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| **1.5** | **Voicemail** |  |  |
| 1.5.1 | The proposed system shall fully built a new voicemail system via TCP/IP. | Yes / No |  |
| 1.5.2 | The proposed system shall have at least 1,800 voicemail licenses. This is the quantity of license which NYP has in its current IP Telephony system. | Yes / No |  |
| 1.5.3 | Voice mail is required for all the users. The Voice Mail System shall be capable of storing the voice mail of up to 365 days. | Yes / No |  |
| 1.5.4 | The Voice Mail System shall provide reports on the following information:   * Number of Subscribers registered on the Voice Mail System * Class-of-Service associated with each subscriber * Distribution List * Number of System Call Handlers * Voice mail port usage * Storage Usage   System Configuration | Yes / No |  |
| 1.5.5 | * Delivery of new voice message notifications to IP hard/soft phones (such as message waiting lamp, stutter dial tone, SMS notification). | Yes / No |  |
| 1.5.6 | The user is able to customize its greeting message at the phone (both hard phone and softphone). | Yes / No |  |
| 1.5.7 | There shall be provision to back up the messages left in the proposed system and to restore them should there be a failure either in the voice mail system or any disruption to it | Yes / No |  |
| 1.5.8 | Tenderers shall propose and provide the backup and recovery process and procedures for the voice mail servers. | Yes / No |  |
| 1.5.9 | The proposed IP Telephony Solution shall be equipped with an auto attendant that, under designated conditions, welcomes outside callers, and proposes (in an interactive manner) a way to reach a desired service or pre-defined party. The requirements for the said auto attendant are as follows:  (a) Office opening message;  (b) Office closing message;  (c) Weekend message; and  (d) Holiday message. | Yes / No |  |
| 1.5.10 | The Voice Messaging Server shall be rack-mountable into a standard 19” rack. | Yes / No |  |
| 1.5.11 | The Voice Messaging Server (VMS) shall perform self-diagnostics during boot up and perform constant monitoring of its critical components such as Hard Drive(s), Power Supplies, Temperature, etc. | Yes / No |  |
| 1.5.12 | The Voice Messaging Server shall be equipped with an integrated 1GB NIC for connection into the Local Area Network (LAN). | Yes / No |  |
| 1.5.13 | The Voice Messaging Server platform shall be based on industry standard hardware. | Yes / No |  |
| 1.5.14 | The Voice Messaging Server shall provide the ability for subscribers to customize their personal settings from a browser-based interface. The following user-configurable settings shall be available:   * Administer Private Distribution List * Change Directory Listing status * Change Password * Change Call Transfer options * Record or edit personal greetings via a IP Phone * Set Conversation options when interacting with the Voice Messaging System, such as full or brief menus, hear timestamp before or after a message, etc. * Set Message Delivery Options   VMS shall support forward with comments and personalization of greeting. Five recorded personal greetings required. | Yes / No |  |
| 1.5.15 | The Voice Messaging Server shall provide the following control functions to a user accessing the mailbox via a telephone:   * Playback of messages * Skip to next message * Cancel review of message * Replay of last message * Pause * Forward Message to mailbox or distribution list * Increase Playback volume | Yes / No |  |
| 1.5.16 | The Voice Messaging Server shall provide the following System Administrative features:   * Lock accounts * Reset Password * Set Password Policy * Set Class-of-Service for subscribers * Configurable voice compression rate * Set Message length for subscribers * Add/Delete/Modify Public Distribution List * Remote maintenance * Add/Delete/Edit Subscribers * Add/Delete/Modify Subscriber Templates | Yes / No |  |
| 1.5.17 | The Voice Messaging Server shall provide reports on the following information:   * Number of Subscribers registered on the Voicemail System * Class-of-Service associated with each subscriber * Distribution List * Number of System Call Handlers * Voicemail port usage * Storage Usage * System Configuration | Yes / No |  |

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| **1.7** | **Voice Gateway** |  |  |
| 1.7.1 | Tenderers shall provide three voice gateways -two voice gateways located at the Main Data Centre and the other one voice gateway located at Server Room. Each voice gateway shall have 2 ports Multiflex Trunk Voice/Clear-channel Data T1/E1 Module, 128 -channel DSP module and 4GB DRAM. | Yes / No |  |
| 1.7.2 | Tenderers shall propose voice gateways connecting to 5 x E1 ISDN ports connecting to the Public Switched Telephone Network (PSTN) and 2 E1 ISDN port connecting to third party system (Ameyo System) which can scalable up to 8x E1 ISDN-PRI ports for the future. Distribution of E1 lines as follows:   * 1. 3 x E1 lines will be connected to voice gateway 1   at Main Data Centre.   * 1. 2 x E1 lines will be connected to voice gateway 2   at Main Data Centre.   1. 2 x E1 lines will be connected to voice gateway 3   at Blk L Server Room. | Yes / No |  |
| 1.7.3 | Each Voice Gateway shall have 128 voice DSP channels and expandable up to maximum 256 channels to provide for PSTN termination, conferencing and transcoding resources. | Yes / No |  |
| 1.7.4 | The voice gateways provided shall include redundant power supply | Yes / No |  |
| 1.7.5 | The Voice Gateways shall be able to perform load balancing and backup each other in case either of the voice gateways fails. | Yes / No |  |
| 1.7.6 | The Voice Gateways shall be able to perform encrypted SRTP voice to the IP Phones | Yes / No |  |
| 1.7.7 | The Voice Gateways shall be able to communicate with the call processing server via encrypted channel. | Yes / No |  |
| 1.7.8 | The Voice Gateways shall support various voice protocol including H323, MGCP, SIP and SCCP. | Yes / No |  |
| 1.7.9 | The Voice Gateways shall be able to support various QOS mechanism including IP Precedence, Queuing Mechanisms and RSVP. | Yes / No |  |
| 1.7.10 | The Voice Gateways shall contain integrated encryption engine to provide for secure voice and data transmission. | Yes / No |  |
| 1.7.11 | The Voice Gateways shall be capable of terminating and retransmit various Voice control protocol aka. IP to IP voice gateway function. | Yes / No |  |
| 1.7.12 | The voice gateways shall support High Availability through redundancy failover mode | Yes / No |  |
| 1.7.13 | If the primary voice gateway drops out of service, the call control server shall automatically failover to the secondary or tertiary voice gateway without dropping any connected calls; phone calls in progress shall continue uninterrupted. The failover and redundancy of the voice gateway shall be transparent to the users. | Yes / No |  |
| 1.7.14 | Tenderers shall specify the call control and signaling protocols supported by the proposed IP Telephony gateways. | Yes / No |  |
| 1.7.15 | The gateways to independently provide basic IP phone call services even when the IP call control servers are unavailable. | Yes / No |  |
| 1.7.16 | The voice gateways shall support automatic re-routing of calls, automatic bandwidth selection, least cost routing, multiple ISDN protocols support, off-premises extension, outbound call blocking, toll restriction, and MGCP signaling/control to gateways. | Yes / No |  |
| 1.7.17 | The voice gateways shall integrate with third party system to perform inter-communications between both system. | Yes / No |  |