

INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH MOHALI



LIMITED TENDER DOCUMENT OF A Wi-Fi SOLUTION FOR IISER MOHALI

Tender Ref. No. - IISERM(145)13/14 Pur.



INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH MOHALI

(Established by Ministry of Human Resource Development, Govt. of India)
Sector-81, Knowledge city, PO-Manauli, SAS nagar Mohali-140306, Punjab

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PAN No - AAAAI1781K, TAN No. -PTLI10692D

IISER Mohali

IISERM(145)13/14 Pur

24th September 2013

NOTICE INVITING QUOTATION

On behalf of the Director, IISER Mohali, sealed tenders in two bid system are invited for the following items. Please send your offer duly superscribed: (i) Name of the quoted item, (ii) Reference of this letter and (iii) Opening date of Quotation on top of the one big envelope contains three sealed envelopes , Technical bid, Financial bid, and EMD.

a). Last date of receipt of tender	18 th October 2013 before 1 pm
b). Opening date of tender	18 th October 2013 at 3pm (Technical bid)
c). Proof of concept	Time Window for proof of concept is from 23 rd October – 24 th October 2013.
d). Opening of financial bids	28 th October 2013 at 3 pm
e). Pre-bid Meeting	26 th September 2013 at 3pm
f). EMD in shape of Demand draft prepared in favour of “The Registrar, IISER Mohali” and payable at Mohali/Chandigarh for Rs 1,00,000.00 is must, failing which your offer shall not be considered.	

Offers should reach the office before the last date and time. The tenders shall be opened on the given schedule in the presence of bidders, if any.

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Assistant Registrar (S&P)

TENDER DOCUMENT OF A Wi-Fi SOLUTION AT IISER MOHALI.

IISER Mohali invites tender for a campus wide Wi-Fi solutions for its sector 81 campus. Tender invitation for the campus wide WI-Fi solution for both high (hot zone) and low(cold zone) density for 1500 users with technology upgradable up to 2500 users.

Zone -1 (Hot Zone) : Includes Academic Area, Hostel Area, Informatic Centre, Residential Complex, Guest house .

Zone -2 (Cold Zone) : Rest of the campus .

1. Invitation for Bids

1.1 IISER Mohali wishes to set up extendable, seamless, controller based Wi-Fi facility in the IISER Mohali Campus, sector-81 , Knowledge city, Mohali. Tenders are invited in two bid system (technical part & commercial part should be in separate sealed envelopes). Technical part should include detailed solution along with the product specifications and bill of materials/quantities (BOQ).

Tendering process will have the following phases :

1. *Submission of Technical & commercial bids.*
2. *Opening of technical bids*
3. *Proof of concept.*
4. *Opening of commercial bid.*

1. Technical bid must include detailed specification & quantities of equipment.
2. Proof of concept(**POC**): This process will include the real time system testing of the proposed WI-FI network solution setup by each company.

3. The commercial bid should include :

- (i) Cost of equipment,
- (ii) Installation,
- (iii) On-site CMC for 5 years
- (iv) 5 year operational maintenance.

Technical specifications for the required wireless network:

1. Centralized Management and Identity Store

- a. A scalable, single interface for the management of all infrastructure comprising the solution.
- b. Comprehensive reporting and fault finding tools.
- c. Role Based Access Control to all management and reporting functions.
- d. Identity store/database for all users, which will be used for the authentication of users on the network.

2. Outdoor Wi-Fi Access Point (AP)

- a. Water and dust proof plastic enclosure with flexible wall, pole or ceiling, mounting options.
- b. External N-type antenna connectors offering the flexibility for higher gain antennas if needed.
- c. All standard antennas must be included.
- d. Support for high-density user deployments.
- e. The access point must have integrated guest access.
- f. Auto-sensing 10/100/1000 on the network port for 802.11n APs.
- g. Support 802.3af standard Power-over-Ethernet (PoE) with full capacity operation at full power of the radios .
- h. Support the use of 802.11n and MIMO technologies on 2.4GHz radios.
- i. Support out-of-the box, auto-configuration across layer-2 and layer-3 networks without having to enter configuration information into the AP.
- j. Minimum of 8 SSIDs and BSSIDs should be available on each AP.
- k. AP must be Capable of multifunction services, including: data access,intrusion detection, intrusion prevention, location tracking,and RF monitoring with no physical “touch” and no additional cost.
- l. Enable ease of deployment and ongoing management with automatic adjustment of individual AP power and channel setting to maximize performance around other APs, limit the effects of interference (both 802.11 and non-802.11), and detect and correct any RF coverage holes.
- m. Support DFS certified radios that can enable 14 additional 5GHz channels, thereby increasing total WLAN capacity.
- n. Prevent data loss with adaptive RF management that provides the capability to pause channel scanning / adjust RF scanning intervals based on application and load presence.
- o. Dynamic load balancing to automatically distribute clients to the least loaded 802.11 channel and AP. Load balancing must not require any client specific configurations or software.
- p. Load balancing across bands and steering of dual-band capable clients from 2.4GHz to 5GHz in order to improve network performance, without the use of client specific configurations or software.
- q. Traffic shaping capabilities to offer air-time fairness across different types of clients running different operating systems. The aim is to prevent starvation of client throughput, particularly in a dense wireless user population without the use of client specific configurations or software.

- r. Co-channel interference management in order to prevent adverse effects of operating multiple APs in the same channel while in close proximity. This is aimed at improving overall WLAN capacity by enabling the same 802.11 channel to be re-used at shorter distances (for instance within 2.4GHz band, where 3 x 802.11 channels are available).
- s. Authentication & Encryption, support the following:
 - i. MAC based authentication.
 - ii. 802.1X based authentication.
 - iii. WPA2/AES link layer encryption.
 - iv. LEAP, PEAP, EAP-TLS, EAP-TTLS, EAP-GTC authentication.
 - v. Integrated RADIUS termination for increased security and cryptographic offload.
 - vi. Must support EAP-PEAP and EAP-TLS using EAP-MSCHAPv2 or EAP-GTC.
 - vii. RADIUS
- aa. Web-Based Authentication (e.g. Web Auth/Captive Portal):**
 - i. Integrated into the virtual controller/switch.
 - ii. User name and password authentication, as well as support for token- based authentication.
 - iii. Option for simple logging of user name used for entry.
 - iv. API's for scripted control of these features from external tunneling via IPSec/GRE to a generic L3 switch/router (located in the DMZ) for ease of deployment and reduced cost system.
 - v. Airtime-based bandwidth contract for the guest SSID to preserve channel access for particular SSIDs. As an example, granting of a higher percentage of airtime to employee SSIDs as opposed to guest SSIDs.
 - vi. Packet-rate based bandwidth contract for individual guest users for increased control of guest traffic usage.
 - vii. 802.1X based guest access using a local database on the switch/virtual controller that can be used to authenticate users.
 - viii. Secure tunneling via IPSec/GRE to a generic L3 Switch/router(located in the DMZ) for ease of deployment and reduced cost.
- bb. Intrusion Detection / Prevention**
 - i. Wireless Intrusion Detection Solution (WIDS)
 - ii. Ability for the system to provide visibility into all 802.11 Wi-Fi channels with configurable channel dwell times, including the detection of rogue devices / RF activity occurring between channels.
 - iii. Accurate and automatic method of classifying real Rogues (on network) versus interfering neighbor networks, irrespective of whether Rogues have encryption or not, and without client software or upgrades to current network.
 - iv. Protection for Man-In-The-Middle and Honey-Pot attacks.
 - v. Protection for denial of service attacks.
 - vi. The system must support Pairwise Master Key (PMK) caching.

cc. Security

- i. Security enforcement for wireless users through the use of a role-based, stateful firewall that can be directly integrated with the roles defined within existing authentication servers.
- ii. Dynamic, stateful firewall for access rights into the network once authenticated, based on source, destination, and/or ports.
- iii. Capability to ensure privacy protection by preventing firewall and IP spoofing attacks, and by enforcing TCP handshake.
- iv. Access policies should provide for automatic capture of data and syslog of access rule triggers for audit and analysis.
- v. Rules for access rights based on any combination of user identity, and device identity.
- vi. The firewall must be able to take action including allowing the traffic, denying the traffic, rejecting the traffic, routing the traffic.
- dd. Be able to handle local extreme Operating Temperature conditions .

Evaluation Process Criteria:

- 1. 50% weightage will be given to financial bid and 50% to technical bid(out of which 25% is for POC).

2. Proof of Concept(POC):

- Project Name : Campus Wide Wi-Fi for IISER Mohali Campus.
- Description : Project comprises of campus wide WI-Fi solution for both hot zone and cold zone for 1500 users with technology upgradable up to 2500 users.
- Zone -1 (Hot Zone) : Includes Academic Area, Hostel Area, Residential Complex, Guest house .
- Zone -2 (Cold Zone) : Rest of the campus .

2.1 Field Operational Testing Grid(Indoor & outdoor): Hostel Area

2.3 Score Card for POC

S.no	Parameters	25
1.	Distance versus bandwidth	
2.	Concurrent speed requirements(single & multiple user)	
3.	Max. Speed at LOS & BLOS	
4.	NMS	
5.	Controller	
	TOTAL	

Installation work will be done in the following phase-wise manner :-

PHASE	Area to be covered
Phase-I	hostel complex 4 hostels (V,VI,VII,VIII), common area & space within the hostel quadrangle.
Phase-II	Academic Block-1, Lecture-hall complex, Central Analytical Facilities building, Informatic Centre, entire academic area,outdoor area in academic region with a view to provide signal to the admin block.
Phase-III	Residential area, guest house, IWD building.
Phase-IV	Admin block in academic area, shopping complex,sports area etc. At this stage the entire campus outdoors will be covered.

Hot-Spot requirement

following area needs some Hot-Spot to be installed ,details as follows:

Academic Block-1

Total capacity	No. of classroom	Total capacity	No. of Lab
60	8	210	6

Lecture Room Complex

Capacity	No. of classrooms
120	3
250	2

Informatic Centre

Capacity	No. of labs
150	2

Terms & Condition:

- Once the work is awarded , the installation will be done in modules. Each module will be installed, tested & payment will be released accordingly before moving on to the next module.
- Installation must be initiated of whole equipment within 6 weeks after the allotment of tender. IISER Mohali shall not be responsible for any postal delay about non-receipt/non-delivery of the documents.
- Kindly quote 5 years Comprehensive maintenance cost for each equipment.
- As specified above that installation will be done in phases so quotations are required to be presented phase-wise.
- Cost of Operational Maintenance should be quoted separately
- Hot-spot should be quoted in a modular way, numbers can be change later.
- We expect replacement warranty by OEM covering parts(against manufacturing defect) and performance of the installed devices beyond the on-site warranty period.
- The bidder shall provide evidence for round the clock on- call service is available to attend system failures when reported. In the events of system failure, the bidder / manufacturer shall repair or replace the defective products at its own cost, within the time limits.
- Company should attend the site within 24 hours of complaint lodged, if not attended within 24 hours, a penalty of 0.25% for each day maximum upto 5% of the CMC charges will be deducted.
- Bidder shall ensure availability of adequate spares and support for the installed system. OEM must authorize the bidder for taking up the maintenance operations for it and should ensure the continuous supply & support for the said period.
- WI -FI installation process is required to be proceeded in phases.
- Release of payment will be done phases wise only after realization of required result of the setup.
- Wireless connectivity should be available in the entire 125 acre IISER Mohali campus through a single network.
- The companies who are not OEMs for the goods and services offered must enclose authorization letters from the respective OEM. The OEM shall take the over all the responsibility of the vendor. This undertaking should also clearly mention that the spares availability will be ensured for at least five years in future.
- The Vendor/ OEM must be an ISO: 9001 / 14001 /18001 certified.
- The Vendor / OEM must have service center to provide services within 24 hrs. of intimation.
- Tenderer are advised to study all technical and commercial aspects, instructions, forms, terms and specifications carefully in the tender document. Failure to furnish all information required in the Tender Document or submission of a bid not substantially responsive to the tender document in every respect will be at the tenderer's risk and may result in the rejection of the bid.
- Sealed offers prepared should be submitted to Director, IISER Mohali, not later than the date and time laid down, at his address given.
- All bids must be accompanied by a bid security of Rs. 100,000/- in the form of Bank. draft/Bankers Cheque drawn from a scheduled bank in favour of the Registrar, IISER Mohali payable at Chandigarh/Mohali.
- The draft must be in a separate sealed envelope indicating the amount, has to be attached with Technical Bid.
- The Director IISER Mohali reserves the right to reject any or all tenders without assigning any reason whatsoever.
- The tenders will be opened on the date and time indicated in the presence of tenderers if any present on the occasion. If the date of opening is declared to be a holiday the tenders will be opened on the next working day.

- Institute reserves the right to terminate the contract at the end of any module/phase if the results are not satisfactory.

1. Clarification of Tender Document

All queries of the tenderer's will be addressed in the pre bid meeting. No other mode of queries will be entertained.

2. Amendment of Tender Document

- At any time prior to the last date for receipt of bids, the client may for any reason, whether at its own initiative or in response to a clarification requested by a prospective Tenderer, modify the tender Document by an amendment.
- The amendment will be notified by e-mail.
- In order to afford prospective Tenderers reasonable time in which to take the amendment into account in preparing their bids, the client may, at its discretion, extend the last date for the receipt of the Bids.

3. Language of Bids

The bids prepared by the Tenderer and all correspondence and documents relating to the bids exchanged by the Tenderer and the Client, shall be written in English language, provided that any printed literature furnished by the Tenderer may be written in another language so long as accompanied by an English translation in which case, for purposes of interpretation of the bid, the English translation shall govern.

Inviting firms :

Dated : 24th September 2013

Sr. No.	Firm Name	E-mail ID
1.	M/s CSINT	Rajesh.thakur@csint.in , info@csint.in
2.	M/s Convergent	sachin@convergentindia.com
3.	M/s Intec Infonet	sales@intecinonet.com
4.	M/s Printlink computer & communication	admin@printlinkindia.com
5.	M/s OST Electronics	sales@ostindia.com
6.	M/s I Value	Jatin.dev@ivalue.co.in
7.	M/s Fore Solutions P Ltd	sugam@foresolutions.net
8.	M/s AGC Networks	info@agcnetworks.com