



भारतीय सूचना प्रौद्योगिकी संस्थान, इलाहाबाद Indian Institute of Information Technology, Allahabad

An Institute of National Importance by Act of Parliament
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Expression of interest for upgradation/replacement of EPABX system at IIIT-A

IIIT-A runs an EPABX system since July 2004 to cater telephony needs of 754 licensed users at its Jhalwa campus.

Following is under consideration-

Option 1:

- 1) Upgradation of EPABX
 - Up gradation of existing EPABX system to support 1200 users.
 - Up gradation from analog to digital setup to support VOIP, SIP & Video conferencing services.

Option 2:

- 2) Replacement of existing setup with latest make model (any make model) along with Buy back of existing.

Current status of EPABX and future interest scope.

Institute has centralized telephone exchange with 1000 nodes MDF and Underground internal wiring for telephone connectivity across the campus. Uninterrupted power supply and proper cooling of exchange room is ensured. Existing EPABX system has been terminated at our MDF for 20 digital lines and 600 analog lines. 30 channel 2 mbps PRI link from BSNL has been terminated on a dual port PRI card of the EPABX system for providing DID, STD, LOCAL (0 dial) facilities. User are divided into different group depending on the facilities provided on their sets as pure intercom user, intercom with 0 dial (local calling) and intercom with 0 dial & STD facility. Currently 20 Siemens-opti point 500 entry handsets for digital and 500 sets are used for analogous telephony connection.

Institute plans integration of telephony services over Ethernet along with computer network related services to provide VOIP, SIP and Video Conferencing etc. related services. The institute desires that the service provider need to maintain exchange for at least 3 years after installation and commissioning. Further AMC may be considered subject to satisfactory performance of service

providers. The new solution is targeted for next 10 years up to maximum 1500 users. Accordingly scope of up gradation is desired in the new solution. Provided solution should integrate the existing and node analog & digital connection handsets. Proposed solution should integrate and use existing 500 analogous lines and handsets. In case of up gradation, the prior purchased licensed should also be integrated/ upgraded with no additional cost.

Institute may increase bandwidth of PRI link of BSNL/ Any other service provider depending upon requirement. Proper storage and computer interface should be provided with new solution for storing call logs. Any additional computer related hardware required in the proposed solution will be provided by institute. In case in proposed solution if any open source/propriety software needs to be install for VOIP, SIP and Video conferencing etc. related services, the required computer hardware/peripheral will be provided by institute.

Suitable rearrangement of number of lines for telephony services in place of the existing utilization status may be allowed with new proposed system for any combination of offered functionality such as digital, analog, VoIP and sip.

In case of complete replacement of existing setup old system will be taken back by the service provider under buy back option. The agency needs to ensure maximum utilization of existing telephony infrastructure for optimized cost saving.

General Technical Specifications to be expected with new proposal.

1. The exchange shall be based on state of art technology, with industry standard processor and should switch simultaneously Voice, Data & Images without any degradation of Service quality.
2. The system should be based on Server–gateway concept. The Server should be built on Industry standard.
3. The ultimate capacity supported by the offered system shall be Minimum 1200 extensions. This capacity should be achieved without addition/cascading the call server.
4. The system should be capable of supporting IP, Analog, Digital Extensions and SIP extensions from day one. All necessary hardware should be provisioned day one for this.
5. The PBX should support hot standby and hot swappable configuration for server based central processing unit and data storage media.
6. The environmental set up for the operation of electronic exchange should be so engineered that the humidity & dust is effectively controlled. Operating temperature range of the exchange shall be 18oC to 35oC.
7. The system shall be IP/SIP enabled telecom server. The switch should support MGCP protocol / Session Initiation Protocol (SIP) for transmission of voice over IP network. It should also support G.711 & G.729A encoding standards. The system should support IP Video Telephony.

8. The system shall support ISDN between premise equipment such as PBX's and desktop equipment such as voice terminals and data terminals.
9. The system should be totally non-Blocking type and all the port cards should have equal access to any free available time slot and should have equal access time to TDM Bus. System should be based on Universal port architecture.
10. The exchanges shall support Caller Line Identification for all ISDN & IP network subscribers including analog subscribers.
11. The system shall be capable of use as a local, tandem, transit exchange or combination of these. When put in network it shall support the networking features like Automatic alternate routing, Uniform dialing plan, travelling class of service, D-channel backup in case using ISDN-PRI. System should also support the latest networking standards like Q SIG with upgradability to Asynchronous Transfer Mode (ATM).
12. The system should support standards-based multi-site networking, using QSIG, H.323 trunks or advanced networking, to interoperate with other EPABX's, allowing feature transparency.
13. The system should support BRI/ PRI/ T1/ E1/ E1R2/ Analog Trunks.
14. The system should have in-built 2 port auto-sensing 10/100 Mbps LAN Switch (Layer 3)
15. The system should support X.21/V.35 WAN Interface.
16. The system should support internal MOH (Music on Hold), which should be uploaded using the. Wav file and should have an audio input port for external MOH connectivity.
17. System should support standards-based CTI integration with 3rd party applications.

Institute is open for any better service/solution proposed for state of the art telephony infrastructure at the campus. Institute is willing to explore additional new age technologies and facilities currently offered in this field. The interested firms may visit campus to study existing setup so that better solution can be planned. The interested firms are requested to submit EOI for Option 1 and Option 2 separately latest by 30/06/2016. The firms would be called for presentation and then tender for participation will be floated.



(Dr. Seema Shah)

Deputy Registrar (S&P)

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- Hon'ble Director for kind information.