

भारतीय उष्णदेशीय मौसम विज्ञान संस्थान  
INDIAN INSTITUTE OF TROPICAL METEOROLOGY,

(पृथ्वी विज्ञान मंत्रालय का स्वायत्त संस्थान, भारत सरकार के अधीन)  
(An Autonomous Institute of the Ministry of Earth Sciences, Govt. of India)

**Ordinary Post**

सं. / No. PS/128/92/2013/

दिनांक / Date :

मेसर्स./ M/s.

प्रिय महोदय / Dear Sirs,

“दिनांक \_\_\_\_\_ की पूछताछ से \_\_\_\_\_ की अनुक्रिया में दिनांक \_\_\_\_\_ की नवोदित दर सूची,” लिफाफे पर लिखे मुहरबंद निवोदित दर सूची निम्नलिखित भण्डारों की आपूर्ति के लिए संस्थान दिनांक \_\_\_\_\_ के 12.00 घंटे तक निमंत्रित है जिन्हे उसी दिन 15.00 घंटे तक खोला जाएगा।

Quotation in sealed cover superscribed there on Quotation due on **27.03.2014** in response to Enquiry No. **PS/128/92/2013** dated **20.03.2014** are invited for the supply of under-mentioned stores so as to reach this institute latest by **12-00 hours on 27.03.2014** which will be opened on the **same day** at 15-00 hours.

सामान्यतः खोलने के दिनांक से कम से कम 60 दिनों की अवधि तक यह निवेदित दरसूची वैध रहेगी।

The quotation shall normally remain valid for a minimum period of 60 days from the date of opening

इस पष्ठ की दूसरी और छपे अनुदेशों को ध्यान में रख कर निवोदित दरसूची भरी जाएगी।

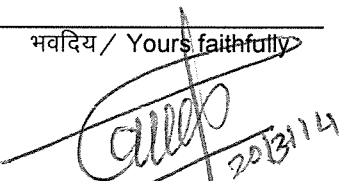
The quotation shall be filled in with the consideration to the instruction printed overleaf.

क्रम सं. Sr. No.	भण्डार का विवरण Description of Stores	इकाई Unit	मात्रा Quantity
01.	Supply & Installation of : - <b>EPABX system with buyback of existing EPABX system</b> (Specifications – As per enclosure)	<b>System</b>	<b>01 System</b>

- Note:-**
- (1) **Enquiry Letter No. and due date** should be mentioned on the top of envelope.
  - (2) If above item is available on **Rate Contract** basis, then please specify accordingly in the quotation. Also enclose Rate Contract copy.
  - (3) Technical Literature/Pamphlet, if any, may please be enclosed to quotation.
  - (4) Quotation by fax / e-mail will not be considered.

एस.टी./सी.एस.टी./आदि के लिए संस्थान कोई रियाती फार्म नहीं दे सकता।  
This Institute is unable to furnish any Concessional form for S.T / C.S.T. / etc.

भवदिय / Yours faithfully

  
(V. R. Mali)  
Scientific Officer Gr.-I  
for Director

तार : ट्रॉपमेट, पुणे Grams : TROPMET, PUNE

फैक्स : Fax : (020) 25865142 दूरभाष / Telephone : 25904200

डॉ. होमी भाभा मार्ग, पाषाण / Dr. Homi Bhabha Road, Pashan, पुणे / Pune – 411 008 (भारत/India)

निविदा प्रस्ताव के लिए अनुदेश / INSTRUCTIONS TO TENDER

1. नियत तारीख के बाद प्राप्त दर सूची पर विचार नहीं किया जाएगा।  
Quotation received after the due date will not be considered.
2. दर सूची स्पष्ट अक्षरों में भरी जानी चाहिए और अधिलेखन/सुधार, काटछांट आदि हो तो उनको विधिवत अनुप्रमाणित करना चाहिए और आपके पत्रशीर्ष पर ही होना चाहिए।  
Quotation must be filled in legibly and overwriting/corrections, erasures etc. if any, must be duly attested, and ON YOUR LETTERHEAD ONLY.
3. पूछताछ पत्र में दर्शाई गई इकाइयों के अनुसार दरें प्रस्तुत की जानी चाहिए। जब दरें विशेष रूप से उल्लिखित इकाइयों से अलग हों तब इकाइयों के बीच संबंध दर्शाया जाए।  
The rates shall be quoted according to the units indicated in the enquiry letter. When the rates are quoted in units different from those specified, the relation between the units shall be furnished.
4. प्रस्तावित भंडार अधिमान्य रूप से संबंधित भारतीय मानक विनिर्देशों के अनुसार होने चाहिए।  
The stores offered shall preferably be according to the relevant Indian Standard Specification.
5. दर सूची में सुपूर्दगी की सही अवधि तथा सुपूर्दगी की शर्तों का उल्लेख किया जाना चाहिए।  
The exact delivery period and terms of delivery shall invariably be mentioned in the quotation.
6. पाषाण स्थित इस संस्थान में (स्थानिक फर्मों के लिए) सुपूर्दगी की शर्त पर और "एफ ओ आर पुणे (बाहरी फर्मों के लिए) सुपूर्दगी" के आधार दी जानेवाली दरों को वरीयता दी जाएगी।  
Preference shall be given to rates quoted as delivery at this Institute premises at Pashan (for local firms) and as FOR Pune (for outstations firms)
7. दरों में सभी प्रभार कर, ड्यूटी आदि को समाविष्ट करना बेहतर होगा साथ ही इन प्रभारों को सुस्पष्ट और पृथक दिखाया जाना चाहिए।  
The rates preferably include all charges, taxes, duties etc. also these charges shall be shown distinctly and separately.
8. विक्री कर की रियायती दर के लिए फार्म (डी) या फार्म (ए.एफ.) जो भी उपयुक्त हो, उसे संस्थान नहीं दे सकेगा।  
The Institute will not be in position to furnish form (D) or form (AF) as the case may be for concessional rate of Sales Tax.
9. रकम का भुगतान 30 दिनों के अंदर किया जाएगा।  
Payment will be made within 30 days.
10. आपूर्ति के लिए जारी आदेश में दी गई निर्धारित अवधि के अंदर पूर्णरूप से सुपूर्दगी दी जानी चाहिए। आपूर्ति में या रद्द सामग्री को बदलने में असफल होने पर आदेश बिना पूर्व सूचना से रद्द किया जा सकता है तथा आगे आपके जोखिम और लागत पर अन्य स्थान से सामग्री प्राप्त की जाएगी।  
An order for supply when placed, must be completed in full within the delivery period indicated on the order. Failure to supply or replace the rejected materials if any, will render the order liable to be cancelled without notice and the material will be procured elsewhere at your risks and cost.
11. ऊपर बताए गए अनुदेशों की पूर्ति न करनेवाली दर सूचियों पर विचार नहीं किया जाएगा।  
Quotations, not fulfilling the above instructions, are not likely to be considered.
12. किसी निविदा दर सूची या उसके किसी अंश को संस्थान बिना कारण बताए स्वीकृत अथवा अस्वीकृत करने का अधिकार सुरक्षित रखता है।  
The Institute reserves the right to accept or reject any quotation or part thereof without assigning any reason thereof.
13. वारंटी : आपूर्तिकर्ता 12 महिनों के लिए यह वारंटी देगा कि उसके द्वारा आपूर्ति की गई माल, कारीगरी, माल और विनिर्माण की सब त्रुटियाँ और दोषों से मुक्त हो, उच्च कोटि के हो और संस्थापित और सामान्य रूप से स्वीकृत मानकों के साथ मिलते हो, विशेष विवरण की पुष्टि करते हो और यदि प्रचालित होने वाले हो तो सही ढंग से प्रचालित होने चाहिए।  
Warranty : The supplier shall be given a minimum warranty for a period of 12 months to the materials supplied shall free from all defects and faults in materials, workmanship and manufacture shall be of the highest grade and consistent with the established and generally accepted standards shall be inconfirmatory with the specifications and shall be if operable operate properly.

नियम और शर्तें ( जारी )

Terms and Continued (Contd.)

14. दर पत्र में निम्नांकित बातों के संदर्भ में स्पष्ट जानकारी दी जानी आवश्यक है जैसे कि युनिट कीमत, विक्री कर, परिवहन, संक्रमणकालीन बीमा, स्थापित करने का खर्च और उसकी वॉरंटी। विक्री कर में कोई माफी या छुट मिलने के बारे में संस्थान कोई प्रमाणपत्र जारी नहीं करेगा। अपुरी जानकारी देनेवाले दरपत्रोंके बारे में कोई विचार नहीं किया जाएगा तथा रद्द किया जायेगा।

Quotations must clearly indicate the features offered Unit Price[ Sales Tax, Transport, Transit Insurance, Installation charges and one year on-site warranty. Institute cannot furnish any certificate for exemption or reduction in Sales Tax etc. Incomplete Quotation will not be considered and rejected.

15. अग्रिम का भुगतान नहीं किया जाएगा।

No advance can be paid.

16. केंद्रीय उत्पाद शुल्क कर के वेतन से संस्थान को छुट प्राप्त हुई है और अगर आवश्यक हो तो अनुरोध पर विमोचन प्रमाणपत्र जारी किया जायेगा।

Institute is exempted from the payment of Central Excise duty and exemption certificate will be issued on requested, if required.

17. भुगतान नियम निम्न प्रकार से है :-

Payment terms will be as follows :

- i) स्न्तोषजनक प्रतिष्ठपना के बाद 90% भुगतान।

90% Payment after satisfactory installation.

- ii) राष्ट्रियकृत बैंक द्वारा बैंक गारंटी का प्रत्यक्ष क्रियान्वयन होने के पश्चात 10% का भुगतान होगा, यह वॉरंटी अवधि के समापन तक लागू रहेगी, जिसकी अवधि बढ़ाई जा सकती है।

10% Payment after execution of Bank Guarantee from a Nationalised Bank which will be valid till the expiry of warranty period including extension if any.

18. उपकरण स्थापित करने के पश्चात स्वीकृति की सभी मानके जाँच पडताल कि जाएगी। स्वीकृति के ऐसे परीक्षण पूरे हो जाने के बाद ही संबंधित उपकरण का स्वीकार किया जायेगा।

All standard acceptance tests will be carried out after installation the equipment will be taken over only after successful completion of acceptance tests.

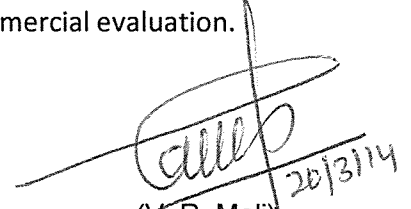
19. उसकी कीमत स्थिर और अपरिवर्तनीय होनी चाहिए और उसमें कच्चा माल और घटकों की लागत में वृद्धि होने पर या रुपया - विदेशी मुद्रा के विनिमय दर में बदलाव आने पर भी कोई परिवर्तन नहीं होगा।

The price should be firm and irrevocable and not subject to any change whatsoever, even due to increase in the cost of raw materials and components and Rupee-foreign exchange conversion rate.

20. उपकरण प्राप्त होने के पश्चात एक महिने की अवधि में स्थापना प्रक्रिया पूरी होनी चाहिए।

The installation process should be completed within one month from the date of delivery.

21. Technical qualified vendors will only be considered for commercial evaluation.

  
(V. R. Mali)  
Scientific Officer Gr.-I  
for Director

**Indian Institute of Tropical Meteorology  
Pashan, Pune – 411 008**

(Enclosure to Enquiry Letter No. PS/128/92/ 2013/ \_\_\_\_\_ dated 20.03.2014)

**Specifications for “EPABX System” Qty - 01System.**

**General Requirements**

Institute is having an old LG make Aria 300 EPABX system catering the Analog extensions and Audio codes IP PBX for IP telephony systems. Institute intends to upgrade the EPABX with the latest technology hybrid communication system (Analog + IP) with 500 extensions (Analog/Digital/IP)(300 in Main Building + 100 in HPC + 100 in CCCR) with buy back option for LG Aria 300. Vendors are requested to do a site survey before offering the solution.

**Pre-Qualification Criteria: (Documentary Evidences may be submitted along with tender)**

- (1) The vendor should have executed orders of Supply, installation, Testing & Commissioning of EPABX System, during the last three year to colleges /universities/ Central Govt. Depts., /Central Govt. PSUs/Consumer Society approved by Central Govt. / State Govt. Dept.
- (2) Vendor should have successfully supplied, installed, commissioned 02 (**two**) similar type of the system in recent three years.
- (3) Vendor should have at least 08 years of experience of maintaining such system.
- (4) Copy of PAN Card, TIN NO. VAT /CST / Service Tax registration certificate may be submitted along with tender.
- (5) The system quoted should be upgradable up to 2000 extensions.

**Specifications:**

- IP based Communication Server should be a full-featured IP based communications system providing a rich feature set of the system, with pure Voice over IP (VoIP) communications, across corporate Local and Wide Area Networks (LAN and WAN).
- The system should be full featured, modular and expandable for port capacity.
- Should be ROHS complied as green product with power saving
- System should supports traditional circuit switching as well as VoIP functionalities.
- Support feature transparency over networked PBXs.
- Universal Port Architecture that has the flexibility to accommodate station terminal equipment, trunks and adjunct processors in any available slot in the system.
- Multiple networking options supporting PSTN (analog and digital) and TIE trunk (analog, digital and IP) without additional external equipment.
- Universal IP port gatekeeper control signaling for both Station and Trunk.
- Remote sites should be survivable and fully operational even if the central site fails, or the WAN connectivity between the remote site and central site fails.
- Support wide range of terminals including analog phone, digital phone, IP phone (H.323 & SIP), soft phone, and IP DECT phone.
- The proposed system shall facilitate user-friendly computer telephony integration (CTI).
- Basic telephony functions should be provided in one system without additional servers such as publisher, TFTP server and other adjunct servers.
- System should supports built in ACD function and no external server should be needed for ACD functionality.
- Minimum communication must be provided after discharge backup battery (Power failure transfer).
- The IP Phones must be designed to provide a converged infrastructure at the desktop, with a 10/100/1000BASE-TX connection to the LAN and built-in hub for a PC connection to the telephone itself. IP Phone must be Modular in design and flexible to incorporate more number of keys without replacing Phone, i.e. 6 or 12 key phone can be upgraded to 24 key whenever required protecting initial investment just by replacing key Module/pad.

- System should be offering features with enhanced user interface. On the WAN side, the system must provide peer-to-peer connections over IP networks with the voice compression.
- Besides, the system must provide legacy line / trunk interfaces to support the existing Time Division Multiplexing (TDM) based infrastructure, such as analog telephones, digital telephones, analog networks and digital networks.
- Both peer-to-peer connections and TDM-based connections should be controlled by the CPU board. The CPU should incorporate a built-in Device Registration Server (DRS) and a single interface point of IP connection to IP telephone,

#### **System Highlights:**

- Pure IP System capable TDM configuration
- The PBX should support both pure IP switching (peer-to-peer connections) and Time Division Multiplex Switching. The pure IP switching is provided for communications between IP
- On the other hand, the TDM switching is provided for communications between legacy stations/trunks. Connection between IP network and legacy network is made via VoIP board on the CPU board, which converts packet-based voice data to TDM-based voice data, and vice versa.
- Powerful CPU Board with Built-in Functionalities
- The CPU board of the system should be like a heart of pure IP connections and TDM-based connections. The CPU board must employ a 32 bits microprocessor. With this processing power and DSP technology, it must integrate the following functions.
  - DTMF receivers
  - Caller ID receivers
  - Caller ID senders
  - MF senders / receivers
  - In-Mail
  - VoIPDB
- In addition, by means of today's advanced LSI technology, size of the CPU board is minimized, and VoIP which has VoIP NIC port (Gigabit Ethernet) must be mountable without additional slots in the KSU.

#### **Intelligent Networking**

- Should Support peer-to-peer IP feature transparency, point-to-multipoint IP feature transparency or TDM-based feature transparency.
- Should provide one system look for multi-site implementation with centralized unified systems management.
- Should Support feature transparency with remote office equipped with other IP PBX models from the same vendor.

#### **System Management**

- The PBX system should be managed under one single management interface.
- Functionality distributed with call control intelligence residing in site for a multi-sites PBX environment.
- Support remote maintenance by serial interface and/or TCP/IP interface.

#### **System Features**

##### **The system should support the following features:**

- Malicious Call Trace
- Call waiting services
- Hot line
- Music on hold including the music sources
- Operator (console button) and station (dial access) to radio paging including tone-to-rotary conversion as necessary
- Trunk answer supervision by battery reversal or metering pulse
- Intercom blocking
- Restriction and unrestricting of telephones
- No Attendant Service.

- QSIG Networking conforms Trunk to Trunk Connections
- Support different voice encoding technique include G.729a, G.711, G.723.1
- Peer to peer support
- Backward compatibility for both hardware and software must be supported. Clear migration strategy must be illustrated.
- Support H.323 and SIP standard phones.

#### **System Interfaces**

- Availability of voice messaging system interface.
- Availability of call accounting system interface.
- Availability of interface to other IP applications.

#### **Service Features**

- Support authorization code (at least 10 digits).
- Support accounts codes (at least 10 digits).
- Support forced accounts codes (at least 10 digits).
- The user is allowed to key in at least 24 dialed digits to cater for called number as well as account codes.
- Call Forwarding set by Direct Inward System Access (DISA).

#### **Call Routing & Class of Service**

- Support Least Cost Routing
- Routing must allow user to route dialed 0, 00, 01 or 011 calls over different routes.
- Support fifteen classes of service and ring-down to operator

#### **Traffic Management**

- Traffic statistics recording should be available.

#### **Station hunting technique**

- Circular
- Pilot
- Secretarial
- Uniform Call Distribution

#### **Terminal Details**

- Legacy Terminals (Analogue & Digital), IP Terminals, IP DECT, IP Soft Phone, GSM / SIP Mobile, Standard IP Terminals.XML Applications on IP Terminals. Messaging Waiting & CLIP on Analogue. Wideband Codec.

#### **Digital Terminal Set Physical Features**

- Must have option to use wired Handset or wireless Handset with Dial pad and at least 8 BLF/LED keys.
- Same Digital/IP Terminal must be upgradeable for blue tooth handset connectivity by just replacing wired handset to Blue tooth Handset
- Alphanumeric LCD tilt able display with 3 lines (24 characters per line); additional
- Backlighting that remains illuminated for approx. 5 s.
- Multiple line appearances with LED indication
- Integrated Full-Duplex speakerphone with adjustable volume control
- Speakerphone should allow on-hook dialing
- Availability of various phone models supporting 8 to 32 programmable line/feature keys with capability to store up to 24 digits
- Availability of fixed feature keys
- Faceplate overlay must be a snap-on clear plastic material
- Easily accessible data port for modem connection or fax machine use
- Soft tone electronic ringer with adjustable High-Low settings

- Line powered (No external power or user installed batteries)
- Availability of HOLD button
- Availability of Digital Multi-Line Station
- For wall mounted version, comes with snap-in cable connectors

#### **Digital Terminal Basic Call Features**

- Extension to extension dialing
- Call waiting
- Call hold
- Distinctive ringing
- Eight party conference
- Call forward on busy
- Call forward on no answer
- Call forward all calls
- Internal and external queuing
- Automatic Recall
- Automatic Line Preferences
- Remote Call Forwarding (External Call Forwarding)
- Do Not Disturb
- Busy Override
- Internal Paging Through Telephone
- Multiple Appearance/Bridged Station Lines
- Manual Signaling (Boss/Secretary Button/Buzzer)
- Boss/Secretary Intercom
- Trunk Queuing with Callback
- Station Queuing with Callback
- Multiple Call Forwarding options
- "Off Premise" call forwarding
- Support display/block caller ID for both incoming and outgoing call

#### **Fully Featured IP Telephony Support**

- IP Ports (Stations-Trunks)
- Distributed media gateways (analog/digital station, ISDN PRI trunk interface)
- Failover resiliency

#### **IP Terminals**

- IP Terminal with Color LCD Touch Screen with COLOUR DISPLAY
- AND xml supports With BACKLIT LCD AND KEY PAD
- Must have option to use wired Handset or wireless Handset via Bluetooth support.
- Same terminal must be upgradeable for blue tooth handset connectivity by just replacing wired handset to Blue tooth Handset
- Alphanumeric LCD tilt able display with 3 lines (24 characters per line); additional
- Backlighting that remains illuminated for approx. 5 s.
- The faceplate of the instrument should be changeable with different color option as and when required in future.
- Multiple line appearances with LED indication
- Integrated Full-Duplex speakerphone with adjustable volume control
- Simple upgrade from digital phone to IP phone
- Interface to native IP Telephones (H.323 & SIP)
- Availability of PC Client soft phone
- Availability of wireless IP DECT Handset
- Full-duplex speakerphone
- Easy programming of line/Feature Keys And Fixed Feature Keys
- Support all the features of the Digital terminal
- IP phone should equip with a build in mini switch for connectivity to a desktop/notebook computer
- A user should be able to plug in their IP phone anywhere in the organization and automatically receive calls without administrative intervention.

- The IP phone should be powered via external power adapter, power patch panel or in line power of the switch
- Supports failover resiliency for IP stations across discrete systems, i.e., an IP telephone can be configured behind more than one PBX

#### **Intelligent Attendant Console**

- Availability of PC based and desktop operator console
- Attendant administration with high operability
- Call ID of incoming trunk and station (Alpha Numeric)
- Trunk group busy indicators
- Support trunk group access
- Busy verification of station lines
- Privacy, line lock out
- Attendant controlled conference
- Transfer and extension of calls, both internal and external
- Direct access to paging including the generating of any required tones or pulses
- Release loop control with at least six loops per operator console
- Camp-on
- Intrusion support
- Class of service support
- Indication of the number of calls waiting
- The LCD changes with different call states and instructs the user which Multifunction keys are available for each state.
- Support Multi-function Keys to reduce the number of different buttons and greatly simplify operation. Keys such as Busy Verify, DND Override, etc. only appear when needed.

#### ***Features of Communication Server:***

- Account Code – Forced/Verified/Unverified
- Account Code Entry
- Alarm
- Alarm Reports
- Alphanumeric Display
- Analog Communications Interface (ACI)
- Ancillary Device Connection
- Answer Hold
- Answer Key
- Attendant Call Queuing
- Automatic Call Distribution (ACD)
- Automatic Release
- Automatic Route Selection
- Background Music
- Barge-In
- Battery Backup – System Memory
- Battery Backup – System Power
- Call Duration Timer
- Call Forwarding – Park and Page
- Call Forwarding
- Call Forwarding with Follow Me
- Call Forwarding, Off-Premise
- Call Forwarding/Do Not Disturb Override
- Call Monitoring
- Call Redirect
- Call Waiting/Camp-On
- Callback
- Caller ID Call Return
- Caller ID



- Central Office Calls, Answering
- Central Office Calls, Placing
- Class of Service
- Clock/Calendar Display
- Code Restriction
- Code Restriction Over ride
- Code Restriction, Dial Block
- Conference
- Conference, Remote
- Conference, Voice Call/Privacy Release
- Continued Dialing
- Data Line Security
- Delayed Ringing
- Department Calling
- Department Step Calling
- Dial Pad Confirmation Tone
- Dial Tone Detection
- Dialing Number Preview
- Digital Trunk Clocking
- Direct Inward Dialing (DID)
- Direct Inward Line (DIL)
- Direct Inward System Access (DISA)
- Direct Station Selection (DSS) Console
- Directed Call Pickup
- Directory Dialing
- Distinctive Ringing, Tones and Flash Patterns
- Do Not Disturb
- Door Box
- Drop Key
- Facsimile CO Branch Connection
- Flash
- Flexible System Numbering
- Flexible Timeouts
- Forced Trunk Disconnect
- Group Call Pickup
- Group Listen
- Handset Mute
- Hands free and Monitor
- Hands free Answerback/Forced Intercom Ringing
- Headset Operation
- Hold
- Hot Key-Pad
- Hotline
- Howler Tone Service
- Intercom
- ISDN Compatibility
- Last Number Redial
- LCR-Least Cost Routing
- Line Preference
- Long Conversation Cutoff
- Loop Keys
- Maintenance

- Meet Me Conference
- Meet Me Paging
- Meet Me Paging Transfer
- Memo Dial
- Message Waiting
- Microphone Cutoff
- Mobile Extension
- Music on Hold
- Name Storing
- Night Service
- Off-Hook Signaling
- One-Touch Calling
- Operator
- (OPX) Off-Premise Extension
- Paging, External
- Paging, Internal
- Park
- Power Failure Transfer
- Prime Line Selection
- Private Line
- Programmable Function Keys
- Pulse to Tone Conversion
- Redial Function
- Repeat Redial
- Reverse Voice Over
- Ring Groups
- Ring down Extension (Hotline), Internal/External
- Room Monitor
- Save Number Dialed
- Secondary Incoming Extension
- Secretary Call (Buzzer)
- Secretary Call Pickup
- Selectable Display Messaging
- Selectable Ring Tones
- Serial Call
- Single Line Telephones
- SLT Adapter
- Soft keys
- Speed Dial – System/Group/Station
- Station Hunt
- Station Message Detail Recording
- Station Name Assignment – User Programmable
- Station Relocation
- Synchronous Ringing
- Tandem Ringing
- Tandem Trunking (Unsupervised Conference)
- Tone Override
- Traffic Reports
- Transfer
- Trunk Group Routing
- Trunk Groups
- Trunk Queuing/Camp-On
- Uniform Call Distribution (UCD)
- Uniform Numbering Network
- UNIVERGE Multimedia Conference Bridge

- Universal Slots
- User Programming Ability
- Virtual Extensions
- Voice Mail Integration (Analog)
- Voice Mail Message Indication on Line Keys
- Voice Over
- Voice Response System (VRS)
- Volume Controls
- Warning Tone for Long Conversation

**Compliance Statement**

General System Requirements	Comply (Y/N)	Remarks
State-of-the-art, pure IP technology that supports IP enabled connection and IP peer to peer switching that connects endpoints directly to each other through the network.		
Must support IP endpoints and traditional TDM endpoints		
Proposed system must be the most current system model including hardware in release at the time of installation.		
System must be able to network to other same-type systems using proprietary protocol to share coordinated dialing plans and centralized integrated systems such as Voice and Unified Messaging, Call Accounting and Automatic Call Distribution solutions.		
System OS must not be Universal OS such as windows series.		
System Should not require Expensive/External Servers & Should have its Proprietary OS & should Host in its Own Chassis		
<b>System Architecture</b>		
System Should be RACK Mountable Type Only.		
System must enable IP and SIP telephone calls and features to be passed across an IP network and be able to support various IETF interconnection protocols as well as PSTN interconnection using ISDN PRI/BRI, Digital trunk and analog trunks.		
Should be ROHS complied as green product with power saving		
Max System Capacities		
a)Trunks (200) Any Combination		
b)Extensions (512) Any Combination IP/Digital/Analog		
System should be Modular Type & Should be Easily Expandable from its current capacity to its Maximum Capacity		
System Should be Universal Architecture & Any Card Should be able to accommodate in any Available free Slot		
System must support ISDN BRI interface.		
System Should Support 32/64/128 IP Gate way		
System should have 64 party /128 Ports built in Meet me conference facility with out any additional hardware/software		
System Should Support minimum of 40 port In-SKIN Auto Attendant with multiple layers (at least 90 layers) 32 HRS recording facility for all the extensions. With at least 90 recordable Voice messages of at least 120 Secs duration.		
System Should Support minimum of 40 port In-SKIN Voice Mail with 32 HRS recording facility for all the extensions. (Voicemail for all 500 users without any external hardware)		
Common components of the system including TDM station cards and trunking modules must meet below conditions.		
Single system must support TDM and IP hybrid configuration.		
Single server must support more than 512 IP terminals.		
6 Party Video Conferencing without any external MCU		
System should be able to integrate with room based video conferencing.		
Single license for unified communication client on desktop, laptop, smart phone & tablet.		

<b>Networking Features</b>		
System Should support 16 Node Architecture		
Single Image with Single VRS/VMS,CBS & Single Op Across All the Nodes		
CPU must have both LAN and RS232-C port for maintenance and billing data output.		
<b>IP Phones</b>		
Proposed IP Phone must meet below conditions.		
IP phone must have Hold, Transfer, Conference, Redial, Recall, Speaker Microphone dedicated key.		
256 Color LCD IP phone must be included in proposed IP phone line up.		
Touch panel display IP phone must be included in proposed IP phone line up.		
IP phone must be able to controlled brightness.		
IP phone must have Full Duplex Speaker.		
IP phone must be connected to use headset.		
IP phone must be able to install to wall.		
IP phone must be assigned kind of ringing tone by incoming call, outgoing call and internal call.		
IP phone must have Security key to lock the operation without emergency call.		
IP phone must support XML application.		
IP phone must support Multilanguage display.		
IP phone must have cursor key same as mobile phone.		
IP phone must be installed ringing tone and music on Hold by wav file.		
IP phone must support LLDP/CDP.		
IP phone must support 802.1x authentication.		
IP phone must support phone book feature.		
<b>Digital Sets</b>		
Must have option to use wired Handset or wireless Handset with Dial pad and at least 8 BLF/LED keys via Bluetooth support.		
Same Digital/IP Terminal must be upgradeable for blue tooth handset connectivity by just replacing wired handset to Blue tooth Handset		
Minimum 24 freely programmable/fixed keys with LED's expandable to 32 key without replacing the original Base terminal by just replacing key Module.		
Alphanumeric LCD tilt able display with 3 lines (24 characters per line); additional		
Backlighting that remains illuminated for approx. 5 s.		
The faceplate of the instrument should be changeable with different color option as and when required in future.		
Multiple line appearances with LED indication		
Integrated Full-Duplex speakerphone with adjustable volume control		
Speakerphone should allow on-hook dialing		

Availability of various phone models supporting 8 to 32 programmable line/feature keys with capability to store up to 24 digits		
Availability of fixed feature keys		
Faceplate overlay must be a snap-on clear plastic material		
Easily accessible data port for modem connection or fax machine use		
<b>Soft Phones</b>		
System Should Support Proprietary Soft phones which has Min 6 Video Conference Facility		
Voice must be delivered via Microphone & Speakers		
Voice must be delivered via USB-connected headset or handset		
Soft phone must support Drag and Drop Dialing from other telephone directories such as Outlook, HTML pages, Word docs, etc		
Soft phone must support Microsoft Outlook Integration		
Soft phone must support Chat with other Soft Phone users during a call or conference		
Soft phone must support Caller ID		
Soft phone must support Call Transfer / Call Hold / Do Not Disturb		
Soft phone must support Last Number Redial		
Soft phone must support Programmable Line Appearances		
Soft phone must support Microphone Volume and Muting Controls		
Soft phone must support Call History Log		
Soft phone must support Keyboard or Screen Dial Pad		
Soft phone must support Call recording		
Soft phone must support Instant message		
Soft phone must support Presence feature		
<b>Attendants - Operator Console</b>		
Indicate how the proposed system meets the Attendant – Desk Console specification requirements below.		
Desk console must support both handset and headset.		
Desk console must have up to 6 Loop key and lamp.		
Desk console must have 60 characters LCD.		
Attendant must be able to answer the call by pressed only one individual key.		
Attendant must be able to deny a call by pressed individual key.		
Attendant must be able to select desired trunk by pressed individual key.		
Attendant must be able to monitor or enter into conversation by pressed individual key.		
Attendant must be able to release the other conversation by pressed individual key.		
Attendant must be able to set or cancel a Message Waiting Lamp on station by pressed individual key.		

Attendant must be able to change status by pressed individual key.		
Desk console must support Day and Night mode.		
<b>Session Initiated Protocol (SIP)</b>		
Proposed system must meet below SIP conditions.		
Supplier must provide SIP terminal which be developed by Proposed system manufacture.		
System must support RFC 3261 / 3265 / 3311 / 3325.		
System must support SIP Terminal Authentication.		
SIP call control must be provided by common control device without additional equipment.		
<b>Analog Stations</b>		
Analog station must support following features.		
- CLI on All CLI Analog Phones		
- Speed Calling		
- Call transfer		
- Last number dial		
- Multiple Conferences		
- Call Back		
- Call Waiting		
- Call Pick up		
- Call Forwarding		
- Hot line		
<b>System Feature Requirements</b>		
Indicate how the proposed system meets the traditional feature requirements listed below.		
32 party voice conference* two Groups		
Announcement Service		
Account Code		
Authorization Code		
Automated Attendant		
Automatic Idle Return		
Boss - Secretary feature		
Call Back		
Call Forwarding – Busy Line / Do not Answer / All calls		
Call Pickup		
Call Waiting		
Class of service		
Calling Number Display		
Call Park		
Call Block		
Call History		
Direct Inward Dialing		
Distinctive Ringing		
Do Not Disturb		
Display Reversing		
Dual ringing by Mobility access		
Forced Account Code		

Hotline		
Hands-free Dialing/Monitoring		
IP Device Firmware Remote Download		
Last Number Called		
Multilingual Display		
Name Display		
Off-Hook Alarm		
Power Failure Transfer		
Periodic Time indication Tone		
Group Call (Multiple Conference)		
Phone Book		
Radio Paging		
Speed Calling		
Station Hunting		
Station Message Detail Recording		
Step Call		
SNMP		
SIP Terminal Authentication		
Toll Restriction		
Tenant Service		
Time Forced Release		
Voice Call		
<b>System Management</b>		
The proposed turnkey solution must include a comprehensive system management system for administration of the IP telephony network and meet the following requirements:		
Maintenance software must work on Windows XP, Vista, 7, 2003 and 2008 server.		
Maintenance of System Should be Possible Via Lan / Wan, Digital Terminal as well as via Web Based Tool		



**Bill of Quantities**

SL No	Description	Quantity	Rate	Taxes & Duties	Total
1.	IITM Main Building: Supply and Installation of hybrid PBX with 300 extensions termination of PRI, QSig, E1, SIP licenses, Auto attendant, operator console..etc and integration with present IP Pbx. migrating the present Analog extensions and catering for future requirements of both IP and Analog with all licenses and features loaded.	1 Set			
2.	Supply and Installation of hybrid PBX in HPC building with 100 extensions (Analog & IP) and integration with Main building and present IP Pbx.	1 Set			
3.	Supply and Installation of hybrid PBX in CCCR building with 100 extensions (Analog & IP) and integration with Main building, HPC and present IP Pbx.	1 Set			
4.	Supply and Installation of necessary passive components including cabling as and where required as per the site conditions for ready to use total 500 extensions	1 Set			
5.	Supply and Installation of 100 Analog telephone Instruments as mentioned in the specifications	100 Set			
6.	Supply and installation of 10 IP phones, PoE, touch screen, colour display with 10/100/1000 Network port for data connections.	10 Set			
7.	Buy back offer for present LG Aria 300 (to be reduced in calculation of TCO	1 Set			
8	Warranty and Support for 3 years for the Systems and Instruments	1 Set			
9.	Total [(1+2+3+4+5+6+8) – 7]				

**Note :** (i) **Make, Model name & Warranty Period** of the equipment may be mentioned clearly failing which quotation will not be considered.

(ii) Technical specifications **compliance sheet** may be enclosed along with quotation.


(iii) Total mentioned at Sr. No. 9 will be considered for L1 evaluation.

(iv) Details of taxes, duties, levies may indicate separately.

(v) a) In case of Indigenous Items the offer should contain the Basic Price and percentage of Excise Duty should be shown separately, since IITM, Pune is exempted from payment of Excise duty vide Govt. Notification No.10/97-Central Excise dated 15t March, 1997.

b) IITM is exempted from payment of Customs Duty vide Govt. Notification No.51/96-Customs dated 23rd July, 1996

c) Institute is exempted from paying Local Body Tax (LBT).

  
(V.R. Mali)

Scientific Officer Gr.-I  
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