

**Terms of Reference for the Procurement of PBX System**  
**For the Philippine Deposit Insurance Corporation**

<b>Fact Sheet for PBX System</b>	<b>MINIMUM MANDATORY REQUIREMENT</b>
<b>Approved Budget of the Contract (ABC)</b>	<b>PHP 5,100,000</b>
<b>Main Features</b>	<ul style="list-style-type: none"> <li>• a Private Branch Exchange (PBX) device that can operate using TCP/IP protocols in order to provide audio, video and even instant messaging communication using the existing internal network of the Corporation</li> <li>• should be able to interconnect with Public Switched Telephone Network (PSTN) to allow external communications</li> <li>• should be able to establish communications between VoIP (Voice over Internet Protocol) users and a traditional telephone user</li> <li>• must be approved by National Telecommunications Commissions (NTC) supported with Certification for Type Approved Customer Premise Equipment or any other equivalent certification</li> <li>• Must have provision for installation of Digital (E1/R2) Trunk and support for at least sixty-four (64) Analog Trunk ports</li> <li>• Includes hardware and software licenses to support at least ninety-six (96) users who will be using hardware IP Phones, soft-phones that can be installed on a computer, voice over Wi-Fi phones that can operate using the wireless network, and soft-clients that can be installed on mobile phones.</li> <li>• Should have capacity for at least sixty (60) concurrent connections/channels or private PCM links between the new and existing PBX system</li> <li>• should be compatible with the existing network infrastructure of PDIC and other related systems/applications must run on Virtual machines using VMware vSphere 5</li> <li>• The system should be able to support any voice/data convergence and must be scalable to accommodate expansion for least 1,000 users</li> <li>• The systems should be able to use SIP end points as extensions for the users and SIP trunks for interconnection with other PBX systems</li> <li>• The system should be compatible with other value added applications like Collaboration or Unified Messaging, and other integrated contact center applications</li> <li>• The system should be manageable using centralized web-based or GUI management console</li> <li>• User management can be integrated with Active Directory which must be protected by administrative</li> </ul>

	<p>password</p> <ul style="list-style-type: none"> <li>• The system should be able to schedule backup of system database and retrieval/transfer of call logs/reports to a repository server</li> <li>• The system should operate in distributed or centralized configuration for communication servers and media gateways without affecting the VoIP links, features level and applications availability.</li> <li>• The system should have call admission control mechanisms to bar or allow listed contact numbers</li> <li>• Can be integrated with Interactive Voice Response Systems (IVRS) to allow calling customers to interact with the system using their telephone keypads.</li> <li>• The system supports and can interoperate with other telephone systems and endpoints using other known standards such as QSIG, DPNSS, DSS1, etc.</li> <li>• The system must support the following external telephony interface signaling such as E1, T1, T0 ISDN, E &amp; M and Analog Loop Start &amp; Ground Start (with FSK and DTMF CLIP), etc.</li> <li>• The proposed system must support native IP communications in direct or "peer-to-peer" with only the telephone signaling transmitting back toward the controlling communications server.</li> <li>• The system should support for standard audio/voice encoding that are compliant to accepted standards such as G.711, G.723.1, G.729A, etc.</li> </ul>
<p><b>Additional Features of the System</b></p>	<ul style="list-style-type: none"> <li>• Auto attendant feature to allow callers to be automatically transferred to an extension without the intervention of an operator/receptionist.</li> <li>• Supports auto- dialing that once the call has been answered, the auto-dialer either plays a recorded message or connects the call to a live person.</li> <li>• Automatic call distributor for the distribution of incoming calls to a specific group of terminals to ensure handling of large volumes of incoming phone calls from callers who have no specific person to talk to but requires assistance from any available support personnel</li> <li>• Support for Automated Directory Services to allow callers to be routed by keying or entering the letters of the name of the person being called</li> <li>• Support for Automatic ring back, wherein a code can be dialed into the telephone keypad to enable it that when the called line becomes available, the caller's phone will ring with a distinctive ringtone, which is different from the ring of a regular call.</li> <li>• Call blocking to allow users to block incoming calls from specific telephone numbers.</li> <li>• Call forwarding on busy, no reply or absence to allow redirection of telephone calls to another destination, which may be a mobile telephone, external number, voicemail box, hunting group, automated attendant or another telephone number where the desired called</li> </ul>

	<p>party is available.</p> <ul style="list-style-type: none"> <li>• Call parking to allow a person to put a call on hold at one telephone set and continue the conversation from any other telephone set.</li> <li>• Call pick-up to allow a user to answer someone else's telephone call by pressing a pre-programmed button on the telephone set.</li> <li>• Call transfer to enable a user to relocate an existing telephone call to another phone, voicemail or attendant console</li> <li>• Call waiting feature to allow a called party, who is currently engaged to a call, to suspend the current telephone call and switch to the new incoming call. There should be a Camp-on - signal to inform the busy telephone user that another call originator is waiting for a connection</li> <li>• Supports multi- conference call for at least ten (10) users. The conference calls may be designed to allow the called party to participate during the call, or the calling party calls the other participants to add them to the conference call. The call may be set up so that the called party merely listens into the call and cannot speak.</li> <li>• Supports Public address announcement/voice paging to allow authorized personnel to address the public using the phone units connected to the system.</li> <li>• Greetings can be customized to suit the requirements of the Corporation</li> <li>• Customized Abbreviated dialing (Speed Dialing) - function available on many telephone systems allowing the user to place a call by pressing a reduced number of keys. This function is particularly useful for phone users who dial certain numbers on a regular basis.</li> <li>• Support for Direct Inward Dialing (DID) and Direct Outward Dialing (DOD)</li> <li>• Has capability to prevent calls from ringing on an extension when Do Not Disturb (DND) attribute is activated and allow re-direction of the call to a pre-assigned extension or respond with busy signal or route to a recorded message.</li> <li>• Has follow-me or find-me feature to set the route of incoming calls so that when a call is received, the system routes it to each number on the list until the call is answered or until the list is exhausted before routing to a voice mail system.</li> <li>• Supports Music on hold to allow playing of recorded music to fill the silence that would be heard by telephone callers who have been placed on hold.</li> <li>• Has capability to activate Night service, wherein for set periods that normal operator services cannot be provided, incoming calls can be automatically redirected by the switchboard to particular telephones, answering machine, auto attendant or voice mail system.</li> <li>• Supports voice mail to allow users to exchange personal</li> </ul>
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	<p>voice messages and conveying a stored telecommunications voice messages. Shared message boxes shall be allowed where a department can have a shared voicemail box.</p> <ul style="list-style-type: none"> <li>• allows protected access or retrieval of voice messages using external line</li> <li>• Allows sending of text messages between user devices/terminals</li> <li>• Has Manager/Secretary features which include call filtering with manager control, setting a hotline, enable private line for Manager Set, configurable when the Secretary is absent, and support for multiple Managers/Multiple Secretaries configuration.</li> <li>• Allows setting of personal passwords to protect access to special features of the device</li> <li>• Has Call Accounting or Call Logging feature that facilitates the collection and analyzes phone call data which can be used to generate reports regarding the telephone network's cost, performance, capacity and quality of service. Call logging reports should be able to generate the following: <ul style="list-style-type: none"> <li>a. Cost Control Reports to show cost of calls, cost of trunk lines, and costs by department or individual extension, number of unused extensions, etc.</li> <li>b. Performance Management Reports to provide information on how long it takes for the operator or user to answer his/her phone calls, unanswered calls, dropped calls, etc.</li> <li>c. Capacity Management Reports to show if the system is over or under-utilized, show trunk usage and identify call patterns.</li> </ul> </li> </ul>
<p><b>End User Devices/Terminals</b></p>	<ul style="list-style-type: none"> <li>• End user devices /terminals shall have the following features: <ul style="list-style-type: none"> <li>a. Ability for the users to change the language presented on the station display</li> <li>b. Capability to call, transfer or forward calls to other parties by entering the names using alphanumeric integrated keyboard</li> <li>c. Allows user to simultaneously establish several outgoing or incoming calls</li> <li>d. Should be able to support text messaging services to allow exchange of short messages</li> <li>e. Have support for auto-attendant to set welcome address for external callers and instructions on how to reach a desired service or party</li> <li>f. Allows user to play music in digital form when putting the caller on hold</li> </ul> </li> <li>• At least forty (40) units of high end user devices/terminals/ IP Phones with the following technical specifications: <ul style="list-style-type: none"> <li>a. With at least 7" WGA touch screen with sensitive feedback</li> <li>b. Sensitive keys</li> </ul> </li> </ul>

	<ul style="list-style-type: none"> <li>c. At least 70 programmable soft keys</li> <li>d. Supports hand-free mode with volume control and mute key with LED</li> <li>e. Support for external loudspeaker or headset</li> <li>f. With alphanumeric keyboard</li> <li>g. Bluetooth capable</li> <li>h. With at least one (1) USB connector</li> <li>i. With additional PC connectivity (Gigabit Ethernet 10/100/1000)</li> <li>j. Includes external power supply</li> <li>k. Supports Ethernet auto-sending and configurable</li> </ul> <ul style="list-style-type: none"> <li>• At least fifty-four (54) units of basic end user devices/terminals/IP Phones with the following technical specifications: <ul style="list-style-type: none"> <li>a. With at least single line display</li> <li>b. At least 70 programmable soft keys</li> <li>c. Supports hand-free mode with volume control and mute key with LED</li> <li>d. With alphanumeric keyboard</li> <li>e. Support for external loudspeaker or headset</li> <li>f. With additional PC connectivity (Gigabit Ethernet 10/100/1000)</li> <li>g. Includes external power supply</li> <li>h. Supports Ethernet auto-sending and configurable</li> <li>i. With option for wall-mounting</li> </ul> </li> <li>• At least two (2) screen-based Attendant Console with headsets that should be able to perform the following features: <ul style="list-style-type: none"> <li>a. Attendant Loop Release</li> <li>b. Attendant Night Transfer</li> <li>c. Attendant Lock out</li> <li>d. Attendant Over ride</li> <li>e. Attendant Camp-on with tone indication</li> <li>f. Attendant Busy Verification</li> </ul> </li> </ul>
<p><b>Warranty</b></p>	<ul style="list-style-type: none"> <li>• One (1) year on parts and labor with quarterly preventive maintenance service</li> <li>• In case of defect within the warranty period, a service unit of the same or higher specification should be provided by the supplier, free of charge within 24 hours after the problem was reported to the supplier</li> </ul>
<p><b>Delivery and Installation</b></p>	<ul style="list-style-type: none"> <li>• Delivery of the hardware and software components shall be within 45 working days upon execution of the contract or receipt of the Notice to Proceed (NTP)</li> <li>• Setup and testing of the hardware and software components of the new system including the integration with the existing PBX system and hands-on training/knowledge transfer to IT personnel involved during project implementation shall be within three (3) months upon execution of the contract or receipt of the Notice to Proceed (NTP)</li> <li>• Setup and installation of the system includes the</li> </ul>

	<p>following activities:</p> <ol style="list-style-type: none"> <li>a. transfer of the existing digital and analog trunks from the existing PBX to the new equipment</li> <li>b. Interconnection, configuration and setup to integrate the new equipment with the existing PBX system</li> <li>c. Installation of patch panels</li> <li>d. Labeling and tagging of the installed equipment and communication ports</li> <li>e. provide assistance in the setup of Local Area Networking that will be used by the new system</li> <li>f. Other activities needed to ensure the successful implementation of the project</li> </ol>
<p><b>Others</b></p>	<ul style="list-style-type: none"> <li>• Must provide back-up power supply for at least four (4) hours</li> <li>• Should have option to implement remote maintenance and diagnostic</li> <li>• Except for the LAN cabling requirements, deliverables should include all cables and other ancillary materials that might be needed to install, setup, commission and operate the system</li> <li>• Should include other required software utilities, drivers and other SW licenses to make the system operational</li> <li>• Should include installation, configuration, setup and commissioning of the hardware and software components of the system and other ancillary materials</li> <li>• Submission of complete documentation of user, system and administration manuals.</li> <li>• Hands-on training/knowledge transfer on the proper use of the equipment and system administration for at least three (3) IT personnel</li> </ul>