

North Eastern Indira Gandhi Regional Institute of Health and Medical Sciences
(An Autonomous Institute, Ministry of Health and Family Welfare, Government of India)
Director's Block, Mawdiangdiang, Shillong 793 018 (Meghalaya)

Tender Corrigendum No: NEIGR/S&P/01/11/2017 -2018

Dated: 01/11/2017

E -TENDER CORRIGENDUM

Reference Tender Notice No: NEIGR/S&P/01/10/2017-2018; dated: 09/10/2017, vide Tender Enquiry No: NEIGR/S&P/OT/E - 44/2017-18 for implementation /expedite of e-Hospital (Phase II) hardware and related stores viz. listed stores /items -24 /48 Port Loaded Patch Panel, Patch Cord, UTP Cable, 24 /48 Port Rack Mount, L3 24 Port Switch, OFC All Ports, etc in the Institute.

The following amendment /addendum are hereby being considered against the technical specification of the stores /items for e-Hospital (Phase II) hardware and related stores:-

Specifications for Passive Materilas (Fiber & Cat6A)

All Passive materials (Fiber& UTP) Should be same make. The OEM should be ISO 9001:2000 & QS: 9000 Certified. In the changing needs of the global resources if the company has environmental management systems in place like ISO 14001 accreditation the same shall be added advantage.

CAT 6A U/FTP components should have independent lab verification like ETL certificates or equivalent. The cabling should be certified to have application support warranty for next 25 years

The complete cabling system offered shall be upgradeable to the intelligent system if required in future. The OEM should have own intelligent solution, not any tie-up third party solution. (OEM Should give written deceleration).

OEM authorization should be submitted along with the bid failing which the bid is liable to be rejected.

1. **CAT 6 A 48 port Loaded Patch Panel**
2. **CAT 6 A 24 port Loaded Patch panel**

24 /48 port CAT6A Patch Panel				
Sl. no	Feature	Requirement	Compliance	Remarks, If any
1	Type	19" 24-port (1U) /48 Port (1U) Cat 6A Shielded Patch Panels are made from robust sheet metal. These panels are also supplied with robust removable rear cable management trays for cable strain relief and neat cable dressing. Port numbering is provided on the front and rear of the panel and individual ports may be colour coded using connector icon labels for site specific network administration.		
2	Mechanical Characteristics	IDC Connector Plastic Housing: Polycarbonate, UL94V-0 rated Operating Life: Minimum 20 reterminations Contact Material: Copper Alloy IDC Contact Plating: Tin Matte finish Contact Force: 100g minimum Wire Accommodation: 22-24 AWG solid Patch Panel Characteristics Material: CRS (cold rolled steel) Thickness: 1.52mm (.060") Coating: Black Powdercoat Jack Connector Housing: Zinc Alloy plated Bright Ni/Cu Operating Life: Minimum 750 insertion cycles Contact Material: Copper Alloy Contact Plating: 1.25 micrometers Au/Ni Contact Force: 100g minimum Plug Retention Force: 6.8kg minimum		
3	Electrical/Optical Characteristics	Interface Resistance: 20m Initial Contact Resistance: 2.5m Insulation Resistance: >100 M		
4	Category	Should accept 10G Approved Shielded Jacks CAT6A jacks		
5	Front Connector interface	RJ45		
6	Circuit Identification Scheme	Icons on each of 24-ports		
7	Port Identification	9mm or 12mm Labels on each of 24-ports (to be included in supply)		
8	Height 1 U	(1.75 inches)		
9	Interface	Polyester Molding Compound, Black		
10	ROHS/ELV	Compliant		
11	ETL Certification	Compliant		

3. IO Loaded CAT 6A

CAT6A STP Information Outlet				
Sl. no	Feature	Requirement	Compliance	Remarks, If any
1	Type	Cat 6A DataGate jack offers superior alien crosstalk suppression, excellent insertion loss, and provides enhanced electromagnetic interference (EMI) protection by utilizing robust die cast zinc alloy jack body housing. This shielded jack also features a unique spring loaded shutter that not only protects it from dust and contaminants, but the ingenious spring loaded design also ejects improperly seated patch cords.		
2	Mechanical Characteristics	RJ45 Connector Housing: Zinc Alloy plated Bright Ni/Cu Operating Life: Minimum 750 insertion cycles Contact Material: Copper Alloy Contact Plating: 1.25 micrometres Au/Ni Contact Force: 100g minimum Plug Retention Force: 6.8kg minimum Housing: Thermoplastic, UL94V-0 Operating Life: Minimum 20 reterminations Contact Material: Copper Alloy IDC Contact Plating: Matte Tin Contact Force: 100g minimum Wire Accommodation: 22-24 AWG solid		
3	Electrical/Optical Characteristics	Interface Resistance: 20m Initial Contact Resistance: 2.5m Insulation Resistance: >100M		
4	Modular Jack Housing	Zinc Alloy		
5	IDC Connecting blocks	polycarbonate, 94V-0 rated		
6	Commercial Standards	TIA-568-C.2 Augmented Category 6 ISO 11801 Amd 1 Class EA IEC 60603-7 FCC Subpart F 68.5 Approvals: ETL independent testing UL-1863		
7	Faceplate	Square shuttered plate with 1 port. 86 x 86 mm . / 2 Port 86 mm X 86 mm		
8	ROHS/ELV	Compliant		
9	ETL Certification	Compliant		
Face Plate				
1	Feature	Single Gang square plate, 86mmx86mm		
		Write on labels in transparent plastic window – supplied with plate		
		Screw hole covers – to be supplied with plate		
		Plug in Icons – Icon tree – to be supplied with plate		
		Should be able to support variety of jacks – UTP, STP, Fiber, Coax etc.		

4. 1mtr CAT 6A Patch cord

5. 2mtr CAT 6A Patch Cord

CAT6A STP Patch Cord				
Sl. no	Feature	Requirement	Compliance	Remarks, If any
1	Type	Cat 6A Shielded Patch Cords, specifically designed to support high speed data networks for 10-Gigabit Ethernet (10GBASE-T) applications.		
2	Conductor	26AWG stranded bare copper		
3	Length	1 & 2 Meter		
4	Screen material	Aluminium/polyester shield with tinned copper drain wire		
5	Warranty	25-year component warranty		
6	Construction	Pairs in Metal Foil , 4 pair stranded S/FTP cable & Outer Sheath should be LSZH		

7	Plug Housing	Clear polycarbonate		
8	Commercial Standards	TIA/EIA-568-C.2 , ISO/IEC 11801 A1.1, FCC Subpart F 68.5, IEC-603-7, UL Listed, UL-1863, CSA C2.2		
9	Electrical Characteristics	Electrical Characteristics Max Voltage: 150 VAC (max) Max Current: 1.5A @ 25°C Operating temperature: -40° to 85°C		
10	Mechanical Characteristics	Operating Life: Minimum 750 insertion cycles Contact Material: Copper Alloy Contact Plating: 1.25 micrometres Au/Ni		
11	ROHS/ELV	Compliant		
12	ETL Certification	Compliant		

6. CAT 6A UTP Cable (Model /Part Code: AT & T or equivalent)

CAT6A U/FTP Cable				
Sl. no	Feature	Requirement	Compliance	Remarks, if any
1	Type	Cat 6A U/FTP Cable is specifically designed to support high speed data network applications such as 10-Gigabit Ethernet (10GBASE-T). The cable is constructed of 4 screened pairs and a drain wire. This cable minimizes alien crosstalk, provides excellent signal isolation and provides superior electromagnetic interference (EMI) protection.		
2	Technical Characteristics	Primary Insulation: Polyolefin Screen material: Laminated Aluminium Sheath Type: PVC or LSOH (Flame Test IEC 60332-1) Nominal OD: 7.2 NVP: 75-77% Screen: Each pair enclosed in laminated aluminium foil Drain Wire: tin-coated copper		
3	Electrical Characteristics	Capacitance: 40 pF/m nom. @1 KHz. DC Resistance: 72 /Km max. Propagation Delay: 514 + 36f1/2 nS/100m max @1-500 MHz Propagation Delay Skew: 45 nS/100 max @ 1-500 MHz Mean Impedance: 100 ± 6 @ 1-500 MHz Resistance Unbalance: 2% max. Coupling Attenuation: 45dB min @30-100 MHz 40-20 Log (f/100) @ 100-500 MHz		
4	Applications	Category 6A U/FTP Cable is intended for high speed data applications up to 500MHz including: IEEE 802.3 10GBASE-T 10Gb/s IEEE 802.3 1000GBASE-T 1Gb/s TIA/EIA-854 1000BASE-TX 1Gb/s ATM 155Mb/s 155Mb/s		
5	Operating Temperature	Storage: -20°C to +75°C Operation: -20°C to +60°C		
6	Commercial Standards:	ANSI/TIA/EIA-568-C.2 ISO/IEC 11801 A1.1 ETL independent testing		
7	ETL Certification	Compliant		

7. 12 Core OFC cable

Specification for 12 Core Single Mode Outdoor Fiber Cable				
Sl. no	Specifications	Requirement	Compliance	Remarks, if any
1	Cable Type	12 fiber Single Mode, Armoured, Unitube, Gel filled cable complying to ISO.IEC 11801 - 2nd Edition, type OS2; AS/ACIF S008; AS/NZS 3080,ITU-T REC G 652D, IEC 60793/60794, TIA 568, EIA 455; suitable for use in direct burial, outdoor ducts and backbone cabling.		
2	Armour	Corrugated Steel Tape Armour -Thickness > 0.125mm		
3	Water Blocking	Thixotropic Gel (Tube), Petroleum Jelly (Interstices)		
4	Attenuation	1310nm <=0.35 db/Km MAX, or		

		1550nm <=0.22 db/Km MAX		
5	Numerical Aperture	0.14		
6	Attenuation Discontinuity	Both Windows <0.10dB		
7	Core/Mode-Field (um)	9		
8	Clad Diameter (um)	125 + - 1		
9	Coat Diameter	245 + - 10		
10	Loose tube material	Single PBTP Loose tube filled with water blocking Thixotropic gel		
11	Jacket material	UV Stabilised Polyethylene (HDPE)		
12	Peripheral Strength Member	Two Steel wires		
13	Tensile Strength	1000N		
14	Crush Resistance	2000N/10 cm		
15	Cable Diameter	7.8 + - 0.5 mm		
16	Max. Bending Radius (during installation)	20 X Overall diameter		
17	Max. Bending Radius (during full load)	10 X Overall diameter		
18	Operating Temperature	-10 Degree C to +70 Degree C		

8. 24 Port Loaded LIU rack Mount

9. 48 Port Loaded LIU rack Mount

10. 12 Port Loaded LIU rack Mount

Fiber Optic Rackmount LIU, loaded with adapter plates, Splice Tray and Pigtail				
Sl. no	Specifications	Requirement	Compliance	Remarks, if any
1	Fiber Management Shelf	Configurable Fiber drawer is a 1U rack mount unit for storing and terminating incoming fiber cable. Using our vast range of 6 Pak Plates you can configure your fiber system to suit all fiber applications.		
		Configurable. Fits up to four 6 Pak Plates/ Angled 6 Pak plates		
		Management rings within system to accommodate excess fiber cordage behind the trough adapters and maintain fiber bend radius		
		Sliding drawer for ease of reconfiguring fibers		
		Rugged steel construction finished in attractive		
		Accommodates 2 x 12 fiber Splice Trays		
2	Optical Fiber Adapter Plates Loaded	LC Quad 12 Fiber SM Plate		
3	No of Adapter Plate Req.	As per Requirement		
4	Pigtail	LC, Singlemode, 9/125 µm		
5	No of Pigtail Req.	As per Requirement		

11. LC to SC SM Patch cord

SC to LC Patch Cord SM				
Sl. no	Specifications	Requirement	Compliance	Remarks, if any
1	Make and Type	SC to LC Duplex tuned Fiber Optic Patch Cord 3 Mtr, 9/125 Micron		
2	Cable Sheath	LSZH		
3	Cable Diameter	1.8 mm twin zip		
4	Ferrule	Ceramic		
5	Buffer	Tight buffered		
6	Insertion Loss	MAX .3 db		
7	Return Loss	> 45 db		
8	Temperature Range	-10 Degree C to +60 Degree C		
9	ROHS	ROHS Compliant		

Sl no	Name of the Item	Description
12	12 U Rack	12 U Rack with front Glass door & Lock fitted with Accessories (Accessories :: Fan + PDU(6*16amp) + Cable Manager + Hardware front Panel (Pack of 10) + ITE / Server Rack Air Circulation module
13	6 U Rack	6 U Rack with front Glass door & Lock fitted with Accessories (Accessories :: Fan + PDU(6*16amp) + Cable Manager + Hardware front Panel (Pack of 10) + ITE / Server Rack Air Circulation module

- **Technical Specification: Layer 3 switch**

Parameter	Description
Features	Should have 24 port SFP Ethernet ports. should support 2 nos. 1/10 Gigabit Uplink SFP+ Ports The Switch should have minimum 24 x 1G and 2 x 10G Uplink Modules. Support for 10GBASE-LR, SR, 1000BASE-SX, 1000BASE LX/ LH physical interface support through a field-replaceable SFP module (as and when required)
Performance and Scalability	Forwarding Bandwidth: 90 Gbps or higher for both IPv4 and IPv6 Minimum 512 MB Flash Memory and 1GB DRAM forwarding rate 50 Mpps (based on 64-byte packet) or higher for both IPv4 and IPv6 Should support minimum 24K MAC address table entries. All ports should work in non-blocking mode All Gigabit Ethernet ports should support auto-negotiation between 10Mbps/100Mbps/1000 Mbps, half-duplex or full duplex and flow control for half-duplex ports. should support LLDP Should have Minimum 1024 active VLAN and 4000 VLAN ID Should support configurable maximum transmission unit (MTU) of up to 9000 bytes
Stacking Features	Should have dedicated Stacking module / ports Stacking module should be Hot-swappable Should support minimum Stacking bandwidth 128 Gbps and should be able to stack atleast 8 units alongwith appropriate stacking cable Should have the capability to display and clear MAC address information in MAC address table Should support configuration rollback to replace current configuration with any saved configuration file Should support link aggregation across multiple switches in a stack. Support for DHCP relay and server Auto-Negotiation on all ports to automatically select half- or full-duplex transmission mode Switch ports should support MDIX (medium-dependent interface crossover) connections
Protocol Features	Support for Link Aggregation Control Protocol (LACP) and IEEE 802.3ad Link Aggregation Switch should be capable of detecting and disabling port(s) causing spanning tree protocol loops Support for IGMP Snooping for IPv4 and IPv6 MLD v1 and v2 Snooping Should support unicast, multicast and broadcast storm control at per port level Should support STP with port immediately transitions into forwarding mode and able to shut down interfaces when BPDUs are received to avoid accidental topology loops. Support for automatic negotiation of trunking Protocol to help minimize the configuration & errors. Support for Port Mirroring Should support IPv6 as per RFC 2460/4861 and IPv6 Neighbour Discovery
	Support for Multicast VLAN Registration (MVR)/Generic VLAN registration Protocol (GVRP) or equivalent Should support IPv6 addressing, ICMPv6, TCP/UDP over IPv6, SNMP over IPv6, Syslog over IPv6 etc. Support for control and data plane QoS ACLs Support for congestion avoidance mechanisms like weighted tail drop (WTD)/WRR (weighted round robin) Spanning Tree Root Guard and BPDU Root Guard support Support for IGMP filtering Support for static Ipv4 & IPv6 routes from day 1 and upgradability to support RIPv1/v2 & OSPF in future. Support for storm control, Dynamic ARP inspection/protection, Root Guard/protection, DHCP snooping, IP source guard and IPv6 First Hop Security.

Supported Protocols and Standards	<ul style="list-style-type: none"> • IEEE 802.1p CoS Prioritization • IEEE 802.1s (Multiple STP) • IEEE 802.1w (RSTP) • IEEE 802.1X (PNAC) • IEEE 802.1ab (LLDP) • IEEE 802.3ad (LACP) • IEEE 802.1D (STP) • IEEE 802.1Q (VLAN) <p>Should support Port based ACL, VLAN based ACL, Router based ACL and should support IPv6 ACL Support for Strict Priority Queuing mechanisms and should be able to protect highest priority traffic even across stacked switches Should support VLAN-based, Port-based and Time-based ACLs/ schedulers Support for DHCP Snooping, Dynamic ARP Inspection (DAI) and IP Source Guard Should have capability to response IP SLA request to determine network performance and monitoring or should support RPM(Real time performance monitoring) or sFlow based real time monitoring</p>
Management Features	<p>Multilevel security on console access to prevent unauthorized access Support for IEEE 802.1x Should support IEEE 802.1X web authentication Should provide Port Security which secures the access to an access or trunk port based on MAC address Support for IEEE 802.1x port-based authentication Support for TACACS and RADIUS authentication Support for Secure Shell (SSH) Protocol and Simple Network Management Protocol Version 3 (SNMPv3) The switch should have out of band management port. SNMP v1, v2, v3 support Support for Network Timing Protocol (NTP) Support for four RMON groups (1,2,3,9) as per RFC 2819. Supports IPv6 Management</p>
Power Supply features	<p>Switch should support 1 RU configuration and should support internal redundant power supply Switch should support hot-swappable modular and field replaceable redundant fans and power supplies The switch should support Operating temperature up to 5000 ft (1500 m) -5° to 45°C Switch should support AC Power Supply, 100V to 240V AC, 50 to 60 Hz</p>
L3 Features	<p>The switch should support routing protocols such OSPF,BGPv4, IS-ISv4. The Switch should support IPv6 Routing capable protocols such as OSPFv3 in hardware The Switch should support Policy Based Routing (PBR) The Switch should support IP Multicast and PIM, PIM Sparse Mode, PIM Dense Mode, PIM Sparse-dense Mode & Source-Specific Multicast for Wired and Wireless Clients. The switch should support basic IP Unicast routing protocols (static, RIPv1 & RIPv2) should be supported. The switch should support IPv6 & IPv4 Policy Based Routing(PBR)</p>
Device support	The switch provided should be discovered by NMS
Certification	The proposed hardware model should be EAL3/NDPP certified under Common Criteria Program for security related functions or Indian Common Criteria Certification Scheme (IC3S). The certificate should be publicly available on https://www.commoncriteriaportal.org
Warranty	All switches should be provided with 5 year Next Business Day warranty from the OEM. Necessary part code for providing Next Business Day OEM warranty is to be mandatorily included as a part of the technical offer

- **24 Port Switch with 2 SFP Module: Layer 2 switch**

Parameter	Description
General Features	<p>The switch should support a minimum of 24 nos. 10/100/1000 Ethernet Interfaces The switch should support a minimum of 2 (SFP or 1000BASE-T) Uplinks The switch should support 2x1G SFP modules</p>
Performance and Scalability	<p>The switch should support Forwarding bandwidth of 50 Gbps The switch should support Full-duplex Switching of 100 Gbps The switch should support 64-Byte Packet Forwarding Rate of 68.5 Mpps The switch should support a Dual Core CPU The switch should support 64 MB of Flash memory The switch should support 512 MB of DRAM The switch should support 64 VLANs The switch should support Maximum transmission unit (MTU) of 9000 bytes The switch should support 8000 Unicast MAC addresses</p>
Dimension	<p>The Switch should be 1RU The switch should support Operating temperature up to 5000 ft (1500 m) -5° to 45°C</p>
Power Supply	<p>The switch should support an auto-ranging power supply with input voltages between 100 and 240V AC The switch should support Redundant Power Supply</p>
Stacking	<p>Stacking module should be Hot-swappable Stacking should support a maximum of 8 Switches Stacking should support 80 Gbps of throughput</p>
Standards	<p>The switch should support IEEE 802.1D, 802.1p, 802.1Q, 802.1ab, 802.1s, 802.3ad, 802.3x, 802.3ah, 802.3ab, 802.3u, 802.3, 802.3z Spanning Tree Protocol The switch should support RMON I and II standards The switch should support SNMP v1, v2c, and v3</p>
RFC compliance	<p>The switch should support RFC protocol for UDP, TFTP, IP, ICMP, ICMP router discovery, TCP, ARP, TELNET, FTP, IGMP, IP MULTICAST, SNMP, NTP, HTTP, HTTP(s), BOOTP, TACACS+, Radius, DHCP, SSH, for Both IPv4 and IPv6 Addressing.</p>

Layer-2 Features	<p>The switch should support Automatic Negotiation of Trunking Protocol, VLAN Management, Spanning-tree PortFast, UplinkFast, BackboneFast, IGMP Filtering, Neighbour discovery Technology.</p> <p>The switch should support Per-port broadcaststorm control, Multicast Control, unicast control.</p> <p>The switch should support Auto-negotiation on all ports to automatically selects half- or full-duplex transmission mode to optimize bandwidth</p> <p>The switch should support Automatic media-dependent interface crossover (MDIX) to automatically adjusts transmit and receive pairs if an incorrect cable type (crossover or straight through) is installed.</p>
L3 Features	<p>The switch should support Inter-VLAN routing</p> <p>The switch should support IPv4 unicast Static Routing</p> <p>The switch should support 16 IPv4 Static routes</p>
Smart Operations Features	<p>The switch should support configuration of the Software image and switch configuration without user intervention</p> <p>The switch should support diagnostic commands to debug issues</p> <p>The switch should support system health checks within the switch</p>
Quality of Service (QoS) & Control	<p>The switch should support Control- and Data-plane QoS ACLs</p> <p>The switch should support Strict priority queuing mechanisms</p> <p>The switch should support Rate Limiting function to guarantee bandwidth, Source and destination MAC Address, Layer 4 TCP and UDP.</p> <p>The switch should support availability of up to 256 aggregate or individual polices per port</p>
Management	<p>The switch should support Command Line Interface (CLI) support for configuration & troubleshooting purposes.</p> <p>The switch should support four RMON groups (history, statistics, alarms, and events) for enhanced traffic management, monitoring, and analysis</p> <p>The switch should support Layer 2 or higher trace route to ease troubleshooting by identifying the physical path that a packet takes from source to destination.</p> <p>The switch should support Serial Console Port/RJ45, USB Console Port</p>
Network security features	<p>The switch should support IEEE 802.1x to allow dynamic, port-based security, providing user authentication.</p> <p>The switch should support Port-based ACLs for Layer 2 interfaces to allow application of security policies on individual switch ports.</p> <p>The switch should support MAC address notification to allow administrators to be notified of users added to or removed from the network.</p> <p>The switch should support Port security to secure the access to an access or trunk port based on MAC address.</p> <p>The switch should support Private VLAN</p> <p>The switch should support Multilevel security on console access to prevent unauthorized users from altering the switch configuration.</p>
DHCP Features	<p>The switch should support DHCP snooping to allow administrators to ensure consistent mapping of IP to MAC addresses DHCP binding database, and to rate-limit the amount of DHCP traffic that enters a switch port.</p> <p>The switch should support DHCP Interface Tracker (Option 82) feature to augment a host IP address request with the switch port ID</p>
Device support	<p>The switch provided should be discover by NMS</p>
Warranty	<p>The Supplied Switch should be covered under five years comprehensive onsite warranty from the date of installation and commissioning</p>

Please note that the contract for supply of e-Hospital (Phase II) hardware and related stores is on rate contract for a period of two years or till the finalization of the next tender whichever is later.

All other terms and conditions remains the same.

For further details regarding amendment, addendum, extension and downloading of documents, please visit our website: www.neigrihms.nic.in; Tenders can also be downloaded from the Central Public Procurement Portal website: www.eprocure.gov.in; Tel/Fax: 0364-2538032.

Sd/-
Stores & Procurement Officer,
For and on behalf of Director, NEIGRIHMS

