv4 and IPv6 Static Routing, ECMP, Host Routes, Virtual Interfaces, Routed Interfaces, Route Only and Routing between directly connected subnets from Day 1.	
5.3	Should support OSPFv2, OSPFv3, BGP4 and BGP4+ Dynamic IPv4 & IPv6 Routing protocols and Multicast Routing Protocols from Day 1.	
6	**Security**	
6.1	Switch should support RADIUS, TACACS/TACACS+ and username/password for Authentication, Authorization and Accounting (AAA) with Local User Accounts and Local User Passwords.	
6.2	Should support secure communications to the management interface and system through SSL, Secure Shell (SSHv2), Secure Copy and SNMPv3	
6.3	Should support IP Source Guard, DHCP snooping, DHCPv4, DHCPv6 and Dynamic ARP Inspection.	
6.4	Should support IPv4 and IPv6 ACLs with up to 2K rules per ACL and a minimum of 6K rules per system (Standalone Switch or Stack).	
6.5	Should support Byte and packet based broadcast, multicast, and unknown-unicast limits with suppression port dampening.	
6.6	Should support IPv6 Router Advertisement (RA) Guard.	
6.7	Should support Flexible Authentication with 802.1x Authentication and MAC Authentication.	
7	**Manageability**	
7.1	Should support manageability using Network Management Software with Web based Graphical User Interface (GUI).	
7.2	Integrated Standard based Command Line Interface (CLI), Telnet, TFTP, HTTP access to switch management/monitoring	
7.3	Should support NetFlow or sFlow or equivalent	
8	**Physical Attributes, Power Supply and Fans**	
8.1	Mounting Option : 19" Universal rack mount ears	
8.2	Should be configured with Dual Hot Swappable AC power supplies and Fans from Day 1.	
9	**Mandatory Compliance :**	
9.1	All categories of Switches, Transceivers & Switch OS should be from same OEM	
9.2	Switch OS should be NDPP certified	

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10	**Warranty**	
10.1	Switch should be quoted with TAC Support and Warranty for 3 years with NBD Hardware Replacement.	
11	**Product brochure**	
	Vendor should provide printed technical catalogs/brochures for the quoted model containing technical specifications, features.	
12	**QUANTITY: 10 Nos.**	

9		**CAT6 UTP CABLE**
	Details	Specification
9.1	Type	Unshielded Twisted Pair, Category 6, TIE/EIA 568 C.2 & ISO/IEC 11801 2nd Edition.
.9.2	Conductors	23 AWG Solid bare copper
9.3	Insulation	Polyethylene
9.4	Jacket	LSZH jacket complying to : Fire rating IEC 60332-1, Toxicity IEC 60754-1, Acid gas IEC 60754-2, Smoke density IEC 61034-2
9.5	Pair Separator	Cross member (+)fluted Spline .
9.6	Approvals	ETL 4 connector channel verified to ANS/TIA Cat 6, ISO 11801 for class E and IEEE 802.3 for zero BAR.
9.7	Frequency tested to	Minimum 600 MHz; ETL report for 4 connector channel performance up to 6000 MHz to be provided.
9.8.	Packing	Box of 305 meters(Minimum).
9.9	Cable Outer Diameter	6.2 mm
9.10	Bend Radius	4 * Cable Diameter
9.11	Impedance	100 Ohms
9.12	Mutual Capacitance	5.6 NF MAX /100m
9.13	Conductor Resistance	9.38 Ohms max /100 m
9.14	Propagation Delay	536 ns/100 Meters. MAX@250 MHz.
9.15	**QUANTITY**	**26 Nos. BOX (Minimum 305 Meters in Each BOX)**
10		**I/O FACE PLATE with BACK BOX**
10.1	Type	Single gang shuttered
10.1	Materials	ABS /UL 94-V-0
10.2	No of ports	One/two/four
10.3	ROHS Compliant	ROHS/ELV Compliant
10.4	**QUANTITY**	**250 PCS.**
11		**CAT6 UTP JACK PANELS 24 PORT with Cable Manager.**
11.1	Type	24 port, Modular , 1U , PCB Based , Unshielded Twisted Pair, Category 6, ANSI/TIA 568-C.2 and ISO/IEC 11801.
11.2	Port Arrangement	Configured as 6 port Module with individually replacement CAT 6 jacks
11.3	Circuit Identification	Front of each module shall be capable of accepting 9 mm to 12 mm labels
11.4	Port Identification	9mm or 12 mm labels on each of 24 port (To be included in supply
11.5	Modular jack	750 mating cycles
11.6	Wire Terminal	200 termination cycles
11.7	Accessories	Integrated bend-limiting strain-relief unit for cable entry
11.8	Housing	Polyphenylene oxide , 94V-0 rated
11.9	Wiring blocks	Polycarbonate , 94V-0 rated
11.10	Jack contacts	Beryllium copper plated with 1.27 mm thick gold
11.11	Panel	Black powder coated steel
11.12	Approvals	UL Listed, Mut be part of the registered 4 connector channel certified by ETL
11.13	Termination pattern	TIA/EIA 568 A and B
11.14	**QUANTITY**	**15 PCS.**

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12		**PATCH CORDS**
12.1	Type	Unshielded Twisted Pair, category 6, TIA/EIA 568-C.2 & IO/IEC 11801
12.2	Conductor	24 AWG 7/32, stranded copper conductors 100 ohms
12.3	Length	1 meter and 2 meters.
12.4	Plug Protection	Factory fitted Strain relief boot on either side
12.5	Jacket	LSZH
12.6	Operating temperature range	-40 to 70 degree centigrade
12.7	Compliance	ROHS Com[pliant
12.8	**QUANTITY**	**300 PCS. of 1 meter & 300 PCS. of 2 meters.**

42U STAND ALONE NETWORK RAC.

1. General Characteristics

•The 19" Wall Mount cabinets are intended for digital infrastructure.
•The Wall Mount cabinets made up of steel frame structure
•The 19" Wall Mount cabinets comes in colours, combination of RAL 7037 & 7035
•The 19" Wall Mount cabinets can be equipped with rear cover for better sealing of the cabinets.
•Equipment and accessories for thermal and cable management such as cable manager, cantilever tray, cooling fan ,power distribution unit 4 x Britzy sockets 6A complete the range.

2. Technical Characteristics

2.1 Design

•Top Cover made up of CRCA sheet +powder coated.
•Bottom cover made up of CRCA sheet +powder coated.
•Side Panels made up of CRCA sheet +powder coated.
•Frame made up of CRCA sheet +powder coated.
•Recess angle made up of CRCA sheet +powder coated.
•Door trims made up of CRCA sheet +powder coated.

2.2 Corrosion Resistance:

•Salt spray test according to ISO 9227 (NSS test) and EC EN 60068-2-11 (Ka test) for 168 hours: degree of Rusting Ri1 according to ISO 4628-3, propagation :51 mm according to ISO 4628-8

2.3 Properties of the powder coating.

Epoxy polyester paint applied by electrostatic dusting.

Frame tructure and door trim-RAL 7037 fine texture.
Top cover – RAL 7035 fine texture
Bottom cover – RAL 7035 fine texture
They have Following properties
Textured satin appearance
60-80 micron thickness
Excellent impact and scratch resistance
Excellent resistance to cleaning agents (excluding strong chlorinated , fluorinated and ketone solvent)
Some products may change the appearance . It is therefore advisable to carry out a test first

Electrical Continuity of the conductive parts
Copper plated earthing stud welded onto the front door and the main body.

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13	Description
13.1	19" RACK: 6U/600mmwidth/500mm depth, Steel frame structure design, metal top cover *with* 2 fan provision and cable entry provision covered with edge protected rubber grommet, bottom cover with cable entry provision covered with edge protected rubber grommet provided, Powder coated finish Texture Matt – 60 to 80uM
13.2	Corrosion Resistance: Salt spray test according to ISO 9227 (NSS test) and IEC EN 60068-2-11 (Ka test) for 168 hours: degree of Rusting Ril according to ISO 4628-3, propagation :51 mm according to ISO 4628-8.
13.3	Front glass single door with cam lock & key
13.4	Front panel mounting Hardware – 1 no
13.5	Cantilever Tray 255 mm D-1 No.
13.6	230 V AC 90 CFM fan mounted on top cover – 2 nos.
13.7	PDU 12 Sockets 6A Britzy Sockets – 1 No. along with switch & Indicator.
13.8	Horizontal Cable Manager 1 U with PVC loops – 1 No.
QUANTITY	**2 Nos.**

14. **12U WALL MOUNTED NETWORK RACK**

Overall Height- 492mm, Width- 600mm, Depth- 500 mm

1. General Characteristics

- The 19" Wall Mount cabinets are intended for digital infrastructure.
- The Wall Mount cabinets made up of steel frame structure
- The 19" Wall Mount cabinets comes in colours, combination of RAL 7037 & 7035
- The 19" Wall Mount cabinets can be equipped with rear cover for better sealing of the cabinets.
- Equipment and accessories for thermal and cable management such as cable manager, cantilever tray cooling fan, power distribution unit 6 x Britzy sockets 6A complete the range.

2. Technical Characteristics

2.1 Design

- Top Cover made up of CRCA sheet +powder coated.
- Bottom cover made up of CRCA sheet +powder coated.
- Side Panels made up of CRCA sheet +powder coated.
- Frame made up of CRCA shcet +powder coated.
- Recess angle made up of CRCA sheet +powder coated.
- Door trims made up of CRCA sheet +powder coated.

2.2 Corrosion Resistance:

- Salt spray test according to iSO 9227 (NSS test) and IEC EN 60068-2-11(Ka test) for 168 hours:

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degree of Rusting Ri according to ISO 4628-3, propagation sl mm according to ISO 4628-8

2.3 Properties of the powder coating

Epoxy polyester paint applied by electrostatic dusting.

•Frame Structure and door trim-RAL 7037 fine texture

•Top Cover -RAL 7035 fine texture

•Bottom Cover-RAL 7035 fine texture They have following properties:

•Textured satin appearance.

•60-80 micron thickness.

•Excellent impact and scratch resistance.

•Excellent resistance to cleaning agents (excluding strong chlorinated,fluorinated and ketone solvents)

•Some products may change the appeara nce. It *is* therefore advisable to carry out a test first

• Electrical Continuity of the conductive parts

•Cu per plated earthing stud welded onto the Front Door and the main body.

14	Description
14.	19" RACK: 9U/600mmwidth/500mm depth, Steel frame structure design, metal top cover *with* 2 fan provision and cable entry provision covered with edge protected rubber grommet, bottom cover with cable entry provision covered with edge protected rubber grommet provided, Powder coated finish Texture Matt – 60 to 80uM
14.2	Corrosion Resistance: Salt spray test according to ISO 9227 (NSS test) and IEC EN 60068-2-11 (Ka test) for 168 hours: degree of Rusting Ril according to ISO 4628-3,propagation :51 mm according to ISO 4628-8.
14.3	Front glass single door with cam lock & key
14.4	Front panel mounting Hardware – 1 No.
14.5	Cantilever Tray 255 mm D-1 No.
14.6	230 V AC 90 CFM fan mounted on top cover – 2 nos.
14.7	PDU 6 Sockets 6A Britzy Sockets – 1 No.
14.8	Horizontal Cable Manager 1 U with PVC loops – 1 No.
QUANTY	**10 NOS.(TEN)**

15. **9U WALL MOUNTED NETWORK RACK.**

1. General Characteristics

•The 19" Wall Mount cabinets are intended for digital infrastructure.

•The Wall Mount cabinets made up of steel frame structure

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•The 19" Wall Mount cabinets comes in colours, combination of RAL 7037 & 7035
•The 19" Wall Mount cabinets can be equipped with rear cover for better sealing of the cabinets.
•Equipment and accessories for thermal and cable management such as cable manager, cantilever tray, cooling fan, power distribution unit 4 x Britzy sockets 6A complete the range.

2. Technical Characteristics
2.1 Design
•Top Cover made up of CRCA sheet +powder coated.
•Bottom cover made up of CRCA sheet +powder coated.
•Side Panels made up of CRCA sheet +powder coated.
•Frame made up of CRCA sheet +powder coated.
•Recess angle made up of CRCA sheet +powder coated.
•Door trims made up of CRCA sheet +powder coated.

2.4 Corrosion Resistance:
•Salt spray test according to ISO 9227 (NSS test) and EC EN 60068-2-11 (Ka test) for 168 hours: degree of Rusting Ri1 according to ISO 4628-3, propagation :51 mm according to ISO 4628-8

2.5 Properties of the powder coating.
Epoxy polyester paint applied by electrostatic dusting.

Frame tructure and door trim-RAL 7037 fine texture.
Top cover – RAL 7035 fine texture
Bottom cover – RAL 7035 fine texture
They have Following properties
Textured satin appearance
60-80 micron thickness
Excellent impact and scratch resistance
Excellent resistance to cleaning agents (excluding strong chlorinated , fluorinated and ketone solvent)
Some products may change the appearance . It is therefore advisable to carry out a test first

Electrical Continuity of the conductive parts
Copper plated earthing stud welded onto the front door and the main body.

15	Description
15.1	19" RACK: 6U/600mmwidth/500mm depth, Steel frame structure design, metal top cover *with* 2 fan provision and cable entry provision covered with edge protected rubber grommet, bottom cover with cable entry provision covered with edge protected rubber grommet provided, Powder coated finish Texture Matt – 60 to 80uM
15.2	Corrosion Resistance: Salt spray test according to ISO 9227 (NSS test) and IEC EN 60068-2-11 (Ka test) for 168 hours: degree of Rusting Ril according to ISO 4628-3, propagation :51 mm according to ISO 4628-8.
15.3	Front glass single door with cam lock & key

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15.4	Front panel mounting Hardware – 1 no
15.5	Cantilever Tray 255 mm D-1 No.
15.6	230 V AC 90 CFM fan mounted on top cover – 2 nos.
15.7	PDU 4 Sockets 6A Britzy Sockets – 1 No.
15.8	Horizontal Cable Manager 1 U with PVC loops – 1 No.
QUANTITY	**5 NOS.(FIVE)**

16. SINGLE MODE FIBER

Product Specification

No. of Cores	6 Core
Cable Type	Unarmored
Cable Length	1 Km
Diameter	5.3 +- 0.3 mm
Mode Type	Single Mode
Jacket Material	HDPE
Operating Temperature	-40 deg C to +70 deg C
Storage Temperature	-40 deg C to +60 deg C
Bend Radius	20 D
Country of Origin	Made in India
Usage/Application	Indoor/Outdoor Local Area Network System & CATV
Central Tube	PVT filled with Thixotropic Jelly
Strength Members	Embedded FRP - 0.8 mm, 2 nos.
Cable Weight	21 Kg (Nominal)
QUANTITY	**1000 Meters**

17. FIBER PATCH CORD :

SPECIFICATION	**QUANTITY**
3 meters LC/PC- SC/PC Duplex.	**50 PCS.**
3 meters SC/PC- SC/PC Duplex.	**10 PCS.**
3 meters LC/PC – LC/PC Duplex.	**10 PCS.**

TOTAL ------- 70 PCS. (Seventy)

18. PVC Conduit pipe & Accessories : 25 mm ISO Mark PVC pipe with flexible & shuttle
QUANTITY : 5000 Meters with all accessories.

19. Fiber Transceivers (GBIC/SFP/SFP+) : Transceivers should be matched with Switches and Fiber patch cord.
QUANTITY : 60 Nos. (Fifty)

20. one time charges of CAT 6 Cable laying for 26 nos. boxes including I/O box and accessories fixing, Fiber laying including splicing & underground laying, Installation & configuration of 1. Network switches (core, distribution, PoE L2 switch) ,2. Wi-Fi controller, Indoor & outdoor AP.

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NMS Software

Item	Description	Compliance (Yes/No)
Software License.	License should be perpetual with an option to purchase annual maintenance after the expiry of maintenance support that is part of the initial purchase of the licence.	
	The License has to be sensor based.	
	The license has to be one integrated package with Database, HA and load balancing clusters, Network Scalability, Built in Ticketing system, Syslog server, Customisable Dashboard / Map designer, Netflow/Jflow/Sflow as part of single license.	
	Should provide horizontal / vertical scalability as the network expands.	
	Software has to be windows based.	
Core	The proposed monitoring solution should be able to monitor: (a) Routers (b) Switches (c) Firewalls (d) Wireless devices (e) Servers (e) Other SNMP-enabled devices and should be vendor agnostic.	
Monitoring Capabilities	Should automatically provide real-time, in-depth network performance statistics after discovery/configuration of devices, including but not limited to:(a) CPU load (b) Memory utilization (c) Interface utilization (d) packet loss. Should be capable of monitoring varied parameters available as part of MIB definition of the monitored device.	
	Should show statistics like interface bandwidth, current traffic in bps, total bytes received/transmitted etc.	
	Should be able to discover and troubleshoot network paths hop-by-hop for both on premises and cloud environment for specific TCP connections	
	Should display information including alerting for major routing protocols (BGP, OSPF , RIP, EIGRP).	
	Should help with multicast traffic information monitoring, Pac ket drops, Ping jitter, VoIP jitter.	
	Should display device status and interface status by different colors to represent warning and critical status	
	Should monitor hardware health and should allow alerting and reporting on hardware health monitoring	
	Should show both real-time details and historical details in form of charts with option to choose the time periods	
	Should be able to discover and monitor both IPv4 and IPv6 devices	

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Network Discovery	Should have options to specify data retention periods.	
	Should have the option to determine device availability using SNMP V1, V2C & V3.	
	Should have feature to access dashboard using Android or ios.	
	The proposed monitoring solution should be able to discover devices in the network with SNMP and ICMP capabilities automatically, on input of,	
	(a) IP address ranges (b) subnets (c) individual IP addresses (d) Active Directory	
	Should allow interface filtering on discovery results to exclude virtual interfaces and access ports and select interfaces based on pattern matching	
	Should have option to automate and schedule discovery process	
Graphical User Interface and Customization	The proposed management solution should provide a high-quality graphical user interface.	
	This web console should be accessible centrally or remotely	
	The web console should allow multiple users to log in at the same time	
	It should have load-balancing options available if too many users login at same time	
	It should allow customization by having options to add/remove sections in web pages as necessary	
	It should provide a unified view of alerts, traps, events, syslog messages in a single page	
	It should quickly highlight devices with issues, based on different properties like response time, cpu load, memory usage, high interface usage etc.	
	It should allow creation of custom dashboards and restrict views for users based on devices or interfaces, i.e. it should have role-based access	
	It should log user actions and events in the web console for audit purposes and they should be available for alerting and reporting	
	It should allow interactive charting for node, interface, volume charts etc.	
	It should provide a dynamic dashboard that allows in-depth visibility and correlates disparate historical data points across different part of the infrastructure. The result should be exportable with a tabular format	
Advanced Reporting	The proposed monitoring solution should provide current and historical out-of-the-box reports for various statistics monitored	

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	Should be able to generate / create the report via the web console	
	Should be able to generate statistical reports that can be used as reference for	
	future planning or troubleshooting	
	Should allow customization of reports by adding/removing columns, setting filters, specifying timeframes, grouping columns etc.	
	Should allow advanced customization by providing options to enter custom queries to query the database directly	
	Should have options to save the customized reports permanently and have them accessible in web console	
	Should allow reports to be sent out on schedule as daily, weekly, monthly report	
	Should allow emailing of dashboards created in web console	
	Should be able to configure both charts and tables into a single report.	
	Should have options to import/exports reported created by other users	
	Should support multiple formats such as pdf, XML, HTML and CSV	
Advanced Alerting	The proposed monitoring solution should be able to manage and display events/alerts in the web console	
	The alerts and events information should be logged into the database for future reference	
	The alerting mechanism should allow complex conditions and condition groups to be specified for narrowing down the alert condition	
	It should allow custom queries to be entered to create rules against the database	
	It should allow creation of new alerts from scratch and also customizable threshold limits	
	Should have support for variables in alert email message to make the content more self-explanatory	

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	Should allow alerts suppression during scheduled maintenance	
Grouping	The proposed monitoring solution should allow grouping of devices by various properties -- by department, by location, by name and by other properties gathered	
	Should be able to define dependencies and relationships between connected devices and interfaces to avoid false-positive email alerts in case of outage.	
Network Maps	The proposed monitoring solution should be able to represent the network pictorially and display performance details of devices in real time	
	Should allow customization of background, icons etc. and should allow multiple network maps to be nested with drill-down capabilities	
	Should be able to display not just the device status on the map but also status of any other detail obtained.	
	Should have the ability to show the link utilization	
Support	The proposed monitoring solution should not be vendor-specific	
	Licenses for 100 devices which should be perpetual.	
	Traffic and bandwidth usage monitoring, internet usage monitoring, free upgradation to higher version within support period	
	With a centralized operations console view, alert acknowledgement and reporting interface	
Global Acceptance & Recognition	The proposed Solution should be among the Leaders in Latest Gartner Magic Quadrant / IDC Report for Network Performance Monitoring & Diagnostics, International Technical Journals citation.	
Support	Support & Sales personnel of the vendor organization should be OEM certified for competency. The competency certificate should not be more than two years old.	
Referral Installed Base	The Primary Reseller in India should have at least 10 years field experience in implementing the offered NMS solution.	

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LIST OF DOCUMENTS TO BE SUBMITTED WITH THE APPLICATION (as applicable):

i) Tender Acceptance Letter as per **Annexure- V.**
ii) Brief profile of the Firm/ Bidders as per **Annexure-I.**
iii) Bidders Structure (whether partnership firm/sole proprietor/a limited company etc.).
iv) Copy of Permanent Account Number (PAN) in the name of the firm, if not proprietorship firm.
v) Copy of GST Registration Certificate.
vi) Declaration regarding no legal action at Annexure-IV
vii) Valid document in support of Registered/ Branch office nearby location in Kolkata etc.
viii) Annual turnover for previous three financial years of the Bidders duly certified, Audited Balance Sheet (Last 3 Financial Year i.e. 2021-22, 2020-21 & 2019-20) by a Chartered Accountant.
ix) Format for Bank Guarantee as per **Annexure-VIII.**
x) List of 5 major clients from Govt./ PSU/ Higher Education University / Central Universities / IIT / IIM/ IISER/ NIT etc. (as per **Annexure- III**).
xi) Details of experience in dealing with Govt./ PSU/ Higher Education Institution/ Central University, Autonomous Bodies and professional University's like IIMs, IITs. Copy of letter of empanelment along with satisfactory completion certificates from at least two Govt. Depts./ PSUs/Autonomous Bodies/ reputed commercial organizations towards providing similar services during last 5 years from the last date of submission of bid.
xii) Duly signed and stamped of the entire tender document along with its addendum/ corrigendum, if any.
xiii) Any other documents, as required in terms of the tender, to claim eligibility.

Note: University may ask the vendor to submit any other certificate/document as it may deem fit

SUBMISSION OF BID :

The bids (Technical) duly signed Authorized Signatory should be submitted in a separate sealed envelope as described below:

"NIT FOR CAMPUS WIFI AND LAN NETWORK SERVICES (UPS) AT WBNUJS KOLKATA" with Reference No. of Tender.

Finally, the above-mentioned envelopes should be kept in a single sealed cover/envelop super- scribed in bold letters with the statements - **NIT FOR CAMPUS WIFI AND LAN NETWORK SERVICES (UPS) AT WBNUJS KOLKATA** with Reference No. of Tender and to be submitted at:

The Registrar
The W.B. National University of Juridical Sciences
"Dr. Ambedkar Bhavan"
12, LB Block, Sector-III, Salt Lake City, Kolkata- 700 106

Note: University reserves the right to accept or reject any or all TENDER BIDSs in part or full without assigning any reasons.

BID OPENING & EVALUATION:

The Technical bid will be first opened and evaluated. In the primary screening, technical bid of only those who satisfy the eligibility criteria will be evaluated.

The Financial bid of only those bidders whose technical bid is found to be technically responsive by the Committee will be opened. The Financial bids of ineligible bidders will not be opened.

The University reserves the right to seek clarifications or additional information/ documents from any

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bidder regarding its technical bid. Such clarification(s) or additional information/document(s) shall be provided within the time specified for the purpose. Any request and response thereto shall be in writing. If the bidder does not furnish the clarification(s) or additional information/ document(s) within the prescribed date and time, the proposal shall be liable to be rejected.

The bidders may depute their authorized representatives to remain present during the bid opening process subject to submission of valid authorization letter in the name of the representative to attend the bid opening process.

PERFORMANCE SECURITY:

i) The EMD of the successful bidders shall be automatically converted to Performance Security.
ii) Performance Security shall be returned to the successful bidders without any interest, whatsoever, after completion of Sixty Two months.
iii) The Performance Security will be forfeited and credited to the University's account in the event of a breach of contract by the supplier. The decision of the Competent Authority of WBNUJS Kolkata in this respect will be final and binding on all the stake holders. Performance Security may be refunded to the supplier without interest, after it duly performs and completes the contract in all respects.

PAYMENT TERMS :

i) **Material Value**
60% of the Material Value (including taxes) will be released on receipt of the material on site subject to inspection and satisfactory quality control by the Competent Authority and submission of relevant invoices and supporting documents.

Balance amount (including taxes) will be released after successful supply and installation of the work at site subject to Satisfactory certification by the University Authority.
ii) No advance payment shall be made to the bidder under any circumstances.
iii) Statutory Payments are to be deducted at source from the bills of service provider as per rule.

DISPUTES AND JURISDICTION:

Any legal disputes arising out of any breach of contract pertaining to this tender shall be settled in the court of competent jurisdiction located within Kolkata, West Bengal.

RESOLUTION OF DISPUTES:

The dispute resolution mechanism to be applied pursuant shall be as follows:

In case of Dispute or difference arising between the Purchaser and a domestic supplier relating to any matter arising out of or connected with this agreement, such disputes or difference shall be settled in accordance with the Indian Arbitration &Conciliation Act, 1996, the rules there under and any statutory modifications or re-enactments thereof shall apply to the arbitration proceedings.

The dispute shall be referred to The Registrar, WBNUJS Kolkata and if he is unable or unwilling to act, to the sole arbitration of some other person appointed by him willing to act as such Arbitrator. The award of the arbitrator so appointed shall be final, conclusive and binding on all parties to this order.

In the case of a dispute between the purchaser and a Foreign Supplier, the dispute shall be settled by arbitration in accordance with provision of sub-clause (a) above. But if this is not acceptable to the supplier then the dispute shall be settled in accordance with provisions of UNCITRAL (United Nations Commission on International Trade Law) Arbitration Rules. The venue of the arbitration shall be the place from where the order is issued.

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GOVERNING LANGUAGE:

The contract shall be written in English language. English language version of the Contract shall govern its interpretation. All correspondence and other documents pertaining to the Contract, which are exchanged by the parties, shall be written in the same language.

TERMINATION FOR DEFAULT:

The Purchaser may, without prejudice to any other remedy for breach of contract, by written notice of default sent to the Supplier, terminate the Contract in whole or part:

1) If the Supplier fails to deliver any or all of the Goods within the period(s) specified in the order, or within any extension thereof granted by the Purchaser; or
2) If the supplier fails to perform any other obligation(s) under the Contract.
3) If the Supplier, in the judgment of the Purchaser has engaged in corrupt or fraudulent practices in competing for or in executing the Contract.

For the purpose of this Clause:

1) "**Corrupt practice**" means the offering, giving, receiving or soliciting of anything of value to influence the action of a public official in the procurement process or in contract execution.
2) "**Fraudulent practice**" means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the Borrower, and includes collusive practice among Bidders (prior to or after bid submission) designed to establish bid prices at artificial non-competitive levels and to deprive the Borrower of the benefits of free and open competition;'"

In the event the Purchaser terminates the Contract in whole or in part, the Purchaser may procure, upon such terms and in such manner, as it deems appropriate, Goods or Services similar to those undelivered, and the Supplier shall be liable to the Purchaser for any excess costs for such similar Goods or Services. However, the Supplier shall continue the performance of the Contract to the extent not terminated

CANVASSING, FRAUD AND CORRUPT PRACTICES:

Bidders are hereby informed that canvassing in any form for influencing the process of notification of award would result in disqualification of the Bidder. Further, they shall observe the highest standard of ethics and will not indulge in any corrupt, fraudulent, coercive, undesirable or restrictive practices, as the case may be. "Corrupt practice" means the offering, giving, receiving or soliciting of anything of value to influence the action of the public official. "Fraudulent practice" means a misrepresentation of facts in order to influence Tender process or an execution of a contract to the detriment of the scheme and includes collusive practice among bidding Insurers/Authorized Representative (prior to or after bid submission) designed to establish bid prices at artificially non competitive levels and to deprive the scheme the benefit of free and open competition; WBNUJS Kolkata will reject a proposal for award if it determines that the Insurer/Insurers have engaged in corrupt or fraudulent practices. WBNUJS Kolkata will declare a firm ineligible, either indefinitely or for a stated period of time, to be awarded a contract if it at any time determines that the bidding Insurer/Insurers have engaged in corrupt and fraudulent practices in competing for, or in executing a contract

OFFICE FOR COMMUNICATION :

The Bidder is desirable to have an office in West Bengal and service delivery centre in or around Kolkata. The Bidder should mention in detail their support infrastructure including address, contact Phone No., Fax No., e-Mail ID etc. and modalities by which fast response to maintenance calls and minimum downtime will be ensured.

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ANNEXURE- I

BIDDER INFORMATION FORM

Company Name : _____
Registration Number : _____
Registered Address : _____

Name of Partners /Director : _____
City : _____
Postal Code : _____
Company's Establishment Year : _____
Company's Nature of Business : _____

Company's Legal Status (tick on appropriate option)
1) Limited Company;
2) Undertaking; 3) Joint Venture; 4) Partnership
5) Others (In case of others please specify)

Company Category
1) Micro Unit as per MSME
2) Small Unit as per MSME
3) Medium Unit as per MSME
4) Ancillary Unit; 5) SSI
6) Others (In case of others please specify)

CONTACT DETAILS
Contact Name : _____
Email Id : _____
Designation : _____
Phone No : _____
Mobile No : _____

BANK DETAILS
Name of Beneficiary : _____
A/c No. CC/CD/SB/OD : _____
Name of Bank : _____
IFSC No. (Bank) : _____
Branch Address and Branch Code : _____

OTHER DETAILS
Vendor's PAN No. : _____
Vendor's GST : _____

(Signature of the Authorized Person with Organization Seal)
Designation with Contact No:
Company Name:

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ANNEXURE- III

PAST EXPERIENCE (LIST OF GOVT. ORGANIZATION/DEPARTMENT)

List of Government Organizations for whom the Bidder has undertaken such work during last three years (must be supported with supply orders)			
Name of the organization	Name of Contact Person/ User with Designation	Year of Supply/ Installation	Contact No.

(Signature of the Authorized Person with Organization Seal)
Designation with Contact No:
Company Name:

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ANNEXURE- IV

DECLARATION REGARDING CLEAN TRACK/NO LEGAL ACTION

(to be provided on letter head of the firm)

I hereby certify that the above firm namely _____ is neither blacklisted by any Central/ State Government/ Public Undertaking/ University nor any criminal case registered / pending against the firm or its owner / partners anywhere in India (or) against any of its branches (or) partners abroad.

I also certify that the above information is true and correct in any every respect and in any case at a later date it is found that any details provided above are incorrect, any contract given to the above firm may be summarily terminated and the firm blacklisted.

(Signature of the Authorized Person with Organization Seal)
Designation with Contact No:
Company Name:

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ANNEXURE- V

ACCEPTANCE OF TENDER

(TO BE PRINTED ON ORGANIZATION LETTER HEAD)

Tender Ref.No with Date:

To

The Registrar
The West Bengal National University of Juridical Sciences
"Dr. Ambedkar Bhavan"
12, LB Block, Sector-III, Salt Lake City, Kolkata- 700 106

I/ We _____ (name and designation of the bidder) on behalf of _____ (name of the organization/company) have downloaded / obtained the tender document(s) for the above mentioned 'Tender from the University website (https://www.nujs.edu/home/tenders/). I/ We hereby certify that I/ we have read the entire terms and conditions of the tender documents from Page No. _____ to _____ (including all documents like annexure(s), schedule(s), specification terms and condition etc.), which form part of the contract agreement and I/ we shall abide hereby by the terms / conditions / clauses contained therein. The corrigendum(s) issued from time to time by your organization have also been taken into consideration, while submitting this acceptance letter.

I/ We hereby unconditionally accept the tender conditions of above mentioned tender document(s) / corrigendum(s) in its totality / entirety. I/ We do hereby declare that our organization/company has not been blacklisted/ debarred by any Govt. Department/Public sector undertaking. I/ We certify that all information furnished by the our Firm is true & correct and in the event that the information is found to be incorrect/untrue or found violated, then your department/ organization shall without giving any notice or reason therefore or summarily reject the bid or terminate the contract.

(Signature of the Authorized Person with Organization Seal)
Designation with Contact No:
Company Name:

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ANNEXURE- VI

FORM OF BID-SECURING DECLARATION

(To be printed on Organization Letter Head)

To

The Registrar
The West Bengal National University of Juridical Sciences
"Dr. Ambedkar Bhavan"
12, LB Block, Sector-III, Salt Lake City, Kolkata- 700 106

Ref: Tender Document No. Dated _____

I/We, the undersigned herby certify that if we withdraw or modify our Bid during the period of validity, or if we are awarded the contract and fail to sign the contract, or we fail to submit a performance security before the deadline defined in this tender document, we will be suspended for the period of **Three (3) years** from being eligible to submit Bids for contracts for which tenders are floated by the University.

Dated this _____day of_____

For and on behalf of M/s._____

Address: _____

Signature with Stamps_____

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ANNEXURE- VII

CHECK LIST

PARTICULAR	BIDDER REMARKS
Name and address of the Bidder/Organization with Contact no and Email ID :	
Name and address of the foreign principal with Contact no and Email ID:	
Name and address of the company to whom order to be placed:	
Period Standard Warranty Offered:	
Whether comply to submit the Performance security.	
Whether the bidder comply to deliver and install the equipment/ instrument as per tender:	
Whether the bidder agreed to provide the after sale service during the warranty period as per the requirement of the institute:	
Whether the bidder quoted all the items/ component of the equipments as per the tender Specification:	
Whether the bidder submitted the signed copy of all annexure including the check list:	
HSN/SAC code of the quoted item/equipment:	
Whether the item/equipment is duty free (upload proper documents / declaration in case of duty-free item):	
Whether the bidder submitted all documents showing the technical eligibility and financial credibility:	
Whether the bidder agreed to provide clarification during the evaluation process of the tender:	
Whether uploaded the Authorization Certificate from the Principal/Manufacturer with contact information:	

(Signature of the Authorized Person with Organization Seal)
Designation with Contact No:
Company Name:

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ANNEXURE- VIII

PERFORMANCE SECURITY FORM
MODEL BANK GUARANTEE FORMAT FOR PERFORMANCE SECURITY

To

The Registrar
The West Bengal National University of Juridical Sciences
"Dr. Ambedkar Bhavan"
12, LB Block, Sector-III, Salt Lake City, Kolkata- 700 106

WHEREAS ..... (Name and address of the supplier) (Hereinafter called "the supplier") has undertaken, in pursuance of contract no. ..... dated .....to supplies (description of goods and services) (herein after called "the contract").

AND WHEREAS it has been stipulated by you in the said contract that the supplier shall furnish you with a bank guarantee by a scheduled commercial bank recognized by you for the sum specified therein as security for compliance with its obligations in accordance with the contract;

AND WHEREAS we have agreed to give the supplier such a bank guarantee;

NOW THEREFORE we hereby affirm that we are guarantors and responsible to you, on behalf of the supplier, up to a total of ..... (amount of the guarantee in words and figures), and we undertake to pay you, upon your first written demand declaring the supplier to be in default under the contract and without cavil or argument, any sum or sums within the limits of (amount of guarantee) as aforesaid, without your needing to prove or to show grounds or reasons for your demand or the sum specified therein.

We hereby waive the necessity of your demanding the said debt from the supplier before presenting us with the demand.

We further agree that no change or addition to or other modification of the terms of the contract to be performed there under or of any of the contract documents which may be made between you and the supplier shall in any way release us from any liability under this guarantee and we hereby waive notice of any such change, addition or modification. This guarantee shall be valid until the ..... Day of ....., 20.....

(Signature of the authorized officer of the Bank)

.....

Name and designation of the officer

.....

Seal, name & address of the Bank and address of the Branch

Note: Whenever, the bidder chooses to submit the Performance Security in the form of Bank Guarantee, then he should advise the banker issuing the Bank Guarantee to immediately send by Registered Post (A.D.) an unstamped duplicate copy of the Guarantee directly to the Purchaser with a covering letter to compare with the original BG for the correctness, genuineness, etc.

FOR SUPPLIER	**FOR PURCHASER**
Signature	Signature .....
Name.....	Name.....
Designation	Designation .....
Date	Date .....

THE WEST BENGAL NATIONAL UNIVERSITY OF JURIDICAL SCIENCES NUJS