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ADMINISTRATION OF DAMAN & DIU (U.T.)
POLICE DEPARTMENT, DAMAN & DIU,
DAMAN.

</div>

Tender Notice No. ASP/PMS/DD/Tender/Dial 100/2011-12/349

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Date: 10.05.2012

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<u>LIMITED TENDER NOTICE</u>

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The Dy. Inspector General of Police, Daman & Diu, Daman invites sealed tender on behalf of Administration of U.T. of Daman & Diu for the purchase of **Computerization Dial 100.**

Sr. No.	Description of the items	Quantity
01	**Computerization Dial 100**	01 set

Terms & Conditions: -

1. The tenders will be in two packet system i.e. Packet 'A' containing technical bids and Packet 'B' containing price/financial bids. Both bids shall be in separate envelopes specifically super scribed as Technical Bids & Price Bids. Both envelope should be kept and third envelop which is duly sealed.
2. Price Bids will be opened only after confirmation of Technical Bid.
3. Tender documents along with Technical Specification are available in the Office of the Undersigned, Daman on payment of Rs. 500/- Non Refundable by cash up to **28/05/2012 at 15.00 hrs.**
4. The sealed tender address to the Inspector General of Police, Daman & Diu, Daman 396210 Airport Road, PHQ, Dunetha Nani Daman should reach him on or before Date. **31/05/2012 up to 15.00 hrs.** Over by courier or by R.P.A.D. The cover should be super scribed as **"TENDER FOR PURCHASE OF COMPUTERIZATION OF DIAL 100DUE DATE:-31/05/2012"**
5. The documents attached along with the tender shall be duly attested.
6. The technical bids shall be opened on the same day i.e. on 31/05/2012 at 16.00 hrs. if possible in presence of any bidder/his representative. All bidders are hereby requested to give demo on same day.
7. Tender will submit samples along with the documents while submitting Tender failing which tender is liable to be rejected.

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Sd\-
Addl. Supdt. of Police
Daman and Diu
Daman.

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Copy to:-

1. The District Informatics Officer (NIC)Daman. for Publishing on website.
2. All Head of Office, Daman (U.T.)

TERMS AND CONDITIONS
Terms and conditions for supply of COMPUTERIZATION OF DIAL 100to the Police Department Daman & Diu, Daman.
Tender No. ASP/PMS/DD/Tender/ COMPUTERIZATION OF DIAL 100/2011-12/349
Dated: -   10/ 05/2012

1. The rates quoted should be strictly for free delivery at Daman and will be valid and operative for supply order issued on or before Date 31/12/2012
2. The rates should be quoted exclusive of all taxes.
3. Except CST all other Taxes/Duties/Royalties charges payable on the Sale/Transport etc. within and/or outside the State of Supplier shall be payable by the supplier.
4. No extra charges for packaging, forwarding and insurance etc. will be paid on the rates quoted.
5. The rates should be quoted only for the items specified in the list of requirements and should be for the items of given specifications confirm to the standard (s) requirements of the given specification/mark/ manufactures
6. Rates quoted for items other than required specifications/Mark/ Manufacture may not be considered. However indigenous manufacturers may quote their own makes provided.
7. Where this office does not specify Specifications/Mark/Manufacture, the rate should be quoted only for the first class and standard quality.
8. The decision of the Tender Inviting Officer for acceptance / rejection of supplied including the decision for equivalent specifications, standard and quality etc. of articles shall be final.
9. The tenderer should send in advance or enclose along-with tender an amount of Rs 5625/- as Earnest Money Deposit by drawing a demand draft on any scheduled Bank at Daman in favour of the officer inviting tenders. Tenders received without Earnest Money Deposit will be summarily rejected.
10. (a) The successful tenderer will have to pay within 10 days from the date of demand an amount equal to 10% of the total value of the articles that may be ordered on the amount of Security Deposit in form of F.D.R.
    (b) Non-receipt of the Security Deposit within stipulated time limit will result in automatic cancellation of the order for supply without any intimation.
    (c) However, in case if any articles are received for which the security deposit may not have been deposited, the fully security deposit as may be due from the supplier will be recovered from the bill(s) for such articles
11. The amount of earnest money paid by the successful tenderer (s) will be adjusted against the amount of security deposit to be paid by successful tenderer (s) as per condition No.11 above.
12. The amount of earnest money paid by the tenderer (s) whose tender are not accepted will be refunded to them by Cheque or demand draft as may be refunded to the Tender Inviting Officer
13. Only on satisfactory completion of the supplies ordered for and on payment of all bills of the supplier, as to be admitted for payment, the amount of security deposit / earnest money deposit will be refunded after expiry of guarantee period if any, or any such date / period as may be mutually agreed upon.
14. The Head of Office will consider extension of the time for remitting the security deposit as demanded. However, in case of denial to consider such extension the supplier is bound to abide by the limit given and liable to make good any loss to the government on account of his failure to abide by the time limit.
15. (a) Railway receipt or other transport document should be drawn in favour of the Officer Inviting tender
    (b) Railway receipt or other transport document should not be sent by V.P.P or through any Bank as this being a Government office it is not possible to clear cash demands of post office/ Bank for delivery of B.R. or other transport documents unless we have agreed to it as a special arrangement.
    (c) Railway receipt or transport documents should be sent to this office by registered post immediately on dispatch of goods from dispatching end
16. The supplies of store equipments etc. of inferior quality / standard or of different

specifications other than that ordered/specified on/or incomplete or damaged articles will not be accepted. The supplier will have to replace the same at his own cost and risk on intimation of non-acceptance. However if no communication is received within 15 days from the date of communication. The Tender Inviting Officer will not be responsible for any damage, loss etc. of such rejected articles.

17. In case, failure to replace the unaccepted & rejected articles from supplies made as mentioned in the conditions, the loss undergone by the government will be recovered from the suppliers security deposit / earnest money or payment due of any bill (s) to the extent required.

18. In case of failure to supply the store Machinery & equipments etc. ordered for, as per conditions and within the stipulated time, the same articles will be obtained, if required, from the tenderer who has offered next higher rates or from any other source, as may be decided by the Tender Inviting Officer and loss to Government on account of such purchase (s) shall be recovered from the former suppliers security deposit / earnest money or bills payable. The suppliers shall have no any right dispute with such procedure.

19. Extension of time limit for supplies may be considered by the Tender Inviting Officer up to 50% of the original stipulated time for supplies and the beyond that by the Dy. Inspector General of Police, Daman & Diu, Daman who so ever may competent to accord expenditure sanction or enter into contract with reference to the amount involved in the contract. The extension so granted may be with levy of compensation for delay in execution of supply order up to 5% of the cost of supplies ordered for at the discretion of the authority competent to grant extension of time limit provided such request is made well in time depending upon the circumstances no such decision in the matter will be final.

20. Demurrage charges paid by the Tender Inviting Officer, on account of delayed receipt of dispatch documents/ intimation will be recovered from the bills payable to the supplier.

21. (a) The supplier (S) of the Machinery and Equipments shall have to supply spare parts as and when required on an agreed basis i.e. on agreed discount on the published cataloged/list prices for an agreed period
(b) The supplier (S) shall give adequate advance notice before any spare parts goes out of production to enable the Tender Inviting Officer to order for spare parts required one lot for the life time of respective Machinery
(c) If mutually agreed to the supplier (S) shall make available the blue print drawing etc. of the spares if and when required in connection with main Machinery/Equipments.

22. If at any time after the order for supply of Machinery/store equipments the Tender Inviting Officer shall for any reason whatsoever not require the whole or part of the quantity thereof as specified in the order the Tender Inviting Officer shall give notice in writing of the fact of the supplier(s) who shall have no claim to any payment of compensation whatsoever on account of any profit or advantage which the supplier(s) might have been derive from supply of articles in full but which did not derive in consequence of the full quantity of articles not have been purchased any alteration have been made in the original instructions which shall involve any curtailment of the supply original contemplated.

23. The Earnest Money(s)/Security Deposit(s) paid by the tender earlier against any tender(s) for supply order(s) is/are not adjustable with Earnest Money or Security Deposit required by these conditions.

24. All bills should be in duplicate and should invariably be mentioned the number and date of supply order.

25. All bills should be pre-receipted on a revenue stamp of proper value. Bills which are not pre-receipted on revenue stamp will not be accepted for payment

26. Each bills in which Sales tax is charged must contain the following certificate on the body of the bill **"Certified"** that the goods on which Sales Tax/VAT/Service tax has been charged have not been exempted under the C.S.T/VAT Act or the rules made there under and the amount charged on account of Sales Tax on these goods is not more than what is payable under the provision of relevant act of the rules made there under.

27. The tenders will be opened in presence of tenderers or their representatives. If any, present in the office of the Tender Inviting Officer.

28. **The right to accept or reject without assigning any reasons and or all tenders in part or whole is reserved with the Tender Inviting Officer and his decision(s) on all matters relating to acceptance or rejection of the tenders as a whole or in part will be final and binding to all.**

29. The tender offers received which do not confirm with the terms and conditions of this office will be summarily rejected. However if any firm desires to consider exemption from payment of earnest money deposit certified copies of it's registration with D.G.S&D for specific items should be attached with their tender.
30. If the tenderer whose tender/ quotation is accepted fails to execute the supply order within stipulated time, the Earnest Money Deposit of such tenderer will stand forfeited to the Government.
31. In case the supplier does not execute the supply order in the full placed with him, the E.M.D. of the supplier will be forfeited to the Government and the contract for the supply shall stand terminated with no further liabilities on either party to the contract.
32. No separate agreement will be required to be signed by the successful tenderer(s) for the purchase of the contract for supply. Rates tenderer/ offered in the response to the concerned Tender/ Quotation Notice shall be considered as acceptance of all above terms and conditions for supply for all legal purpose.
33. The bidders provide in formation, as per the enclosed specification details duly signed by him.
34. The bidders should also submit copy of test report from T.B.R.L., Chandigadh, or any other Laboratory which is technically competent to carryout such tests.
35. The bidder should also enclose copy of its supply order to any Central Government/State Government/Under taking, if the same is available with him.
36. If the supply of equipments are not satisfactory or as per specification given in the tender, the same will be rejected by the Tender Inviting Officer and same will have to be replaced by the supplier at his own cost & risk.
37. The supply of equipments should be completed within 01 month from the date of work order/supply order
38. The tendering firm must be registered with the Sales Tax/VAT Dept. and a copy of their registration under the Sales Tax/VAT bearing the TIN Number be provided, besides the Latest Sales Tax/VAT Clearance Certificate
39. The tendering firm will deposit the papers regarding experience supplying items during the last three years for the above item/work, if any
40. No advance payment will be made and no request for increase in the rates will be entertained during the period of supply
41. All the firms participating in the Tender must submit a list of their owners/partners etc. along with their contact telephone Nos. and a Certificate to the effect that the firm is not blacklisted by any Govt. Department nor any Criminal Case is registered against the firm or its owner or partners anywhere in India.
42. Bidders should not be permitted to alter or modify their bids after expiry of the deadline for receipt of bids.
43. The Purchase Committee reserves the rights to reject any tenders or negotiate as per rules
44. The Purchase Committee also reserves the rights to relax any terms and condition in the public interest
45. All disputes subject to the jurisdiction of courts in the Territory of Daman

NOTE:-
A) FOLLOWING DOCUMENTS SHOULD BE SUBMITTED WITH THE ENVELOPE MARKED AS **TECHNICAL BID:-**

1. EARNEST MONEY OF Rs. 5625/-IN FAVOUR OF DIGP/DD.

2. SALES TAX/VAT REGISTRATION CERTIFICATE ALONGWITH TIN NUMBER

3. LATEST SALES TAX/VAT CLEARANCE CERTIFICATE

4. DOCUMENTS RELATING TO PAST PERFORMANCE FOR THE LAST THREE YEARS, IF ANY.

5. A LIST OF OWNER/PARTNERS OF THE FIRM AND THEIR CONTACT TELEPHONE NOS. ALONGWITH A CERTIFICATE TO THE EFFECT THAT THE FIRM IS NOT BLACKLISTED BY ANY GOVT. DEPARTMENT NOR ANY CRIMINAL CASE IS REGISTERED.

6. ANY OTHER RELEVANT IMPORTANT INFORMATION IF ANY.

7. COPY OF TERMS AND CONDITIONS DULY SIGNED WITH SEAL OF THE FIRM, IN TOKEN OF ACCEPTANCE OF TERMS AND CONDITIONS.

B) **PRICE BID** SHALL CONTAIN PRICE ONLY AND NO OTHER DOCUMENTS SHALL BE ENCLOSED WITH THE PRICE BID.

AGREEMENT

Certify that I/We hereby agree to abide with Terms & Conditions as specified in Tender. Forms accepted.

Sd/-
Signature of the Supplier's   Addl. Supdt. of Police
With Seal   PMS Cell,PHQ
                                                      Daman

Date: -   10.05.2012.
Note: - Please return one copy of these conditions duly signed along with your tender/quotation.

SCHEDULE FOR SUPPLY OF EQUIPMENT FOR COMPUTERIZATION DIAL 100 NUMBERS UNDER POLICE MODERNIZATION SCHEME FOR THE PLAN YEAR 2011-2012 FOR DAMAN POLICE, Daman

Sr. No.	Item Details	Qty.
1	**Hardware**	
1.1	IPPBX with Redundant CPU and Power Facility with Automatic Call Distribution Facility configured for Junction side; 10 analog CO junctions (upgradeable to 10),1 ISDN PRI Cards (upgradeable to 4) , Extension side: 10 IP Phone extensions (upgradeable to 30) , 8 Digital Extensions (upgradeable to 10), 50 Analog Extensions (upgradeable to 100).	01 No.
1.2	IP Phones	06 Nos.
1.3	IP wireless phone	02 Nos.
1.4	Digital display phones with CLI Facility	07 Nos.
1,5	Analog Telephones with CLI Facility of reputed make	20 Nos.
1.6	16 Port LAN Switches of reputed make such as CISCO, Nortel or better	As Required
1.7	Head Sets of reputed make such as – plantronics, GN Netcom or better on IP phones and Digital Phones.	20 Nos.
1.8	Heavy duty A-4 Size HP laser printer	01 No.
1,9	Krone MDF open type with frame (commensurate capacity)	01 No.
1.10	Krone MDF to terminate Exchange & field lines (100 pairs)	01 No.
1.11	Wall mounted Distribution Point (DP) to terminate 100 pairs.	02 Nos.
1.12	Commensurate capacity power plant with redundant module of reputed make with minimum 8 Hrs. Power Back –up.	01 Lot.
2	**Software**	
2.1	Call-Centre Supervision Software	06 Positions
2.2	Automatic Call Distribution Software for 20 Agents.	01 Lot.
2.3	Computer Supported Telephony Application/Computer and Telephony Integration System (CSTA/CTI)	
3	**Others**	
3.1	Training	Lot
3.2	System Administration and the maintenance training at the user's location will be structured so as to train 10 (ten) of the Daman Police personal deputed for the purpose.	
3.3	User Operational Training, at the users location , will be structured so as to train up-to 5 (Five) of the purchasers supervisory and training personnel who will in turn train individual operators.	
3.4	Technical Maintenance training to the manufacturer's location to train up to 03 Police Personnel / technicians in the complete trouble shooting and maintenance of the equipment both the board replacement and component level.	
3.5	Earthling as recommended by the manufacture	01 Lot
3.6	Installation, Testing & Commissioning	01 Lot
3.7	Work station PC with Keyboard ,mouse and LCD 20" Monitor for Agent / Supervisor side and for Maintenance purpose.	10 Nos.

Note:-
1.   The bidder shall quote as per above break up giving nomenclature , model No. and quantities etc. of the quoted items fully confirming to the tender specifications. The same should be enclosed un priced in the technical bid and priced in the commercial bid as per the Performa for price schedule.
2.   All CAT-6 Cabling as well as telephone cabling supply and laying charges must be included in exchange price as per actual site survey.

Signature of the proprietor **With Seal**	**Sd\-** **Addl. Supdt. of Police** **Daman and Diu** **Daman**

SPECIFICATIONS AND TECHNICAL DETAILS

1. GENERAL:

1.1 DAMAN Police intends to purchase IP Capable Digital Switch having Automatic Call Distribution(ACD) capability to upgrade the Central Police Control Room operations to improve the Police response to the distress calls received on Police Assistance No.100(PA-100). It is desired to design the system with a long term vision using contemporary technologies in the telecommunication field to integrate with the on going project of GIS/GPS based Automatic Vehicle Tracking System (AVTS).

1.2 The supplier shall be required to provide all necessary interfaces to ensure integration with the proposed "GIS/GPS based AVTS of Delhi Police.

1.3 All the calls received on PA-100 shall be recorded on the integrated Digital Voice Logger to be provided by the AVTS vender. However all interfaces to enable recording will be provided by the Supplier of ACD System

1.4 The system should support Multi User Group Operation enabling partitioning of the call center and user groups on the same Platform.

2. SYSTEM OVERVIEW

2.1 The system should be a Converged PBX System with ability to run TDM and IP on the same platform using the same software load and the system should be capable of supporting Analog, Digital, Wireless , DECT, hard IP Phones of any make & Soft IP phones. The proposed system must have an open architecture.

2.2 The Communication Server should be highly reliable and should ensure uptime of 99.999%. In case of catastrophic failures, the processor in hot standby mode should take over without dropping or interrupting any of the existing calls in progress.

2.3 The communication Server should essentially support State-of-the-Art Digital TDM/PCM switching with capability for IP Enabled delay sensitive voice services. The offered system should be VOIP Compatible to provide/connect and support the following:-

     (a)   Universal Port Architecture

     (b)   Distributed Architecture (Campus)

     (c)   Multi Node Networking

     (d)   Unified Messaging

     (e)   Digital Telephones

     (f)   Direct Inward Dialing(DID)

     (g)   Direct Outward Dialing(DOD)

     (h)   Calling Line Identification(CLI)

     (i)   Data Communication

     (k)   Automated Attendant System

     (l)   Operator Consoles

     (m)   IP Line and Trunk Interface

     (n)   Video Conferencing

     (o)   Voice over IP

     (p)   Interactive Voice Response Features

The system should be designed with distributed switching architecture and display processing intelligence and switching capability throughout the network assuring optimal performance as the network expands, with no single point of failure.

The proposed system should be 100% non-blocking hybrid Digital, IP/ISDN exchange using Pulse Code Modulation (PCM) and Time Division Multiplexing (TDM) techniques for Intra Stack and TDM/H 323/SIP for Inter Stack Communications conforming to CCITT/IEEE recommendations.

The system should have minimum of 2,00,000 Busy Hour Call Completion (BHCC) on converged traffic and provide consistent BHCC irrespective of application Load, System

BHCC rating should be independent of the features configured on the switch. The BHCC should not degrade with addition of applications like ACD, Networking or Skills Based Routing.

System should have duplication of common control modules including processor memory and other interface modules in the control section, Power Supply, Clock, and Memory, Cross redundancy i.e. redundancy built in for both memory as well as CPU must also be available.

The System should support mix of analog, digital and Hard IP (SIP Phones), Soft IP & Wireless IP & DECT/CT2 phones.

The Agents of the Call Centre will be at Centralized location at PHQ with facility for remote agents in the District Police Control Rooms. The system should support placement of all the IP headsets and CTI agents in centralized or decentralized locations without compromising on quality of voice and CTI.DECT(Digital Evaluation Cordl Telecommunication.

The system should be standard 19" rake mountable.

The system software should be based on a real time UNIX based OS.

The offered system should be capable to provide/connect following:-

(a)   Integrated Multiparty Audio Conferencing Bridge
(b)   DECT based Cordless Telephones
(c)   Analog POTS
(d)   Digital Extension with Ethernet Interface
(e)   Wireless LAN Client
(f)   IP Phones
(g)   LAN Connectivity CTI

The System should be computer controlled, digital switching device. The system shall incorporate industry standard minimum 32 bit Microprocessor.

The solution being proposed should have the flexibility to be deployed in different architectures like centralized call processing, multi-site call processing, multi-site distributed call processing, multi-site ACD integration with Network Skills based Routing option.

The bidder shall provide complete Contact Center solution to ensure seamless integration. The components being referred to be voice switches, ACD, CTI, dialer, email and web chat software.

The call centre solution should have the capability to route calls to any location based on resource availability. Across multiple sites the system should have the capability to provide dynamic call, routing intelligence before the call is sent to a call centre destination.

The IP based call centre should have high redundancy and availability through networking.

The System should support H.323 & SIP Protocols natively in the system with capability to add SIP Trunks & endpoints based on RFC 3261 and H.323v4 Trunks & points.

The system should be DC-powered with external rectifier and battery banks operating between-48V to 60V DC 0r 230 V AC with dedicated UPS backup facility

The SMPS based rectifier with 1+1 redundancy facility suitable for Main system (with anticipated that the system is fully expanded and battery is fully discharged) should be of a reputed brand.

The changeover from mans to battery backup and vice-versa should not drop any call in progress.

Batteries: Sealed maintenance free(SMF) battery cells along with the stand for 08 hours back up power supply at full load of above system with anticipated that the system is fully expanded) and connected with the FCBC, in float charging mode.

3.   Configuration
3.1   The System shall be configured for the following minimum requirement:-
3.1.1   Junction side: 10 Analog CO junctions (upgradeable to 10 junction), 1 ISDN PRI
                cards (upgradeable to 4) , 10 IP ports (upgradeable to 15) to connect with IP
Public switches as and when available.
3.1.2   Extension side: 10 IP Phone extensions (upgradeable to 30), 8 Digital Extensions
                (upgradeable to 10), 50 Analog Extensions (upgradeable to 100)
3.2.   Proposed deployment of extensions is given below:-

IP Phones at following locations   Digital Phones at following locations

S No	Location	Qty		S No.	Location	Qty
1	DIGP Office	01		1	CID Crime Branch	01
2	SP Office	01		2	Wireless Control Room	01
3	SP Crime (Office)	01		3	Traffic Unit	01
4	ASP office	01		4	PS Daman	01
5	SDPO	01		5	CPS Moti Daman	01
6	Reserve	01		6	Reserve	02
	Total	06			Total	07

3.3   The up gradation should be possible by simply adding peripheral cards on the same set of control cards & CPU and without compromising on any function/features of this system or any degradation of service.

3.4   The main switch should be upgradeable to at least 1000 ports.

3.5   The switch should be scalable to at least 100 call centre agents without charging the Core Processor Subsystem and associated hardware.

3.6   The switch should support up to 5- digit extension numbering scheme.

3.7   The switch must be capable of supporting automatic route selection for dialed numbers.Also should support digit manipulation on calls traversing through the network.

3.8   The switch should have Universal Ports to accommodate Analogue & Digital Line Cards, Trunks, Data, or any other interface cards and shall be able to function in any slot of the card cage allocated for such interfaces.

3.9   The switch should have hot swapping of all boards without Switching off.

3.10   The switch should support hitless & seamless switchover in case on of the processing device link CPU / hard disk / Memory fails. Existing calls should not get dropped.

3.11   It should have a built in Ethernet port management.

3.12   It should be equipped with storage devices, which will save the data, as well as software necessary for its operation.

3.13   The system should be highly flexible; software configurable managed by very simple console terminals with adequate password protection.

3.14   The man-machine commands should be in simple English. All facilities of management/statistics and supervision must be clearly mentioned.

3.15   The system should support the following signaling protocols; Loop signaling, DTMF, R2MFC, and ISDN-PRI, ISDN-PRI, E1, IP etc. For BRI and PRI terminations, the system should support ISDN feature between extensions.

3.16   To make use of most of the available Switch features (especially for analog terminals), it is required that all subscribers are able to use voice guides during their operations. The voice guides should announce prefix and suffix to be dialed while accessing the system features. At least 10 configurable Voice guides should be provided.

3.17   The CLI of all the calls received on PA-100 should be displayed including the ones barred by the service provider clarify.

4.   LAN CONNECTIVITY & NETWORKING

The equipment shall have the capability to link with Local Area Networks. (LAN) toaccess databases of host computers for Computer Telephony Integration (CTI)

System Administration should be possible across the LAN /WAN connection.

Feature Transparency; In case of a remote unit the system shall provide full feature transparency such as Transfer, Conference, Call forward, Call back etc. to the extensions connected. The remote units shall be centrally manageable from the main console of the main unit.

Media: The remote units should have the option of being configured to be survivable with minimum additional hardware / software and minimum impact on overall network design. Extensions at remote unit should be able to use the trunk facilities on the main unit.

QSIG Compliance: The system shall support QSIG with all supplementary features international signaling standards necessary for multi make/Vendor PABX networking. The OEM should be the member of ECMA forum for QSTG. Bidder to submit documents pertaining to inter-working with other exchanges.

IP Trunks: The system shall also have capability of interfacing remote unit through IP network.

The equipment shall be capable to access existing infrastructure (ISDN) available with the public network service.

The equipment shall support PRI and BRI as recommended by CCITT

This shall be possible by adding an ISDN Trunk interface card directly to any universal port slot of the system.

The system shall be capable of integrated Voice over IP Networking over LAN/ WAN.
This shall be possible by adding an IP Trunk interface card directly to any universal port/slot of the system or by using a SIP gateway server.

The IP telephony Gateway Trunk should provide ISDN PRI private networking features and QSIG.

The IP trunk should be capable of monitoring the IP network for Quality of Service and fallback to traditional trunking in the event of congestion on the IP route at call setup.

With the help of IP Trunk network-wide Calling Party Name and Number display must be possible.

The IP trunk interfaces should support SIP signaling and voice over IP and Comply with standard codec's (G.711, G.723.1, G.729B, and G,729AB). This should support open standards signaling.

It should have built-in Digital Signal Processors (DSP), which encode the audio using the selected codec (coder-decoder, e.g. G.729B). These resources should be used dynamically on call-by-call basis.

It should support the standard audio codec's used in the industry; G.711 (A-law and Mulaw), G.723.1 and G.729 (including G. 729A, G.729B)

It should also support the Real Time Control Protocol (RTCP), a companion to RTP, which provides information about delay, jitter, lost packets, and other data useful for analyzing voice quality. The offered IP telephony server should have capability to monitor and display the above information on call-by-call basis. There should be option of having historical data of such information to help administrator.

It should also support standard Quality of Service (QOS) mechanisms defined in Differentiated Services (DiffServ) and 802. 1p/q required to prioritize audio traffic and to identify VLANs to which the end point belongs across the IP network by marking packet headers in Type of Service (TOS) bits.

5.   SYSTEM MANAGEMENT

The GUI based management software must support the telephony management functions for managing telephony networks including fault, configuration management, performance   monitoring, and security.

5. 2   It should be possible to use this system as standalone platform with local and remote   access, a terminal server with dial through capabilities, a centralized platform for management of multiple systems, or in a client-server environment with the database on a file server.

5.3   The management Server should also supports serial-to-serial and serial to Ethernet connectivity. Serial to serial connectivity should allow maintaining remote access connectivity via a single modem, eliminating the need for multiple modems.

5.3   The management server should provide the wide range of security features including password protection, capabilities, and serial, RAS and WEB access. The dial back   mechanism must be supported.

5.4   The management software must support FTP file exchange protocol. The management software must support LDAP directory synchronization.

5.5   The management software must be able to integrate with Network management software such as HP open view.

5.7   The management software must be able to identify all Alarms of the system and provide visibility into all system alarms.

5.8   The office data shall be stored in a memory. The configuration database should have multiple levels of backup like Flash ROM, HDD etc.

5.9   The system shall be able to reboot with full memory reload at short time.

5.10 Updating of Generic Software shall be possible via any input media. The system software must be the latest available software internationally. The conversions to the latest software release should be supported by previous releases.

6. **MAIN DISTRIBUTION FRAME**

6.1   Adequate capacity open type Main Distribution Frame (MDF) for termination of exchange side lines floor mounted provision of Krone-type connectors, connecting cables, isolation strips etc.

6.2   Open Type Intermediate Distribution Frame (IDF) to terminate field capable and cross jumper with MDF lines, floor mounted with suitable frame and Krone-type connectors of adequate capacity by inserting Krone module. Both MDF and IDF shall be placed in the same enclosure.

6.3   Line Protection Unit: Integrated protection modules and GD tubes on all lines .

6.4   Four Krone –type DP with adequate capacity and working space to be installed at 3rd & 4th floor in the corners of the halls.

7. **MISCELLANEOUS:**

7.1   The system should have the following call setup facilities

      7.1.1   Speed dialing – both system & personal lists

      7.1.2   Automatic Call back, Call Forwarding, Call Pickup, Call Transferring

      7.1.3   Conference – Not less than 6 parties.

      7.1.4   Calling Number and Name display.

      7.1.5   Direct Inward Station Access through password & Direct Inward Dialing.

      7.1.6   Distinctive Ringing: Not less than 3 patterns of ringing to distinguish incoming Intercom call, incoming external call and ringing for call back feature.

a.   Call Hold

b.   Call Park

c.   Do not disturb

d.   Station Control password - user defined.

e.   Scheduled trunk access restrictions.

f.   Hotlines to extension or trunk as well as delayed hotline.

g.   Display phones should display identity of registering server when in idle state.

h.   System should allow defining at least 4 levels of extension priority.

i.   Call waiting option & call wait indication to called party.

j.   Trunk to trunk access restriction.

k.   Flexible definition of barred numbers on trunk access for different extensions.

l.   Trunk access restriction on per user basis.

m.   Authorization codes for users for enabling trunk access from any extension

n.   Differential call completion for internal & external calls.

o.   Boss Secretarial filtering.

p.   Message waiting indication (visual or audible) facility on all phones.

q.   Centralized attendant services.

7.2.   Service and trunk facilities:

7.2.1   Supervisor Right of Way: To intercept busy connections after sending an intrusion tone.

7.2.2   Alphanumeric dialing

7.2.3   Auto attendant users to originate a call by entering a name.

7.2.4   To disconnect a station after a prolonged off hook condition I foud tone to be sent to the station in the lockout mode – Howler tone.

7.2.5   Music On Hold. Capability to define different music sources for internal & external calls (route dependent)

7.2.6   Malicious Call Tracing: Users shall be able to activate a call trace while either engaged in a conversation or after the calling party goes on hook. The relevant Telephone Numbers of the calling and called parties shall be a printout on the System Message Printer.

7.2.7   The system should support corporate directory look up feature on digital & IP phones.

7.2.8   The system should also have a facility to bar all outgoing calls from all extension based on time.

8.   **CENTRLIZED ADMINISTRATION AND MAINTENANCE**

8.1   The administration programming and maintenance of the switch should be possible from an admin PC/ maintenance console

8.2   The admin PC/ maintenance console /agent pc /supervisor pc should be min. Intel dual core (2.93 GHz, 2GB RAM 500GB HDD, Combo Drive , with Windows XP OS/Office XP) of reputed make such as HP/IBM/HCL/Wipro with 20" LCD Monitor etc. with latest configuration.

8.3.   A heavy duty A-4 size reputed make laser printer should be provided to get printouts of various Reports.

8.4   To enable overall management of the system, it should provide menus in English, without obligation to answer questions with hexadecimal characters/ mnemonics. A Windows application would be desirable.

8.5   The switch should have in-built diagnostics capabilities and all error events should get logged and stored in system Hard Disk.

8.6   The system should have in built diagnostic features such as Isolation/detection of faulty line/junction/PRI Link and restoration of faulty lines/junctions/PRI Link after rectification.

8.7   An audio and Visual indication should also be available at the time of fault occurred in the exchange, any card failure or at the time when PRI line is down/faulty.

8.8   Maintenance of the system should be possible over LAN.

8.9   The offered system should have remote maintenance facility using dial up connection for remote maintenance with proper password protections.

8.10   The system should be provided with a maintenance panel for command input and status display.

8.11   The visual indications of the faults should be available at the Maintenance Console in terms of messages.

8.12   The system should support remote fault diagnosis up to card level.

9.   AUTOMATIC CALL DISTRIBUTION SYSTEM

The bidder should provide ACD software for 20 agents (upgradeable to 40 agents) for PA- 100 operation in call centre.

ACD software must supports the call routing based on caller ID, Called Number and skill based distribution. (ANI/DNIS, priority queuing , performance criteria and call volume).

System should allow queuing the same call to a skill set as well as an agent. It should allow queuing the call to more than 40 Skill sets simultaneously. System should allow . prioritizing of agents as well as calls in queue. Should allow up to 20 priorities for agents & 6 priorities for call.

The system should support "True" Skills Based Routing (Skills sets mapped to agents rather than group). System should allow more than 40 skill sets per agent. Agent can be part of a local or network skill set or both. System should be capable of queuing a presented call to a local as well as network skill set.

The system should support Open ODBC Database for enterprise application. integration.

The system should provide Customized Agent Phone sets display for effective handling

The system should have the capability to rout –calls based on the off –site telephone numbers

The system should provide the capability to audibly monitor agent and provide ACD state of the agent.

If there is an available agent that matches the call type the call should immediately be sent to that agent. If there is no available agent the call is placed in queue with music or IVR and IVR feature should become active only in case of all the PA-100 agents are busy.

The routing should be possible on the basis of type of helpline (PA-100 calls, women helpline, and student helpline/senior citizen helpline etc.)

The call transfer facility should be available from one position to another.

If a repeat call from the same originator is received, it should land on the same PA-100 position if it is free.

The system should have the capability to provide Universal Queue for Voice / email/chat on the same platform without adding any new software platform .

The CTI Interface should provide IP address and related Information for supporting IP Call recording in the Extension side Environment.

The system should be capable of reserving agents for pure outbound calls.

System should have the capability of remote supervision of call Centre agents. The system should provide voice guidance to the Remote caller & allow supervision based on agent ID, skill set or Position ID etc.

10.   REAL TIME MONITORING & SYTEM REPORTS

The system should provide graphical real time display and historical reporting of the calls to Agents and Supervisors.

The system should   provide integrated music/informational recordings to callers waiting in queue. System should be capable of announcing position in queue & expected wait time .

The system should be able to transfer attached data with call and screen pops from one agent to another.

The system should provide TAPI 3.0 or better version compliant CTI interface with native integration adapter available for popular CRM. Applications. The CTI application should have integration into the Microsoft. NET framework for smoother integration into desktop applications and an option of using Browser based CTI applications

The system should support Flexible Reporting with open DB access for third party reporting tool access like Crystal Reports and other standard reporting tools.

The system should provide for Call-by-Call Reporting in the Nodal and in future across the network call centre.

The system should provide browser-based access to the call centre application for real time & historical reporting as well as administration.

The ACD system should be capable of providing event based Reporting for each & every call. (Cradle to grave reporting).

Call statistic reports, Call Status Report, Call Audit Report, Call Lost, Calls routed to PA-100, Off hook Delay Report, Call Audit Summarily, Calls routed to Enquiry, Trunk Status Report, On line Trunk Status Report etc. and other reports as required by the user from time to time should be available in the system (various formats such as Excel, Access, Word doc and text format etc.) / monitor as well as printouts. The formats of printouts should be programmable.

11 .CALL-CENTER SUPERVISION SOFTWARE AND FEATURES

11.1   It is intended to have 5 supervisor positions software (03 at PA-100 Call Centre, 01 each in command room and Equipment room) for monitoring and smooth functioning of PA-100 operations.

11.2   All the supervisor positions should have the facility of real time monitoring of the status of PA -100 agents including three inquiry positions and subsequently directing any agent   found not attending calls promptly.

11.3   Supervisor consoles should have the facility of intruding any agent in call centre without   knowing the agent being monitored for predominance evaluations.

11.4   Supervisor should have the facility of direct intrusion to any agent for imparting necessary instructions as and when required.

11.5   The Graphical Real-time Display should provide information in the following formats.

a.   Billboard ; a numeric display of a selected statistic which can be scaled to fill a data window.

b.   Selective statistical Performance charts (vertical/horizontal bar chart, pie chart, vertical horizontal plot chart, time chart)

c Map (optional): represents the physical layout of call centre, in two-dimension space, reflecting agent status.

d. Collection: a collection of up to 6 display (three tabular and three graphical) on one screen

e. Thresholds and highlighting

11.6.   The real-time displays offer data to be collected in the following categories;

a. Agent Display , Skill set Display , IVR ACD –DN , Route Display

b. Network Call Display , Call Centre Summary Display

11.7   Real-time display provide the supervisor to create their own formulas. After the formula is saved, the calculations are performed in real-time on the client PC. Supervisors can customize the columns so that all of their formulas and data requirements are captured.

11.8   Information should also be viewed via the Graphical Real-time Display (GRTD).

11.9   The GRTD should offer the following different types of displays;

a.   Billboard – numerical display of a selected Performance statistic (in large easy-to-read font)

b.   Chart-selective statistical performance charging

c.   Vertical Bar Graph (individual bar), Horizontal Bar Graph (individual bar)

d.   Pie Graph , Vertical & Horizontal Line Graphs

e. Map (optional)- visual representation of selected agent states by their physical call centre position

f.   Collection –choice of 6 displays (three tabular and three graphical) appearing in a collection on one browser window (see figure 7 below)

11.10 With the GRTD, supervisors can select the type of Real-time statistics that they want

displayed in the format of their choice.

a.   Nodal , Application and Skill set statistics can be displayed in Billboard and Chart format.

b Agent Statistics can be displayed in the Map format.

11.11 To handle calls with optimum efficiency , agents must have quick access to supervisors for answers to questions and help in emergencies. In addition to having access to the many agent telephone set features such as answering incoming skill set calls on an In Calls key, supervisor telephone set features offer call centre supervisors the ability to provide agents assistance in treating callers to exceptional service, Provided below is a   list of call centre telephone set feature available to supervisors.

11.12 Display Waiting Calls: Supervisor should be able to view real-time information about their active skill sets by pressing the Display Waiting Calls key. The supervisor's telephone should display the number of calls currently waiting in all the active skill set queues defined for that supervisor, the number of agent positions manned for the active skill set queues with which the supervisor is associated, and the waiting time of the oldest call in the supervisor's active skill set queues. If the skill set queues are backlogged, the supervisor can encourage agents to revise operating procedures so all callers will be served more promptly.

11.13 Display Agents: A supervisor should be able to monitor agents' performance in real time from the telephone set by using the Display Agents key, Activation of this key shows the number of agents who are currently busy, waiting for calls or engaged in personal directory number calls and the number of spare agent positions.

11.14   Individual Agent Keys: Individual Agent keys can provide supervisors with a close-up view of agent performance that may not be apparent from overall traffic patterns.

11.15 Call Agent: The Call Agent key allows a supervisor to call an agent in an effort to establish communication. After pressing the Call Agent key, a supervisor can call the agent by pressing the associated Agent key or by dialing the agent's position ID. The agent is alerted that the call is from a supervisor because the Supervisor key is illuminated.

11.16 Answer Agent: If an Agent requires assistance from his or her supervisor by activating the Supervisor key, the call ring on the supervisor's telephone at the Answer Agent key, With a quick glance, the supervisor knows that the call is from an agent.

11.17 Answer Emergency: When an agent presses the Emergency key, the supervisor's telephone emits a continuous tone and the Answer Emergency key flashes. The supervisor can than connect directly to the agent and the call by pressing the Answer Emergency key.

11.18. Agent Observe: The Agent Observe feature enables a supervisor to listen to an agent's conversation with or without being heard by the parties on the call. An optional tone is available to alert the agent and, if desired , the caller that the call is being monitored. The observing supervisor can also enter the call and initiate a conference.

12.   CTI APPLICATIONS

12.1   The bidder must quote open standard CTI application and protocols for smooth integration with GIS/GPS based AVTS.

12.2   The offered system should support CTI applications (Computer Telephony Integration) for features like Screen Popup through CLI or DNIS (Dialled Number Identification Service).

12.3   All necessary strings/codes/help is required, to be provided by the supplier for the integration of CTI application, supplied by the vender of GIS/GPS based AVTS, if any.

13.   IP HANDSETS (PHONE) FEATURES:

13.1   The hand set should support abbreviated ring, authorization codes, automatic line select, busy/direct station select, call forward no answer , call forward busy, call forward busy – inside calling restrictions/class of service levels, call forward programmable, call park, call pickup group, call privacy, call back/ring again, Caller ID , Camp-on, console queuing, directories, do not disturb, DTMF delivery, headset options, hunt groups, idle line preference, music on hold, night service, "feature access" codes, call "hold", "intercom" capability, last number dial", "multiple appearances of directory numbers", "personal extension", "recall/timed flash", running options by line", "ringing options by station " , simultaneous ring", "speed dial" list, three way calling ", "auto dial" buttons, "busy indicator" lamps"

13.2   The restrictions should be activated on a per station/per Network Class of Service (NCOS) basis.

13.3   The hand set should provide "volume control" for speakerphones and headphones.

13.4   The hand set should provide the display of date and time on display telephones.

13.5   It should be support "call forward no answer:. It should be possible to configure the number of rings before transfer occurs to the specified phone.

13.6   All Handsets should support Power over Ethernet using IEEE 802.3af.

13.7   The handset should have an additional 10/100 base T RJ-45 port for plugging in other terminals like desktops. This should have intrinsic capability to provide the handset's VoIP packets precedence over the adjunct terminal's data IP packets.

13.8   User Facilities:

a) Hands free operation, Separate Headset interface and Toggle switch for Hands free/ Headset.

    b) 5 Speed Dial/Feature Keys , Call Log for incoming & outgoing calls.

    c) Message Waiting lamp, Call duration timer, finger melodies .

    d) First Party CTI Interface to Desktop PC and loon based key labels.

13.9   Customizable Soft Keys for direct access to specific menu items and for emergency calls.

13.10   Directory Features should support last Number Redial, Pre-dialing with Number editing facility and Directory dialing.

13.11   It should be possible to customize the digital key labels per instrument.

13.12   The Phones should also support set-to-set messaging indicating the current state of the called user.

13.13   These terminals shall have the capability for simultaneous voice and data communication.

13.14   These terminals shall have the following features and facilities:-

   a. Display . Alphanumeric LCD display should not be less than 4 lines, each line comprising of at-least 24 characters. The display shall appear prior to the call being answered and shall indicate:

i)   Calling number and name, Time and date, Called Station Status.

ii)   Message waiting indicator, incoming calls (Queued) Indicator.

iii)   User programmable function/feature keys

iv)   Six self-labeling programmable line/feature keys (12 with shift key)

v)   Interactive soft keys provision to access to numerous features.

vi)   Microphone mute, Volume control

13.15   2 user-programmable line/feature keys

13.16   2 user-programmable soft feature keys that provide access to multiple features

13.17   Full Duplex Audio.

13.18   Phone should support Call logs for last 20 incoming & outgoing calls

13.19   Voice Activity detection , silence suppression and echo cancellation
   Automatic IP address assignment via DHCP

13.20   Dual Purpose LED Indicator: Message Waiting(Solid), Incoming Call (Flashing)

13.21   Navigation Cluster (for viewing display screen)

13.22   Should enables communication between a circuit switched telephony network and IP Phones/ clients.

13.23   Should comply with standard codes G.711, G.723.1, G.729B and G.729AB)

13.24   Should operate transparently to the end user when routing over of the IP data network.

13.25   The IP Phone users should gain access to the integrated applications suite supported by the
   main switch including United Messaging Voice Mail etc.

13.26   The IP Phone & II Line Card should support standards-based Quality of Service (QoS) with IP Type of Service (TOS) and IETF defined differentiated Services (DiffServ), allowing us to prioritize and expedite both voice and data traffic on the LAN and ensure clear voice communications throughout the enterprise.

14.   **OTHER TYPE TELEPHONE FEATURES**

14.1   **DIGITAL**

14.1.1 Full duplex hands free talking with echo suppression to suit ambient conditions.

14.1.2 Alphanumeric LCD display with at least 01 lines (24 character per line)

14.1.3 Background lighting that remains illuminated for approx 5 seconds.

14.1.4 System time along with CLI of the caller/called Number should be displayed.

14.1.5 3 dialog keys for easy navigation and selection.

14.1.6 2 keys(plus, minus) for setting ringer volume, ringer pitch, hands free talking quality,
   alerting tone and display contrast.

14.1.7 The digital phones should be compatible to work with hands free operation by attaching headsets and the indication of the same should appear on display. The headsets should be rugged and reputed make with noise canceling facility . Both the models i.e. monaural and binaural should be quoted.

14.1.8 When the headsets is connected the ring should be heard in the headset.

14.1.9 Digital terminals should be able to have connectivity with VDU terminal and DTMF Q23

over-dialing (activation by the * key)

14.1.10   It is expected that all programming information on digital terminals is centralized and saved

        in the switch.

14.1.11   There should be a provision to connect an analog Adaptor, USB Adopter, ISDN Adaptor, ISDN Adaptor, a RS232 Adaptor behind the Digital phones, in order to avail of Desktop Video conferencing (ISDN-Adaptor), Private Fax machine connection (Analog-Adaptor) , or Data Comn. (RS232).

14.2.1. ANALOG:

14.2.1 Caller Line Identification (CLI) of distress caller, Dialed Extension , Call routed
        extension etc. should be displayed along with the real time.

14.2.2. Moving service- without any intervention by the maintenance people, subscriber should be Able to move to a new location and by dialing codes at the new locations, he should retain his existing number.

14.2.3. Padlock with password protection on all telephone terminals .

15.   WIRELESS VoIP(OPTIONAL)

15.1   System must support 802.11 IEEE standards for Wireless Voice over IP.

15.2   The interface card in the system should support G.711 and G.729.

15.3   The Wireless IP hand set must be light weight and support the following features:-

a.   Conference/Transfer, Call Forward

b.   Call Park (Retrieve & Time our.), Call Pickup.

c.   Dial Access to Group Call and Paging

d.   Make Set Busy , Ring Again

e.   Message Waiting Indication

15.4   The Wireless LAN access points must have Optimized load balancing & superior roaming capability. The access must support up to 8 simultaneous calls per Access Point (G.729 with 60 ms packet size) with 802.11 FHSS. Or Support for up to 12 simultaneous calls per Access point (G.729 with 60 ms packet size) with 802.11b DSS.

16.   OUTBOUND DIALER (OPTIONAL)

16.1   The automatic display of information   on a user's PC based on Automatic Number Identification (ANI) or Calling Line Identification (CLID) and Dialed Number Identification (DNIS)

16.2   Coordinated voice and data transfer

16.3   Intelligent dialing such as predictive or preview dialing.

a.   Preview Dialing: The solution should be designed and sized to accommodate at least five outbound agents. The agent should be able to dial the numbers manually to call the customer.

b.   Predictive Dialing: The Solution should be able to monitor the number of agents who are free, the success rate in a historical basis based on time of day and make calls.
        When the customer picks up the call should be transferred to the outbound agents.

16.4   Screen based telephony that allows users easy access to telephone functions directly on their
        workstation.

16.5   Should provide GUI based tools to design outbound campaigns.

16.6   Blended dialer option.

17.   E-Mail/Web Agents (Optional): System should be capable to support the E-Mail / Web Agent in future and the cost of the 10 such agents to be quoted.

18.   INTERFACE APPROVAL FROM TEC/DOT: The proposed switch should be compatible with the public Switched Telephone Network in Daman. The proposed switch should be approved from the TECDOT for the required configuration and interfaces. A copy of the TEC approval certificate of quoted IPPBX should be attached with the Technical bid.