F.No.1(19)/2025/IT/NTC

Government of Pakistan

National Tariff Commission

Islamabad May 07,2025

TENDER NOTICE-III (REVAMPING OF DATA CENTER)

The National Tariff Commission invites electronic bids from the original manufacturers/ authorized distributors/ retailers/vendors/suppliers registered with income tax and sales tax departments, having valid NTN and GST numbers for supply of the following hardware and software items:

Hardware Specifications (or Higher)

S#	Items	Specification
1	**HCI Ready Node**	**HARDWARE (SERVERS) - Qty 03** • 2U Chassis with 12x 3.5" Disk Slots • 2x Intel Xeon Gold 5318Y 2.1G 24C • 256 GB RDIMMs • 2x 240GB SSD or better with Raid 1 (OS Installation) • 4x 3.84TB SSD read intensive or better (Cache Disk) • 2x Dual 10G Ethernet Optical Ports with SFP Modules (Multimode Optical Transceiver) or better • 4x 1G Ethernet Copper Ports or better • Raid Card with Pass-through (JBOD) mode supported. • Dual Power Supply • Embedded Server Management Software for Remote Management • Complete Rail Kit for Rack Mounting • OEM Backed Warranty (36 Months) • Professional Training of HCI for 04 Official on official curriculum from officially certified trainer. **VIRTUALIZATION MANAGEMENT LICENSE FOR HCI – Qty 06** • Proposed Solution must provide High Availability / Redundancy for Virtualization Management Platform on DR Site in case of any disaster. • Proposed Solution must Support Management for Existing Virtual Machines on VMware Platform for single window management. • Proposed Solution must support to create and manage local Users with Role Based Access and Permission Control. • Proposed Solution must provide Web Bowser based Management Console. • Proposed Solution must provide complete visibility and centralized management / control of the Virtualization Platform.

- Proposed Solution must provide capability to scale up to 64 nodes or better.

HYPERVISOR (Compute Virtualization) – Qty 06

- Proposed Solution should be highly redundant providing capability for the VMs to restart on another node in case of any Node failure in the Cluster.
- Proposed Solution must provide VM Snapshot capability to revert to previous point in time in case a failure or system error occurs.
- Proposed Solution must provide VM Clone capability for creating cloned instances from source VM for testing or any other purposes.
- Proposed Solution must provide VM vMotion capability to Live migrate VMs to any nodes in the Cluster without any downtime.
- Proposed Solution must provide the capability to automatically hot-add resources including vCPUs and Memory real-time based on VM contention.
- Proposed Solution must provide automated Resource Scheduling and Load Balancing capability for balanced performance on all nodes across the cluster.
- Proposed Solution must provide Distributed Switch capability to configure and administer switching for the entire Cluster.
- Proposed Solution must provide Hardware Health Check capability to Monitor CPU, Memory, Network Interface Card, Hard Drive and RAID Controller etc.

STORAGE VIRTUALIZATION – Qty 06

- Proposed Solution must be from the same Vendor as the Hypervisor.
- Proposed Solution must provide both "2 Copies" and "3 copies" options for data redundancy to be selected from while initial configuration of Virtual Storage.
- Proposed Solution must provide Data Striping capability with flexible stripe width.
- Proposed Solution must provide Data-At-Rest Encryption (In-Built) for VM Data Security without using any specialized Hardware such as Self-Encrypting Drives (SEDs).
- Proposed Solution must provide SSD based Read Caching and Write Buffer capability to improve the performance of the I/O.
- Proposed Solution must provide Data Balancing capability to more evenly distribute the data across the devices to achieve a balanced distribution of resources.
- Proposed Solution must provide Automated Data Rebuilding capability to restore redundancy in case of any Disk or Node Failure.

NETWORK VIRTUALIZATION – Qty 06

- Proposed Solution must be from the same Vendor as the Hypervisor.
- Proposed Solution must provide capability to display Virtual Datacenter Network Topology for easy Management and Troubleshooting.

- Proposed Solution must provide capability for L2 bridging with Physical Environment for Network connectivity of Internal workloads with Physical Network.
- Proposed Solution must provide capability to manage Switching and Routing of Internal workloads by providing Virtual Switches and Virtual Routers. Routing of External Physical / Virtual Workloads should also be managed by the Virtual Router.
- Proposed Solution must provide Micro-Segmentation / Distributed Firewalling feature for isolation of East-West Traffic between VMs.
- Proposed Solution must provide capability to display Network Traffic Flow in Real-Time.
- Proposed Solution must provide complete Network Visualization of Virtual Network.
- Proposed Solution must provide capability for Network Quality of Service (QOS).

VM BACKUP SOLUTION – All VMs on Nodes

- Proposed Solution must be fully Compatible with Compute Hypervisor
- Proposed Solution must provide the capability to take Full / Incremental level VM Backups.
- Proposed Solution should be licensed in a manner to take backups of every VM in the Cluster regardless on which physical Node it resides on.
- Proposed Solution must provide Automated Scheduling for Backups based on Hourly, Daily, weekly etc. scheduling.
- Proposed Solution must support to configure Internal Virtual Storage, External SAN or NAS to be Backup repository for Storing Virtual Machine Backups.
- Proposed Solution must support Industry's common storage protocols such as iSCSI, FC or Network File Sharing (NFS).

General Requirements (Non-Compliance shall lead to the rejection of Bids)

- Must Be Listed in Gartner Magic Quadrant for Hyper-Converged Infrastructure Software
- Must Be Compatible with Intel x86 Architecture Hardware Servers
- Must Have OEM Presence in Pakistan for Minimum 5 Years or more
- Must Have Minimum 25 HCI Deployments in with the required components i.e. Compute Virtualization, Storage Virtualization and Network Virtualization by OEM.
- Must Quote 3 Years 24/7 Technical Support S&S by OEM.
- Must Quote Onsite Installation and Configuration by OEM
- The HCI and server should be from same vendor to better compatibility and performance
- Bidder must have at least 1 x HCI Certified Professional Solution Architects
- Bidder must have at least 4 x HCI Certified Technical Professional at Islamabad.
- Quoting vendor should be TIER 1 Partner.

		• Quoting vendor should share MAL from OEM including Email. • HCI Training from OEM Curriculum from OEM Certified Trainer for 2x Persons.
2	**Backup Appliance**	**Backup Appliance - Qty 01** • 2U Chassis with 8 x 3.5" Disk Slots or better • 2x Intel 4310 12C/24C 2.1GHZ or better • 128 GB RDIMMs or better • 2x 240GB SSD or better with Raid 1 (OS Installation) • 4x 6TB 7200RPM 3.5" SATA HDD (Enterprise) or better (Data Disk) • 4x 10G Ethernet Optical Ports with SFP Modules (Multimode Optical Transceiver) or better • 4x 1G Ethernet Copper Ports or better • 2x 10G Ethernet Copper Ports or better • Raid Card supported RAID 0,1 and RAID 10 • Dual 750W Power Supply or better • Embedded Server Management Software for Remote Management • Complete Rail Kit for Rack Mounting • Front Bezel (front cover or faceplate) • OEM Backed Warranty (36 Months) • Microsoft Windows Server Standard Edition 2021 or latest
3	**Network and Internet Security** **Secure Gateway**	**General Requirement (Network Security Qty 02)** • Must Be Listed in 2022 Gartner Magic Quadrant for Next Generation Firewall • Must Be Listed in 2021 ICSA Labs Certified Next Generation Firewall • Must Be Listed in 2022 Cyber Ratings for Enterprise Firewall • Must Have Minimum Firewall 30 Gbps Throughput or better • Must have 20 Gbps Application Control Throughput or better • Must have 6 Gbps IPS Throughput or better • Must Have Minimum NGFW 7 Gbps Throughput or better • Must Have Minimum 3.2 Gbps Threat Protection Throughput (FW + SA +BM+ IPS + Antivirus) or better • Must Have Unrestricted Concurrent User • Must have 3.5 million concurrent sessions or better • Must Have Minimum 3000 IPSec VPN or better • Must Have Minimum 256GB SSD Storage Capacity or better • Must Have Minimum 16 GB RAM or better • Must Have Minimum 16 x 1G Ethernet Interfaces • Must Have Minimum 6 x 10G Fiber SFP+ Interfaces with 02 10G SR Transceivers. • Must have Dual Power Supply (Hot-Swapping) • Must have Minimum 2 Free Network ports Slot for future Expansion

		• Must Include Intrusion Prevention System (IPS), Anti-Virus & Anti-Malware, Email Security Protection, Cloud-Based Security Sandbox, Web Filtering, Anti-Brute force attack Application Control, Bandwidth Management • Must Quote Minimum 30 Concurrent Users for SSL VPN • Must Support Real-Time Vulnerability Scanner • Must Support IPS signature over 9000+ entries on premise admin able to customize IPS signature, search based in CVEID, Vulnerability Name and threat level. • Must support a dedicated account protection module to identify the abnormal usage of user accounts and support detection of weak password, brute-force attack. • Built-in SOC monitor for visibility • Must Quote 3 Year Complete Security Features License • Must Quote 3 Year Software Upgrade & 24x7 Technical Support • Must Quote 3 Year Hardware Warranty Service • Must Quote OEM Onsite Configuration & Installation • Bidder must have at least 3 x Certified Technical Professional • Quoting vendor should be TIER 1 partner and share MAL. • Training from OEM Curriculum from OEM Certified Trainer for 2x Persons local Training.
4		**Internet Security - Qty 01** **General Requirement** • Must Be Listed in 2020 Gartner Magic Quadrant for Secure Web Gateway • Must Have Minimum 400Mbps Live Throughput (All Features Enabled) or better • Must Have Minimum 180,000 Concurrent Users or better • Must Have Minimum 128GB SSD Storage Capacity or better • Must Have Minimum 4 x 1G Ethernet Interface or better • Must have (Bypass) Copper 1 Pair • Must have extended slot x 1 (For Future Expansion) • Must Quote 3 Years Traffic Control Features Subscription License • Must Quote 3 Years Software Subscription & 24x7 Technical Support • Must Quote 3 Years Hardware Warranty Service • Must Quote Onsite Configuration & Installation • User Authentication & Management • Must Have User Identification Base on IP Address, MAC Address, Hostname • Must Have User Binding Base on IP Address and MAC Address • Must Have Identification of Endpoint such as Mobile, PC and etc. • Must Have SMS Authentication, Captive Portal and etc. • Must Have Captive Portal Integration with Microsoft Active Directory • Must Have Customizable Captive Portal HTML Page • Must Have URL Redirection After Captive Portal Authentication • Must Have Single Sign-On (SSO) Authentication Base on Active Directory, Radius, POP3 and other Database Servers • Must Have QR Code Authentication with Self-Registration Capability

Application Control & Identification

- Must Have More Than 6500+ Application Signatures or better
- Must Have to Block HTTPS Application and HTTPS Traffic without Install SSL Certificate or better
- Must Have to Display Warning Message for Blocked URL or better
- Must Have Application Control Policy with Application Based, Service Based, User Based and Schedule Based Policy or better
- Must Have Punishment Policy for User Internet Violation (Block Internet Access for Certain Period, Limit Bandwidth Speed for Certain Period etc.) or better
- Must Have Anti-Proxy Module Effectively Block Proxy Applications / VPN Applications such as TOR Browser, Browsec, Ultrasurf, FreeGate etc. or better
- Must have ICAP server integration or better

Bandwidth Management

- Must Have Quota Based Bandwidth Management (Daily and Monthly)
- Must Have Limited Bandwidth Channel and Priority Bandwidth Channel
- Must Have Dynamic Bandwidth Management
- Must Have Per User Based Bandwidth Management
- Must Have Bandwidth Management Policy with Application Based, Service Based, User Based and Schedule Based

Management & Deployment

- Must have Proxy functions: HTTP/HTTPS Sockets 4/5, ICAP or better
- Must have HA support A/P, Hardware bypass or better
- Must have Deployment mode with Route, Bridge, Double Bridge, Bypass, Single arm

Internal & External Report Center

- Must Have Built-In Internal Report Center for Minimum 6 Months Logs
- Must Have External Report Center Hardware OR Software for Longer Report Logs Storage
- Must Have to Generate Overall Network Information such as Maximum Concurrent User, Maximum Bandwidth Utilization, Network Peak Hour etc.
- Must Have to Record User Traffic Logs with Details such as URL, Source IP Address, Destination IP Address, DNS Server, MAC Address, Source Port, Destination Port, Protocol, Timeline and etc.
- Must Have to Generate Report with Different Timeline such as Yearly, Monthly, Weekly, Hourly, Minutely and Secondly

		• Must Have to Log Incoming Email and Outgoing Email with Sender Address, Recipient Address, Email Title, Send Time, Receive Time, Email Attachment and etc. • Must Have Big Data Report Analysis Capability such as Internet Addiction Risk Analysis, Electricity Waste Analysis etc. • Internet Security devices must be the same brand with Network Security for integration and operation. • **General requirements** • Must Quote 3 Year Complete Security Features License • Must Quote 3 Year Software Upgrade & 24x7 Technical Support • Must Quote 3 Year Hardware Warranty Service • Must Quote OEM Onsite Configuration & Installation • Bidder must have at least 3 x Certified Technical Professional • Quoting vendor should be TIER 1 partner and share MAL. • Training from OEM Curriculum from OEM Certified Trainer for 2x Persons local training.

	Network and Wireless AP Management Controller	**Wireless AP Management Controller Qty-1**
		
		• Proposed solution must support hardware controller for Access Points management.
		• Proposed solution must be hardware appliance, with following characteristics include in controller:
		   a. 4x 1GE RJ45 Ports or higher
		   b. 4x 10GE SFP+ ports or higher
		   c. 2x 10GE SR MMF SFP's
		   d. Console Port
		   e. USB port Software upgrade and file transfers
		   f. Redundant Power Supplies
		• Controller platform should support up to 2000 access points and 35,000 concurrent User or higher.
		• Controller must protect against catastrophic failures by providing intra-cluster, and inter-cluster failover with geo-redundancy with active/active clusters support.
		• Controller platform must support integrated captive portal for authentication of User through RADIUS, AD or Local DB.
		• Controller platform should be capable to identify the incidents and provide remediation to the incidents through machine learning and artificial intelligence.
		• Platform support service validation without the need for an on-site data collector sensor.
		• Controller must support mechanisms that automatically measure the impact of configurations changes on network performance and provide recommendations with roll back options
		• Support automatic classification of incident severity with remedies.
		• Controller platform must provide visibility to the Application – Trends for Top Apps and their usage, top MAC Address for APP.

		• Support additional features like Capacity based admission control, adaptive cell sizing, channel fly for better client performance. • RESTful API support for the integration of third-party Application. • Guest Management system for the authentication and authorization of guest. Support self-service guest pass mechanism. • Access Control list support: Layer2, Layer 3 and layer 4. • Controller platform supports automatic channel adjustment on the Basis of Background scanning and Channel Throughput. • Appliance must support Wireless Intrusion Detection and Prevention System (WIDS/WIPS) functionality, enabling rogue AP detection. • Support visual step- by- step 802.11 client connection diagnostics for ease of client connection troubleshooting. • Support Role-based client policy management. • Support URL/Content filtering • Appliance also supports converged management of the devices which includes Access Points as well as Network Switches with health check information. • Support Smart Mesh with Zero-touch mesh provisioning for simple wireless backhaul redundancy. • Appliance must be proposed with a perpetual AP license. • Proposed solution must include 3-year support. • Proposed brand must be Wi-Fi Alliance Certified.
5	**Access Point**	**Access Point Qty: 20** • Access Point must support 802.11 a b g n/ac/ax standard or better • 2x 10GE SR MMF SFP's • Support MU-MIMO and OFDMA • The access point should work on 2.4GHz and 5 GHz band simultaneously or better • Access Point should support 574 Mbps (2.4 GHz) and 1200 Mbps (5 GHz) or better • Access point must work on 2 x 2 MU-MIMO with 2 Spatial Streams on each band or better • Access Point should support Channelization of 20 MHz, 40 MHz, and 80 MHz or better • Support multiple Integrated smart antennas. • Support Polarization diversity technique for better reliability and overall quality of signals. • Device must support combined statistical antenna gain up to 5dBi • Transmit power of AP: 26 dBm on 2.4 GHz and 25 dBm on 5 GHz Radio or better. • Support automatic RF Channel selection through maximum Channel Throughput Technology. • Access Point should support WPA-PSK, WPA-TKIP, WPA2 AES, WPA3-Personal, WPA3- Enterprise, 802.11i, Dynamic PSK, OWE or better • Must have 2 x 1Gbps Ethernet port and AP should support 802.3af/at PoE standards, BLE or better

		• Wireless Security: WPA-PSK, WPA-TKIP, WPA2 AES, WPA3, 802.11i, Dynamic PSK, OWE or better • AP should authenticate via RADIUS, AD, and LDAP or better • Support integrated NAT and DHCP as a Standalone Access Point. • The access point should support VLAN tagging • AP should support 31 or above SSID. • Implement Wi-Fi alliance standards WMM, Power Save, Tx Beamforming, LDPC, STBC, 802.11r/k/v • Support 500 Concurrent clients or better • Limited Lifetime warranty • Device should be PTA type approved. • ToR Switch, Access Switches and Wireless APs must be of same OEM to avoid compatibility and interoperability issues.

6	**48 Ports POE Switch with 10GbE Uplink Ports Support – Access Switch**	**48 Ports POE Switch with 10GbE Uplink Ports Support – Access Switch**
		
		Qty - 05
		
		1. **Switch must support the following interfaces:**
		   a. 48× 10/100/1000 Mbps RJ-45 ports or better
		   b. 365 W PoE budget or better
		   c. 2× 10/100/1000 Mbps uplink RJ-45 ports or better
		   d. 4× 1/10 GbE uplink/stacking SFP/SFP+ ports or better
		   e. 2x 10GE SR MMF SFP's
		   f. USB port for File transfer and software upgradation
		   g. Console port: RJ 45 and USB
		   h. Management port: RJ 45 Port
		2. **Switch should support following Capacities:**
		   a. 175 Gbps Switching Capacity or Higher.
		   b. 130 Mpps Forwarding Capacity or Higher.
		3. **Switch must support the following specification minimum**
		   a. 1 GB DRAM or Higher
		   b. 2 GB NVRAM or Higher
		   c. Jumbo frame 9k or Higher
		4. **Switch should support stacking of minimum 10 Switches at maximum distance of 10Km or better**
		5. **Switch must support following parameter or higher:**
		   a. 16K Mac Address or better
		   b. 4000 VLAN or better
		   c. STP 250 or better
		   d. VLAN interface 350 or better
		   e. IP routes 980 or better
		6. **Switch must support following security options:**
		   a. 802.1X authentication and CoA
		   b. MAC authentication and Web authentication
		   c. Change of Authorization
		   d. TACACS/TACACS+
		   e. Dynamic ARP inspection
		   f. Protection against Denial of Service (DoS) attacks
		7. **Switch must be SDN ready and support following:**
		   a. OpenFlow 1.3 support

		b. sFlow support
		8. Switch also support the base layer 3 features:
		    a. IPv4 and IPv6 routes protocols
		    b. Rip v1/v2, RIPng
		    c. OSFP v2 and v3
		    d. VRRP
		    e. Policy-Based Routing
		    f. Virtual Interfaces
		3 Year support must be included in Switch, support includes Advanced Hardware Replacement (Next Business Day) and Software upgrades.
		
		All SFPs and cables should be part of the products.

7	**24 Ports Switch 16x SFP+ with 8x1/10/25GbE Uplink Ports Support – Core Switch**	**<u>24 Ports Switch 16x SFP+ with 8x1/10/25GbE Uplink Ports Support – Core Switch (Qty 02)</u>**
		
		1. Switch must support the following interfaces or better:
		    a. 16× 1/10GbE SFP+ port
		    b. 8× 1/10/25 GbE uplink/stacking SFP28 ports
		    c. 16x 10GE SR MMF SFP's
		    d. Dual Power Supply support
		    e. USB port for File transfer and software upgradation
		    f. Console port: Rj 45 and USB
		    g. Management port: RJ 45 Port
		2. Switch should support the following Capacities:
		    a. 700 Gbps Switching Capacity or Higher.
		    b. 530 Mpps Forwarding Capacity or Higher.
		3. Switch must support the following specification minimum
		    a. 4 GB DRAM or Higher
		    b. 8 GB NVRAM or Higher
		    c. Jumbo frame 9k or Higher
		4. Switch should support stacking of minimum 10 Switches at maximum distance of 10Km.
		5. Switch must support following parameter or higher:
		    a. 30K Mac Address or better
		    b. 4000 VLAN or better
		    c. STP 250 or better
		    d. VLAN interface 512 or better
		    e. 16k IPv4, 4k IPv6 routes or better
		6. Switch must support following security options:
		    a. 802.1X authentication and CoA
		    b. MAC authentication and Web authentication
		    c. Change of Authorization
		    d. TACACS/TACACS+
		    e. Dynamic ARP inspection
		    f. Protection against Denial of Service (DoS) attacks
		7. Switch must be SDN ready and support following:
		    g. OpenFlow 1.3 support
		    h. sFlow support
		8. Switch also support the base layer 3 features:
		    a. IPv4 and IPv6 routes protocols

		b. Rip v1/v2, RIPng c. OSFP v2 and v3 d. VRRP e. Policy Based Routing f. Virtual Interfaces 3 Year support must be included in Switch, support includes Advanced Hardware Replacement (Next Business Day) and Software upgrades. Quoting vendor should share MAL.
8	**MODULAR DATACENTER/SMART RACKS**	**MODULAR DATACENTER/SMART RACK S (QTY-02)** **Product Specification** ▪ 42U indoor closed cabinet kit, dimension 600mm(W)*1100mm(D)*2000mm(H). Including a 9-folded support frame, mounting flange, top panel with brush, bottom panel with brush, wheels and cups, sandwich-type transparent front door with thermal insulation, and split rear doors. ▪ Quick installation type tool free blanking panel 1U height ▪ Side door for closed cabinet 42U height, built with sheet metal and thermal insulation ▪ Lights for Micro Data Center (MDC), red light at the rear side and blue light at the front side ▪ Vertical cable organizer, 42U height. Including cable plates, and cable rings. ▪ Horizontal cable organizer including cable slot and cover, 1U height. ▪ In row cooling 7.6kW, cooling w/ humidification, EC fan, packaged standalone, 208-240V/1P-2P/50Hz-60Hz. ▪ 2x 10kVA Online rackmount UPSs, 220V/220V, 2U, power factor 1.0, redundant card, 01 Hours backup time with external battery banks ▪ Rack mount PDM, 63A 1P power input, including power meters, surge protection, and power distribution and management branches of 2x UPS, 2x Cooling, 1x UPS bypass, 2x PDU, and 1x surge protection. 3U height. ▪ 32A rated input current, 12 bit C13 output sockets, 4 bit C19 output sockets, junction box with indicator, vertical installation ▪ Integrated monitoring host with a built-in display, communicates with sensors (temperature & humidity, smoke, leaking, door open) and equipment (cooling, ups and power meters). Web portal and Modbus-TCP port. Wall mounting type. ▪ Temperature and humidity sensor, RS-485 type ▪ Smoke sensor for fire sensing, dry contact type with alarm light. ▪ Water flooding sensor, none positioning type.

		- Door status sensor, dry contact type. - Rackmount switch router, 10 network port or better - Access controller, management of users, logs and access authorization, 2 door type. - Door locking system Kit assembly, including magnetic type locks, and hydraulic open poles. 1 door of indoor micro data centre. 3 in 1 access control reader, supporting fingerprint, RFID card, and pin - RFID card for container access - GSM Modem 08Port IP KVM Console Switch, KVM Console USB Interface Adapter - USB Remote Access Key KVM Console Switches, KVM CAT5 Cables as per quoted ports, LCD 1U Rackmount Console Kit - FM200 automatic fire fighting system, rack mount 3U height, gas volume 1kg, temperature and smoke sensor integrated. Supports 1-2 cabinets. - DCIM Monitoring Software including open API for the integrations with centralized Monitoring solution. **Certification** The product should be CE Certified. OEM Should be ISO Certified. OEM Should attach a Satisfactory Remarks letter from clients. **Deployment** Deployment of the Smart Power solution end to end with all required items should be included. **Warranty** 3 Year OEM Warranty, 4 Quarterly Maintenance to be included Per Annum **General Terms & Conditions:** a. Must Quote Onsite Design, Configuration & Installation. b. Must Provide OEM Manufacturer Authorization Letter c. OEM must have a Satisfactory Remarks Letter from clients d. OEM Should have a presence in Pakistan and MAF letter must be issued by Local representative. e. Quoting vendor should be TIER 1 Partner. f. Quoting vendor should have 2x certified Engineer of quoting brand.
9	**Video Wall**	<u>**Specifications:**</u>

		55'' Full-HD Video Wall Display Unit (Ultra Narrow Bezel 0.88mm) 55"(16:9) LCD Technology : IPS Resolution : 1920×1080 (FHD) Bezel Width : 0.44mm (U/L/R/B) Backlight : Direct LED Brightness/Luminance : 500 cd/m² Contrast Ratio : 1100:1 Pixel Density : 40dpi Viewing Angle : H178°, V178° Response Time:8ms Input : CVBS(BNC)×1, VGA(D-Sub)×1, DVI-D×1, HDMI×1, RS232×1, USB×2, Audio×1, IR×1 Output : RS232×1, HDMI×2, VGA×1, Audio×1	4
		Video Wall Controller > H.264, H.265, Smart264, Smart265, MJPEG video decoding > Decoding ability, 1CH at 32MP > 2ch HDMI supports 4K collection > 08 ch HDMI output, > Supports 1/4/6/8/9/16/25/36 and free split > Splicing screens control for zoom/merge/roam/overlay	1
		Video wall Display Bracket	4
		Floor Stand for Video Wall	2
		Complete job with all aspect including Installation.	1
		3 years warranty.	
		OEM Should have local presence.	
		OEM Should have its own RMA Center	
10	**Passive Survey for the Building**	• Quoting vendor should visit site and conduct a survey for Supply and provisioning of all passive & allied material required for site readiness including power & network cabling along with all accessories (Power Cables from Building source to Racks, Redundant ODFs, Industrial Sockets, Flexible Pipes etc...) & integration with existing system. Below mentioned BoQ is minimum requirement. Any item required to complete the job would be the responsibility of the vendor.	

S. No	Items	UOM	Qty Per Floor	Total Qty
1	LAN Switch 24 Port 1U	Ea	1	5
3	Cable Manager	Ea	1	5
4	ODF 24 Ports LC-LC Loaded	Ea	1	1
5	ODF 6 Port LC-LC Loaded	Ea	1	5

6	12 Core OFC Cable OM4 Multimode	Meter	1	800
7	OFC Patch cords OM4 LC-LC 1~1.5m	Ea	4	20
9	PVC Duct (Patti 10 ft) 40x40mm	Length	30	150
10	PVC Duct (Patti 10 ft) 16x25mm	Length	40	200
11	UTP CAT 6 Cable (305 Meter)	Roll	3	15
12	PVC Flexible 1" 50 meter	Roll	2	10
13	Back Box	Ea	24	120
14	Face plate Dual Port	Ea	24	120
15	IO'S	Ea	24	120
16	UTP CAT 6 Patch Cord 1Meter	Ea	24	120
17	UTP CAT 6 Patch Cord 3Meter	Ea	24	120
18	OFC Patch Cord OM4 1Meter	Ea	24	120
19	OFC Patch Cord OM4 3Meter	Ea	24	120
20	Screw's 1.5"	Box	2	10
21	Rawal Plug	Pkt	30	150
22	Insulation Tape (Black)	Ea	6	30
23	Cable Tie 10"	Ea	5	25
24	Label Cartridge	Ea	3	15

	Server Room Renovation	Quoting vendor should visit site and conduct a survey. Any item required to complete the job would be the responsibility of the vendor further to below items. • Antistatic flooring. • Glass partition. • AC-DB Power cabling. • Grounding System. • Paint Fire resistant. • CW repair works. • Dismantling of existing partitions.
11	**Software's**	• Microsoft Windows Server OLP Standard Edition 2025 with 32 Cores or the latest Microsoft for all Servers(Qty 03) • Microsoft Windows Server OLP Standard Edition 2025 with 24 Cores or the latest Microsoft for all Servers(Qty 01) • Windows Server Cal **Qty 150** • Microsoft Exchange Server Standard Edition 2019 or latest (Qty 01) • Exchange Server Cal **Qty 50** • Microsoft SQL Standard 2022 4 Cores

12	**Automation & Monitoring platform.**	**Automation Platform Features** **1. Monitoring & Observability** Unified monitoring for physical, virtual, and hybrid IT environments Supports multi-vendor & multi-domain integrations Support for major hardware and software vendors Topology Mapping with real-time visibility Conditional Monitoring for KPIs of critical IT services SLA Monitoring for availability and performance compliance **2. Advanced Analytics & Visualization** **Real-time dashboards** with detailed performance insights **Geo Maps & Topology Maps** for infrastructure visualization **Custom reports & dashboards** for historical and live data tracking **Event Correlation & Root Cause Analysis** **Forecasting & Anomaly Detection** **3. Data Collection & Security** **Agentless data collection** (SNMP, WMI, API, SSH, etc.) **Encrypted connections & TLS security** **Granular user roles & permissions** with MFA support **JIT (Just-in-Time) User Provisioning** for access control **PSK/Certificate-based encryption** for secure communication **4. Alerts & Notifications** **Real-time alerting & notifications** via Slack, Email, MS Teams, Telegram, etc. **Auto-recovery API** to automate issue resolution **Instant problem detection & reaction** for network anomalies

5. Network Configuration Management (NCM)

Automatic backups of network configurations

Configuration comparisons & rollback to track changes

Remote Command Execution for multiple devices via SSH

IP Address Management (IPAM) with subnet & VLAN tracking

6. Scalability & Redundancy

Distributed monitoring for remote sites, branch offices, and data centers

Active-standby proxy groups for failover and load balancing

Data retention flexibility with optimized storage utilization

7. Automation & Integrations

Automated endpoint onboarding/offboarding

Third-party integrations with ITSM, ticketing systems, and cloud providers

API support for configuration changes & data streaming

Automated discovery of network devices, databases, and applications

8. Support Incident Management

ITSM solution integration included.

Incident tracking dashboards.

SLA Management

Feature customization

13	**SLA Services**	SLA Annual Maintenance cost along with NOC Services three years cost mentioned separately.

TERMS AND CONDITIONS

- Bidder should mention its name, business address, telephone, Name of contact person, GST and NTN numbers authorization retailer/distributor certificate and/or any relevant information.

- E-bid should accompany bid security equal to 5% of the the bid value (refundable) in the form of Pay order or demand draft etc. in favour of the National Tariff Commission, Islamabad.

- Bidding process will be conducted in accordance with Single-Stage, One-Envelop procedure read with S.R.O 296(I)/2023 dated 27-02-2023 titled "E-Pak Procurement Regulation 2023".

- The bidder shall be original manufacturers or an authorized Tier-1 or equivalent partner of the original equipment manufacturer (OEM) and must submit valid authorization documents as evidence with the bid.

- The bidder shall have to furnish certificate of active IT and ST payer.

- "The bidder must demonstrate a minimum of three years of experience in the supply of IT equipment and related services."

- Earnest money will be refunded to unsuccessful bidders after processing of bids. However, the earnest money of the successful bidder will be retained till the expiry of SLA or warranties.

- The successful vendor(s) will be responsible for repair and maintenance of hardware during warranty period.

- Quotations with GST included will be accepted.

- The successful bidder(s) shall be required to supply the specified equipment within fifteen (15) days of the issuance of the supply order. Failure to comply may result in blacklisting in accordance with PPRA rules.

- Deduction of all mandatory government taxes/levies will be made.

- Submission of false statements/documents as well as concealing of any information is liable to disqualify the respective firm(s) for the bid.

- Bidder may submit any information relevant to its sales and support services.

- No cutting/overwriting in the bid shall be accepted.

- Bidder should provide a bank guarantee of the total bid.

- The successful firm shall not re-submit revised rates and shall be responsible for supply of the hardware and software items as well as license(s) as per approved price(s)failing which, the Security Deposit will be forfeited.

- The Commission has the right to cancel the tender at any time

- The Commission has the right to reject the bid or quotations at any time prior to acceptance of a bid or quotations, pursuing Rule 33 (1) of Public Procurement Rules, 2004.

- All bids should reach through EPAD from the undersigned at the given address by 23rd May-2025 10:30 a.m. which will be opened on the same date at 3rd floor, Statelife Building No. 5, Blue Area, Islamabad at 11:00 a.m. in the presence of bidders or their authorized representatives.

- Bid should be valid for at least 30 days.

- Bid security of successful bidder shall be discharged after satisfactory completion of warranty period of supplied equipment.

- The successful bidder will be required to sign a Service Level Agreement between the bidder and National Tariff Commission and the Payment will be made as per the agreement after providing bank or AAA insurance guarantee of the equivalent amount provided in the Contract / Purchase order.

- Payment will be made in Pak Rupees.

SCOPE OF WORK

Scope of work for installing and configuring new hardware and software, migrating old data, and setting up networking infrastructure. The scope of this project includes the installation, configuration, and migration of new hardware and software for the data center. The following tasks are included:

1. **Hardware Installation**:

- Install and configure new servers, storage systems, and network equipment (Core Switches routers, Access switches, Access Points and Next generation firewalls) on a floor-wise basis.

- Ensure proper racking and cabling of all hardware, with labeling and tagging of cables, ports, and devices.

2. **Software Installation and Configuration**:

- Install and configure operating systems, applications, and other necessary software on the new servers.

- Ensure all software is properly licensed and configured for optimal performance.

3. **Data Migration**:

- Migrate all existing data from the old systems to the new systems, ensuring data integrity and minimal downtime.

- Verify data accuracy and completeness post-migration.

- Data Verification Verify the integrity and accuracy of the migrated data to ensure it is complete and functional.

- Thoroughly test the migrated data and Existing server configuration to ensure everything is working as expected.

4. **Networking Configuration**:

- Configure network settings, including IP addresses, subnet masks, and gateway settings.

- Ensure proper configuration of Core Switches, Access Switched, routers, Access Point (Floor Wise), and firewalls to meet security and performance requirements.

- Implement network segmentation and access controls as needed.

5. **Cabling and Labeling and Ducting Points:**

- Ensure all floor Wise cabling and Ducting Point is properly Installed/labeled and tagged, including network cables, power cables, and other connections.

- Use color-coding and labeling to differentiate between different types of cables and connections.

6. **Testing and Verification**:

- Conduct thorough testing and verification of all systems, including hardware, software, and networking components.

- Ensure all systems are functioning as expected and meet performance and security requirements.

7. **Documentation**:

- Provide detailed documentation Colorful printed Copy of all systems, Step by Step Installation including configuration settings, IP addresses, and network diagrams.

- Ensure all documentation is accurate, up-to-date, and easily accessible hard copy and soft copy.

Deliverables:

The following deliverables are expected:

1. Fully installed and configured hardware and software systems.

2. Migrated data, verified for accuracy and completeness.

3. Properly configured and tested networking infrastructure.

4. Detailed documentation of all systems and configurations.

5. Training and support for one Years IT staff on new systems and configurations.

Acceptance Criteria:

The following acceptance criteria will be used to determine if the project is complete:

1. All systems are functioning as expected and meet performance and security requirements.

2. Data migration is complete, and data is accurate and complete.

3. Networking infrastructure is properly configured and functioning as expected.

4. Documentation is accurate, up-to-date, and easily accessible.

5. IT staff have received training and support on new systems and configurations.

Deputy Director (IT)
makram@ntc.gov.pk
051-9207460