Campus Wide Network

Bids are invited to set up a campus wide network at IISER Mohali. The requirements are:

1. **Connectivity of all the buildings to the Informatics building.** An optical fibre backbone linking all the buildings has been set up. The key requirement is to set up the core switch and also network switches in each building to provide connections from all the locations to the core switch. Buildings to be connected are given below. Buildings marked in bold are to be provided with a 10 Gbps connection. All other buildings are to be provided with a 1 Gbps connection.

   All buildings are to be connected in a redundant manner with full duplication of channel and switches.

   Master Switch proposed in each building should be able to divide the intra-building network into sub-networks, where required. It should be possible to define such sub-networks using a network management system.

   - **Academic Blocks 1 & 2. [500+ points each]**
   - Animal Facility. [30 points] [Connection via AB-1 on copper]
   - Lecture Hall Complex. [20 points]
   - **Central Analytical Facility. [50 points]**
   - **Informatics. [250+ points]**
   - Administrative Block. [100 points]
   - Health Centre. [30 points] [Connection via CAF]
   - Multi-story apartment blocks ME [32 points], MI [28 points], MJ [28 points] & MK [24 points], and, Duplex houses [20 points]. Central hub in MJ block.
   - Visitors Hostel. [120 points] [Connection via MJ block]
   - Institute Works Department. [30 points] [Connection via MJ and VH]

1. **Connectivity to the Campus-wide Wifi network from the core switch.** This connection should be 10 Gbps.

2. **Connections to the server farm from the core switch.** This connection should be 10 Gbps over copper. All servers will be located in a rack adjacent to the core switch hence the distance will be less than 5m in all cases, as measured along the cable route. Provision should be made for connecting up to 24 servers. Some network servers will have an additional 1 Gbps connection in the DMZ.

3. **Intra-Building Networks.** Network switches for intra-building networks need to be set up in some buildings. Network cabling in these buildings is not a part of this purchase process and will be set up independently. The buildings where network switches need to be set up are:

   - Academic Block 2. [Total points 500+, Subnetworks: 10]
   - Informatics Building. [Total points 250+, Subnetworks: 5]
   - Administrative Block. [Total points 100, Subnetworks: 4]
   - Health Centre. [Total points 30, Subnetworks: 2]
   - Animal facility. [Total points 30, Subnetworks:2]
   - Lecture hall complex. [Total points 20, Subnetworks: 2]
   - Institute Works Department. [Total points 40, Subnetworks: 2]

A diagram describing the topology of the campus-wide network is enclosed.

Real time reporting over the network and programmable alarms over e-mail and SMS should be possible in all network switches in the proposed solution.

A centralised network management system should be supplied along with the hardware, making it possible to manage and monitor the entire network from a single location.

All network switches should support IPv6 in the proposed configuration, without addition of any hardware, software or licence requirement.

The vendors will be required to station an engineer on site for two weeks after completion of installation.

Comprehensive training of our staff on management and usage of the equipment is to be provided on site. Detailed documentation and quick reference cards should be provided as a part of this training.

All equipment should come with five years of comprehensive on site warranty. Support and upgrades for any software supplied in this order should also be made available at no additional cost for a period of five years.

Vendors should submit a detailed proposal alongwith drawings, part numbers and detailed technical specifications of each network switch and device used in the proposal. Technical details of any software to be supplied should also be provided. Open source software will be given preference in technical evaluation. Proposals that meet basic requirements will be evaluated on technical grounds as follows:

- Technical rating of the overall proposal: 25 marks.
- Features related to network management system: 15 marks.
- Features related to alarms in case of a failure: 10 marks.

Any queries should be e-mailed to headcc@iisermohali.ac.in. Communication by other means is discouraged.