

## University of Kalyani



### NOTICE INVITING TENDER

**Ref No: SIC/NIT/CAMNET/June-08**

**June 17, 2008**

Sealed Tenders are being invited from reputed vendors for structured/stable/manageble campus networking with active/passive componen ts in university

**Earnest money – Rs 20,000/- (Bank Draft)**

**Cost of tender paper: - Rs 600/- (Non refundable bank draft)**

Bank drafts in favor of 'University of Kalyani' payable at Kalyani must be submitted along with tender.

Last date of submitting the tender- **01.07.08 (Tuesday) up to 2p.m.**

The tender may be downloaded from our website: [www.klyuniv.ac.in](http://www.klyuniv.ac.in).

The university reserves the right of accepting and/or rejecting any/all Tenders without assigning any reasons thereof.

**System-in-Charge**

UNIVERSITY OF KALYANI



**CENTRE FOR INFORMATION RESOURCE MANAGEMENT  
(CIRM)**

**TENDER DOCUMENT**

**Tender No. Ref No: SIC/NIT/CAMNET/June -08 June 17, 2008**

**FOR**

**PROCUREMENT, INSTALLATION & UPGRADATION OF  
ACTIVE/PASSIVE COMPONENTS FOR STRUCTURED/  
STABLE/MANAGEBLE CAMPUS NETWORKING IN  
UNIVERSITY OF KALYANI.**

**University of Kalyani**  
**Tender Documents**

Cash Receipt/Bank Draft No.....

Date.....

1. Name of the Vendor: .....

**2. Address with telephone No. :** .....

.....  
.....

3. Earnest Money:  
(to be deposited along  
with tender document)

a) Bank Draft No.....  
b) Date.....  
c) for Rs.....  
d) Drawn on .....

4. Cost of tender paper:  
(to be deposited along  
with tender document)

a) Bank Draft No.....  
b) Date.....  
c) for Rs.....  
d) Drawn on .....

5. The tender documents complete in all respect along with Earnest Money & cost of tender paper should reach to the Office of the System -in-Charge, Centre for Information Resource Management (CIRM) University of Kalyani, Kalyani, Nadia on or **before 01.07.2008 (Tuesday) upto 2 pm**. Sealed tenders will be opened in the presence of intending tenderer(s)/their representatives on **01.07.2008 (Tuesday) at 2.30 pm**.

**Scope of work**

The work to be rendered by the Vender under this tender/ agreement is supply, delivery and commissioning of the sold equipment and training at the users' premises. The tender should include the installation material wherever required.

## Terms & Conditions

1. The tenderer must be required to deposit Earnest Money **Rs 20,000/-(Rupees Twenty thousand Only)** of the tender value through Bank Draft drawn in favor of '**University of Kalyani**' payable at **Kalyani**. No tender shall be accepted without the Earnest Money & cost of Tender Paper.
2. Non-refundable draft of **Rs. 600/-(Six hundred only)** payable to "University of Kalyani" payable at Kalyani must be submitted along with the tender document as cost of tender paper.
3. The rates should be valid for at least 6 months.
4. The rates should be quoted in words as well as in figures in respect of each item.
5. Bid Price:
  - a) The contract shall be item wise/ group of items as described above. Crossing out, initiating and re writing, if any, shall make corrections.
  - b) All duties, taxes and other levies payable by the contractor under the contract shall be included in the total price but should be indicated separately in the price bid.
  - c) The rate quoted by the bidder shall be fixed for the duration of the contract and shall not be subject to adjustment on any account.
  - d) Prices shall be INR, University of Kalyani, including all taxes.
6. All essential items including cables, connectors, etc. needed for the smooth operation of the equipment shall be assumed to have been included in the quoted price/items if these have not been quoted separately.
7. Installation, testing and commissioning of the equipment purchased is to be done by supplier at the site. Charges on account of installation and commissioning, if any, should be quoted separately.
8. The supplier/manufacturer should quote the academic/educational prices of the software.
9. Clause by clause compliance with the technical specification/Model/Make in this tender is required.
10. Technical specification/Model/Make shall be strictly as per the requirements laid down.
11. Most of the manufacturers offer education discount while offering equipment to Educational Institutions world over. The tenderers should therefore also, offer such Discount while quoting prices against the tender.
12. The Authorised Distributors Authorized Service Providers of the brand (s) shall have to produce original certificate from the manufacturing company to the effect that they are

authorized to quote, negotiate, sign documents, effect the deliveries and arrange after sale service on behalf of the manufacturing company. **The said should be valid for the effective period with reference to this specific Tender; else the tender will be rejected.**

**13. Period of delivery:** Should be within fifteen days from the date of opening of purchase order.

14. The vendor should quote and be capable to supply all the necessary accessories for the equipment. However, the university has the right to procure a part or a whole of equipment.

**15. Warranty:**

The manufacturer should give guarantee/warrantee for a period not less than two years. If the equipment installed at one location is subsequently shifted to another location, the warranty services shall continue to be provided at new location without any additional financial implications. Undertaking that during warranty period, if any defect in the supplied equipment is noticed by the Purchaser, the supplier or his representative shall rectify the defect or replace the defective item free of cost at the Purchaser's site at the earliest possible, latest within a period of 30 days of notification.

**16. After Sales Service**

(i) The name and complete address of the company in India authorized by the manufacturer, to provide after sales service for the equipment should be mentioned. The appointed authorized service provider should be holding a valid certificate from the manufacturer to this effect.

(ii) The manufacturer should give an undertaking that after the warranty period, they shall provide spares and after sale service of the equipment in India for the normal life time of the equipment.

17. The bidder should have enough infrastructure as well as qualified personnel to maintain the highly sophisticated equipment.

**18. Maintenance Training:**

The bidder shall arrange for the training to the personnel of University of Kalyani on various aspects like installation, operation and maintenance etc. of the equipment. Training shall be inclusive of repairing equipment defects, carrying out trouble -shooting, rectification and maintenance of the total system. The supplier shall be required to provide training of two technical personnel (free of charges) for duration of two weeks to operate the equipment. The initial training shall be conducted in the campus of University of Kalyani which would be followed by two week exhaustive training of hardware & software at the principal's site or at the authorized training centers.

19. **Lifetime warranty “as long as customer owns the product/hardware” with Advance Replacement within the Next-Business-Day, if the purchased Model is declared as End-of-Life by HP then the next higher available model will be shipped. No shipping cost involved. Power Supplies, Modules and software included in the warranty**

20. **Only the OEM or Dealers with Tender Specific Authorization will be considered. Any Bids without this Authorization will be rejected. The Authorization Letter should be issued by the Manager in Charge of the Networking Division at the OEM.**

21. University of Kalyani **reserve the right to purchase varying quantity of material, less or more than the quantity specified in the tender.**

22.1 The University of Kalyani reserves the right to reject any/all tenders or cancel the accepted tenders with out assigning any reason.

22.2 The bidder whose bid is accepted will be notified of the award of contract by the purchaser prior to expiration of the quotation validity period. The terms of the accepted offer shall be incorporated in the purchase order.

23. Tender paper should be signed in all pages with seal and rate of each item should be entered in the tender form in the specified pages of the tender. Total amount should be calculate and entered in the sheet included in the tenders.

24. Tenderers should quote all items of the tender. Partial quoting will not be accepted.

25. The tender should be prepared & submitted after carefully perusing the complete tender document (including the guidelines, instructions, terms and conditions, nature & scope of work, specifications of the equipment to be supplied & work to be performed, etc.)

26. Only those tenderer(s) who meet all the guidelines and terms & conditions in all respects should submit their tender, complete in all respect, after perusing complete tender document.

27. The specifications of the equipments are enclosed as Annexure -I & annexure-II.

**28. Price quote for the said item with one-year subscription must be given as per proforma for the Price Bid.**

29. Please confirm that only original equipment(s) and components will be supplied by you.

30. Please note that the University reserves the right to place orders in part(s) or part thereof for individual items (if needed) on the rates quoted by you.

31. Please quote all price/s inclusive of all taxes and duties.
32. Each bidder shall submit two separate quotations in duplicate – one marked original and one marked as copy to evaluate and decide accordingly.
33. 100% of the total payment will be made after satisfactory installation and commission and after satisfactory joint installation report from both sides .
34. User training regarding the operations of the software (if any) shall be arranged by the supplier/vendor at no extra cost.
35. We look forward to receiving your quotations and thank for your interest in this project

Place:

Date

Name and Signature of the Tenderer  
With seal of the Company

## Annexure-I

### Technical Specifications for Active Structured Campus Network – KU - CIRM

#### HP ProCurve Core L3/L4 Switch

Features	Specification	Description	Compliance
Ports		6 open module slots 1 RS-232C DB-9 console port Supports a maximum of 144 auto-sensing 10/100/1000 ports or 24 10-GbE ports or 144 mini-GBICs, or a combination	
Power supplies		2 open power supply slots	
Memory and processor	10G Module	ARM9 @ 200 MHz; packet buffer size: 36 Mb QDR SDRAM	
	Management Module	Free scale PowerPC 8540 @ 666 MHz, 4 MB flash Mb, 128 MB compact flash, 256 MB DDR SDRAM	
	Gigabit Module	ARM9 @ 200 MHz; packet buffer size: 144 Mb QDR SDRAM	
Mounting		Mounts in an EIA-standard 19 in. telco rack or equipment cabinet (hardware included); horizontal surface mounting only	
Performance	1000 Mb Latency	< 3.7 $\mu$ s (FIFO 64-byte packets)	
	10 Gbps Latency	< 2.1 $\mu$ s (FIFO 64-byte packets)	
	Throughput	up to 214 million pps	
	Routing/Switching capacity	288 Gbps	
	Switch fabric speed	346 Gbps	
	Routing table size	10000 entries	
Electrical characteristics	Description	Chassis ships without power supplies. Two power-supply slots available; two different power supplies available. See power-supply products for additional specifications.	
	Maximum heat dissipation	2450 BTU/hr (2584 kJ/hr), (max non -PoE); 3700 BTU/hr (3903 kJ/hr) (max using PoE)	
	Voltage Frequency	100-127 / 200-240 VAC 50 / 60 Hz	
Safety		CSA 22.2 No. 60950	
		UL 60950	
		IEC 60950	
		EN 60950	
Emissions		FCC Class A; VCCI Class A; EN 55022/CISPR 22 Class A	



	<p>Network Management</p> <p>OSPF</p> <p>QoS/Cos</p> <p>Security</p>	<p>RFC 2618 RADIUS Client MIB  RFC 2620 RADIUS Accounting MIB  RFC 2665 Ethernet-Like-MIB  RFC 2668 802.3 MAU MIB  RFC 2674 802.1p and IEEE 802.1Q Bridge MIB  RFC 2737 Entity MIB (Version 2)  RFC 2787 VRRP MIB  RFC 2863 The Interfaces Group MIB  RFC 2925 Ping MIB</p> <p>IEEE 802.1AB Link Layer Discovery Protocol (LLDP)  RFC 2819 Four groups of RMON: 1 (statistics), 2 (history), 3 (alarm) and 9 (events)  RFC 3176 sFlow  ANSI/TIA-1057 LLDP Media Endpoint Discovery (LLDP-MED)  SNMPv1/v2c/v3</p> <p>RFC 2328 OSPFv2 (Premium License)  RFC 3101 OSPF NSSA</p> <p>RFC 2474 DiffServ Precedence, including 8 queues/port  RFC 2597 DiffServ Assured Forwarding (AF)  RFC 2598 DiffServ Expedited Forwarding (EF)  IEEE 802.1X Port Based Network Access Control</p> <p>RFC 1492 TACACS+  RFC 2138 RADIUS Authentication  RFC 2866 RADIUS Accounting  Secure Sockets Layer (SSL)  SSHv1/SSHv2 Secure Shell</p>	
Internal Power Supply	<p>Voltage</p> <p>Maximum Current</p> <p>Frequency range</p> <p>Power</p>	<p>100:127 VAC/200:240 VAC</p> <p>12A/5.7A</p> <p>50/60 Hz</p> <p>875 W</p>	

## Line Interface Card for the Core Switch:

### HP ProCurve 20-Port 10/100/1000 + 4-Port Mini-GBIC Module

Features	Specification	Description	Compliance
Ports		4 open mini-GBIC (SFP) slots 20 RJ-45 auto-sensing 10/100/1000 ports (IEEE 802.3 Type 10Base-T, IEEE 802.3u Type 100Base-TX, IEEE 802.3ab Type 1000Base-T) Media Type: IEEE Auto-MDI/MDIX Duplex: 10Base-T/100Base-TX: half or full; 1000Base-T: full only	

### HP ProCurve Switch zl 875W Power Supply for Core Switch

Features	Specification	Description	Compliance
Electrical characteristics	Voltage	100:127 VAC/200:240 VAC	
	Maximum Current	12A/5.7A	
	Frequency range	50/60 Hz	
	Power	875 W	
Physical characteristics	Dimensions	6.05 x 7.45 x 5.1 in. (15.37 x 18.92 x 12.95 cm)	
	Weight	7.05 lb. (3.2 kg)	

### HP Procurve Distribution L3 Switch

Features	Specification	Description	Compliance
Ports		4 open module 2 open module 1 RS-232C DB-9 console Supports a maximum of 96 auto-sensing 10/100 ports, or a combination 96 auto-sensing 10/100/1000 ports 16 mini-GBICs	
Power Supplies	Internal	100-127 / 200-240 VAC 8.2 / 3.8 A 630 W 50 / 60 Hz	
Memory and Processor	Fabric	Motorola PowerPC MPC8245 @ 330 MHz, 24 MB flash, 64 MB SDRAM; packet buffer size: 36 MB	
Mounting		Mounts in an EIA-standard 19 in. telco rack or equipment cabinet (hardware included); horizontal surface mounting only	
Performance	Latency Throughput Switch fabric speed	< 6 $\mu$ s (FIFO) up to 24 million pps 38.4 Gbps	
Safety		CSA 22.2 No. 950; UL 60950; EN60950	

<b>Emission</b>		FCC Class A; VCCI Class A; EN55022/CISPR-22 Class A; CISPR22 Class A; EN55024; IEC/EN61000-3-2; IEC/EN61000-3-3	
<b>Standards and Protocols</b>	<p><b>General Protocols</b></p> <p><b>IP Multicast</b></p> <p><b>MIBs</b></p> <p><b>Network Management</b></p> <p><b>QoS/Cos</b></p>	<p>IEEE 802.1D MAC Bridges IEEE 802.1p Priority IEEE 802.1Q VLANs IEEE 802.1s Multiple Spanning Trees IEEE 802.1w Rapid Reconfiguration of Spanning Tree IEEE 802.3ad Link Aggregation Control Protocol (LACP) IEEE 802.3x Flow Control RFC 768 UDP RFC 783 TFTP Protocol (revision 2) RFC 791 IP RFC 792 ICMP RFC 793 TCP RFC 826 ARP RFC 1542 BOOTP Extensions RFC 2030 Simple Network Time Protocol (SNTP) v4 RFC 2131 DHCP RFC 3046 DHCP Relay Agent Information Option</p> <p>RFC 3376 IGMPv3</p> <p>RFC 1213 MIB II RFC 1493 Bridge MIB RFC 2613 SMON MIB RFC 2618 RADIUS Client MIB RFC 2665 Ethernet-Like-MIB RFC 2668 802.3 MAU MIB RFC 2737 Entity MIB (Version 2)</p> <p>IEEE 802.1AB Link Layer Discovery Protocol (LLDP) RFC 1757 RMON 4 groups: Stats, History, Alarms and Events RFC 3164 BSD syslog Protocol RFC 3176 sFlow RFC 2668 802.3 MAU MIB ANSI/TIA-1057 LLDP Media Endpoint Discovery (LLDP-MED) SNMPv1/v2c/v3 XRMON</p> <p>RFC 2474 DiffServ Precedence, including 8 queues/port RFC 2597 DiffServ Assured Forwarding (AF) RFC 2598 DiffServ Expedited Forwarding (EF)</p>	

	<b>Security</b>	IEEE 802.1X Port Based Network Access Control RFC 2138 RADIUS Authentication Secure Sockets Layer (SSL) SSHv2 Secure Shell	
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### Line Interface Cards for the Distribution Switch:

#### HP ProCurve Switch vl 4-port Module with 4 mini-GBIC XCVR slots

Features	Specification	Description	Compliance
Ports		4 open mini-GBIC (XCVR) slots supporting LX or SX Modules on Single Mode or Multi Mode Fiber Optic Cable	

#### HP ProCurve Server Farm Giga Switch

Features	Specification	Description	Compliance
Ports		8 auto-sensing 10/100/1000 ports (IEEE 802.3 Type 10Base-T, IEEE 802.3u Type 100Base-TX, IEEE 802.3ab Type 1000Base-T) Media Type: Auto-MDIX Duplex: 10Base-T/100Base-TX: half or full; 1000Base-T: full only	
Memory and Processor	Processor	1 MB flash, 64 KB SDRAM, 1 MB RAM/ROM capacity; packet buffer size: 144 KB	
Mounting		Horizontal surface mounting only	
Performance	100 Mb Latency 1000 Mb Latency Throughput Switching capacity MAC address table size	< 3.9 $\mu$ s (64-byte packets) < 2.1 $\mu$ s (64-byte packets) up to 11.9 million pps (64-byte packets) 16 Gbps 8000 entries	
Electrical characteristics	Maximum heat dissipation Voltage Frequency Current Power output	61 BTU/hr (64 kJ/hr) 100-240 VAC 60 Hz 0.5 A 18 W	
Physical characteristics	Dimensions Weight	4.58(d) x 7.73(w) x 1.73(h) in. (11.63 x 19.63 x 4.39 cm) (1U height) 1.19 lb. (0.54 kg), Fully loaded	
Safety		CSA 22.2 No. 60950 EN 60950/IEC 60950 UL 60950	

Emissions		FCC Rules Part 15, Subpart B Class A; EN 55022; VCCI; ICES-003	
Immunity		EN: EN 55024, CISPR 24 ESD: EN 61000-4-2 Radiated: EN 61000-4-3 EFT/Burst: EN 61000-4-4 Surge: EN 61000-4-5 Conducted: EN 61000-4-6 Power frequency magnetic field: EN 61000-4-8 Voltage dips and interruptions: EN 61000-4-11 Harmonics: EN 61000-3-2 Flicker: EN 61000-3-3	
Standards and protocols	General Protocols	IEEE 802.1p Priority IEEE 802.1Q VLANs IEEE 802.3ad Link Aggregation Control Protocol (LACP) IEEE 802.3x Flow Control RFC 1534 DHCP/BOOTP Interoperation	
	Network Management	IEEE 802.1AB Link Layer Discovery Protocol (LLDP)	

### HP ProCurve Edge L2 Switch

Features	Specification	Description	Compliance
Ports		24 auto-sensing 10/100 ports (IEEE 802.3 Type 10Base-T, IEEE 802.3u Type 100Base-TX) Media Type: ProCurve Auto-MDIX Duplex: half or full 1 RJ-45 serial console port 2 dual-personality ports each port can be used as either an RJ-45 10/100/1000 port (IEEE 802.3 Type 10Base-T; IEEE 802.3u Type 100Base-TX; IEEE 802.3ab 1000Base-T Gigabit Ethernet) or an open mini-GBIC slot (for use with mini-GBIC transceivers))	
Memory and Processor	Processor	MIPS 32 @ 264 MHz, 8 MB flash, 64 MB SDRAM	
Mounting		Mounts in an EIA-standard 19 in. telco rack or equipment cabinet (hardware included); horizontal surface mounting only	
Performance	100 Mb Latency 1000 Mb Latency Throughput Switching capacity MAC address table size	< 4.9 $\mu$ s (64-byte packets) < 2.6 $\mu$ s (64-byte packets) up to 6.5 million pps (64-byte packets) 8.8 Gbps 8000 entries	
Electrical characteristics	Maximum heat dissipation Voltage Frequency	68. BTU/hr (71.74 kJ/hr) 100-127 / 200-240 VAC 50 / 60 Hz	

	Current	0.75 / 0.4 A	
	Power output	20 W	
Safety		CUL (CSA 22.2 No. 60950) UL 60950-1 IEC 60950 EN 60950	
Emissions		FCC Class A; VCCI Class A; EN 55022/CISPR 22 Class A; IEC/EN 61000-3-2; IEC/EN 61000-3-3	
Immunity		Generic: EN 55024, CISPR 24 ESD: IEC 61000-4-2 Radiated: IEC 61000-4-3 EFT/Burst: IEC 61000-4-4 Surge: IEC 61000-4-5 Conducted: IEC 61000-4-6 Power frequency magnetic field: IEC 61000-4-8 Voltage dips and interruptions: IEC 61000-4-11 Harmonics: EN 61000-3-2, IEC 61000-3-2 Flicker: EN 61000-3-3, IEC 61000-3-3	
Standards and protocols	Device Management	RFC 1591 DNS (client) HTML and telnet management	
	General Protocols	IEEE 802.1p Priority IEEE 802.1Q VLANs IEEE 802.1s Multiple Spanning Trees IEEE 802.3ad Link Aggregation Control Protocol (LACP) IEEE 802.3x Flow Control	
	IP Multicast	RFC 2236 IGMPv2	
	MIBs	RFC 1213 MIB II RFC 1493 Bridge MIB RFC 1573 SNMP MIB II	
	Network Management	IEEE 802.1AB Link Layer Discovery Protocol (LLDP) SNMPv1/v2c/v3	
	Security	IEEE 802.1X Port Based Network Access Control RFC 1492 TACACS+ RFC 2138 RADIUS Authentication Secure Sockets Layer (SSL) SSHv1/SSHv2 Secure Shell	

### HP ProCurve Gigabit-LX-LC Mini-GBIC

Features	Specification	Description	Compliance
Cabling	Type	Either single mode or multimode 62.5/125 µm or 50/125 µm (core/cladding) diameter, graded-index, low metal content, multimode fiber optic,	
	Maximum distance	10 km (single mode) or 550 m (multimode)	

## HP ProCurve Manager Plus 2.2 – 100 Users License Features

**In-depth traffic analysis:** An integrated, low-overhead traffic monitor interface shows detailed information on traffic throughout the network. Using enhanced traffic analysis protocols such as XRMON and sFlow, the user can monitor Input and output traffic levels per device, segments with the highest traffic, or even the top users within a network segment.

- **Policy creation and enforcement:** ProCurve Manager Plus 2.2 brings the ability to create policies, set alerts, and take action to enforce network or device policies. Network threats, bandwidth, or link issues can be mitigated by proactive policies and enforced with alerts and actions.
  
- **Easier configuration management:** Changes in configuration are tracked and logged, and archived configurations can be applied to one or many devices. Configurations can be compared over time or between two devices, with the differences highlighted for the user.
  
- **Advanced VLAN management:** A new, easy-to-use VLAN management interface allows the user to create and assign VLANs across the entire network, without having to access each network device individually.
  
- **Audit change reporting:** ProCurve Manager Plus now provides a configuration change log for all configuration changes. The audit log is provided to help customers meet compliance reporting regulations.
  
- **Device software updates:** ProCurve Manager Plus 2.2 automatically obtains new device software images from ProCurve and updates devices, allowing the user to download the latest version or choose the desired version. Updates can be scheduled easily across large groups of devices, all at user-specified times.
  
- **Investment protection:** The modular software architecture of ProCurve Manager Plus 2.2 will allow ProCurve to offer network administrators add-on software solutions that complement their needs.
  
- **SNMPv3:** ProCurve Manager uses the secure SNMPv3 management protocol to help ensure the privacy of management data between the management server and the managed devices. It is integrated with HP OpenView's Network Node Manager implementation of SNMPv3.
  
- **HP OpenView Network Node Manager Windows integration:**
  - **Installation:** The option to integrate with HP OpenView Network Node Manager (NNM) Windows may be selected at installation. ProCurve Manager Plus 2.2 will then integrate with the 6.41 and 7.x versions of NNM.
  - **Auto-discovery coordinated with OpenView Network Node Manager:** When integrated with NNM, ProCurve Manager Plus 2.2 will use NNM's discovery database and then retrieve additional ProCurve device data for the ProCurve Manager Plus database.
  - **Topology mapping:** When integrated with NNM, ProCurve Manager Plus will provide ProCurve device icons to the NNM topology map. The NNM topology map will be the primary mapping mechanism, with the option to launch the ProCurve Manager map views as well. This allows easy identification of ProCurve devices and allows the user, via right mouse button selection, to retrieve a ProCurve Manager Plus map of all selected ProCurve devices.

- **Network management security:**
  - **Secure shell for telnet and command-line interface (CLI):** Secure shell (SSH) provides encrypted data when ProCurve Manager Plus 2.2 is accessing a device via telnet and CLI. This helps ensure that changes to network devices are safe from tampering by hackers.
  - **RADIUS authentication of network management administrators:** ProCurve Manager Plus 2.2 can be configured to use the RADIUS industry -standard protocol to authenticate network management administrators. This authentication approach allows for simplified and standardized user administration.
  
- **Advanced monitoring and diagnosis:**
  - **Inter-switch consistency checking between connected ports:** Switches connected to one another in a network should have consistent configurations on each side of the connected ports. ProCurve Manager Plus 2.2 checks these parameters to help ensure the proper reliable behavior occurs over these links. Parameters checked include VLAN ID and name, full -duplex/half-duplex, VLAN tagged vs. untagged packets, QoS, and priorities. These checks save administrator diagnosis time and ensure reliable data exchange.
  - **Boot ROM consistency check:** ProCurve Manager Plus 2.2 checks Boot ROMs during the firmware update process to ensure that the target firmware has the required Boot ROM before updating of the firmware is allowed. This prevents network downtime and alerts administrators of needed upgrades before errors occur.
  - **Find Port diagnostic capabilities:** ProCurve Manager Plus 2.2 provides the ability to find a switch port when given an IP or MAC address. This function can be initiated manually by the administrator or automatically by an external event. This enables administrators to automatically isolate problems to specific ports and take automated corrective action, saving time and reducing network downtime.
  - **Enable port mirroring and remote port mirroring on select ProCurve switches:** ProCurve Manager Plus 2.2 can set port mirroring and remote port mirroring ports on select advanced ProCurve switches.
  
- **Friendly port names:** ProCurve Manager Plus 2.2 allows the administrator to set and display friendly port names.
  
- **Command-line interface:**
  - **CLI command policies saved by name:** Configuration policies represented by a series of CLI commands can be saved by a unique name to be executed again for repetitive tasks.
  - **CLI policies can be triggered by external events:** Configuration policies represented as a series of CLI-like commands can be automatically executed when configurable external events trigger them.
  -

## HP ProCurve Identity Driven Manager 2.2 – 100 Users License Features Integration:

- **Dynamic and automatic synchronization of managed users from the authentication database** Identity Driven Manager provides administrators with the ability to synchronize users from Active Directory.
  
- **Mapping of groups from the authentication database** When synchronizing Identity Driven Manager from the authentication database, Identity Driven Manager will map the user's group to an access policy group (APG) with the appropriate policies.

- **Import users from an XML file** If current user data is not kept in an LDAP-compatible data store, Identity Driven Manager can read users and group membership from an XML-formatted file.
- **Works with industry-standard RADIUS protocol** Access policies are set based on RADIUS authentication, so customers have a choice of authentication database and a reliable, time-tested technology for authentication.
- **Security:**
  - **Dynamic access rules based on time, location, and user system are formed by administrators and dynamically applied** Access-policy communities have rules that are applied to each user in the community based on the time, location, and user system. These dynamic inputs are evaluated and the policies applied according to the user's profile, so the appropriate access policies are applied at the right time and place.
  - **Automatic VLAN assignment** Users are automatically assigned to the appropriate VLAN based on their identity, community, location, and time of day.
  - **Integrity state checking** Identity Driven Manager will receive an indicator of the client's state of health from the client system's security agents (third parties). These third-party clients will perform integrity checking and report it to Identity Driven Manager in the standard RADIUS data stream.
  - **User-based access control lists (ACLs)** Users can be allowed or denied access to network resources (i.e., servers, printers) based on the destination IP address or a range of IP addresses, and/or to network services (i.e., Web pages, instant messaging, or FTP) based on well-known or user-defined TCP/UDP ports.
- **Performance:**
  - **Traffic prioritization** Traffic prioritization (QoS) is automatically set for the user based on identity, community, location, and time of day.
  - **Rate limits** Rate limits are automatically applied to user traffic based on identity, community, location, and time of day.
- **Ease of use:**
  - **Auto-discovery of identity objects** RADIUS servers with IDM agents, RADIUS realms, and users are automatically discovered at login and assigned to a default policy group for the administrator's attention.
  - **Grouping of users into access-policy communities** Identity Driven Manager allows administrators to group users into access-policy communities to apply policies.
- **Resiliency and high availability:**
  - **The Identity Driven Manager agent can run independently and be deployed to redundant RADIUS servers** The Identity Driven Manager agent can be deployed to each RADIUS server in the network. The agents are able to operate independently from the Identity Driven Manager server, allowing Identity Driven Manager to be deployed to multiple redundant RADIUS servers providing authentication services for network devices.
  - **Identity Driven Manager updates the server with transactional resilience** The Identity Driven Manager agent uses a transaction process to update Identity Driven Manager server data. If the connection from the agent on the RADIUS server to the Identity Driven Manager server is broken, the agent will queue the data until the connection is restored and then transmit the data, as appropriate, back to the Identity Driven Manager database.

## ANNEXURE-II

### Technical Specifications for Passive Structured Campus Network – KU - CIRM

#### 1) Power Cat Cable Enhanced Category 5

Specification	Description	Compliance
<b>Features and Benefits</b>	Molex PowerCat Enhanced Category 5 4 Pair UTP cable, has been designed to support high speed data transmission systems such as Gigabit Ethernet. This cable is part of the PowerCat System range of products, that have been designed based on the PowerSum principle of crosstalk measurement and testing. We recommend that the full range of PowerCat products is used in a system to maximise cabling performance, providing extended frequency response and enhanced bandwidth. Supports ultrahigh speed data networks such as Gigabit Ethernet (1000 Base -T).	
<b>Mechanical</b>	Conductor Size : 24 AWG Solid Soft Plain Copper Primary Insulation : Solid Polyethylene Nominal o.d. : 0.97mm Twinning : Left hand lay < 20mm Sheath : PVC Type 1 BS6746 Minimal Wall : 0.6mm Nominal o.d. 5.5mm	
<b>Electrical</b>	D.C. Resistance: <90 ohm/km Attenuation(db/km): @ 1MHz -1.9 @ 16MHz -7.2 @ 100MHz -19.6 @ 150MHz -25.6 @ 250MHz -33.9 @ 350MHz -38.8 Crosstalk (dB) @ 1MHz -80 @ 16MHz -58 @ 100MHz -44 @ 150MHz -38 @ 250MHz -35 @ 350MHz -36	

#### 2) Category 5e Patch Cord

Specification	Description	Compliance
<b>Features and Benefits</b>	Molex Enhanced Category 5 Slim Boot Patch Cords provide an effective solution to the problem of patch cord congestion in high density 1U active equipment. Ideal for hubs/switches where space between individual RJ45 jacks is limited. The slim boot patch cord still provides the assurance of anti-snag latch protection whilst eliminating the difficulty associated with patching and re-patching traditionally larger over-moulded patch cords. Manufactured using cable which is performance tested to 350MHz, Molex patch cords exceed the requirements of TIA/EIA 568-B, ISO/IEC 11801 Class E (2002) Second Edition and AS/NZS 3080:2002. Molex Enhanced Category 5 patch cords are also available in 5 colours, various lengths and supports 10Base-T, 100Base-T, ATM, 1000BaseT and emerging applications that may operate at extended frequencies.	
<b>Mechanical</b>	Conductor Size: 24 AWG Stranded Anneal Copper Dielectric Material: Polypropylene Ø of Dielectric Core: 0.96   3mm Sheath: PVC Type 1 BS6746	

<b>Electrical</b>	Voltage: 125V Current: 1.5A Contact Resistance: max. 20mW Insulation Resistance: 500MW Dielectric Withstanding Voltage: 1000V RMS	
<b>Plug</b>	Operating Life: Minimum 750 insertion cycles Contact Material: Phosphor Bronze Contact Plating: 50 micro-inch gold Material: Polycarbonate UL94 V-0	

### 3) Information Outlet

<b>Specification</b>	<b>Description</b>	<b>Compliance</b>
<b>Features and Benefits</b>	The PowerCat Unshuttered DataGate Plus jack is designed to maintain clean secure connections. The DataGate Plus jacks utilise patented IDC V-shaped contacts that flex not fatigue when terminated and is uniquely designed to allow for rear and side entry cable termination. The provision of side entry termination ensures bend radius is maintained in installations where there is limited space - optimising the performance of your Enhanced Category 5 solution. The DataGate Plus jack is engineered for use across a broad range of Molex products.	
<b>Commercial Standards:</b>	TIA/EIA-568-B.2-1 Component Compliant, FCC Subpart F 68.5 Compliant IEC-603-7 Compliant ISO 11801 Class E Compliant ETL Verified for Category 6 Component Compliance Pending Approvals: UL-1863	
<b>IDC Connector</b>	Plastic Housing: Polycarbonate, UL94V-0 rated or equivalent Operating Life: Minimum 200 reterminations Contact Material: Copper Alloy IDC Contact Plating: Tin/Lead Plate Contact Force: 100g minimum Wire Accommodation: 22-24 AWG solid	
<b>Electrical</b>	Interface Resistance: 20 milliohms Initial Contact Resistance: 2.5 milliohms Insulation Resistance: >100 Megaohms	
<b>Jack Connector</b>	Plastic Housing: Polycarbonate, UL94V-0 rated or equivalent Operating Life: Minimum 750 insertion cycles Contact Material: Copper Alloy Contact Plating: 50µ" Gold/100µ" Nickel Contact Force: 100g minimum Plug Retention Force: 15 lb.	

### 4) SC – LC Multimode Patch Cords 3 M Length

<b>Specification</b>	<b>Description</b>	<b>Compliance</b>
<b>Features and Benefits</b>	Molex offers a comprehensive range of Fibre Optic Cable assemblies for OM1, OM2 and OM3 Multimode type applications	
<b>Characteristics</b>	Cable : 2 Fibre zipcord Outside Diameter : 2.9mm x 6.0mm Buffer Diameter : 900µm tight buffer Strength Member : Aramid Yarn Min. Bend Radius : 30mm Bandwidth : 62.5/125µm (OM1) @ 850nm 200MHz/km	

	<p>@ 1300nm 500MHz/km  50/125µm (OM2) @ 850nm 500MHz/km  @ 1300nm 600MHz/km  50/125µm (OM3) @ 850nm 2000MHz/km  @ 1300nm 500MHz/km  Attenuation :  62.5/125µm (OM1) @ 850nm &lt;3.5dB/km  @ 1300nm &lt;1.0dB/km  50/125µm (OM2) @ 850nm &lt;3.2dB/km  @ 1300nm &lt;0.9dB/km  50/125µm (OM3) @ 850nm &lt;2.5dB/km  @ 1300nm &lt;0.7dB/km</p>	
<b>Cable Sheath</b>	<p>Material : PVC; UL Listed OFNR, CSA  Colour : Orange  Grade : FDDI Riser Rated OFNR</p>	
<b>Connector</b>	<p>Connector End 1 : 2xSC connectors, multimode,  zirconia ceramic ferrule,  composite body  Insertion Loss (End 1) : 0.50 dB max.  Connector End 2 : 2xLC connectors, multimode,  zirconia ceramic ferrule,  composite body  Insertion Loss (End 2) : 0.10 dB max.  Retention Strength : 100N  Operating Temperature : -10°C to 60°C</p>	

**Annexure-III**

**Bill of Quantity & Proforma of Active Components for Price Bid:**

Sl. No.	Description of Equipment	Make	Specifications	Unit	Rate (Rs.)	Qty	Amount (Rs.)
01	HP ProCurve 6 Open Slots L3/L4 Core Switch	HP PROCURVE	Annexure-I	01 No		01 No	
02	HP ProCurve 20-Port 10/100/1000 + 4-Port Mini-GBIC Module	HP PROCURVE	Annexure-I	01 No		01 No	
03	HP ProCurve Switch zl 875W Power Supply	HP PROCURVE	Annexure-I	01 No		01 No	
04	HP ProCurve Gigabit-LX-LC Mini-GBIC	HP PROCURVE	Annexure-I	01 No		28 Nos.	
05	HP ProCurve Server Farm Giga Switch	HP PROCURVE	Annexure-I	01 No		01 No	
06	HP Procurve 4 Open Slots L3 Distribution Switch	HP PROCURVE	Annexure-I	01 No		02 Nos.	
07	HP ProCurve Switch vl 4-port Module with 4 Mini-GBIC XCVR slots	HP PROCURVE	Annexure-I	01 No		06 Nos.	
08	HP ProCurve L2 Edge Switch	HP PROCURVE	Annexure-I	01 No		14 Nos.	
09	HP ProCurve Manager Plus 2.2 – 100 Users License	HP PROCURVE	Annexure-I	01 No		01 No	
10	HP ProCurve Identity Driven Manager 2.2 – 100 Users License	HP PROCURVE	Annexure-I	01 No		01 No	
<b>TOTAL (Rupees Inclusive all taxes)</b>							

**Annexure-III**

**Bill of Quantity & Proforma of Passive components for Price Bid:**

**Specifications as listed at Annexure-II**

<b>SL NO</b>	<b>Item</b>	<b>QTY</b>	<b>Unit Price Rs.</b>	<b>Amount Rs.</b>
1	Molex 6 Core Outdoor Single Mode Armored Fiber Cable	80 Mtrs.		
2	Molex 24 Port LIU Rack Mount BLK	2 nos		
3	Molex Patch Cord LC-SC SM Duplex 3M Length	4		
4	Molex Patch Cord LC-SC MM Duplex 3M Length	24		
5	Molex Connector SC SM Simplex	12		
6	Molex Adaptor SC SM Simplex	12		
7	Molex Connector Panel	2		
8	Molex Blank Panel	2		
9	Molex Cat 5 E I/O	264		
10	Molex Surface Mount Box	264		
11	Molex Cat-5E patch cord 3 ft	264		
12	Molex Cat-5E patch cord 7 ft	264		
13	Molex Cat-5E câble (BOX=305 Mtrs.)	20		
14	1" PIPE with accessories Supply	3500		
15	FO Cable Laying charges	80		
16	Connector Termination charges	12		
17	FO Preparation charges	2		
18	1" PIPE Laying Charges	3500		
19	UTP Cable Laying charges	6100		
20	I/O BOX Impacting charges	264		
21	Patch Panel Impacting charges	12		
<b>TOTAL (Rupees Inclusive all taxes)</b>				

**System-in-Charge  
CIRM, University of Kalyani**