NuPoint Unified Messaging and MiCollab NuPoint

GENERAL INFORMATION GUIDE
Release 9.0
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INTRODUCTION

ABOUT THIS GUIDE

This guide provides an overview of the Mitel® NuPoint Unified Messaging™ (NP-UM) product.

IMPORTANT NOTE:
NP-UM IS AVAILABLE AS A STANDALONE APPLICATION AND AS AN APPLICATION WITHIN MICOLLAB. THE STANDALONE NP-UM PRODUCT AND THE MICOLLAB PRODUCT ARE BOTH SUPPORTED ON A VARIETY OF DIFFERENT PLATFORMS. THE NP-UM PLATFORMS ARE DESCRIBED IN “NUPOINT PLATFORMS” ON PAGE 25. REFER TO THE MICOLLAB DOCUMENTATION ON MITEL ONLINE FOR INFORMATION ON THE MICOLLAB PLATFORMS.

ALTHOUGH THE NUPOINT STANDALONE PRODUCT AND THE NUPOINT APPLICATION WITHIN MICOLLAB PROVIDE BASICALLY THE SAME FUNCTIONALITY, THERE ARE SOME DIFFERENCES. THE DIFFERENCES BETWEEN THE NUPOINT STANDALONE PRODUCT AND VERSION IN MICOLLAB ARE SUMMARIZED IN “APPENDIX A - NUPOINT IN MICOLLAB SUMMARY” ON PAGE 98.

For brevity, the following abbreviations are used in place of product names in this guide:

Table 1: Naming Conventions

<table>
<thead>
<tr>
<th>PRODUCT NAME</th>
<th>ABBREVIATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>NuPoint Unified Messaging standalone application</td>
<td>NuPoint or NP-UM</td>
</tr>
<tr>
<td>NuPoint Unified Messaging within Mitel Applications Suite</td>
<td>NP in MiCollab</td>
</tr>
<tr>
<td>NuPoint UM 60 (previously called the Standard Edition)</td>
<td>NP60</td>
</tr>
<tr>
<td>NuPoint UM 120 (previously called the Single Server)</td>
<td>NP120</td>
</tr>
<tr>
<td>Virtual NuPoint</td>
<td>vNuPoint</td>
</tr>
</tbody>
</table>

AUDIENCE

This guide is intended for:

- Customers
- Solution Providers
- Sales Executives
- Sales Engineers

ABOUT THE DOCUMENTATION SET

Note that there are document sets for NuPoint standalone and for NP in MiCollab.
TECHNICAL

- **Engineering Guidelines** provides information on performance and capacities, network requirements, deployment recommendations, communication platform requirements, and PC server requirements. It should be consulted prior to selling the product to ensure that the product can be engineered to meet customer requirements.

- **Technician’s Handbook** contains installation, basic configuration, and maintenance information.

- **Optional Integrations Guide** provides installation and configuration information for NuPoint servers deployed in non-Mitel ESMDI, Enhanced DataLink, and Enhanced In-band integrations.

ADMINISTRATOR

- **System Administration Online Help** provides detailed information about software configuration, system administration, and installation and configuration of optional features such as Unified Messaging and Speech Auto Attendant.

- **Web Console Online Help** provides information to help the system administrator configure and maintain the NuPoint Unified Messaging system.

END USER

- **Web View Online Help** provides configuration information for end user settings and describes the system features and unified messaging features that are available to end users.

- **Call Director Online Help** describes Call Director and provides user instructions.

- **Messaging User Guide** provides instructions on how to use the Mitel telephone user interface (TUI), Mitel Outlook Client Plug-in, and Speech Auto Attendant.

- **Competitive Telephone User Interface (TUI) User Guide** describes the voice mail system and provides instructions on how to use the Octel-like TUI to set up your mailbox and initiate voice mail features.

- **Competitive TUI Quick Reference Card** summarizes basic user options and procedures for the Competitive TUI on a reference card.

- **NuPoint TUI Quick Reference Card** summarizes basic user options and procedures for the Mitel NuPoint TUI on a reference card.

- **NuPoint UM Speech Navigation End User Guidelines**. This single page document provides end users with recommendations for using the Speech Navigation feature.

ACCESSING DOCUMENTATION

To access the product documentation:


   ![Note: You require a Mitel Online account to access technical documentation. To register for a Mitel Online account, click Register and then click Register for Mitel Online.](image)

2. Click Support and then click Product Documentation.
3. To access
   • NP-UM technical documentation, under Applications, click Messaging and click NuPoint Unified Messaging.
   • End-user guides, click End User Documents and click PDF Guides and Online Help. Click Messaging and then scroll down to the NuPoint Unified Messaging section.

WHY NUPOINT UNIFIED MESSENGER?

NuPoint Unified Messaging is a powerful, server-based voicemail system that provides call processing along with voice messaging and paging support.

FOR YOUR END-USERS (EMPLOYEES)
• Access their voice messages hands free using spoken commands
• access their voice mails remotely
• receive notification by telephone or pager when a voice message is left for them
• play their e-mail messages through the Telephony User Interface (TUI)
• access and manage voice messages from an e-mail client or web browser
• manage all forms of messages, including voicemail, e-mail and fax, from their desk phone, mobile device, or PC
• control how and when calls reach them with personal call routing options such as Find Me and Follow Me
• use the Call Director option to create their own auto attendant that routes their incoming calls to desired numbers during specified time periods
• listen to their voice mails through their Novell GroupWise or Microsoft Outlook clients.
• receive voice mail prompts with numeric or mnemonic prompts (for example “Press P for play” or “Press 7 to play”)
• send, receive, forward, save, and sort voice and fax messages from the PC with Unified Messaging
• call co-workers using the optional Speech Auto Attendant feature, quickly and efficiently by speaking their names. In addition to placing calls by name, users can say a department name or telephone number.

FOR YOUR INBOUND CALLERS (CUSTOMERS)
• enables external callers to leave a voice message if they have been transferred to a busy or unanswered extension,
• gives callers the following options after they record a message:
  • replay or record their message
  • mark message as urgent
  • page the mailbox owner with a callback number
  • leave a message for another mailbox on the system
  • transfer to the operator or to another extension
  • leave a callback number
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- plays pre-recorded announcements to incoming calls made to line groups
- offers a base level Auto Attendant (NP Attendant)
- supports different types of mailboxes, such as Greeting Only, Tree, Chain, and Broadcast, to allow customized responses to incoming calls.
- allows external callers to connect to people within your corporation quickly and efficiently using the optional Speech Auto Attendant feature

FOR ATTENDANTS, SYSTEM ADMINISTRATORS, AND MAINTAINERS
- reduces receptionist call load with auto-attendant
- includes a simplified web-based management interface for system administration
- allows administrators to manage the NuPoint application and user settings on site or remotely
- allows maintainers to process licensing through the Application Management Center (AMC). The AMC automatically creates licensing passcodes at any time (24 hours a day, 7 days a week) using remote passcode generation
- provides detailed call, billing, statistical, and system information reports
- supports online backups and restores of all system data on the NP-UM server over the LAN using Microsoft Networking, over the LAN using an FTP server, or to a Mitel supported memory stick (USB).
- provides system management tools that present network and NP-UM system information
- provides security for management tools, mailboxes, network facilities, and applications

FOR YOUR CORPORATION
- increases user productivity with advanced unified messaging
- allows users to manage all forms of messages, including voicemail, e-mail and fax, from a desk phone, mobile device, or PC
- improves customer service levels and removes the company receptionist from routine calls with the auto-attendant
- provides flexible solutions from basic voicemail to advanced unified messaging features
- scales up to provide voice applications to large customers who demand high capacity, high availability and resilient services
- provides flexible deployment options:
  - single-server solution that scales to 120 ports
  - virtual server solution that scales up to 120 ports

OVERVIEW OF NUPOINT UNIFIED MESSAGING

NuPoint Unified Messaging is a powerful, server-based voice processing system that provides users with the ability to access and manage their messages: email, voice or fax, from a single interface using an email client such as Outlook, Notes or NuPoint Web View.

NP-UM is available in the following product configurations to address the needs of a wide range of businesses:
• NuPoint UM 60 – Software-only solution that supports up to 60 ports and 57,000 mailboxes on an entry-level or mid-range Mitel Standard Linux (MSL)-qualified hardware platforms. This product replaces the NuPoint Standard Edition of previous releases.

• NuPoint UM 120 – Software-only solution that supports up to 120 ports and 120,000 mailboxes on an entry-level or mid-range Mitel Standard Linux (MSL)-qualified hardware platforms. This product replaces the NuPoint UM Single Server (also known as “640E”) of previous releases.

• Virtual NuPoint supports up to 240 ports and 120,000 mailboxes when it is installed as a VMware virtual appliance (vApp) on VMware vSphere Hypervisor (ESXi). A variety of vCenter Management Tools, including the VMware Site Recovery Manager, are also supported.

• Virtual NuPoint supports up to 120 ports in a Hyper-V environment.

The NP-UM application is also available as an application within MiCollab. When included in MiCollab, most of the functionality of the standalone NP-UM, as described in this guide, is supported. There are notable differences, however, and these are summarized in the "NuPoint in MiCollab Summary" on page 98.

NP-UM can be integrated with the Mitel MiVoice Business as well as a variety of other PBXs through media gateways. NP-UM can be deployed in a mixed vendor network and remain in service during a phased migration to a Mitel PBX.

The following capabilities are supported by NP-UM systems:

• Extensive Voice Messaging
• Unified Messaging using SMTP forwarding
• Call Director

Optional features are also available, such as

• Standard Unified Messaging
• Advanced Unified Messaging
• Fax services
• Speech Navigation
• Speech Recognition Auto Attendant
• Hospitality Features.
WHAT'S NEW IN THIS RELEASE?

Note: Release 3.0 marked the introduction of a new brand name for NuPoint Messenger IP and a release number reset: the NuPoint Messenger IP product was renamed NuPoint Unified Messenger (NP-UM) and the release number was changed from 12.5 to 3.0. The change in the name highlights the unified messaging aspect of the product, which is a key part of the Mitel Unified Communications offering, and the third release of unified messaging functionality.

RELEASE 9.0

Advanced UM Enhancements:
- NuPoint UM now supports up to 1500 Advanced UM users with the Exchange Server and with Office 365 hosted email configurations.

Other Enhancements:
- Direct drop feature is enabled to suppress the user greeting when a call is diverted from BluStar Collaboration Management (CMG) deployments of InAttend to NuPoint.
PBX AND EMAIL INTEGRATIONS

OVERVIEW

NP-UM requires a connection with the voice network through a PBX (for example, MiVoice Business) as well as a connection with the data network via an email server (for example, Microsoft Exchange). NP-UM consolidates the voice and data communication elements from these two networks so that a user can have access to voice, Fax, and email messages from a single user interface.

The voice network provides call information for direct or forwarded calls and message waiting signals for the user. NP-UM communicates to the voice network using either Session Initiation Protocol (SIP) or Internet Protocol (IP); however, it can also be integrated with a variety of PBX types via digital, analog, SMDI and T1/E1 interfaces through media gateway devices.

Lines between the NP-UM system and the PBX are usually configured in a single hunt group.

The data network allows NP-UM to communicate with the email network, and by extensions to the RIM Blackberry Enterprise Server (BES).

Figure 1: NP-UM Deployment

NuPoint Unified Messaging supports integration with a customer’s communications platform via the following methods:
• PBX Integration Methods on page 11
• “Digital Integration via DMG1000 and DMG 2000 on page 13
• “Multiple PBX Switch Integration” on page 17
PBX INTEGRATIONS

SUPPORTED PBX PLATFORMS

Mitel Communication Platforms

The supported Mitel communication platforms, minimum software requirements, and integration methods are summarized in Table 2.

Table 2: Supported Communication Platforms and Minimum Software Requirements

<table>
<thead>
<tr>
<th>MANUFACTURER</th>
<th>COMMUNICATION PLATFORM</th>
<th>MINIMUM SOFTWARE VERSION</th>
<th>SUPPORTED INTEGRATION WITH NP-UM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mitel</td>
<td>SX-200® LIGHTWARE™ 17</td>
<td>No</td>
<td>Yes</td>
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<tr>
<td></td>
<td>SX-2000® LIGHTWARE 30</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>SX-200 ICP Release 1.2.0.7</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>3300 ICP 5.2</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>MiVoice Business 3.0</td>
<td>Yes</td>
<td>No</td>
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<tr>
<td></td>
<td>MiVoice Business-ISS 3.0</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>vMiVoice Business 3.0</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>MXONE 6.0 sp1</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

Non-Mitel PBX Platforms. Some members of the NP-UM family can also be integrated with other PBXs using the Dialogic Media Gateway family of devices (DMG1000 and DMG2000). Table 3, Non-Mitel PBX Platforms summarizes integrations that have been tested and deployed in the field.

Mitel verifies NP-UM against the DMG1000 and DMG2000. These devices convert the digital signals from a PBX to SIP protocol for integration with the NP-UM. For a complete list of PBXs supported by Dialogic, please refer to www.dialogic.com.

Note that Dialogic has manufacture discontinued the DMG unit for SX-200 and SX-2000 integrations. Although a PBX that is listed by Dialogic will communicate with NuPoint, some enhanced features provided by the PBX may not be supported, and for this reason, only the PBXs and releases listed in Non-Mitel PBX Platforms are fully supported by Mitel.
Table 3: Non-Mitel PBX Platforms

<table>
<thead>
<tr>
<th>MANUFACTURER</th>
<th>COMMUNICATION PLATFORM</th>
<th>MINIMUM PBX SOFTWARE VERSION</th>
<th>SUPPORTED INTEGRATION WITH NP-UM</th>
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<td>IP</td>
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<tr>
<td>Nortel Networks</td>
<td>Meridian (M-1 and SL-1)</td>
<td>Release 15</td>
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<td></td>
<td>Norstar 8x24</td>
<td>DR5 Release 1.2</td>
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<td></td>
<td>Norstar MICS</td>
<td>Release 4.5</td>
<td>No</td>
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<tr>
<td></td>
<td>Succession 4.0</td>
<td>Revisions 3.0 and 4.0</td>
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<tr>
<td>OptiSet (Siemens)</td>
<td>Hicom 300E</td>
<td>Release 9006.4</td>
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<td>Lucent (Avaya)</td>
<td>DEFINITY G3</td>
<td>Version 3</td>
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<td></td>
<td>Merlin Magix</td>
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<td>Merlin Legend</td>
<td>Release 7.0</td>
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<td>Fujitsu</td>
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</table>

Notes:
1. MCI/Enhanced MCI is required for NEC integrations.
2. Enhanced Inband is available for these PBX integrations.
3. Integration type DTMF to PBX MWI with access codes on the Hitachi (with 5 digit Dialing Plan only).
* requires Dialogic 1000

PBX Integration Methods

NP-UM integrates with PBXs that use the following signaling interfaces.
- IP
- Digital
- Analog and SMDI
- T1/E1/QSIG/SIP-T

When NP-UM is deployed in an IP network it is always necessary to deploy a L2 switch between NP-UM and the LAN.

For non-IP integrations, media gateway devices from Dialogic are used to convert proprietary PBX messages into a format suitable for transmission over standard IP networks. These third-party devices are available through Mitel.

Note: The DMG1000 was previously known as PBX-IP Media Gateway (PIMG) and some users continue to use this term. For a complete information on the DMG1000 and the PBX integrations supported please refer to www.dialogic.com.

MiVoice Business IP Integration

MiTAI signaling is used to integrate NP-UM with MiVoice Business platforms over IP. In an IP integration, NP-UM uses Voice User Interface Ports (VUI) to emulate IP sets. These virtual sets are registered on the MiVoice Business just like physical sets. Each \"port\" of the NP-UM system appears like a 5020 or 5240 IP set to the MiVoice Business. At the same time, MiTAI software directs the call handling and the MWI for the NP-UM system.
Figure 2: NP-UM and IP Integration Example

IP telephony integration is achieved with the following components on the NP-UM platform:

- IP Phone Emulation interface: allows you to configure IP ports (emulating 5020 or 5240 IP sets) on the NuPoint Unified Messaging platform in order to provide channel integration to the 3300 ICP;
- Mitel Telephony API Interface (MiTAI) client: establishes a TCP connection to the 3300 ICP and controls the signaling for the emulated ports;
- Network Interface Card (NIC): provides a physical connection to the Local Area Network.

When integrated with MiVoice Business 5.0 or later, NP can register for Automatic Gain Control (AGC) services from the MiVoice Business. NuPoint audio streams will receive AGC services from the MiVoice Business, resulting in improved audio since the output of each line will be normalized to the appropriate range (as defined by the FCC), regardless of input levels.

**MX-ONE IP Integration**

_Note:_ MX-ONE integrations only support SIP, not MiTAI, and therefore some features are not supported. For example, MiTAI signaling provides the calling party name, which can be displayed in an email message. This is not possible with an MX-ONE integration

SIP signaling, which is less fully featured is used to integrate NP-UM with MX-ONE platforms. The following features are supported when integrated with the MiVoice MX-ONE.

- **Call Transfer:** A Transfer action routes the caller to a specified destination, such as an extension, the attendant, or an external telephone number.
- **Blind Transfers:** A Blind Transfer dials the destination and then releases the call regardless whether the destination is busy or not answering.
• Supervised Transfer: A Supervised Transfer waits for the called party to answer before completing the transfer. If the call is not answered or the called party is busy, it returns to the call flow for further processing.

• Screened Transfer: A Screened Transfer, is similar to a Supervised Transfer, except that the caller’s name is first recorded and then played back to the called person. The called person has the option to accept or reject the call. NuPoint Unified Messaging Technician’s Handbook 48

• Alternate Transfer: An Alternate Transfer is used to route calls to an external destination, such as a cell phone or pager, and for text messaging.

• MWI: Message Waiting Indicator Synchronization.

• Pager: The Pager application causes the NuPoint Unified Messaging server to initiate, rather than receive, a telephone call. It is used for sending messages to pagers, but also for a number of other functions that require out dials. An out dial is a call placed by the server.

• Fax: Receiving and replying to fax messages.

• DTMF: Recognition and collection.

• Answering a telephone or Speech Auto Attendant (SAA) call: Speech Auto Attendant (SAA). While this could be supported in a SIP integration, it is not being made commercially available to the MXONE market since NPUM speech recognition is available only in English and French.

• G.729 Support: If the system is licensed for G.729, you can select between two audio codecs, G.711 (the default) and G.729, when you program a line group. Without the license, only G.711 is supported.

**Digital Integration via DMG1000**

The Dialogic Media Gateway 1000 (DMG1000) family of products are external peripherals that provide integration from the NuPoint Unified Messaging to legacy PBX by emulating digital sets. They convert proprietary digital (or analog) PBX messages into Session Initiation Protocol (SIP) format for communication to the NuPoint Messaging Server. The DMG1000 family of products is compatible with a variety of PBX manufacturers including Alcatel, Avaya, Ericsson, Fujitsu, NEC, Nortel, and Siemens.

Each DMG1000 device supports up to 8 ports, 1 serial connection, and 1 LAN/WAN/private network connection. The maximum number of DMG1000s supported by each NP platform is listed in DMG1000 Digital Integrations.

**Table 4: DMG1000 Digital Integrations**

<table>
<thead>
<tr>
<th>NP-UM PLATFORM</th>
<th>MAXIMUM NUMBER OF DMG1000S SUPPORTED</th>
<th>MAXIMUM NUMBER OF DIGITAL PORTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>NP-UM 60</td>
<td>8</td>
<td>60</td>
</tr>
<tr>
<td>NP-UM 120</td>
<td>15</td>
<td>120</td>
</tr>
<tr>
<td>Virtual NuPoint 60/120/240</td>
<td>15</td>
<td>120</td>
</tr>
</tbody>
</table>

A typical network configuration with a DMG1000 is shown in DMG1000 Digital Integration. The DMG1000 units must be on the same network segment as the NP-UM system; both connecting to a LAN Switch. The PBX must have ports that are programmed as the device being
emulated by the DMG100x. The DMG100x also requires a connection to a 100 Mb/s L2 switch.

The Dialogic Media Gateway 1000 (DMG1000) family of products are external peripherals that provide integration from the NuPoint Unified Messaging to a legacy PBX. Some DMG1000 products are designed to convert proprietary analog PBX messages into Session Initiation Protocol (SIP) format for communication to the NP-UM server. These products can be used to provide

- integration from NP-UM to the PBX by emulating analog sets, and
- a physical interface for SMDI (Simplified Message Desk Interface).

The number of ports supported by the DMG1000 varies, depending on the specific device.

Analog PBXs use SMDI to provide call information to the voice mailbox so that it can answer with the appropriate greeting and messaging control. Analog/SMDI integrations are supported through the DMG1008LSW interface to a variety of PBXs that support analog loop-start station interfaces.

A DMG1000 analog unit enables connectivity to the PBX serial interface, which permits the bi-directional flow of the following call information using SMDI:

- Extension of the called party to NP-UM;
- Extension of the calling party (for internal calls), or the phone number of the calling party (if it is an external call and the system uses caller ID) to NuPoint;
- Reason for the forward (the extension is busy, does not answer, or is set to forward all calls) to NP-UM;
- Message Waiting Indicator control data from NP-UM to PBX.
Table 5: DMG1008SLW Analog/SMDI Integrations

<table>
<thead>
<tr>
<th>NP-UM PLATFORM</th>
<th>MAXIMUM NUMBER OF DMG1000S SUPPORTED</th>
<th>MAXIMUM NUMBER OF ANALOG PORTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>NP-UM 60</td>
<td>8</td>
<td>60</td>
</tr>
<tr>
<td>NP-UM 120</td>
<td>15</td>
<td>120</td>
</tr>
<tr>
<td>Virtual NuPoint 60/120/240</td>
<td>15</td>
<td>120</td>
</tr>
</tbody>
</table>

The DMG1000 requires a connection to the LAN via a 100 Mb/s connection.

DMG1000 Analog/SMDI Integration illustrates an analog/SMDI integration:

![Diagram of DMG1000 Analog/SMDI Integration](image)

**Figure 4: DMG1000 Analog/SMDI Integration**

*T1/E1 Integration*

NP-UM can be integrated with a PBX via T1/E1 by using a Dialogic Media Gateway 2000 (DMG2000) device. The DMG2000 enables communication between circuit-switched telephone network, and SIP devices such as NuPoint. The DMG2000 is compatible with PBXs from a variety of vendors including Avaya, NEC, Nortel and Siemens.

For complete information on the DMG2000, the supported PBX integrations, and the signaling protocols supported, refer to www.dialogic.com.
The Mitel Messaging T1/E1 Gateway is based on the Mitel MiVoice Business system. It is limited through licensing so that it functions only as gateway. If required, the gateway may be upgraded to support full MiVoice Business functionality.

The Mitel Messaging Gateway is used to deploy the NP-UM server in a T1/E1 environment. The NP-UM server communicates with the gateway over IP and the Messaging Gateway communicates to the PSTN using T1/E1.

Maximum port capacities using the Messaging Gateway are summarized in Messaging Gateway Port Capacities:

<table>
<thead>
<tr>
<th>NP-UM PLATFORM</th>
<th>MAXIMUM NUMBER OF MESSAGING GATEWAYS SUPPORTED</th>
<th>MAXIMUM NUMBER OF NETWORK INTERFACE UNITS (NIU) ON GATEWAY</th>
<th>MAX T1/E1 PORTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>NP-UM 60</td>
<td>1</td>
<td>2</td>
<td>48/60</td>
</tr>
<tr>
<td>NP-UM 120</td>
<td>2</td>
<td>4</td>
<td>96/120</td>
</tr>
<tr>
<td>Virtual NuPoint/60/120/240</td>
<td>2</td>
<td>4</td>
<td>96/120</td>
</tr>
</tbody>
</table>

Since the Messaging Gateway does not handle SMDI information, a separate serial network adaptor is used to pass ESMDI information between the switch and NuPoint via the layer 2 switch.

**Note:** ESMDI requires Enhanced SMDI software on the NuPoint UM server. This software is a separate licensable option.
Figure 6 illustrates a T1/E1 with SMDI integration:

To integrate the NP-UM system with a Mitel SX-2000, you can only use a T1 or E1 connection and MSDN networking to pass ESMDI information between the switch and NuPoint. This implementation requires the following configuration on the SX-2000:

- Add the MSDN software option;
- Use the existing PRI resource or if no existing PRI resource is available, purchase an NSU and Digital Link License (a FIM is required.)

The Mitel Messaging T1/E1 Gateway requires a connection to a Layer 2 Switch.

Figure 7 illustrates a T1/E1 integration with a Mitel SX-2000:

MULTIPLE PBX SWITCH INTEGRATION

NP-UM supports integration with multiple PBXs through:

- Enhanced-SMDI (ESMDI)
- MWI information transfer between SX-2000 and 3300 ICP PBXs
- Dual MWI support for two separate PBX Integrations
NP-UM supports a maximum of 24 line groups. Therefore, PBXs can be integrated to one NP-UM system with each PBX using one or more line group designations up to a maximum of 24.

Integration via Enhanced SMDI

ESMDI integration allows NuPoint Unified Messaging to receive SMDI information from multiple PBXs. Customers can integrate to two or more Analog/SMDI or T1-E1/SMDI integrated PBXs from one NP-UM system.

To achieve this integration, the iPocket232 IP access device is used to connect asynchronous RS232-based systems to the IP network. One iPocket232 is required for each PBX. In addition, mapping tables must be created on the NP-UM system.

For complete details about the iPocket 232, refer to www.precidia.com

Enhanced SMDI enables the following:

- Larger organizations with disparate PBX infrastructures can use a single messaging system;
- Users can have several phones that are served by different switches forwarded to the same mailbox;
- Support for Tenanting applications.

Figure 8: ESMDI Integration

For more information about the ESMDI Integration, refer to the NuPoint Unified Messaging Optional Integrations Guide available at Mitel OnLine.
Integration with Shared MWI (Mitel SX-2000 and 3300 ICP)

In some instances, organizations may deploy multiple SX-2000 systems and multiple MiVoice Business systems, or any combination of the two. In these situations, a single NP-UM system can support integration to both switches at the same time. In this configuration, the NP-UM system is able to pass MWI information to a number of PBXs depending on the method of shared MWI (Serial - 1 instance, DTMF - 1 instance, ESMDI - 8 instances). It is then the responsibility of that PBX to pass the MWI information to the other PBXs as required.

Two basic requirements for successful deployment of this scenario are that the:

- SX-2000 and MiVoice Business must use the same feature access codes for turning MWI on and off;
- SX-2000 and MiVoice Business must be able to communicate with each other to pass MWI information.

Figure 9: Integration with Shared MWI (Mitel 2000 and 3300 ICP)

Dual MWI support for two separate PBX Integrations

In some instances, organizations may deploy individual SX-2000 systems and other non-Mitel PBXs. In these situations, a single NP-UM system can support integration to both switches using DTMF to PBX and RS-232, which can be used to generate another MWI via a customer provided modem.
Figure 10: Dual MWI support for two separate PBX Integrations

**Note:** Multiple integration via digital DMG1000 cannot be supported unless the PBXs in question can pass MWI information to each other or the MWI information is passed to the additional switches through either RS-232 (via modem) or through ESMDI.

**MESSAGE WAITING NOTIFICATION: PBX INTEGRATION**

Some PBXs cannot process message waiting indication (MWI) notifications, so NP-UM provides MWI applications that allow the server to activate message waiting indicators on the PBX’s phones. These applications are:

- DTMF-to-PBX
- MiTAI
- RS-232 (modem-based, legacy application)
- ESMDI

**DTMF to PBX Message Waiting Application**

The DTMF-to-PBX MWI application allows the server to turn PBX message waiting indicators on and off by sending DTMF signals over the telephone lines. If your PBX supports feature codes that turn MWI on and off and if the codes are not sent using proprietary signaling, you may be able to configure the server to use these codes to control MWI.

When a message is left in a mailbox, the server takes a line-card port off-hook, dials a string of DTMF digits, then goes on-hook. The PBX translates these digits and turns the appropriate indicator on. When all unplayed messages have been played, the server follows the same procedure (dialing a different string of digits) to turn the indicator off.

**MiTAI Message Waiting**

MiTAI MWI has similar behavior to the DTMF dialer but does not generate a dialing sequence and does not require a port. MiTAI MWI uses the proprietary MiTAI Messaging API to communicate directly with a MiVoice Business system to activate message waiting indicators on
designated phones. Because the MWI does not actually dial out, outbound calls with the MiVoice Business system are reduced.

RS-232 MWI (Legacy)

The RS-232 MWI application allows servers to turn PBX message waiting indicators on and off by sending signals to the PBX over RS-232 data links. The data links can be either direct serial connections to the PBX, or they can connect to modems that are connected to analog ports on the PBX.

When a message is left in a mailbox, the server sends an ASCII message that tells the PBX to turn on the message waiting indicator at the appropriate station. Conversely, when all unplayed messages are played, the server sends an ASCII string that directs the PBX to turn off the message waiting indicator.

ESMDI

ESMDI allows servers to turn MWIs on and off by sending SMDI signals to the PBXs through the iPocket232 IP access device over RS-232 data links. For more information on ESMDI, refer to “Integration via Enhanced SMDI” on page 18.

EMAIL INTEGRATIONS

Integration with email services provides users with increased consolidation of different types of messages: voice fax and email. This section briefly describes the email integrations supported by NuPoint UM.

- SMTP Forwarding and Standard UM (pg. 22) require SMTP access to the email service. This is possible with hosted or on-premises email servers.
- Advanced UM (pg. 23) requires integration with an email server using IMAP or MAPI. This too is possible with Hosted or on-premises email servers.

NP-UM provides protocol adapters that allow connection with email servers. NP-UM supports the IMAP and MAPI protocols as adapter types for connecting to e-mail servers. It should be noted however that without email server integration, users still have access to many aspects of unified messaging via web view and SMTP forwarding. For a summary of supported versions and releases of data elements such as email servers and clients supported, see
Appendix B: Application Compatibility" on page 104.

NuPoint UM includes features to simplify email integrations

**Flexible IP port Selection to Exchange.**

When integrating with email servers that allow flexible port selection, the NuPoint UM administrator can select the port to be used to communicate to the email server. In practice, this will provide NuPoint Administrators with more flexibility when connecting to Exchange servers. Clearly, it is the administrator's responsibility to ensure that a port that is not reserved for some other system, service or application is selected, and that the same port is selected at the Exchange server.

**Ability for Administrator to define a single "from" email address for NuPoint email.**

Administrators have the ability to define a single "from" address such as "nupoint@mitel.com" for all email originating from the NuPoint server. By doing so, users can easily add this single address to their "safe sender" list in email to ensure that email from NuPoint are not relegated to "junk". Use of this functionality will eliminate the CLID of the caller from the email address but the CLID information will continue to be delivered in the body of the email message.

**SMTP INTEGRATIONS (SMTP FORWARDING OR STANDARD UM)**

NuPoint supports SMTP and Standard UM integrations with on-premises email servers. This type of integration usually includes an SMTP server in the customer’s network, or the customer may use a SMTP relay server. NPM will send mail through these channels.

**Hosted Email Services**

NuPoint supports SMTP and Standard UM integration with hosted email providers with a variety of architectures.

- For customers who continue to maintain an SMTP server in their network or use an SMTP relay service, NPM will continue to send mail through those channels.
- For all other customers, NPM offers the following options for sending SMTP email out through the firewall to hosted email service providers and other external email addresses.
  - MSL (Mitel Standard Linux) contains fully functional SMTP server software, which can deliver mail directly via the Internet through the organization’s firewall on port 25. This internal SMTP server is an industry-standard, reliable, and secure mail transfer agent which is widely used to deliver mail over the Internet. This configuration can be used for integration with hosted email service providers such as Google Mail, Exchange On-line and Office 365. In this case, the MSL SMTP server requires access through the organization’s firewall so appropriate security policies and rules must be in place—just as they would have been for an on-premises email server.
  - With this configuration, there is no limit to the number of emails that the NuPoint server can send.
- Alternatively, NuPoint can provide authenticated access to hosted email services. This type of access is subject to email send limits defined by the hosted email service provider. The send limits apply to all outgoing mail from the NuPoint system including alarm notifications and other non-user related email. Behavior once the send limit is exceeded is defined by the hosted email service provider, and should be taken into consideration if using this access method. As of writing, the send limit for a Google Business or Education account is 2000 email/day. NuPoint provides:
• Authenticated access via SSL on port 465. This is used by Google Mail.
• Authenticated access via TLS on port 587. This is used by Office 365 and Hosted Exchange.

ADVANCED UM INTEGRATIONS

Advanced UM provides full synchronization between the NuPoint server and the Email server. This ensures that actions taken on one server are reflected on the other server, no matter how the action is performed by the user. For example:

• When a voice or fax message is deleted from NuPoint the user using the TUI or Web View, the email message that contains the voice/fax message will be deleted in the user’s email account. On most email systems, the email will be moved to the “deleted” folder.

• When the user clicks on an email containing a voice message (through an email client), the voice message will be marked as “read” by NuPoint, and the MWI will turn off. Note that the user may not have listened to the voice message in the attachment.

NuPoint supports Advanced UM to on-premises email servers though IMAP or MAPI. It also supports Advanced UM integration to Google Mail through IMAP.

Hosted Email Service

Advanced UM provides full synchronization of voice and email messages with a tight integration between the NuPoint and email servers. Traditionally, customers have had full visibility and control of both servers since they were in the customer’s network.

When a hosted email service such as Google Mail is used, the email server is no longer within the customer’s own network and control. Changes may occur on the hosted email server without notification to the customer, and these changes may impact the Advanced UM service.

It should also be noted that hosted email service providers typically have a “send limit” for the maximum number of messages that can be sent each day. With an Advanced UM IMAP implementation, this “send limit” applies to individual email users—not to the entire NuPoint system.

Internet Message Application Protocol (IMAP)

NuPoint UM uses IMAP to provide Advanced UM service with email hosts such as:

• Microsoft Exchange
• Google Mail

By default, NuPoint UM uses the IMAP4 client protocol to access a user’s inbox on the email server. The IMAP adapter is targeted for smaller deployments with a single email server. When IMAP4 is used to synchronize an email server with the NP-UM voice mail server, users can access emails and voice/fax messages through the email client and the NP-UM mailbox. Microsoft Active Directory Server is not supported; thus, the AD Snap-in cannot be used with this implementation.

Although the IMAP protocol is one of the most widely used e-mail protocols, it may not be adequate for a large deployment with many clients.
Messaging Application Programming Interface (MAPI)

Use of a MAPI Gateway will improve access speed and scalability. Since MAPI is a Microsoft API it is applicable only to Microsoft products such as Exchange.

The MAPI Gateway application is installed on a Microsoft Windows server in the network, or as an appliance within a VMware ESXi virtualized environment.

The gateway serves as an e-mail protocol converter (IMAP-to-MAPI) that connects the Advanced Unified Messaging components on the NP-UM server to the email server. When MAPI is used to synchronize an Exchange server with NP-UM voice mail server, users can access emails and voice/fax messages through their Outlook client and the NP-UM mailbox.

![Figure 11: Configuration using MAPI Gateway](image)

User Access Options

IMAP and MAPI can be configured in either of two ways, depending on whether users access their mailboxes individually or using a Superuser account:

Individual User Access

With this setup, which is available for all server types, the individual users must update their Advanced UM Email Passwords in WebView whenever they change their email client passwords. If they do not do so, NuPoint will be unable to access the email server, and synchronization between the two servers will cease.

Superuser Access

With this setup, which is available only for Exchange Server, a Superuser account is used to access the individual user accounts and deliver the voice mail to email. This frees users from having to update their Advanced UM Email Passwords in WebView when they change their email client passwords.

CLIENT COMPONENTS

Email Clients

Email clients such as Outlook and Notes that are compatible with the supported email servers will function correctly with all aspects of NP-UM including Advanced UM.
Outlook Plug-in

Users on Outlook may download and install the Mitel Outlook Plug-in (OCP) to enhance their experience with Advanced UM. See "Email Clients" on page 24 for a more complete description of OCP.

NUPOINT PLATFORMS

OVERVIEW

NP-UM is available on a variety of different platforms to meet a wide range of customer and site requirements. All platforms use the same NP-UM base application software and run on the Mitel Standard Linux Operating System software.

NP-UM is available as a single application on the following server platforms:

- NuPoint UM 60
- NuPoint UM 120
- Virtual NuPoint

The versions are differentiated by capacity and level of redundancy. For server specifications refer to NuPoint Server Pl.

NP-UM is also available:

- as an application within the MiCollab and
- in a virtualized environment within virtual MiCollab

For information regarding MiCollab platforms, please refer to MiCollab documentation.

Table 7: Key Platform Capacities

<table>
<thead>
<tr>
<th>MAXIMUMS</th>
<th>NUPOINT 60 (SOFTWARE ONLY)</th>
<th>NUPOINT 120 (SOFTWARE ONLY)</th>
<th>VIRTUAL NUPOINT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ports</td>
<td>60</td>
<td>120</td>
<td>60/120/240</td>
</tr>
<tr>
<td>Voice mailboxes</td>
<td>57,000</td>
<td>120,000</td>
<td>57,000/120,000/120,000</td>
</tr>
<tr>
<td>Storage hours</td>
<td>8,000 (Note 1)</td>
<td>15,000 (Note 1)</td>
<td>2,500/5,000/10,000</td>
</tr>
</tbody>
</table>

Note 1: More storage may be available, depending on the MSL hardware platform.

NUPOINT UM 60 - SOFTWARE ONLY

The NuPoint UM 60 is a software-only version of the NP-UM application. It is available in all markets.

It supports up to 60 ports and can be installed on entry-level or mid-range Mitel Standard Linux (MSL)-qualified hardware platforms. This offering enables Mitel customers to source servers
from their preferred vendor, and choose a level of server hardware and warranty that meets their requirements. This product replaces the NuPoint Standard Edition of previous releases. Please refer to the MSL Qualified Hardware List for a list of supported servers.

**Note:** See the MSL Qualified Hardware list on the Mitel OnLine (MOL) web site at [http://edocs.mitel.com/pdf/QualHardware/msl_qualified_hardware.htm](http://edocs.mitel.com/pdf/QualHardware/msl_qualified_hardware.htm) for a list of the certified servers on which the NuPoint Unified Messaging software runs. Refer to the *NuPoint Unified Messaging Engineering Guidelines* on Mitel OnLine for exceptions to this list.

**NUPOINT UM 120 – SOFTWARE ONLY**

The NuPoint UM 120 is a software-only version of the NP-UM application. It is available in all markets.

It support up to 120 ports and can be installed on entry-level or mid-range Mitel Standard Linux (MSL)-qualified hardware platforms. This offering enables Mitel customers to source servers from their preferred vendor, and choose a level of server hardware and warranty that meets their requirements. This product replaces the NuPoint Single Server of previous releases. Please refer to the MSL Qualified Hardware List for a list of supported servers.

**VIRTUAL NUPOINT**

Virtual NuPoint (vNuPoint) runs as a VMware virtual appliance (vApp) on VMware vSphere Hypervisor (ESXi). Virtual NuPoint supports the customer's choice of three resource profiles: 60, 120 or 240 ports. It delivers a highly available solution to meet the local and geographically diverse business continuity needs of today's corporations, including support for VMware Site Recovery Manager and other vCenter Management Tools.

vNuPoint supports most features of the NuPoint product family, including Speech Auto Attendant (SAA), Unified Messaging, and FAX services. It does not, however, support Hospital-PMS integrations.

vNuPoint is qualified on VMware vSphere and supports a variety of VMware vCenter management features, including:

- **High Availability**: vNuPoint works seamlessly with VMware High Availability to provide local failover and recovery. If a server or virtual machines fails, a new instance of vNuPoint is started automatically and recovery occurs within minutes. The data center’s SAN infrastructure is utilized to preserve the integrity of voice mail messages.

- **Site Recovery Manager (SRM)**: SRM provides business continuity in the event of disaster at the primary data center for all applications or a defined subset of applications. SRM is intended to augment the local data center application availability solutions and is invoked as part of a corporate business continuity plan. Contact Mitel Professional Services for assistance configuring vNuPoint in an SRM-enabled environment. SRM enables:
  - vSphere replication
  - Re-protection
  - Failback
  - Disaster Recovery Event
• **VMotion**: VMotion can be used to move the vNP to an alternate server when server maintenance is required.

• **Virtual Storage Appliance (VSA)**: Get shared storage benefits without the shared storage cost and complexity. VMware vSphere Storage Appliance (VSA) transforms the local storage within your servers into a shared storage resource that runs your virtualized applications. VSA allows you to achieve business continuity and eliminates any single point of failure within your IT environment. With VSA, you can:
  - Deploy and manage cost-effective software-based shared storage easily
  - Get High Availability without shared storage hardware
  - Enable business continuity protection for any small environment

vNuPoint has also been qualified for on Microsoft Hyper-V for up to 120 ports.

**NUPOINT SERVER PLATFORMS**

Physical versions of NuPoint run on MSL Qualified Entry or Mid-range servers. Please refer to the MSL Qualified Hardware List available at Mitel OnLine.

**Note**: See the MSL Qualified Hardware list on the Mitel OnLine (MOL) web site at http://edocs.mitel.com/pdf/QualHardware/msl Qualified Hardware.htm for a list of the certified servers on which the NuPoint Unified Messaging software runs. Refer to the Engineering Guidelines on Mitel OnLine for any exceptions to this list.

**USER INTERFACES**

**INTRODUCTION**

NP-UM provides users with the ability to access their messages through three distinct interfaces:

• Speech Navigation Interface
• Telephone User Interface (TUI)
• Web View
• Email clients

The NP-UM system provides notification services to its users through

• Message Waiting Indicators
• Pager notification
• Phone calls
• Emails.

The NP-UM user interface is available in various languages. See Appendix C: Platform Compatibility and Appendix D: Geographic and Language Considerations for details.
SPEECH NAVIGATION INTERFACE

This functionality is available in North America to all versions of NuPoint including NuPoint on MiCollab using MiTAI integration. Spoken commands in North American English will be recognized in this release.

The first and second levels of NuPoint TUI have been enabled to recognize spoken commands in North American English.

- The TUI structure has not been changed so users familiar with key presses can continue to use them. The only exception is when deleting a voice message using a spoken command. In this case, an additional (yes/no) confirmation will be required from the user.
- The list of words that can be recognized is self-evident in the new prompts and will not be listed here. It should be noted however, that common synonyms that are not explicitly stated in the prompts can also be recognized. Some examples: Delete/Discard, Answer/Reply, Keep/Save, and Give/Forward. For a more colloquial experience, users may also say “play message” instead of just “play”.
- Please refer to Speech Navigation on pg. 75 for more information.

TELEPHONE USER INTERFACE

When a user accesses a mailbox, NP-UM plays a menu of the available options and the user selects the desired operation using the phone keypad. The system prompts the user to enter numeric commands (for example, “Press 7 for play”) or mnemonic commands (“Press P for play”). The following diagram illustrates the user interface:

Figure 12: NP-UM Telephone User Interface
COMPETITIVE TELEPHONE USER INTERFACE

The Competitive TUI Emulation feature provides a telephone user interface (TUI) that emulates the first level of the Octel/Avia voice mail system. You can assign this feature to users who may be familiar with this TUI so that they do not need to learn the NP-UM TUI. Users can use the Competitive TUI for common functions including playing, saving, making, forwarding, answering, and deleting messages, as well as reaching user options.

Outside callers and administrators, however, must use the standard NuPoint TUI.

This feature is available as a no-cost option.

![Figure 13: Competitive Telephone User Interface](image)

SYSTEM PROMPTS

A NuPoint system can support up to 25 prompt sets at the same time. NA English (mnemonic and numeric overlay) and 24 additional prompt sets can be installed on a single system.

Since two additional prompt sets are included in the base pack, customers may choose to add two additional prompt sets such as NA English Numeric Full set and Spanish numeric.

If more than three prompt sets are required, customer may pay for and install up to 22 additional prompt sets.

Overlay prompt sets do not count towards this maximum.

NP-UM uses high quality prompts, names, and greetings that are stored in G711 format - (64 kbps). The following table summarizes the prompt sets available on NP-UM and identifies whether they are part of the base software or are optional purchases.
North American English Prompts

NP-UM supports a number of NA English prompt options.

- **Mnemonic prompts** such as “Press P to play” take advantage of the letters on many telephone keypads to help users remember which keys to press. This is the default prompt set and is included in the base package. With this option, all users on the system will hear mnemonic prompts.

- **Numeric overlay** such as “Press 8 to play” are more commonly used since many cellphones and smartphones do not include the letters on their keypads. This prompt set is included in the base package. If applied, all users on the system will hear numeric prompts.

- **Numeric Full Set**: With this optional package, users will hear mnemonic OR numeric prompts, depending on their mailbox class of service configuration. If installed, this counts towards the maximum of eight languages that can be supported.

- **Competitive TUI**: This is a $0 optional telephone user interface. It mimics the 1st level of the Octel Aria (250/350) interface. If installed, this counts towards the maximum of eight languages that can be supported. When this TUI is selected, Speech Navigation will not be available.

- **TDD Memo**: This is an optional language which provides TDD (Telecommunications Device for the Deaf) callers with access to messaging features. It meets the requirements set forth in Title IV of the Americans with Disabilities Act (ADA). Spoken prompts are converted to Baudot tones, the tones TDDs use to send and receive, and are displayed on the TDD user’s screen. TDD users can use all the NuPoint messaging features by entering numeric commands through their telephone keypads. This requires analogue or digital ports and is not supported on IP ports. If installed, this counts towards the maximum of eight languages that can be supported.

Prompts in Other Languages

NuPoint UM supports numeric prompts in a wide variety of languages. Each of these languages would count towards the maximum of twenty-five languages that can be installed on a single NPUM system.

Please refer to Appendix C: Platform Compatibility and Appendix D: Geographic and Language Considerations for complete list of languages supported.

Clock Format

NuPoint will use a 12 hour clock or 24 hour clock in communications to callers and mailbox owners, depending on the language choices made by the system administrator for the mailbox.

- All versions of English as well as LA Spanish use 12 hour clock

- All other languages use 24 hour clock.

- Since Admin tools are in English, the Admin Web Console and Call Director will use the 12 hour clock.

- Note that when NuPoint is integrated with an email service for Unified Messaging, the timestamp in the email message is controlled by the email service, not by NuPoint UM.
MAILBOX CUSTOMIZATION

Although the system administrator is responsible for creating and modifying mailboxes, NP-UM allows users to personalize their mailboxes with the following features:

• Activating the mailbox tutorial
• Recording a name
• Recording primary and conditional greetings
• Setting passcodes
• Recording an extended absence greeting
• Creating personal distribution lists
• Scheduling message delivery
• Changing a message delivery number

Activating the Mailbox Tutorial

The user is guided through this tutorial the first time they log into their mailbox. During the tutorial, users learn about the messaging capabilities and how to customize their mailbox. In addition, the user is guided through the process of recording their name, a personal greeting, and a passcode.

A user can access the tutorial again at any time through the User Options menu in their mailbox.

Recording a Name

A mailbox user's name recording is used in the following places in the system:

• when a caller reaches a user's mailbox, the name recording verifies that they have reached the correct mailbox extension;
• when a user logs into their mailbox to retrieve their messages, they hear their name recording;
• when a user retrieves a message from an internal caller, they hear the name recording of the person who left the message.

Recording Primary and Conditional Greetings

Users have the option of recording up to four personal greetings: one primary personal greeting and three conditional personal greetings. The three conditional greetings are played if the telephone system provides call forward conditions to NP-UM:

• Ring no answer: This greeting is played if the called party does not answer.
• Busy: This greeting is played if the called party is already on the phone.
• All Calls Forward: This greeting is played immediately to incoming calls so that callers do not need to wait for many rings before leaving a message.
Setting Passcodes

Passcodes can be 4-10 digits in length, and can be changed as often as a user wishes, through the "User Options" menu. For more information on passcodes, refer to "Security at the Mailbox Level" on page 92.

Recording an Extended Absence Greeting (EAG)

Users can record an Extended Absence Greeting. This type of greeting informs callers that the mailbox owner is away for an extended period of time. Callers do not have the option to skip the greeting. Depending on the settings for that particular mailbox, the mailbox owner can prevent the caller from leaving a message. By creating an EAG and blocking individuals from leaving messages, users do not have to review all their voice mails upon return.

When the Extended Absence Greeting is enabled, a prompt is played to the mailbox owner after every successful login as a reminder that the feature is enabled. The mailbox owner can then disable the feature if it is no longer required.

Creating Personal Distribution Lists

Personal distribution lists are used to send messages to multiple mailboxes at one time. Each mailbox can have up to 99 distribution lists and each list can have up to 65,535 members. Users can also manage personal distribution lists from the Web View interface.

Scheduling Message Delivery

Mailbox owners can arrange to have their messages delivered to them at a different telephone number. The user can specify the hours available for message delivery, and through the system administrator, specify the types of messages to deliver (for example, urgent messages only).

This eliminates the need for users to constantly check their mailbox for new voice messages.

WEB VIEW INTERFACE

The Web View application provides a visual representation of the NP-UM mailbox. It provides a GUI for managing voice and fax messages as well as Call Director. Users access Web View from a supported browser (such as Internet Explorer) using a URL provided by the NP-UM system administrator.

Note: To support Web View, the NP-UM server must be part of the DNS.

Web View is supported in different languages (See Appendix C: Platform Compatibility and Appendix D: Geographic and Language Considerations for details). The Messages tab of the Web View interface, is shown below:
MESSAGES TAB

The Messages tab displays all the voice and fax messages in a user's mailbox with related information such as name or phone number of the caller, time received, and length. The Messages tab allows the user to perform actions on a message using the available buttons (for example: Play, Delete, Save, Reply, and so forth).

- **Play**: This button plays the message over the user's PC speakers. For increased privacy, the user may use the Call Me or Meet Me feature instead.

- **Call Me/Meet Me**: Users can access their messages quickly and easily by pressing either the "Call Me" or "Meet Me" button. If a "Call Me" number has been entered in the "Settings" tab, the Call Me button is available. If a "Call Me" number has not been specified, then the only the "Meet me" button appears. In either case, the user can use these options to listen to a voice message over the telephone instead of the PC speakers for increased privacy.

- **Call Me**: This feature requires the mailbox owner to enter a "Call Me" telephone number in the "Settings" tab of web view. Once a number is entered, a "Call Me" button is displayed. When the user clicks the "Call Me" button, the NP-UM system calls the user at the programmed telephone number.

- **Meet Me**: If the user has not entered a "Call Me" number, then the "Meet Me" button is displayed instead. With Meet Me, the user can choose a message, click the "Meet Me" button, and then call the NP-UM system. The NP-UM system then plays the message.

- **Compose Fax**: If the user is enabled for fax, the "Compose Fax" button allows the user to compose a fax cover sheet, attach a document for faxing, and then transmit the fax all from the Web View screen.
Figure 15: Web View Messages Screen

SETTINGS TAB

The "Settings" tab allows the user to define settings. The Settings available will vary, depending on the services that the user has been enabled for:

- **Type of audio encoding to be used (ADPCM, GSM6.10, MP3).**
  - **ADPCM:** compared to the other available options, this default value offers the best compression level for voicemail messages. This will generate a .wav file.
  - **GSM 6.10:** this option offers wider support for mobile devices with a slightly larger file size than ADPCM. This will generate a .wav file.
  - **MP3:** this option is widely supported but requires more processing time and larger file sizes (recommended only when the end user device cannot play ADPCM or GSM 6.10). This will generate an .mp3 file.

- **Email address(es) - phone and fax messages are sent to the email addresses provided by the user.**

- **Phone number that NP-UM calls when the Call Me feature is invoked.**

- **Phone number of personal attendant. If a caller presses 0 while listening to the user’s greeting, the call is transferred to this extension.**
The Distribution Lists tab allows the user to easily create distribution lists using a web interface instead of the TUI. The user may search for new members by searching by name, or by entering the mailbox extension of a user. Users may also import and export distribution lists using a .csv file.

The Greetings tab allows users to select the greeting to be played to callers. The user may record and save up to four greetings and then choose the “active” greeting by selecting the appropriate check box. Greeting names may be customized by the user—for example, “On Vacation”. The active greeting is used instead of the primary greeting recorded during the tutorial.
Users can record one primary greeting and up to three conditional greetings. To record a greeting, the user clicks the Greetings tab, selects the desired greeting, and clicks Record. If the user has programmed a Call Me Phone Number in the Settings tab, the system calls that number and prompts the user to record the greeting over the phone. If not, the user presses the Meet Me button and the system calls the user’s extension and prompts the user for the recording.

Note that the extended absence greeting (EAG) is not managed here but through the traditional TUI instead. Users must click the Update Server button to enable choices made on this screen.

![Figure 18: Web View Greetings Screen](image)

**CALL DIRECTOR**

Call Director-personal edition is a web-based application that works at the personal mailbox level to add time of day/week/year routing as well as over-ride and other flexible call flow design and routing. With Call Director-Personal Edition, a mailbox owner can program personal call flows which are associated with their mailbox. Refer to page 48 for details.

Call flow actions direct NP-UM to

- Play a message;
- Perform a call transfer (blind, supervised, or screened) to an extension or external phone;
- Forward a call to a specified voice mailbox;
- Send the caller to the dial-by-name application;
- Hang up;
- Link to another Call Director call flow.

Call Director is supported in different languages (See Appendix C: Platform Compatibility and Appendix D: Geographic and Language Considerations for details).

**DOWNLOADS**

From the download tab, users can download:

- an Outlook Client Plug-in (OCP) that installs a user-friendly tool bar on the Outlook client.
- a Fax printer driver that allows users to fax from within an application, as if they were printing.
It should be noted that some downloads are available only in a Windows environment.

SPEECH NAVIGATION

For users who have been enabled for Speech Navigation, this tab will be displayed.

VISUAL VOICE MAIL SUPPORT

Visual Voice Mail (VVM) is a feature that allows users to visually interact with their voice mail from their phone. When NP-UM is deployed in a MiVoice Business and MiVoice Office 250 network, users benefit from the enhanced functionality of a Mitel solution.

Visual Voice Mail provides the user with a visual interface to view voice mail message details such as message type, caller, time, duration and provides the user with a range of options to contact the caller or to simply play, delete, or forward the voice mail message to another person.

NuPoint does not proactively update VVM after the first message. If additional messages arrive, the VVM display will update when the user logs in to VVM again.

The prerequisites for Visual Voice Mail are

- Standalone or NP in MiCollab must be integrated with a MiVoice Business (not simply a MiVoice Business gateway) or a MiVoice Office 250 ICP.
- Users compatible user device or application:
  - 5340 or 5360 IP Phone with MiVoice Business ICP.
  - MiCollab Client Softphone with MiVoice Business and MiVoice Office 250 ICP.

Figure 19 shows the Visual Voice Mail main menu on a Mitel 5340 IP Phone.
SOFTKEY SUPPORT

The Voice Mail Softkeys feature allows users to control voice mail functions through context-sensitive keys on a Mitel IP Phone. This feature is available to NP-UM systems that are integrated to:

- the 3300 ICP (Release 5.1 UR 2 or later) using an IP integration
- the MiVoice Office (Release 3.2 or later) using a SIP integration

Voice Mail Softkeys are supported on Mitel 5324, 5330, 5340, and 5360 IP Phones.

**Note:** The Softkeys feature is not supported for Digital Media Gateway (formerly PIMG) integrations.
Email clients, such as Microsoft Outlook are not part of the NuPoint application. However, the user benefits provided by NP-UM are enhanced by email clients.

These third-party email clients enable users to view all of their message (email, voice mail, and fax) in a single location, with varying degrees of synchronization.

Users on Outlook who download and install the Outlook Plug-in (OCP) have the added convenience of an additional tool bar and easy access to the “call me” and “meet me” features. OCP shows an example of the toolbar.
MESSAGE WAITING NOTIFICATION METHODS

NP-UM provides a number of different methods to notify users of new messages. When users are notified of new messages, they know to access their mailbox and review them.

- “Message Waiting Indicator (MWI)” on page 40
- “Pager Notification on page 40
- “Notification with Phone Call” on page 40
- “Notification with Email” on page 40

MESSAGE WAITING INDICATOR (MWI)

The NuPoint system provides a stutter tone and a lit lamp on the user’s phone to indicate when there is a message waiting. These indications are sufficient to notify a user of new messages if the user is located near their phone.

For any of the above MWI methods, you can set parameters to:

- refresh some or all message waiting indicators;
- suppress message waiting indicators for skipped messages;
- view the current MWI types and settings.

PAGER NOTIFICATION

For industries such as healthcare which continue to rely on pagers, NuPoint UM provides real-time notification of messages.

- Users can designate up to two primary and two alternate pager numbers
- configure the mailbox to page at certain intervals
- specify the types of messages requiring notification (for example, urgent only).

NOTIFICATION WITH PHONE CALL

If a mailbox owner user chooses to schedule message delivery, the system calls the user at a predefined telephone number every time a new message arrives. When the phone is answered, the system plays the following prompt, “Hello <user’s name>. You have <number> unplayed messages in your mailbox. Please enter your passcode. After the passcode is entered, the system prompts the user with the main menu (for example, press P to Play your first message, M to Make a new message.).

NOTIFICATION WITH EMAIL

NP-UM sends emails to Unified Messaging users to notify them of new voice and fax messages so that the user has visibility of all messages through an email client.

In the case of a voice message, the email may include

- WAV attachment
- a link to the message stored in the NuPoint server
In the case of a fax message, the email may include:

- tiff attachment
- PDF attachment
- link to the fax message stored on NuPoint.

The notification methods are determined by the user’s web view tab settings as well as the class of service assigned to the user by the administrator.
BASE FEATURES

INTRODUCTION

The features and functionality described in this section are included with every NP-UM system as part of the NuPoint base software package. However, users must be assigned the appropriate class of service(s) by the system administrator in order to access specific features.

The base features include:

- Extensive voice messaging functionality
- Call Director
- Unified Messaging
  - SMTP forwarding
  - Web View

MAILBOXES

A mailbox stores messages left by callers. When callers reach a busy or unanswered extension, they can leave a voice message in the voice mailbox. The “owner” of the mailbox is the person assigned to that extension. When a message has been left, the message waiting indicator (MWI) is lit so that the owner knows to access their mailbox and listen to the recorded message(s).

TYPES OF MAILBOXES

NuPoint is equipped with a Standard as well as Special mailboxes. Most users are assigned a Standard mailbox while Special mailboxes have special privileges and capabilities and are usually assigned to administrators, attendants and other special users.

In addition to standard mailboxes, a typical system includes an administrator’s mailbox and an attendant mailbox.

STANDARD MAILBOXES

A standard mailbox collects and stores voice messages, plays greetings, and provides user prompts. Administrators can apply different feature classes of service to tailor mailboxes to users’ needs.

SPECIAL MAILBOXES

The following special mailboxes are available on all NP-UM systems. Mailboxes related to the Hospitality feature option are described in "Mailboxes" on page 70:

- **Administrator mailbox**: Allows the system administrator to
  - set and record the company greetings
  - create or edit master distribution lists that can be used by any mailbox owner on the server
• add mailboxes, delete mailboxes, and change mailbox configuration, by phone

• **Attendant mailbox:** Allows the attendant to
  • set and record the "message of the day greeting" which does not turn on the user’s MWI
  • record a customized site tutorial (a form of greeting).
  • access unaddressed messages left by outside callers who do not enter a specific mailbox number. These "unaddressed" messages are stored in the Attendant mailbox

• **Greeting-Only mailbox:** plays the recorded greeting and then hangs up.

• **Rotational mailbox:** allows callers to hear greetings that change.Greetings change either by time and date (in a "period" rotational mailbox) or with every call (in an index type rotational mailbox). In a retail environment, this may be used to announce a "special of the day" to all callers.

• **Chain mailbox:** plays a greeting, then routes calls to the mailbox selected by the caller. The chain mailbox cannot accept messages. For example, a chain mailbox greeting could say: "For sales, dial 100; for shipping, dial 200, for technical support dial 300". The caller can dials the appropriate mailbox number and the system transfers the call to the mailbox.

• **Tree mailbox:** provides more call routing capability than the Chain mailbox. It plays a greeting then prompts the caller to enter a single digit to obtain more information. After entering the desired digit, the caller is routed to a child mailbox that plays another message that either provides the requested information or presents a sub-menu of options. The tree mailbox cannot accept messages.

• **Broadcast mailbox:** The administrator may designate a broadcast mailbox with a defined distribution list. Callers to the mailbox can record a message that is automatically made available to everyone on the distribution list. The audio file remains in the broadcast mailbox and is not duplicated in all the "recipient" mailboxes.

• **Shared Extension mailbox:** allows multiple users who share a telephone extension to each have their own private mailbox. This may be used in a college dormitory environment.

**PROMPTS**

Prompts are audio recordings that are played to users to help them to use the NP-UM system. Prompts are available in a number of languages including English, French, Spanish and many others. For a complete list of the supported prompt sets and languages, please see Appendix C: Platform Compatibility and Appendix D: Geographic and Language Considerations for details.

**GREETINGS**

Two categories of greetings are supported by NP-UM.

• Company Greetings

• Mailbox Greetings
Company greetings are messages played to callers when they reach the company’s main telephone number. Typically, these greetings are recorded by the administrator or the attendant and are associated with an Attendant Mailbox. The Company Greeting is the message that outside callers hear when they access the system. The system administrator can record two greetings: one to play during regular working hours, and one to play during evening or weekend hours. The system ports are divided into line groups. Each line group can have a different administrator’s mailbox and, therefore, a different company greeting.

Mailbox greetings are recorded by the mailbox owner. When calls are routed to the owner’s mailbox, callers hear the greeting. For example, “You have reached the voice mailbox of Paul Burke. I’m unable to take your call at this time. Please leave a message.”

**DISTRIBUTION LISTS**

A mailbox owner can send a voice message to all members of a distribution list simultaneously by entering a distribution list number.

There are two types of distribution lists:

- Mailbox Owner Distribution Lists (also called "user distribution lists") are created by the mailbox owner for personal use through the TUI or Web View Interface.
- Master Distribution Lists (also called "system distribution lists") are created by the system administrator for use by all users in the system. Administrators create distribution lists through TUI associated with the administrator mailbox or they can create them using the Text Console.

Up to 99 personal distribution lists may reside in a mailbox owner’s mailbox, and each can contain up to 65,535 members. Up to 99 system distribution lists, each with up to 65,535 members, can reside in an administrator’s mailbox (one administrator mailbox per line group), and can be used by mailbox owners who dial into that line group.

Distribution lists also control the actions of several special mailbox features. For example, the distribution lists in tree mailboxes and rotational mailboxes identify member mailboxes, and the distribution lists in broadcast mailboxes identify the recipients of broadcast messages.

**MESSAGE MANAGEMENT**

After users are notified of new messages, they can:

- review the messages
- record and send messages
- send messages to an external number.

**REVIEWING MESSAGES**

After being notified of new messages (by MWI for example), a user calls into the system, logs into his or her mailbox, and verifies the number of new and saved messages. The user can then choose to listen to all, some or none of the messages, listen to a message multiple times, move forward/backward within the message, pause, or skip to the next or previous message in queue. By default, messages are played in order that they are received. Once
played, any message can be kept or deleted. All messages contain a time and date stamp and the sender’s name if the message is from an internal caller and they have recorded their name. Messages from outside callers contain the phone number of the caller if it was captured by CLI or input by the caller.

Users can also skip a new message and have it remain in the unplayed queue. When the user logs out, the MWI lamp will turn off. The next time the user accesses their mailbox, any messages that were skipped in the previous session are announced as unplayed.

After listening to a message, the user can answer the message automatically without having to hang up or dial another extension. The original message can be attached to the reply to remind the message sender of the subject matter. If the user chooses, he or she also can forward the original message to one or more recipients along with their own comments. All of these options can be customized by the user.

With the dial-back feature, users may respond to a caller’s voice message by initiating a return phone call from the NuPoint telephone user interface (TUI). After message playback, NP-UM automatically dials the number of the caller (if available). This feature allows users to easily return calls with the option to either keep or delete the original message.

RECORDING AND SENDING MESSAGES

In addition to receiving and playing messages, a mailbox owner can create a message and send it to one or more destinations from within their mailbox. Users can send messages to the following destinations:

- Another mailbox on the system;
- Another mailbox on the system utilizing an abbreviated mailbox number;
- A mailbox on a VPIM-networked system;
- An off-system telephone number;
- A VPIM-network user without a mailbox;
- A mailbox on another vendor’s voice mail system;
- A distribution list containing any of the above;
- A broadcast mailbox containing any of the above;
- Any combination of these destinations.

After a user records a message, he or she can review it, delete it and re-record, or send it. The NuPoint Unified Messaging server allows a user to send messages with a number of delivery options. For example an urgent message would be placed at the front of the recipient’s message queue. The following are message addressing delivery options that are available on the NuPoint Unified Messaging server:

- Marking a message as urgent;
- Marking a message as confidential (so that it cannot be given to another user);
- Setting a message for future delivery;
- Requesting a return receipt (to see if the recipient listened to the message);
- Any combination of the above.
SENDING MESSAGES TO AN OFF-SYSTEM NUMBER

Mailbox owners can send messages to off-system (non-NuPoint user) telephone numbers. If the NP-UM server cannot deliver a message on the first attempt, the system will try again at regular intervals for a specified length of time. The system administrator can adjust both the retry interval and time length. When the call is answered, the system informs the answering party who the message is for, and who it is from. The recipient may accept, reject, or delay the message. After listening to the message, the recipient can leave a return message. In all cases, NP-UM notifies the mailbox owner (message sender) if the message could not be delivered.

Interactions with other messaging systems
- To deliver messages to mailboxes on other vendors’ systems, VPIM is required.
- If the vendor’s server is not VPIM-enabled, the message can be sent via Audio Messaging Interchange Specification (AMIS). With AMIS, NuPoint will deliver the message into the destination mailbox without requiring recipient acceptance.

SYSTEM FEATURES

SYSTEM DAY AND NIGHT HOURS

Depending on the office hours setting, the system handles incoming calls as either day, night, or weekend calls. The system administrator can define the following parameters:
- **Week Days Table:** defines the working days for the business.
- **Start Time of the each day:** defined the start time of a work day. Default is 8 am.
- **End Time of the each day:** defines the end time of a work day. Default time is 5 pm.

DIAL BY NAME

This feature allows a caller to reach a NP-UM mailbox by dialing the user's name using the letters on the telephone keypad. This eliminates or reduces the needs for an attendant or receptionist. When operating in languages that use a character set similar to the 27 character English alphabet, additional characters have been mapped to a similar looking English character. For example, in Swedish, the letter Ö has been mapped to the letter O so that Swedish users can press the number 6 on a telephone keypad when spelling a name containing this character.

The System Administrator can easily switch between dial by "first name" and dial by "last name" as long as names have been entered in the address book using a consistent format.

WAIT PROMPT

When the Wait Prompt is enabled, the server issues the prompt "Please enter a mailbox number, or wait" immediately after the company greeting is played. By default, the Wait prompt is enabled.
TIMEZONE OFFSET

Normally, NP-UM will use the system time when announcing times. For example, "...message received at 3:45 PM..." or the Swedish equivalent of "...message received at 15:45..."

If there are users physically located in a different time zone, this can be changed by using the time zone offset feature. This feature associates a time zone offset with each mailbox compared to system time (e.g. +1, +2 hours etc.). NP-UM will then automatically adjust the time announced to the mailbox owner so that it is correct for the mailbox owner's location and time zone. Call Director call flows will automatically inherit the time zone offset associated with the mailbox.

INBOUND VOICE CALL FEATURES

CALLING PARTY FEATURES

NP-UM includes a number of features that can be offered to the calling party. While all features are included in every NuPoint system, whether they are offered to a calling party or not is determined by the settings associated with the mailbox that the caller has reached.

After a caller is transferred to a users’ voice mailbox and records a message, the caller can be given the opportunity to:

- replay or rerecord their message
- mark the message urgent so it gets placed at the top of the mailbox owner's message queue
- page the mailbox owner with a callback number
- leave a message for another mailbox on the system
- transfer to the operator or another extension
- leave a callback number for faster call return.
- allow dial an extension is available only to internal callers

The End of Message Warning (EMW) feature alerts callers if they are running out of recording time, so they know to complete their message.

MAILBOX OWNER FEATURES

NP-UM includes a number of features that can be offered to the mailbox owner. While all features are included in every NuPoint system, whether they are offered to a mailbox owner or not is determined by the settings associated with the user's mailbox.

When a mailbox owner first accesses his/her mailbox, NP plays a brief tutorial to guide the user through the process of recording a greeting, change passwords, recording name.

After a mailbox owners have listened to a message, they can

- save the message
- delete the message
- forward the message
• answer with a Voice Message: Mailbox owner can record a message that is then delivered to the calling party’s mailbox

• dial-back: When invoked, NuPoint automatically dials the telephone number of the calling party as long as NuPoint receives CLI. The mailbox owner is given the option to save or delete the original message. This feature is only available with MiVoice Business 4.0 or later integrations.

MULTILINGUAL SERVICE FOR PROMPTS

For companies operating in a multilingual environment, the ability to provide service to callers in the language of their choice creates a positive experience. When set up for multilingual service, Mitel NuPoint UM offers callers a choice of up to five prompt languages (for example, English or French or Swedish). Once a selection is made, remaining prompts are played in the preferred language. Mailbox owners may wish to record their personal greeting in more than one language.

Call Director can be used to act on the language selection at the mailbox level. Internal callers are asked to select a language and then be presented with a unilingual personal greeting in the selected language. External callers who have already made a language selection are presented with the appropriate unilingual personal greeting. A new language selection template has been added to Call Director to facilitate language selection at the mailbox level.

For NuPoint UM standalone systems:
• Multilingual Service is managed at the line group level so that different access numbers can be set up for unilingual or bilingual service.
• The Language Selection Template in Call Director may be assigned to users through LCOS.

In addition, NuPoint UM standalone systems can be configured with a custom language selection prompt which can be played in conjunction with the primary language prompt, or by itself.

For NP in MiCollab systems, see "NuPoint in MiCollab Functionality Differences" on page 98.

CALL DIRECTOR

Call Director is a web-based software application that allows system administrators and users to create call flows to manage their incoming calls. Administrators may also add, modify and delete personal call flows on behalf of end users.

• provides default call flow templates for simplified administration and ease of use.
• provides voice menu capabilities to Mitel NuPoint Unified Messaging;
• tells NuPoint Unified Messaging how to handle incoming calls in terms of call flows;
• provides default call flow templates for simplified administration and ease of use.

Call Director is offered in two editions:

Call Director - Corporate Edition is an advanced web-based Auto Attendant application which works at the organizational line-group level to add time of day/week/year routing, over-ride and other flexible call flow design and routing options to NuPoint Unified Messaging.
Call Director - Personal Edition is a web-based application that works at the personal mailbox level to add time of day/week/year routing as well as over-ride and other flexible call flow design and routing. 50 licenses are included in the NuPoint base software package.

Note: To support Call Director, the NuPoint Unified Messaging server must be part of the DNS.

Call flow actions can direct the NuPoint Unified Messaging system to:

- play a message,
- perform a call transfer (blind, supervised, or screened) to an extension or external phone,
- forward a call to a specified voice mailbox,
- send a page or a text message,
- send the caller to the dial-by-name application, or
- hang up.

Figure 23 shows an example of a simple Personal Call flow. Tutorials on how to set Call flows are provided in the Call Director online help and in the NP-UM training modules.
IMPORTING/CREATING AUDIO FILES

Audio prompts are required in a call flow to provide instructions and/or options to the caller. These audio files can be recorded by the user at the PC, or imported through the Web View Call Director tab. Alternatively, users can record prompts over the telephone by following prompts within Call Director.

For a Corporate Call Director call flow that will be heard by all callers to a business, prompts can be professionally recorded in CCITT u-Law 8 kHz mono and imported into NuPoint as previously noted.
CALL DIRECTOR TEMPLATES

Call Director includes two types of templates: system templates and user-defined templates. A maximum of 50 Call Director templates can be created.

Administrators can assign Call Director templates to individuals on a per mailbox basis, or to groups of users. Users that have a template assigned to them only need to provide the required information (such as cellphone number) through Web View interface. When the administrator updates a message or prompt for a template, the change is automatically implemented at all mailboxes that are using the template.

System Templates

Five System Templates are provided in NuPoint. These templates can be used as is or as a starting point when creating a call flow.

- **Daily Greeting**: This template allows the user to record a special "daily greeting" which can be inserted into a personal call director call flow.

- **Alternate Daily Greeting**: This template allows the user to record an alternate daily greeting which is used if/when the user forgets to record a daily greeting. NP-UM automatically uses this greeting if the user has not recorded a daily greeting for that day.

- **Follow Me**: This call flow allows the user to have their calls "follow them" to a different number. When enabled, NP-UM acts as a private attendant by putting incoming calls on hold while it tries the "Follow me" number to reach the mailbox owner. If the call is still no answered, it is transferred to voice mail.

- **Find Me**: This call flow allows the mailbox owner to specify up to three telephone numbers. NP-UM performs a supervised transfer to each of the numbers in turn in an attempt to locate the mailbox owner before transferring to voice mail.

- **Personal Dial Zero**: This call flow allows mailbox owner to define the number to transfer a call to if caller presses zero from within a Call Director call flow.

- **Automated Attendant**: This call flow provide a simple "out of the box" automated attendant. The template will greet an incoming caller, ask for an extension number, and transfer the call.

User Defined Templates

User-defined templates can be created, edited, deleted, imported and exported. Each template has a number associated with it for the purpose of recording prompts in the TUI.

CALL DIRECTOR CALL FLOW ACTIONS

The following call flow actions are provided with Call Director. They can be used to customize the templates, or to create new call flows

- **Personal Dial Zero**: Allows the user to transfer a call to the same attendant whether the caller is transferred while dialing 0 in the call flow or after being transferred to the mailbox. The call flow owner can specify the attendant number through the Web View interface and it will be stored in the mailbox database. When a call falls on this action, the attendant number will be extracted from the mailbox database and the call will be transferred to that number.
- **Override**: When enabled, Override supersedes all subsequent programming within the call flow. You can program Override to route calls to an extension, voice mailbox, message, or the attendant. Overrides can be turned on and off in Call Director or from any DTMF telephone.

- **Schedule**: Allows the user to define when they are in or out of the office (day/time), or on holidays. This allows the user to configure their call flows to manage inbound calls differently depending on their office or holiday schedule.

- **Message / Greeting**: Plays recorded audio, such as a mailbox greeting to callers. Messages play once before moving the caller down to the next node in the call flow.

- **Menu**: Provides a recording that presents options to an incoming caller. The recorded Menu prompt provides the caller with options: For example, Press 1 to reach my cell phone. Press 2 to reach the sales desk.

- **Blind Transfer**: Dials the destination and then releases the call regardless whether the destination is busy or not answering.

- **Supervised Transfer**: Used to transfer callers to another number (for example, a co-worker). However, if the call is not answered the caller returns to the original voice mailbox.

- **Screened Transfer**: Waits for the called party to answer before completing the transfer. If the call is not answered, it returns to the call flow for further processing.

- **Alternate Transfer**: Routes calls to an external destination, such as a cell phone or pager, and for text messaging. The destination is defined by the dial string sequence, which can include commands that permit complete control of the outgoing call, including:
  - Dial tone detection
  - Call answer supervision
  - Dialing DTMF keys
  - Inserting pauses
  - Substitution of the Caller ID into the dial string

- **Voicemail**: Sends the caller to a NP-UM mailbox. The caller can be given the choice of entering a mailbox number or can be directed to a particular mailbox. If the mailbox is not specified, then the call is sent to the mailbox of the call-flow owner.

- **Dial-by-Name**: Sends the caller to the NP-UM Dial-by-Name application which matches the telephone keypad equivalent of the spelled names of mailbox owners (as entered by the caller) with their mailbox and extension numbers.

- **Internal/External filter**: Incoming calls are filtered so that they are handled differently. For example, if the mailbox owner is on the phone, internal incoming calls could be directed to his mailbox while external incoming calls could be directed to his cell phone.

- **Caller ID**: Incoming calls receive different treatment depending on the Caller ID. This can be used, for example, to transfer calls from home to the user’s cell phone instead of his office extension.

- **Daily Greeting**: Plays the recorded daily greeting. The daily greeting reverts to the primary personal (or standard) greeting at midnight. If no daily greeting is recorded, then the standard greeting is played. Users have the option to personalize their greeting on a daily basis with a temporary greeting that will revert at midnight back to the user’s Default Daily Greeting, or, if that is not recorded, to their Primary Personal Greeting.

- **Message Center**: Directs a call to the message center if a voicemail mailbox is not specified.
RECORDED ANNOUNCEMENT DEVICE (RAD) SUPPORT

RADs are commonly used to automatically answer incoming calls and deliver pre-recorded messages such as "All of our representatives are busy, please hold to maintain your call priority." before transferring the caller to an ACD group on a PBX.

Alternatively, RAD messages may be used to provide the caller with commonly requested information (eg. business hours or a store), resulting in a lower number of calls that require live interaction.

RAD ports on NP-UM are not dynamically allocated, but utilize inbound call ports; you must take this fact into consideration when you size the total port requirements.

UNIFIED MESSAGING FEATURES

Unified Messaging is included without charge in the NP-UM system as follows:

- **SMTP Forwarding**: provides forwarding of voice and fax messages to e-mail
- **Web View**: The Web View Messages tab provides access to voice and fax messages from a web browser, using an URL provide by the system administrator. Web view also provides visual access to distribution lists and Call Director.

Since both features are included in the NuPoint base package, businesses can provide all end users with unified messaging.

SMTP FORWARDING

The SMTP Forwarding option is enabled on a system-wide basis and can be deployed to all system users. It can forward all of a user’s voice and fax messages from NuPoint to an email address.

SMTP forwarding is one way communication from NuPoint to email servers. There is no communication from the email server back to NuPoint.

To set up SMTP Forwarding, the system administrator configures mailboxes with default email addresses. Users may change the default e-mail address through Web View. Once SMTP Forwarding is enabled by the administrator, all voice and fax mail messages that are received in the mailbox have a copy automatically e-mailed to the specified email address. The email includes an audio file (.wav) of the voice message so the voice message is effectively stored in two locations: NuPoint and the email server. The user can open the mail message and listen to the attached voice message on PC or smartphone speakers.

A copy of the voice message remains on the NP-UM system and as a result, the MWI on the user’s telephone will remain on EVEN IF the user deletes the email and audio attachment. Only messages that are managed via the TUI result in an accurate MWI.

In order to minimize confusion, the system administrator may choose NOT to enable MWI for users who frequently access their voice messages from their email interface. In this case, MWI will never go on.

NuPoint can support SMTP forwarding to hosted email services. Please “Hosted Email Services” on pg. 22.
WEB VIEW – MESSAGES TAB

For information about the other tabs of Web View, please refer to “Web View Interface” on pg. 32.

Web View, sometimes referred to as Integrated Messaging, is enabled on a system-wide basis with a specified number of simultaneous sessions. It is accessible by users through a URL provided by the system administrator.

- NP-60: 50 simultaneous sessions
- NP-120: 60 simultaneous sessions
- Virtual NuPoint: 60 simultaneous sessions

WebView is a visual representation of the NuPoint mailbox that allows users to manage their NuPoint mailbox through a GUI instead of the TUI. Actions taken within WebView will have the same result as an action taken through the TUI. Whether a message is heard through a TUI or the GUI of WebView, the MWI will turn off.

Web View allows users to perform actions that blur the boundary between voice, fax, and email messaging:

- Reply to voice or fax messages by email to other Web View users, forward voice or fax messages via email by entering the recipient’s email address
- Save voice or fax messages to an email mailbox for archiving as a WAV file if allowed by system administrator.

Example of Web View shows an example of the Web View interface. The following steps describe how Web View functions:

- Caller dials user’s extension, which is forwarded to the voicemail hunt group number according to call forwarding settings.
- Caller leaves a voicemail message, which is stored in the user’s mailbox on the NP-UM server.
- Switch integration lights the MWI.
- The user accesses the WebView interface then selects to play a voicemail message.
- HTTPs request is sent to NP-UM server.
- The WAV file is sent to the PC where it can be played by a media player
- Message is marked as , "played", and the MWI lamp turns off.
In addition to handling inbound calls and recording messages, NP-UM can initiate calls and deliver messages to devices such as cell phones, pagers and other devices.

- **Outdial Notifications**: allows NP-UM to notify a mailbox owner when a message arrives in the mailbox by out dialing a number. Parameters can be set to limit the hours that a notification may be sent, or the types of messages that activate a notification.

- **Cascade Notification**: if this feature is enabled and the user receives a new message while the server is in the process of message delivery, the server will not initiate a new notification. If it is disabled, a new message will restart the message delivery function.

### OPTIONAL FEATURES

#### INTRODUCTION

Features and functionality described in this section are optional, and require the purchase of additional licenses. Individual users have access to specific features depending on the class of service that has been assigned to them by the system administrator.

Optional Features include:

- “Unified Messaging Applications on page 56
- “Record-A-Call” on page 61
- “Fax Services” on page 62
- “NP-UM IP Miscellaneous Applications” on page 64
UNIFIED MESSAGING APPLICATIONS

Standard and Advanced UM Application users have access to all the "Base" UM features and can therefore access their voice and fax messages through Web View as described in "Unified Messaging Features" on page 53.

Although unified messaging is possible without the integration of an email system, as described in the previous chapter on "Base Features", NP-UM offers two additional options for an enhanced user experience:

- Standard UM
- Advanced UM.

The benefits of these applications are as follows:

- Easier and faster message management: NP-UM displays a mailbox owner’s voice messages visually in either their e-mail client. At a glance, a user can see the
  - Voice and fax message in the email mailbox.
  - Unified Messaging emails contain Caller ID information. When you receive UM email notifications on a smart phone device (such as RIM Blackberry, Apple iPhone, or Windows Mobile devices) you can click the Caller ID text to return a call.
  - Unified Messaging emails contain the email address of internal callers. You can respond with an email by clicking on the address.
  - Date and time of the message.
  - Status of the message: Urgent messages are flagged with an exclamation point, confidential messages with a lock (if the email client supports these indicators). A user can click on a message to hear it through a media player on the device.

- **Ability to save messages**: For users accessing their voice messages using Standard UM, the **Save** function automatically copies selected messages to their default email address. These messages then appear in the user’s email inbox as an email message with a WAV file attachment. The messages can be moved to a folder, archived, or sent via email to non-NP-UM users.

**Note**: To support Standard UM, the NP-UM server must be part of the DNS.

- The following table summarizes key differences between the four types of UM available to NuPoint users.
STANDARD UNIFIED MESSAGING

Standard UM provides users with the most flexibility by providing numerous options for blurring the line between email and voice messages. Using the Settings tab in Web View, users can set parameters associated with the consolidation of their voice, fax, and email messages.

When a voice mail is received, NP-UM sends a message to the mailbox owner’s email account. The subject line of the message includes the original sender’s telephone number or name if available, and a time/date stamp.

The body of the message can include:

- A simple text notification that a new voice message has arrived. The voice message is stored only in NuPoint.
- An Audio attachment (for example .wav or mp3 file). Listening to the attachment will not update the MWI. The voice message is stored in NuPoint and the email server.
- A hyperlink to Web View. This allows the user to easily log into the Web View and manage voice and fax messages from the Web View messages tab. Actions taken within Web View will update the MWI. The voice message is stored only in NuPoint.
- An Audio Link to the specific message. This allows the user to listen to the (new) message by clicking on the hyperlink. This will update the MWI. The voice message is stored only on NuPoint.

<table>
<thead>
<tr>
<th></th>
<th>WebView</th>
<th>SMTP Forwarding</th>
<th>Standard UM</th>
<th>Advanced UM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base or Optional?</td>
<td>Included in Base</td>
<td>Included in Base</td>
<td>Optional Feature</td>
<td>Optional Feature</td>
</tr>
<tr>
<td>Degree of unification?</td>
<td>Access VM through browser</td>
<td>VM sent to virtually any email address</td>
<td>VM sent to virtually any email address</td>
<td>VM sent to email server</td>
</tr>
<tr>
<td>What is in email?</td>
<td>Not applicable. There is no email</td>
<td>VM included as audio attachment</td>
<td>Choice of: Notification only, WebView link, Audio link, Audio attachment</td>
<td>VM included as audio attachment</td>
</tr>
<tr>
<td>Where is VM stored?</td>
<td>On NuPoint UM and email server</td>
<td>On NuPoint UM and email server</td>
<td>Depends...many options</td>
<td>On NuPoint UM and email server</td>
</tr>
<tr>
<td>Synchronization</td>
<td>Yes with MWI</td>
<td>None</td>
<td>Depends...many options</td>
<td>Yes, with MWI and email server</td>
</tr>
<tr>
<td>Outlook Plug-in</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Available</td>
</tr>
<tr>
<td>Text to Speech</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Available</td>
</tr>
<tr>
<td>Speech to Text</td>
<td>No</td>
<td>Available</td>
<td>Available</td>
<td>Available</td>
</tr>
</tbody>
</table>
Figure 25: Standard UM Mailbox Option Settings

Example 1: Someone leaves a message for the mailbox owner. The mailbox owner’s MWI goes on and an email announcing the new message is received in the user’s email inbox. User clicks on the Audio Link URL embedded in the email message, the MWI will turn off.

Example 2: Someone leaves a message for the mailbox owner. The mailbox owner’s MWI goes on and an email announcing the new message is received in the user’s email inbox.
The user clicks on the attached Audio file WAV file to listen to the message. MWI does not turn off.

**Figure 27: Standard UM Audio-Link Message Streaming**

ADVANCED UNIFIED MESSAGING

With Advanced Unified Messaging, users can receive all their voice, fax, and emails through a single interface—whether it’s the TUI or the email client. Actions taken on one interface are reflected on the other. Unified Messaging simplifies the user experience and leads to increased productivity.

Advanced UM provides the following features:

- Voicemail and fax messages are duplicated in the user’s email account—and therefore on the email server.
- Users can manage all voicemail, fax, and email messages from within a supported email client.
- NP-UM system and email server are synchronized so that actions taken on one system will be reflected on the other system. An email message (with audio attachment) is created for each voice message.
- For example, if you...
  - Listen to a voice message or email message (using text to speech) through the TUI, the matching email message will be marked as “read” in the email inbox.
• Click on an email message that contains a voice or fax message so that the email
message is "read", the matching voice message will be considered "heard", and the
MWI on your desk phone is extinguished—even if you did not actually listen to the
audio.

• Delete an email message containing an audio message, the matching voice message
will be permanently deleted by NuPoint from your voice mail box. Note however, that
most email systems have a “deleted items” folder, so the audio file could be recov-
ered if necessary.

Advanced UM Configuration (MS Exchange Deployment) illustrates the components required
for Advanced UM.

Figure 28: Advanced UM Configuration (MS Exchange Deployment)
Table 8 lists the maximum number of Advanced UM users supported by the NP platforms.

<table>
<thead>
<tr>
<th>NP PLATFORM</th>
<th>MAIL SERVER</th>
<th>INTEGRATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>NuPoint 60, 120, vNPM</td>
<td>Exchange 2010, 2013</td>
<td>500 Users</td>
</tr>
<tr>
<td></td>
<td>Exchange 2016</td>
<td>1500 Users</td>
</tr>
<tr>
<td></td>
<td>Office 365</td>
<td>750 Users</td>
</tr>
<tr>
<td></td>
<td>Google Mail</td>
<td>2500 Users</td>
</tr>
</tbody>
</table>

**Text-to-Speech**

Text-to-Speech (TTS) functionality enables advanced UM users to listen to their email messages from their NP-UM voice mailbox. The text of the email message is converted to speech and played back over the phone. Emails that are heard through the TUI are marked as read (played) in the user's email inbox.

TTS is only available with the Advanced Unified Messaging feature in English.

**Outlook Client Plug-in**

The Microsoft Outlook Client plug-in is a program that provides Outlook Advanced UM users with a toolbar which enables the user to reply to, forward, and manage voice messages, as well as to create and send new voice messages with either voice mail or e-mail. The toolbar also enables the user to launch the Web View application from Microsoft Outlook.

**UM Access via BlackBerry**

Advanced UM feature supports synchronization of message playback (WAV files) for RIM BlackBerry devices that are supported on a RIM BlackBerry Enterprise Server. Message playback and/or deletion on the BlackBerry device is synchronized with Microsoft Exchange and the NuPoint voicemail box.

**RECORD-A-CALL**

Record a call is a no cost option. It enables users to record both ends of any two-party conversation when one party is connected to a trunk. Record-A-Call delivers the recorded conversation to the user's voice mailbox. Unlike regular voice mail messages, Record-A-Call messages are stored immediately as saved messages, so they do not trigger MWIs on the user's telephone.

When activated, Record-A-Call messages appear in the user's Web View. For Advanced UM users, a copy of the message is sent to the e-mail client.
The prerequisites for Record-A-Call are

- User's telephone and mailbox must be enabled for Record-A-Call by the NuPoint Administrator
- NP-UM system must be integrated with a Mitel 3300 ICP or MiVoice Business via MiNET
- Mitel 3300 ICP release 5.1 UR2 or later
- Mitel MiVoice Business release 4.0 or later

Refer to MiVoice Business documentation for other provisioning requirements.

FAX SERVICES

NP Fax is a software solution that provides Fax services. Up to six ports of a NP-UM server can be configured for fax. The Fax feature works in a network configuration where the NP-UM server is integrated directly with a Mitel MiVoice Business or MX-One platform or with another PBX through a DMG1000.

NuPoint Fax allows NuPoint users and outside callers to exchange faxes through mailboxes. Fax documents are stored as electronic fax messages in NuPoint voice mailboxes and can be sent to other fax machines, to other user mailboxes or viewed on a PC through the Web View interface using the Message tab.

NuPoint Fax services include:

Inbound Fax Services:
- Walkaway Fax
- Fax Mail
- Guaranteed Fax

Outbound Fax Services
- Fax Confirmation Message
- Fax Broadcast
- Fax Publishing

INBOUND FAX SERVICES

Walkaway Fax

A Walkway Fax mailbox functions like a regular voice mailbox, but also provides users with the ability to listen for incoming fax tones while playing the mailbox owner’s greeting. If a fax tone is detected then the Walkaway Fax mailbox receives the fax. If no tone is detected then normal recording ensues. This sort of mailbox allows the sender to send the fax and "walk away" without having to respond to prompts such as "press 1 to send a fax". Occasionally, the owner of the Walkaway Fax mailbox may pick up the phone and hear a fax tone. For some users, this is a small annoyance for the convenience of providing callers with a single extension number for voice and fax call.
Fax Mail

Fax Mail handles faxes messages in the same way as voice messages. Incoming faxes are stored electronically as "fax messages" in a user's mailbox. Users are notified of their new fax messages in the same manner as with voice messages (for example, message waiting light, pager, stutter dial tone).

Users can retrieve their fax messages at any time by calling into their mailboxes and then sending them to any fax machine. In addition, users can call into their mailboxes directly from a fax machine using the attached handset to retrieve their fax messages.

Guaranteed Fax

NuPoint Fax guarantees the delivery of incoming faxes even when the receiving fax machine is unavailable for some reason (busy, out of paper, turned off). This is accomplished by assigning Guaranteed Fax mailboxes to the same hunt group as a fax machine. If an incoming fax cannot be delivered to the fax machine, it will be delivered to the Guaranteed fax mailbox instead. NuPoint will then continuously attempt to deliver the stored fax to the fax machine (or to a different fax machine) until it is successfully delivered.

Because NuPoint is limited to 6 fax ports, the originating fax may encounter busy signal and be forced to retry.

OUTBOUND FAX SERVICES

NuPoint Outbound Fax allows users to send faxes from their desktop PC without printing the document first. The document to be faxed can be uploaded through the Fax tab on WebView or through a fax print driver installed on their PC. NP-UM allows a cover page to be associated with each fax. Users may customize the fax cover page with information such as the name of the recipient before sending.

If you are using the Web View interface, fax documents must be in tiff or PDF format; if you are using a printer driver, the documents can be in any format that is accepted by the printer driver.

Fax Confirmation Message

When a fax is sent using either Web View or the NuPoint Fax printer driver, a confirmation message is delivered to the sender indicating whether or not the fax was successfully transmitted.

Two different message types are available:

Voicemail Receipt

By default, the sender receives a voicemail receipt should a fax transmission fail. Optionally, the sender can also receive a message for each successful fax transmission. A message is also logged in the NP-UM log file that is accessible by the system administrator.

Email Message

The sender receives a confirmation email message concerning the state of the fax transmission, provided that sender’s mailbox is configured with an address for this purpose.
Email fax receipts will include key information in the subject line:

- successful or not
- number of pages
- time and date of successful transmission – or last attempt if unsuccessful

**Fax Broadcast**

Fax Broadcast allows a user to make and send a fax message simultaneously to multiple destinations using a distribution list. The destinations can include:

- any other users’ mailboxes,
- users on another NP-UM system that is connected with the NP Net digital network,
- outside telephone numbers.

Fax Broadcast messages can be scheduled for future delivery and the NP-UM can automatically retry calls to numbers that are busy or do not answer.

**Fax Publishing**

This feature provides a convenient way to provide frequently requested information to callers. The administrator creates a NuPoint Fax mailbox with a voice message that offers callers the option to receive faxed information. The caller may input his fax number and NP will fax a stored document to the number provided.

**NP-UM IP MISCELLANEOUS APPLICATIONS**

This is a licensed software bundle of applications (PN 54001636). The following optional NP-UM applications are included:

- “NP On Demand” on page 64
- “NP Forms” on page 65
- “NP Cut Through Paging” on page 65
- “NP Rapid Dial” on page 65

**NP ON DEMAND**

NP On Demand gives organizations the ability to provide their customers with temporary mailboxes whenever the need arises. On Demand mailboxes are often used to provide visitors with a temporary mailbox. The administrator can create the on-demand mailbox and the system will delete it after a pre-determined period of time.

On-demand mailboxes inherit the characteristics of a template mailbox that is used as a model. Although an NP On Demand mailbox could have all the features of a permanent mailbox, the features available to a subscriber are usually limited to playing, keeping, and deleting messages, much like a hotel mailbox.
NP FORMS

NP Forms allows businesses to collect information from callers in a mailbox using a question and answer format. This feature requires the installation of the Miscellaneous Options software. Applications of this feature include:

- Order entry
- Questionnaires
- Routine requests for information
- Overflow for busy ACD (Automatic Call Distributor) groups.

Callers accessing an NP Forms application are automatically stepped through a series of pre-recorded questions. The system waits for the caller to record an answer before it moves on to the next question. System users can then log into a single mailbox and listen to the sequence of answers to quickly obtain the required information. A sample NP Forms session for ordering a business form might go as follows:

**Table 9: Sample NP Forms Session**

<table>
<thead>
<tr>
<th>SYSTEM/CALLER</th>
<th>PRE-RECORDED QUESTION/CALLER RESPONSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>NP Form:</td>
<td>You have reached the city government forms service. Please answer the following questions to have forms mailed to you: Please state the name or the type of form.</td>
</tr>
<tr>
<td>Caller:</td>
<td>&quot;I need the application for a small business license.&quot;</td>
</tr>
<tr>
<td>NP Form:</td>
<td>Please state your full name and spell your last name after the tone.</td>
</tr>
<tr>
<td>NP Form:</td>
<td>Please state your mailing address, including zip code, after the tone.</td>
</tr>
<tr>
<td>Caller:</td>
<td>&quot;4210 Monterey Road, San Francisco, California, 91010&quot;</td>
</tr>
<tr>
<td>NP Form:</td>
<td>Please state a phone number where you can be reached during business hours. Include the area code.</td>
</tr>
<tr>
<td>Caller:</td>
<td>&quot;Area code 415, 555-1234&quot;</td>
</tr>
<tr>
<td>NP Form:</td>
<td>Thank you for calling. Good-bye.</td>
</tr>
</tbody>
</table>

NP CUT THROUGH PAGING

NP Cut Through Paging allows a caller to send a callback number to a digital pager. The caller is prompted to enter a call back number and this number is send to the mailbox owner’s pager. The caller may also leave a voice message.

NP RAPID DIAL

The NP Rapid Dial feature allows users in a subscriber group to call each other using an abbreviated phone number. The administrator defines and maintains the members of the group by specifying their "real" extensions (eg. x52399) as well as their abbreviated phone numbers.
When a member of the group dials "1", it is translated into "52399", thus saving the user 4 key presses.

**SPEECH AUTO ATTENDANT**

NP-UM Speech Auto Attendant (SAA) is a speech recognition application that allows users to place calls to people quickly and efficiently by speaking names, department names or telephone numbers. Speech Auto-Attendant can be installed with NP-UM or as a standalone application, without any voice or unified messaging functionality. It is available in English and French variants and can be used in a bilingual environment. For more information regarding language availability, please refer to "Geographic and Language Considerations" on page 143.

SAA directory can store up to 10,000 names with up to four contact numbers for each user. Users can select which phone numbers SAA should use to reach them by selecting the desired numbers from the Settings tab in Web View. SAA also supports up to 15 department names and will play the list of the department names after the user requests "department".

**TYPES OF CALLERS**

The Speech Auto Attendant can distinguish the origin of a call based on the Caller Line Identification (CLID) of the caller. SAA classifies callers into four categories as shown below and treats callers differently depending on their CLID classification.

- **Internal trusted caller**: All desktop directory numbers (extensions) in the company are internal trusted. These users are recognized as regular SAA users.
- **External trusted caller**: All alternative numbers associated with a trusted user (for example, cell phone or home phone) are externally trusted. A call from any of these numbers is an external trusted caller.
- **Internal non-trusted caller**: All internal numbers not associated with a user (eg. conference rooms). These users are not recognized as Auto-Attendant users.
- **External non-trusted caller**: This type of caller places a call from outside the company's telephony network and the caller ID cannot be recognized as an Auto-Attendant user.

**Table 10: SAA Prompt**

<table>
<thead>
<tr>
<th>CALLER</th>
<th>SAA GREETING OR PROMPT</th>
<th>TUTORIAL AVAILABLE?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal Trusted</td>
<td>Two short tones</td>
<td>Yes</td>
</tr>
<tr>
<td>External Trusted</td>
<td>Two short tones</td>
<td>Yes</td>
</tr>
<tr>
<td>Internal Non-trusted</td>
<td>&quot;Who would you like to call?&quot;</td>
<td>No</td>
</tr>
<tr>
<td>External Non-trusted</td>
<td>&quot;Welcome. You are speaking to the new auto attendant which uses your voice to direct your call. Say the name of the person or department with whom you would like to speak&quot;</td>
<td>No</td>
</tr>
</tbody>
</table>
TUTORIAL

The Speech Auto Attendant provides a tutorial for new users. The tutorial allows them to record their name. The name recording is used in a confirmation announcement to the caller. For example: "Your call will be transferred to <<John Smith>>".

The tutorial is available to internal and external trusted callers only.

- Internal first-time callers
  - have barge-in disabled throughout the whole tutorial.
  - must listen to the tutorial to its completion before making any calls.
  - will have to record their name during the tutorial even if they are NuPoint users and have already recorded their name in their personal mailbox.
- External trusted callers are forced to record their name the first time that they call the system.

The Speech Auto Attendant detects a first-time user by the CLID of the user's registered desktop phone. The first time the user calls in from their desktop phone, the Speech Auto Attendant plays the tutorial.

INPUT OPTIONS

Users can place a call by

- saying the name of the person they wish to reach
- using the keypad to dial the extension number
- speaking the digits of the extension number

Other spoken commands recognized by the SAA include:

- "Help" or "Operator" will cause the SAA to transfer the call to an attendant
- "Department" will cause the SAA to read the available departments
- Department names such as "Sales" or "Marketing" can be recognized and will result in transfer to the extension associated with the department.

BARGE-IN

This feature allows users to interrupt a system prompt with a speech or keystroke command. The Speech Auto Attendant stops playing the prompt and responds to the command. The default setting is to allow barge-in.

Barge-in uses the standard universal commands such as "cancel", "help", and "operator". Experienced users can barge in at greetings and questions with voice commands or DTMF key presses.

Barge-in is a system-wide setting that is applicable during any call to the speech auto attendant; for example:

- during initial greetings (any of the three greetings);
- during the two levels of re-prompt in cases of no input and recognized result below low confidence;
• during the confirmation question of explicit confirmation;
• during the prompting of the implicit confirmation.

PHONE-BOOK

SAA can use the NP mailbox database or Active Directory as the source of its phonebook.

SPEECH RECOGNITION CONSIDERATIONS

Name Customization

Proper names often have unusual spellings and pronunciations. And, people often call friends, associates or acquaintances by nick names that may be different from their "official" name (on a business card, for example). These realities may decrease the successful recognition rate by the SAA system.

In order to address potential recognition issues, the system administrator is encouraged to add custom pronunciations for people’s names to each language using the Auto Attendant menu in the Web Console. The administrator can add:

• phonetic representations of a person’s name (for example, an English SAA system will have a higher match rate for the name "Benoit" if a phonetic pronunciation (like "ben-wah") is added to its dictionary).
• nicknames, such as equating "Bill" or "Will" with the name "William".

The Speech Auto Attendant can connect and interact with a number of directories. The choice of directory to use should take into account which directory is the most up-to-date and will be maintained. Directories supported are: Microsoft Active Directory, the MiCollab or NuPoint directory.

Confidence Thresholds

Confidence thresholds are used to determine whether explicit or implicit confirmation is required by the system. The system recognizes speech at two confidence levels: low and high. The system administrator can set the thresholds for the low and high and confidence levels through the Web Console.

If the system is highly confident that it recognizes the words spoken by the caller (person’s name, phone number or department name) then it transfers the call to the appropriate destination.

If the system has low confidence in the recognition of the spoken word(s) then it will ask the caller to repeat the request.

Error Handling

The Speech Auto Attendant responds to an error by instructing the user to repeat the utterance. After two recognition errors, the system transfers the caller to the operator.

Callers will be directed back to the main menu or to the operator as governed by the confidence level of recognition and system errors.
Disambiguation

If the name spoken by the caller matches two or more people in the SAA directory, (for example, John Brown and Jon Brown) the system will transfer the caller to the operator, who then resolves the ambiguity by asking the caller to identify the department or location of the person they are trying to call.

HOSPITALITY FEATURES AND APPLICATIONS

The NP-UM Messaging Hospitality applications package is designed to enhance hospitality services by ensuring that guests can obtain information 24 hours a day in multiple languages.

PROPERTY MANAGEMENT SYSTEM (PMS) INTEGRATION

NP-UM can connect to a Hotel PMS systems via a serial interface. As a result, mailboxes can be automatically activated on check-in, transferred when guests change rooms, and de-activated on check-out, as well as providing notification of any unplayed messages.

In addition, PMS text messaging is supported. This feature allows the attendant to activate MWI for a guest prior to check-in. When the guest checks for messages, a message informing the guest of the text message is played. The guest is expected to call the front desk to receive the message.

NuPoint supports Hyatt, Logistix, Encore and Marriott. In addition, NuPoint can integrate with Fidelio systems that use the Encore protocol.

Other PMS systems such as Lodging and Gaming, Springer-Miller LMS, Marriott Ritchie, RDP, NorthWind etc. may be integrated with NuPoint using a 3rd party application to convert to Encore.

The PMS interface will require a serial port. Typically modern servers have a single serial port which is reserved for use by MSL. Therefore a Precidia iPocket will be required.

For hotel staff, NP-UM Hospitality provides direct forwarding or separate line groups for administrative personnel. Staff without extensions (such as housekeeping, porters, and maintenance) can have mailboxes for paging, personal messages, and broadcast messages.

PMS INTEGRATION FEATURE

This feature is available on physical and virtual NuPoint UM. A NuPoint system can integrate with one PMS at a time.

PMS connects with the NP-UM system as follows:

- **Serial connection**: Serial connection to a physical port on the PMS system.
- **IP connection**: Internet connection to NP-UM. This can be accomplished directly, or by using a Serial-to-IP converter such as the Precidia iPocket232. NuPoint can be configured for PMS connectivity in Server mode or Client mode.
MAILBOXES

NP-UM mailboxes are given special hospitality characteristics through FCOS settings.

- Check-In mailboxes:
- Check-out mailboxes:
- Guest mailboxes: assigned to hotel guests for use while they are staying in a room. The guest does not need to record a name or choose a passcode before using the mailbox. Guest mailboxes are always enabled.

NP WAKEUP

NP WakeUp provides automatic wakeup calls.

Administrator Settings

The Administrator can specify a number of options including:

- version of wake up service to provide.
- whether to offer snooze function
- number of wakeup attempts
- frequency of wakeup call attempts

User Settings

Standard NP Wakeup

Standard Wakeup allows users to set multiple wakeup calls. Wakeup calls can be one-time only, or can be scheduled to occur at the same time on a daily basis. Users can cancel the calls at any time. The standard NP Wakeup telephone user interface (TUI) is located in the User Options menu, choice A, Automatic wakeup.

Enhanced NP Wakeup

Enhanced Wakeup simplifies the actions required by a user to configure a wakeup call. The user only needs to select the time required for the wakeup call. The wakeup call reoccurs daily at the same time unless the user turns off the wakeup call or sets a different time.

HOTEL PROMPTS

NP-UM Hospitality provides a set of generic, pre-recorded hotel prompts which do not mention the specific hotel name. Generic Hotel Prompts are available in different languages (refer to Table 17 on page 111 for the supported languages). The full prompt set for the specific language must already be installed in order to use an overlay hotel prompt.

Custom hotel prompts, including the name of the hotel are also available. See "Custom Hotel Prompts" on page 112 for a list of the supported hotels and languages. In order to use these custom prompts, the full prompt set for the language must be installed on the NuPoint system. In addition, Mitel maintains a library of other custom hotel prompts. For more information, contact your Mitel sales representative.
VOICE MAIL NETWORKING

NP-UM provides networking to other voice mail systems via the following:

- **TCP/IP**: networks multiple NP-UM servers together. For more information, refer to “NP Net TCP/IP” on page 71.
- **Voice Profile for Internet Mail (VPIM)**: an industry standard that allows dissimilar voice messaging systems to exchange voice messages. For more information, refer to "Voice Profile for Internet Mail (VPIM)".
- **AMIS**: allows NP-UM servers to communicate with other vendors’ voice mail systems. For more information, refer to Audio Messaging Interchange Specification (AMIS).

NP NET TCP/IP

NP Net TCP/IP, formerly MesaNet, links the members of your team to the rest of your company. It links multiple NP-UM systems’ voice servers into one, high-speed global messaging network. NP Net TCP/IP bridges geographic distances and time zone differences by allowing you to send messages to and receive responses back from all areas of your organization and your customers at any hour, day or night. You can send voice messages to anyone or any group on the network from any phone or Web View-enabled PC.

*Note*: This networking interface is superior to VPIM or AMIS because it allows users to hear name confirmation when sending messages to other NuPoint nodes.

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![Figure 29: WAN Overview](image)

Voice networking provides the following benefits:
• **Capacity to Spare:** NP Net extends your communications reach by networking multiple NuPoint Unified Messaging servers into a single messaging community. NP Net can link up to 99 NuPoint Unified Messaging servers to support a large numbers of users.

• **High-Fidelity Messaging:** NP Net’s digital networking delivers high fidelity voice messaging, even over noisy transmission lines. All messages are digitally encoded and files are transferred from server to server with automatic error detection. There is no accumulative distortion from multiple transmissions. NP Net TCP/IP provides high-speed message transfer between servers over standard Ethernet. NP Net throughput varies depending on the NuPoint Unified Messaging model and other network traffic.

• **Internet Compatibility:** With NP-UM, NP Net can take advantage of your existing corporate network to transport existing voice mail messages from server to server using TCP/IP. You can use the Internet or private Internet service providers to connect your servers together.

• **Inter-operability with Third Party Voice Mail:** You can set up your Mitel NuPoint Unified Messaging server to use AMIS Analog or VPIM to send and receive voice messages from nearly all third-party voice mail platforms. In addition, to reduce toll call charges, you can use NP Net to forward your messages to the nearest Mitel system, then use AMIS or VPIM to deliver it to the third-party voice mail platform.

**Note:** When integrating a new NP-UM system into an existing NP-UM environment, all systems must be configured to support NP Net TCP/IP.

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**VOICE PROFILE FOR INTERNET MAIL (VPIM)**

NP-UM supports the VPIM standard, making the voice messaging process as quick and easy as sending an email. VPIM is an industry standard for connecting dissimilar voice messaging systems in order to exchange voice messages efficiently and cost effectively. VPIM enables these systems to exchange voice messages across TCP/IP-based corporate intranets and the Internet.

**Note:** To support VPIM, the NP-UM server must be part of the DNS.

The NP-UM server family lets you connect all corporate messaging in one central network, saving on network charges by sending voice files at low cost and high speed over your existing TCP/IP network. NP-UM and VPIM protects your investment in other voice mail systems by letting you exchange messages seamlessly with other VPIM compliant voice messaging systems. Companies with NP-UM VPIM-enabled servers exchange voice messages at the enterprise level (via intranets), between business partners (via extranets) and between open communities of users (via Internet).

The VPIM specification is a Multipurpose Internet Mail Extensions (MIME) profile that enables messaging servers to encode and exchange messages via SMTP with any other SMTP/MIME-capable server over TCP/IP. VPIM-enabled messages are ESMTPT/MIME compound messages that leverage the latest developments in digitally compressed audio technologies.

The entire Mitel family of messaging products supports the VPIM standard. Numerous other manufacturers, such as Active Voice, Alcatel, AVST, Lucent/Octel, Nortel, and Siemens, have also introduced products and services that support this standard.
User Benefits: NP-UM server users now have quick, convenient voice access to users of other servers by telephone using familiar tools and processes such as:

- Make ("M") and give ("G") messages to users on any VPIM-enabled message server, regardless of manufacturer of recipient’s system;
- Play ("P") a message from another VPIM-enabled server and reply ("R") to the sender’s server without re-entering the destination address (telephone number);
- Send messages to distribution lists comprised of both local users and users of VPIM-enabled remote systems, regardless of remote system manufacturer;
- Leverage broadcast distribution of messages (intentional messaging) capabilities needed by workgroups, without the need for conversation or other real-time involvement between the sender and the individual recipients;
- Enter a remote user’s telephone number and send a voice message, or forward a message to others using another VPIM-enabled system;
- Verify the target recipient with spoken name confirmation using the recipient’s existing Network mailbox application;
- Receive Delivery Status Notifications (DSN) on messages sent;
- Assign Normal, Urgent, or Private status to messages being sent

System Administrator Benefits: NP-UM System Administrators benefit from using familiar tools in a VPIM-enabled environment. Administrators can manage VPIM billing information, Enhanced Call Detail Recording (ECDR), usage statistics, and configuration information. Administrators can also configure and control a VPIM-enabled system using configuration utilities such as:

- Network Dialing plan for defining network mailboxes;
- Network queues for delivery schedules and priorities of network messages;
- Network Node Table for initiating a connection to a remote node/server;
- Network Class of Service (NCOS) for controlling a user’s privileges, such as answering, making or giving messages across the network.

AUDIO MESSAGING INTERCHANGE SPECIFICATION (AMIS)

AMIS (Audio Messaging Interchange Specification) Analog is a NP-UM server networking application that allows NP-UM servers to communicate with other vendors’ voice mail systems. With this optional feature installed, mailbox owners can send, receive, and answer messages sent to the NP-UM system from remote voice mail systems.

Any mailbox owner who has the AMIS Analog feature can make and give messages from the local system to any other systems equipped with AMIS Analog capabilities. Any message that cannot be delivered is returned to the message originator with the reason for non-delivery. When a message is received from another system, the mailbox owner may answer that message with a single keystroke.

Mitel offers AMIS Analog to send and receive voice messages from nearly all third-party voice mail servers. You can transfer your message over your low-cost network to a nearby Mitel system and then deliver it to the recipient’s voice server over AMIS. Mitel has enhanced AMIS Analog in NuPoint Unified Messaging to provide universal dialing plan capabilities.

AMIS networking is supported ONLY on Analog or Digital ports.
NP NET

NP Net is an optional networking feature for NP-UM servers. It allows you to connect NP-UM systems together to form a digital network. With NP Net, mailbox owners can make voice messages for mailboxes on remote servers in the same manner as they make messages to local mailboxes. For example, a user can log into a NP-UM voice mailbox, make a message for several recipients, some local and some remote, and send that message. Users can also answer messages and forward (give) messages to users on remote nodes. NP Net shows a simple NP Net network.

Figure 30: NP Net

NP Net transmits the messages in digital format instead of playing the voice messages over the phone lines to remote systems. Digital transmission increases throughput.

NP Net provides the user with NP Net TCP/IP networking. NP Net TCP/IP supports TCP/IP over 10 Base-T Ethernet.

The building blocks of an NP Net network are the servers. Each server functions as a node on the network. NP Net is scalable so that it can work on all NP-UM server models, providing lower-cost, lower throughput networking on smaller servers and higher throughput messaging on larger servers.
NUPOINT TDD (TELECOMMUNICATIONS DEVICE FOR THE DEAF)

A telecommunications device for the deaf (TDD) is an electronic device that supports text communication over a telephone line. It is used when one or more of the parties has hearing or speech difficulties. A TDD is a device about the size of a typewriter or laptop computer with a keyboard that uses a printout, a display screen, or both to present typed text. The text is transmitted live, via a telephone line, to a compatible device that uses a similar communication protocol. Using TDDs, hearing impaired users can communicate by exchanging text messages over the phone line.

The NP TDD feature supports telecommunications devices for the deaf (TDDs). With NP TDD, hearing-impaired mailbox owners can receive TDD-generated text messages in their mailboxes. An NP TDD user is notified of messages by the message waiting indicator lamp on the phone.

When an outside caller with a TDD calls a mailbox that is configured for NP TDD, the caller receives a TDD greeting and is guided by TDD prompts to leave a message for the mailbox owner. Standard user options such as reviewing and recording over a message, making a message urgent, appending to a message, and dialing an extension are supported.

SPEECH NAVIGATION

This functionality is available in North America to all versions of NuPoint including NP in MiCollab using MiTAI integration. It is distinct from SAA (Speech Auto-Attendant) and there is no dependency on SAA ports or licensing.

Spoken commands in North American English will be recognized.

The speech navigation functionality is available in packages of 10 end user licenses. Once the licenses are added to the NuPoint system, the system administrator can assign licenses to individual users using procedures similar to assignment of Standard or Advanced UM licenses. The Speech Navigation feature is enabled with FCOS feature bit 99.

Once a mailbox has been enabled for Speech Navigation, NuPoint will recognize spoken commands for actions related to that mailbox. The ability to use TUI is always present as well.

Users who have been enabled for Speech Navigation will have access to a new Tab in WebView as shown below.
SPEECH NAVIGATION AND ALTERNATE EXTENSION NUMBERS (AEN)

NuPoint currently supports an Alternate Extension Number (AEN) feature for all users: A user’s AEN may be defined as an external number (e.g. home, cellphone). Once defined, calls from the AEN to NuPoint behave as if they were dialed from the user’s “normal” office extension number. Instead of hearing the “Welcome to the message center” prompt, a caller from the AEN to its associated mailbox would immediately be asked to enter the mailbox password. A mailbox owner’s AEN are defined by the Administrator so that traditionally, the mailbox owner had no visibility of his/her AEN unless informed by the Administrator.

With NPUM 6.0, AEN is made visible to mailbox owners who have been enabled for Speech Navigation. For these users, there is a new tab in WebView listing the AEN that have been defined for the user. The user may choose to disable Speech Navigation for some or all of the defined AEN. Since TUI commands are always available, most users will have no need to disable Speech Navigation.

If AEN is being used to provide users with quick access to their mailbox from other numbers such as their cell phone number then FCOS bit 218 can be used to provide the user with complete hands free access by eliminating the need to enter a pass code from an AEN such as a cell phone. Obviously, this has security implications and should be provided only after consideration of potential security and privacy risks.

The NuPoint Speech Navigation feature benefits users in a myriad of ways:

- NuPoint users can safely and legally listen to their voice message while driving. Many jurisdictions require that use of mobile devices be hands free.
- The small size of cellular devices makes key presses a challenge, even for the most nimble fingered. Access problems associated with flip phones, soft keyboards and tiny keys are eliminated with Speech Navigation.
- Users migrating from a different voice mail system can easily and quickly manage their voice message by speaking to the system. Re-training to remember numeric key presses is virtually eliminated.
- Users accustomed to using “7” to “Delete” and “9” to “Save” on other messaging systems can simply say “Delete” or “Save” to NuPoint. The actual key to press is no longer relevant.
G.729A COMPRESSION

G.729a audio data compression is available as an optional feature. It is licensed on a per system basis. NuPoint systems not licensed for G.729a will continue to use G.711 compression for all calls.

- G.729a will be enabled by line group.
- Fax line groups do not support G.729a and will continue to use G.711.

With the addition of G.729a support, Customers can reduce bandwidth costs. For customers with a central NuPoint system serving a geographically diverse user community, this can represent a significant recurring cost saving since G.711 requires 100 kb/s while G.720 requires 40 kb/s. Users accustomed to G.711 may notice a slight degradation in audio quality due to the greater compression used by G.729a.
SYSTEM ADMINISTRATION AND MAINTENANCE

INTRODUCTION

System administrators perform the following tasks:

- Create, modify and delete mailboxes for users.
- Create and edit Class of Service attributes (FCOS, LCOS, GCOS, RCOS, NCOS)
- Create system-wide distribution lists and broadcast mailboxes
- Perform routine maintenance
- Create individual usage reports for tracking purposes
- Run system reports
- Create system back-ups
- Establish access privileges for administrators

NP-UM provides interfaces that allow administrators to manage the system either on-site or remotely. This chapter provides only a high level summary of these administration interfaces. For more information on NP-UM system administration, refer to the NuPoint Unified Messaging System Administration Online Help.

ADMINISTRATOR INTERFACES

ADMINISTRATION ACCESS

System administrators use the following interfaces to maintain and administer the system:

- Text Console
- Web Console
- Telephone Interface
- Active Directory (AD) Management Interface for Advanced UM management

System administrators log into the NP-UM server through the following methods:

- Remote dialup using a modem;
- Connection over a LAN using SSH. This method provides faster throughput and uses the existing local area networks.

TEXT CONSOLE

The Text Console provides a menu-driven list of commands starting from the Main Menu. Only one administrator session is supported at a time unless FPSA is activated.

From the Main Menu, the administrator may choose from one of three sub-menus:

- change mailbox data files
- perform system maintenance
• run reports.

After the administrator selects a task, the system prompts for the required input. As noted in the table above, some administration functions are available only through the Text Console.

WEB CONSOLE

Each Web Console window supports one administration session to a single NP-UM system. To administer another NP-UM system, the administrator can either open another Web Console session in another browser window or use the pass-through login capability in the Web Console to jump to other systems.

Web Console Application illustrates the Web Console application and its main menu:
ADMINISTRATION BY TELEPHONE

Administrators can perform the following key administration functions from a telephone when access to a web or text console interface is not available:

- create, delete and modify
- mailboxes
- set or clear mailbox passcodes
- enable or disable mailbox tutorial
- set system date and time
- obtain system mailbox summary
- usage statistics

Security features have been added to the NP-UM server to prevent break-in and manipulation from the administrator's mailbox. For example, the system only allows five seconds of response time for each prompt before it announces "no change" and returns to the administration menu.

ACTIVE DIRECTORY (AD) MANAGEMENT INTERFACE

Using the Active Directory (AD) management interface, administrators can manage the voice mail and email systems through one shared interface, thus simplifying the administration process. Using this single interface, the administrator can add, modify, and delete mailboxes, assign Feature Class of Service (FCOS) and Limits Class of Server (LCOS) groups.
SUPERUSER ACCOUNT ON EXCHANGE (NP ADMIN)

For NP-UM systems that include a MAPI or IMAP gateway and support Advanced UM users, you can configure a Superuser account to access the accounts and inboxes of the users in order to synchronize voicemail and email messages, receive notifications, and update contact lists. This eliminates the need for users to manually update their Advanced UM Email Password when they change their email client passwords.

MAILBOX MIGRATIONS AND MODIFICATIONS

NP-UM includes tools for data entry of mailbox information. Refer to the Technicians’ Handbook for
- import procedures
- batch command usage.
IMPORT TOOL

The Import Tool allows technicians to import mailbox data into the NP-UM system from a MiVoice Business embedded voice mail system (EMEM) or from third-party voicemail systems. The tool imports the data from a csv file that uses a specified format.

This tool imports the following mailbox data:
- Mailbox number (mandatory)
- Mailbox name (optional)
- Extension number (optional)
- Attendant (or Operator) Extension (optional)

BATCH COMMANDS

NP-UM software includes a command language that supports batch mode data entry. Using this protocol, you can build or modify mailboxes offline and download them on a scheduled basis. Data entry is rapid, and multiple entry points are supported.

The majority of batch mode commands can operate on a range of mailboxes; the acreate command can create 100 mailboxes as easily as it creates a single mailbox. This feature is especially useful for changing the service level (FCOS, LCOS, etc.) of a large number of subscribers at once.

FUNCTIONALLY PARTITIONED SYSTEM ADMINISTRATION

Functionally Partitioned System Administration (FPSA) is a software feature that requires administrators to enter a user identifier (user ID) and password before they can access any of the server menus. Access to the menus is based on the authorization level of the administrator’s user ID and password. FPSA allows access to menus only to those administrators who are authorized through permission categories. In addition, FPSA requires passwords for all system administrators who log in.

When FPSA is activated, more than one administrator may log into the Text or Web Console simultaneously. FPSA is activated by default and administrators can reach menus at the server maintenance console only if their user ID has been assigned the proper permission category (or categories). Every server menu is associated with one or more "Permission Categories".

Up to 500 distinct Admin User accounts may be created.

Up to 5 Admin Users may log in through the web console at the same time.

You can assign any combination of the six permission categories to each user ID to define an administrator’s privileges. FPSA Permission Categories lists the permission categories
Table 11: FPSA Permission Categories

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>PERMISSION LEVEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Unrestricted: Unlimited access to all console menus and all server resources (synonymous with server Superuser access)</td>
</tr>
<tr>
<td>2</td>
<td>NuPoint Voice Superuser: Unlimited access to all console menus and Linux shell, except cannot run hardware maintenance from hard drive</td>
</tr>
<tr>
<td>3</td>
<td>System Configuration: Access only to system configuration menus including network configuration (see Features Class of Service)</td>
</tr>
<tr>
<td>4</td>
<td>Mailbox Maintenance: Access only to mailbox maintenance menus</td>
</tr>
<tr>
<td>5</td>
<td>Inquiry/Report Only: Access only to inquiry menus (read-only menus such as Reports, Statistics, and Dump)</td>
</tr>
<tr>
<td>6</td>
<td>Network Configuration: Access only to network and network-related menus</td>
</tr>
</tbody>
</table>

MANAGING MULTIPLE NUPOINT UNIFIED MESSAGING SYSTEMS

The NuPoint Web Console can be used to connect to networked NuPoint systems. The system administrator can delete or add NuPoint Unified Messaging systems using the Network Element Configuration option, and access up to four 3300 ICP Gateways and map NuPoint Unified Messaging voice mail ports to those controllers.

SYSTEM MANAGEMENT

The NuPoint UM System Management applications consist of:

- “NP Config” on page 83
- “SNMP” on page 84
- “Alarm Manager” on page 84

NP CONFIG

NP Config provides a visual, graphical view of the NuPoint Unified Messaging server components, and also statistical queries via a GUI point-and-click window. NP Config uses SNMP messages and traps to gather information from one or more NuPoint Unified Messaging servers in a network, and then conveniently displays that information in a Windows environment.

Features of NP Config include the following:

- Availability on PCs or workstations running HP OpenView for Windows NT
- GUI interface design using a point-and-click approach
- Ability to be launched from within HP OpenView
- Graphical and logical display of the NuPoint Unified Messaging server hardware configuration
- Real-time hardware status display using the same color conventions with HP OpenView and the underlying SNMP trap mechanism
• Statistical display through the use of SNMP queries

Rather than allowing configuration or modification of a NuPoint Unified Messaging server, NP Config allows an operations manager or technician to view the system configuration. With NP Config, administrators have a consolidated view of very valuable information to help with some of the following tasks:

• System upgrades
• Troubleshooting
• System management.

SNMP

SNMP (Simple Network Management Protocol) allows network managers to gather information from a system or network via an SNMP agent. The agent reports on demand back to the manager (which is a PC or workstation), or proactively reports information to the manager when an error condition occurs on the system or network.

Software traps are reported for the NuPoint Unified Messaging application.

MSL Server Manager reports, operating system and hardware traps.

NuPoint alarms may optionally be reported as SNMP traps.

ALARM MANAGER

The alarm management system monitors system devices and provides alarm notification and management abilities. Administrators can configure alarm management to send alarm messages (“traps”) to an SNMP agent, or to send alarms as e-mail messages to selected e-mail account(s). Administrators can choose to receive each individual alarm as one message, or to receive all alarms of one type as one message. The second choice is more effective when multiple alarms are caused by a single error.

Administrators of systems that do not have an SNMP management system can use the Web Console for alarm management. Alarms can be acknowledged and/or deleted. Acknowledged alarms do not appear in the active alarm list. For more information on the Alarm Manager, refer to the NuPoint Unified Messaging Web Console Online Help.

SURVIVABILITY

MIVOICE BUSINESS RESILIENCY

NuPoint is a resilient device and can take advantage of resiliency in the MiVoice Business network.

If the primary controller experiences a service outage, support for resilient devices such as NuPoint is automatically transferred to the secondary controller. During the transfer of phone service between the primary and secondary controllers, calls in progress are maintained.
V NuPoint Resiliency

For Virtual NuPoint, VMware features provide an additional level of survivability:

- **VMware High Availability (HA)** can be employed to monitor host server hardware failure and virtual machine O/S health, and automatically start a new instance of vNuPoint on an alternate server in the same data center. In certain situations, VMware HA can be coupled with advanced storage solutions from leading vendors such as EMC and NetApp to enable recovery across a geographically distributed data center within a Metro Area network. Please consult with storage solution vendors such as EMC or NetApp for guidelines regarding distributed data centers.

- **VMware Site Recover Manager (SRM)** enables pre-planned disaster recovery management policies to be enacted. If the primary data center or server cluster is put out of service, and entire virtual clusters can be re-created at a backup data center. Storage replication ensures data continuity.

Reporting

Reports

NP-UM provides a wide variety of reports for the administrator. The NP-UM server records information for many uses, such as determining the status of the server, troubleshooting a problem, maintaining a history of software installed on the server, checking mailbox activity, or administering mailboxes. You can run reports for these NP-UM functions using the text console or the Web Console.

The following on-demand reports are displayed in HTML format. You can print them and export them to a CSV file. Additional reports are available through the text console.

The NP-UM server offers the following three main reporting categories:

- **Billing Reports**: These reports provide information on the breakdown of charges for individual mailboxes by statistic, then calculate the total amount that is due. The reports cover current and past billing statistics and statistics on terminated mailboxes. The billing function collects statistics about NP-UM server usage and calculates charges for that usage. You can set a low-usage rate and a high-usage rate for each statistic. This rate-setting arrangement gives you the option to charge fixed rates, give volume discounts, or charge for heavy use. During day-to-day server operation, over 120 different billing statistics can be kept for each mailbox.

- **Statistics Reports**: These reports provide information on usage of line ports, speech storage, voice recognition resources, trunks, and messages.

- **System Information Reports**: These reports provide details on system configuration, classes of service, system errors, phone line exceptions and pager system access codes.

Call Director Call Flow Reports

The System Administrator, and any users assigned with permission can access Call flow reports. The following reports can be generated:

- Call Flow Report
- System Reports (which include a Mailbox System Report, Line Group System Report, and a Combined System Report)
NP-UM allows reports to be generated for all the call flows (including a single call flow) and formats them in an easily printable format allowing the administrator to create a single comprehensive report.

Call flows generate call flow reports that contain records of each call and how it was handled. Information contained in these reports include:

- Number of incoming and outgoing internal calls;
- Number of incoming and outgoing external calls;
- Total number of calls;
- Number of calls made and received during each hour;
- Name of the action used in the call flow;
- Type of action applied to the call (For example, Call Transfer);
- Extension of the called party (the call flow number);
- Number of times a call flow node was entered;
- Number of times a call flow node was exited.

NP CALL DETAIL RECORDER

The Call Detail Recorder (CDR) is an optional feature that works with the NuPoint Voice application on the NuPoint Unified Messaging server. CDR creates a record of each call transaction (such as a voice message) on the NP-UM server.

The Call Detail Recorder (CDR) provides a comprehensive amount of detail on all calls made to or from the NuPoint Unified Messaging server. With CDR, specific information is available such as when a call was made and how long it lasted. CDR also records information on voice messages and pager notifications to telephone numbers anywhere in the world. CDR is in standard ASCII text and can be exported to an off-board program for further editing and formatting.

**Note:** CDR cannot be configured in conjunction with a Hospitality/PMS-enabled system.

Information contained in the CDR reports includes:

- Number of incoming and outgoing internal calls;
- Number of incoming and outgoing external calls;
- Total number of calls;
- Number of calls made and received during each hour;
- Name of the action used in the call flow;
- Type of action applied to the call;
- Extension of the called party (the call flow number);
- Number of times a call flow node was entered;
- Number of times a call flow node was exited.
SYSTEM CUSTOMIZATION

NuPoint provides the system administrator with a myriad of ways to customize the system to suit the needs of its users. There are over 300 capabilities that can be assigned and these may be configured into over 107 million distinct classes of service on a single system. Classes of service and individual features may be changed effortlessly and as often as desired on an individual mailbox level. These changes can be made online while the system is processing calls.

Customization is defined through six classes of service categories are:

- **Feature Class of Service**: Feature Class of service (FCOS)
- **Limits Class of Service**: Limits Class of Service (LCOS)
- **Group Class of Service**: Group Class of Service (GCOS)
- **Network Class of Service**: Network Class of Service (NCOS)
- **Restricted Class of Service**: Restricted Class of Service (RCOS)

**FEATURE CLASS OF SERVICE (FCOS)**

NuPoint Unified Messaging has a rich FCOS structure which means that customers can create many specialized applications without purchasing new software or hardware. The system does not force administrators to use a set of preprogrammed choices. Default FCOS options are included in the system configuration to allow the system administrator to create mailboxes immediately after the system is installed. However, these FCOS definitions can be modified by adding or deleting feature bits. An example is the Greeting Only FCOS, which plays a greeting to an outside caller (such as movie listings, weather information, or store hours) and then hangs up.

Each mailbox on the system can have a unique set of features and capabilities. Every mailbox can be customized with a unique FCOS, which can be changed easily and as often as necessary by the system administrator. If a user’s mailbox is assigned to an FCOS that excludes a specific feature, the user will not hear any prompts that refer to that feature.

FCOS is used in three distinct ways:

- It differentiates a novice user from an experienced user and provides advanced mailbox features for experienced users only. This minimizes training and support requirements associated with system implementation.
- It is often used to match a mailbox to the requirements of a specific application. Examples include rotational mailboxes for audio text, check-in/check-out mailboxes for lodging, and hands-free mailboxes for cellular phone users.
- It can be used to build several distinct tiers of messaging service. Each tier has a richer functionality than the one below it. Up to 640 FCOS bits can be programmed to define unique mailbox functionality.

**LIMITS CLASS OF SERVICE (LCOS)**

LCOS defines all of the operating parameters of a mailbox by restricting message, greeting, and out-dialing digit lengths. These parameters allow the system administrator to control the
use of the system resources. They are frequently used in conjunction with FCOS to build multiple tiers of service offerings. Like FCOS, they can be configured and changed online by the system administrator.

All supported language prompts are set in the Limits Class of Service.

Up to 640 LCOS can be programmed to quantify different categories of parameters.

Voice messages can be purged automatically based on message age. These message retention limits may be configured system wide or on an individual mailbox basis for maximum flexibility. The NuPoint Unified Messaging server allows administrators to define different purge limits for each of the following types of messages:

- Unplayed voice messages;
- Saved voice messages;
- Urgent voice messages;
- Voice message receipts;
- Paging receipts.

GROUP CLASS OF SERVICE (GCOS)

GCOS defines mailboxes between which a user can exchange messages. GCOS provides software partitioning at the mailbox level without requiring partitioning at the line group level. This class of service category allows the NuPoint Voice applications to be configured as either closed or flexible communities of interest, all served by the same multi-line hunt group (MLHG).

There are two types of GCOS assignments: bit-mapped, flexible GCOS that can accommodate multiple member groups within a GCOS, and simple GCOS groups that can accommodate only one level of affinity communication.

Sixty-four flexible, bit-mapped GCOS can be programmed. A mailbox can be assigned to one, some, or all of these GCOS. That mailbox can then exchange messages with any other mailbox that is a member of any common GCOS. For example, a hierarchy of messaging can be built so that the president of a company can communicate with any of the senior staff. Staff can communicate with the president, with each other, or within the department. But lower level department members can only talk to their senior staff representative, not with the president and not across departmental lines.

Up to 32,000 GCOS can be built as simple affinity groups. Mailboxes assigned to these GCOS can only communicate with each other and do not have access to the hierarchy described above. Affinity groups allow the system to be partitioned into virtual systems so that many different user communities or organizations can share a single system. With GCOS, this can be done confidentially and transparently to the distinct user groups.

NETWORK CLASS OF SERVICE (NCOS)

NCOS works in conjunction with Mitel digital networking products and allows the system administrator to regulate user access to and priority on the digital network. A mailbox NCOS can control communications between users in one location with users on a NP-UM system in another location. For more information on NCOS parameters, refer to the NuPoint Unified Messaging System Administration Online Help.
RESTRICTED CLASS OF SERVICE (RCOS)

RCOS is used to provide NPA/NXX screening, which in turn allows a system administrator to screen all outgoing NP-UM voice calls (for example, NP WakeUp, message delivery, and paging). NPA/NXX screening takes place at both the toll (central office) level and the area code (long distance) level. And, because system administrators can configure a different RCOS for every mailbox owner on the system, each mailbox can have a different screening configuration. NPA/NXX screening can take place in two different ways:

- allow users to outcall to any number except those specified in the RCOS;
- allow users only to outcall to those numbers specified in the RCOS.

For example, a mailbox owner can be permitted to route calls to all numbers in the 415, 408 and 510 area codes only, or to all area codes except 515. Alternatively, NPA/NXX can provide additional security enhancements to the NP-UM server by protecting it against toll abuse. For example, using RCOS, any specified mailboxes can be prohibited from making 976 or 900 calls. In addition, more flexibility can be given to traveling employees to send messages to long distance numbers, versus local employees who may only need to deliver messages to internal extensions.

SYSTEM RECOVERY

BACKUP AND RESTORE

NP-UM server backups can be performed while the system is processing calls. The following types of data backups are supported:

- LAN Backup/Restore from the NuPoint server or FTP server on the customer's Local Area Network (Release 9.0 and later).
- LAN Backup/Restore using Microsoft Networking. The administrator can mount a remote driver or folder on a Windows machine for backup (Release 10.0 and later).
- USB Backup/Restore to a Mitel-supported memory stick (formatted with FAT or FAT32 file system).

**LAN Backup**

NuPoint Unified Messaging supports backups of all application data and MSL configuration data from the NuPoint server(s) using Microsoft Networking or an FTP server on the customer's Local Area Network (LAN), and provides system restore capability from the LAN archive to the server. The system administrator uses the text-based console or the Web Console to specify either an FTP or Microsoft Networking backup.

Administrators can restore data using either FTP or MS Networking, provided that they use the same directory path for both methods. The format of backed up data is the same, regardless of whether you backed it up using FTP or MS Networking.

**USB Backup**

Administrators can also perform backups to USB memory devices. It is the responsibility of the system administrator to ensure that the memory device can accommodate the size of the backup because backing up a large number of recordings to such a device may fail if there is inadequate storage.
Backup Details

Using either method of backup, the system administrator can:

- Perform system backups of all configuration information, mailbox names and greetings, and billing information;
- Schedule daily, weekly, monthly or delayed LAN system backups that will occur automatically at a specified time or date;
- Perform a system restore to retrieve backed-up content from the archive.

Note: During the backup process, the NP-UM system is operational. However, during the restore process, the NP-UM system is not operational.

For more information on the backup/restore process, refer to the NuPoint Unified Messaging Technician’s Handbook and the NuPoint Unified Messaging Web Console Help.

SYSTEM RECOVERY AND REBUILD

NuPoint recovery processes take advantage of the redundancy capabilities of the hardware.

For more information on system recovery and system rebuild, refer to the NuPoint Unified Messaging Technician’s Handbook.

NuPoint 60 without Redundant Hard Drive

- Customer must maintain current database backups.

NuPoint 60 with Redundant Hard Drive

- Customer configures MSL software RAID 1 (mirrored drives) or server hardware vendor RAID 1, 5 or 10 (mirrored, striping with parity or stripped mirrors respectively) with or without hot spare drive(s)
- Customer must maintain current database backups.
- In the event of hard drive failure, system continues operation until such time that customer can replace hard drive during an out of service maintenance period.

NuPoint 120

- Customer configures server hardware vendor RAID 1, 5 or 10 (mirrored, striping with parity or stripped mirrors respectively) with or without hot spare drive(s)
- Customer must maintain current database backups.
- In the event of hard drive failure, system continues operation until such time that customer can replace hard drive during an out of service maintenance period.

Virtual NuPoint

vNuPoint UM is qualified for the following VMware vCenter management features:

- **High Availability**: vNuPoint UM works seamlessly with VMware High Availability, providing local failover and recovery. A new instance of vNuPoint UM is automatically started on an alternate server in the data center should a server or virtual machine fail. Recovery takes place within minutes, minimizing voice mail and unified messaging down time.
vNuPoint UM leverages the SAN infrastructure of the data center to preserve local data integrity of voice mail messages during a failure.

- **Site Recovery Manager (SRM)**: VMware SRM provides business continuity in the event a disaster occurs at the primary data center. It can protect all applications in the primary data center or a defined subset of applications that are critical for business continuity. SRM augments local data center application availability solutions and is invoked as part of a corporate business continuity plan. Recovery at the failover data center occurs in a structured fashion with recovery time highly dependent on the business continuity plan and breadth of applications being recovered. Mitel Professional Services is required for vNuPoint UM configuration and setup in an SRM-enabled data center environment.

Use the VMware vCenter Site Recovery Manager (SRM) to plan, test, and execute the recovery of NuPoint virtual applications between one site (the protected site) and another site (the recovery site).

You can configure SRM to work with several third-party disk replication mechanisms (array based replication) or with VMware vSphere Replication.

- **Virtual Storage Appliance**: Get shared storage benefits without the shared storage cost and complexity. VMware vSphere Storage Appliance (VSA) transforms the local storage within your servers into a shared storage resource that runs your virtualized applications. VSA allows you to achieve business continuity and eliminates any single point of failure within your IT environment. With VSA, you can:
  - Deploy and manage cost-effective software-based shared storage easily
  - Get High Availability without shared storage hardware
  - Enable business continuity protection for any small environment

**SECURITY**

NuPoint UM is compliant with IL3 specifications.

The NP-UM server provides secure system management, administration and maintenance, mailbox usage, and secure access to network facilities, applications and information:

- “Security at the Record Level” on page 92
- “Security at the Mailbox Level” on page 92
- “Security via Class of Service” on page 92
- “FPSA” on page 82.
- “Secure access via Secure Shell Settings (SSH)” on page 93
- “FPSA” on page 82.

**SECURITY AT THE RECORD LEVEL**

At the record level, all information and database records, regardless of format, are stored on the NP-UM server in Adaptive Digital Pulse Code Modulation (ADPCM) algorithm. Additional security is provided for the database through a proprietary file and record format.
SECURITY AT THE MAILBOX LEVEL

At the mailbox level, the first level of security is protection through passcodes. The NuPoint Unified Messaging server can be configured to require passcodes on all mailboxes. Moreover, users can be required to have minimum passcodes of up to 10 digits, and the system administrator can change this requirement at any time to a number between 4 and 10. No trivial passcodes (simple series, same as mailbox number, or all same number) are allowed. If the wrong passcode is input when someone is trying to access a mailbox, the caller must then input the correct passcode twice or the system will hang up. Hackers will not know if the second attempt was correct; callers are not prompted for the correct number of passcode digits nor are they told what the incorrect entry was.

For increased security, the system administrator can configure mailbox passcodes to expire at regular intervals. Reconfiguration of passcodes is enforced through the TUI when the expired mailbox is accessed. Unified Messaging users who don't use the TUI are not affected by passcode expiry.

If a high number of incorrect passcodes have been attempted, the system will notify the user at the next login. The system can also be configured to lock a mailbox after a configurable number of incorrect passcodes have been entered. Only the system administrator can then unlock the mailbox, set a new temporary passcode, reset the tutorial, and require re-initialization from the integrated telephone number.

SECURITY VIA CLASS OF SERVICE

Various access limits can be applied to the NP-UM server through the LCOS to control out-calling capabilities from the mailboxes themselves. Limits can be placed on the number of digits that may be dialed from a mailbox (4 for in-house extensions, 7 for local calls and 10 for paging calls to an 800 number). Limits can also be placed on an individual mailbox session length, causing the system to hang up when the limit is reached. This session limit can be lowered if hackers have threatened a system.

Using RCOS, limits can be placed on the actual digits that are dialed (NPA/NXX screening) from a particular mailbox. Screening can take place at both the toll (central office) and area code (long distance) level. In addition, limits can be placed on the interaction between mailboxes through the Group Class of Service (GCOS). The GCOS of a particular mailbox determines if it may interact with any other mailbox on the system. For example, the GCOS could prohibit a messaging mailbox from accessing an audio text one.

In some sectors, privacy issues arise when users forward voice mail messages to their e-mail. A new The Limits Class of Service (LCOS) field called Unified Messaging Limits addresses this concern. It is accessible through the Administrator Web GUI. When this value is set to "no" for a particular Standard Edition UM user, the user only receives text notifications of voice messages in their e-mail. They cannot forward voice messages as audio files or as downloadable links to others.

SECURITY VIA FPSA

Enhanced security is available for all system administration functions on the NuPoint Unified Messaging console through Functionally Partitioned System Administration (FPSA). FPSA allows an administrator to create different access privileges, user IDs and passwords for each administrator on the system. This allows an administrator to limit access to operations, administration and maintenance (OA&M) functions on a departmental or individual basis. FPSA
provides an audit trail of all system activity and the respective administrator. In addition, with FPSA, customers may offload or resell certain administrative functions to restricted groups within their organizations or within their customer base.

FPSA adds security in the following ways:

- **Controlled access to system:** Access to any part of the system (administration menus or MSL) is controlled by passwords and user IDs. If a password is not correct or does not match a user ID, the user cannot access that part of the system. Passwords only work for the assigned access privileges - if a user accesses billing and reporting, but doesn't have access to configuration, that person cannot change FCOS, the dialing plan, or other functions within the configuration menu. This means that only people who are trained to perform certain functions on the system can use those functions.

- **Control of access to batch commands:** These very powerful command strings, available at the operating system level, are restricted to only trained individuals.

- **Enforced password change for system administrators:** The Superuser can force system administrators to change their passcodes after a configurable number of days. This lessens the chance of hackers or outsiders entering the system to do damage. If an administrator or technician does not change the passcode by the specified date, they are denied access to all parts of the system.

- **Audit trail of administrator activities:** When the audit trail option is enabled, FPSA provides an audit trail every time an administrator enters the system. The trail indicates user ID, name, when the system was entered, which menu was entered, and what action was taken (for example, when the administrator created 200 mailboxes, changed billing rates and ran a report). This allows all actions performed on the system to be traced back to a specific individual.

**SECURE ACCESS VIA SECURE SHELL SETTINGS (SSH)**

There are two ways to securely access the NP-UM system remotely:

- Secure shell method using an application such as PuTTY or similar secure shell application shareware;

- New modem dial-up connection via Point-to-Point Protocol (PPP).

For more information, refer to the NuPoint Unified Messaging Engineering Guidelines and the NuPoint Unified Messaging Technician’s Handbook.
UPGRADE AND MIGRATIONS

SOFTWARE UPGRADES

There are two upgrade scenarios:

- **Upgrade with same MSL version**: In this scenario, both the operating system (MSL) and the NP-UM software are upgradeable; neither requires a fresh installation.
- **Upgrade with new MSL version**: In this scenario, the new NP-UM software operates on a new release of the operating system software (MSL). A system rebuild procedure (including a fresh MSL installation) is required.

The NuPoint Unified Messaging Release Notes state identify which upgrade option is required for a particular release; the NuPoint Unified Messaging Technician’s Handbook provides detailed software upgrade procedures.

**Note**: The MSL and the NuPoint Unified Messaging software must be downloaded from Mitel Online.

SUPPORTED MIGRATIONS

Prior to purchasing a server for NPUM 6.0, please consult the NuPoint UM Engineering Guidelines to ensure that the server is equipped to support all features in NPUM 6.0. Some features in NPUM 6.0 will not function correctly if the minimum recommended RAM is not available.

**RELEASE 3, 4 OR 5**

Consistent with Mitel’s release support policy, customers on a NuPoint UM Standard Edition or NuPoint UM Single Server at release 4.0 or later can upgrade to NuPoint UM 6.0 on their existing server. Release 3 systems may require a new server.

**LEGACY RELEASE 8, 9, 10, 11 OR 12**

For customers on these releases, a two-step process is required:

- Upgrade to release 4 or 5 on a supported hardware platform for that release
- Upgrade to release 6.0 on Customer’s choice of MSL 10.0 compliant platform

**LEGACY RELEASE 7 OR EARLIER**

For customers on legacy release 7 and earlier, a three step process is required:

- Upgrade to legacy release 7
- Upgrade to release 3.0 supported hardware platform for that release.
- Upgrade to release 6.0 on Customer’s choice of MSL 10.0 compliant platform

For assistance with the upgrade process, please contact Mitel Professional Services at MOL/Services/Service Solutions.

In order to accomplish the second and the third steps of this procedure, a server that supports Release 3.0 is required. If a Release 3.0 server is not available, contact Mitel Professional Services for assistance.
MAILBOX MIGRATIONS AND MODIFICATIONS

Mailbox migrations and modifications are performed from the text console. The following methods can be used to migrate mailbox data from other voice mail systems to a NP-UM system.

- import mailbox data in a .csv file
- modify data in a range of mailboxes using batch mode commands

Mailboxes data can be exported from a third-party application (such as another VM system), modified to fit the NP-UM format, and then imported into NP-UM in a .csv file. Alternatively, a mailbox data file can be created from scratch using a spreadsheet program.

NP-UM software includes a command language that supports batch mode data entry. The majority of batch mode commands can operate on a range of mailboxes; the acreate command allows you to create 100 mailboxes as easily as a single mailbox. This feature is especially useful for changing the service level (FCOS, LCOS, and so forth) of a large number of subscribers at once.
SOFTWARE ASSURANCE AND LICENSING

LICENSING

The Mitel AMC manages the product licensing and the timing of NP-UM installation and upgrades. As of Release 12.0 UR1, software licenses are release specific. Therefore before customers can perform an installation or upgrade, they must

- acquire the release-specific software license, and
- synchronize the license with the Mitel Applications Management Center (AMC).

MITEL APPLICATIONS MANAGEMENT CENTER (AMC)

The Mitel Applications Management Center (AMC) is a remote server accessed through the web that provides monitoring, management, and a variety of other services for the NP-UM system, including a license key generation utility. The AMC allows licensing passcodes to be automatically created at all times (24 hours a day, 7 days a week) through remote passcode generation. This utility supports all of the NP-UM feature options.

This license key generation method replaces the hard drive serialization and the "keygen" utility process that was provided in releases prior to Release 9.0. The new licensing method is generated through the AMC.

Note: This licensing scheme applies to all NP-UM systems Release 9.0 or later.

The licensing system includes the following components: Mitel's Customer Care Center/Order Desk (CCC), the Application Management Centre (AMC), Mitel Standard Linux (MSL), and the Internet.

Mitel customers receive a unique account on the AMC. By logging in with a username and password, they can view a list of installations, check their status, and add or drop services from any NuPoint UM system. For more information about the Mitel Applications Management Center (AMC), refer to the application website (https://www.mitel-amc.com/).

NP-UM uses the AMC to obtain licensing information, which is required for installing base software from the DVD, for installing upgrade software (language packs excluded), and for installing system option upgrade software (language packs excluded). You must install the Mitel Standard Linux OS and then register it with the AMC online in order to be able to install and upgrade the NP-UM system and all your purchased options.

After the installation of the Mitel Standard Linux operating system software is complete, MSL generates a unique Hardware ID that includes the MAC address of the server. When you connect to the AMC over the Internet, MSL uses the Hardware ID and the Application Record ID to communicate with the AMC to obtain licensing information (also called "sync").

Note: The licensing process requires an Internet connection to the AMC from either the NP-UM Server or from a PC on the LAN. To connect from the NP-UM Server to the AMC over the Internet, you must open a TCP/IP port on your firewall/router (refer to the NP-UM Engineering Guidelines for NP-UM Server port descriptions). If the NP-
UM Server is not connected to the Internet, you can download the license keys from the AMC to a PC and then copy the license keys to the NP-UM Server.

Thereafter, if the NP-UM is able to access the Internet, it will connect to the AMC every hour via a secure, encrypted connection across the Internet. This hourly operation is called synchronizing, or sync. When you add or remove services via the MSL from a particular NP-UM system using the AMC website, the MSL will receive its new configuration instructions from the AMC the next time it performs a sync.

MITEL SOFTWARE ASSURANCE PROGRAM

The Mitel Software Assurance (SWA) Program is a subscription-based service that provides customers with access to new software releases, updates, functionality and product support services for all users (ports) on a given application record. The Mitel Applications Management Center (AMC) manages the entitlement of the Software Assurance Program, determining whether a given application record ID for a customer is entitled to a specific software installation or upgrade.

Initial product purchase includes 90 days of Software Assurance. The program can then be renewed for a chosen term. Multi-year renewals earn discounted rates. An Authorized Mitel Reseller will contact customers before the expiry of the Software Assurance term to assist with the renewal process.
APPENDIX A - NUPOINT IN MICOLLAB SUMMARY

NUPOINT IN MICOLLAB FUNCTIONALITY DIFFERENCES

This Appendix summarizes the differences in functionality between NP-UM standalone and NP-UM as an application within MiCollab.

The NuPoint GIG (this document) has been written to describe NP-UM as a standalone application. For the most part, it also describes NuPoint in MiCollab. There are differences however, and those differences are identified below.

Solution Level Differences

- Single Point User Provisioning applies to MiCollab applications but does not apply to NuPoint standalone.

Commercial Differences

- Commercially, MiCollab is licensed on a per mailbox basis. (Standalone NuPoint is licensed on a per port basis).
- NuPoint with MiCollab is considered a “trusted app” by MiVoice Business and does not require the purchase of a MiVoice Business user license. NuPoint standalone is not a “trusted app”.
- UCC licensing bundles apply to MiCollab but are not applicable to NuPoint standalone.

Chapter 1: Introduction

- Applicable to MiCollab.

Chapter 2: NuPoint Platforms

- Not applicable to NP in MiCollab. Refer to the MiCollab documentation for supported platforms including vMiCollab.
- MiCollab is available as a software only solution, a turnkey platform, and as a virtual application (see the MiCollab General Information Guide for details).

Chapter 3: PBX and Email Integration

- NP in MiCollab supports integration to one type of PBX at a time.
- NP in MiCollab can be deployed on the LAN or on the network edge (server-gateway mode).
- NP in MiCollab supports the MiVoice Office. The NuPoint standalone product does not support the MiVoice Office.
- NP in MiCollab supports Axxess platforms (Axxess platforms must be integrated with the NuPoint application through a 5000 Gateway). The NuPoint standalone product does not support Axxess platforms. vNP in MiCollab does not support this implementation.

Mitel PBX Integrations

- NP in MiCollab is supported for the MiVoice Business/3300 ICP, MXONE and MiVoice 5000
- NP in MiCollab is not supported for the SX-200/SX-2000.
• NP in MiCollab is supported with the MiVoice Office 250 NP-UM standalone is not.
• NP in MiCollab is supported with the Mitel Axxess through a 5000 Gateway using Internet Protocol.

Other PBX Platforms
• This section is not applicable to NP in MiCollab

Digital Integration via DMG 1000
• This section is not applicable to NP in MiCollab

Analog/SMDI Integration via DMG 1000
• This section is not applicable to NP in MiCollab

T1/E1 Integration
• This section is not applicable to NP in MiCollab

Mitel Messaging Gateway
- This section is not applicable to NP in MiCollab

Multiple PBX Switch Integration
• This section is not applicable to NP in MiCollab

Integration with Shared MWI
• This section is not applicable to NP in MiCollab

Message Waiting Notification: PBX Integration
• RS-232 option is not applicable to NP in MiCollab

Chapter 4: User Interfaces

Competitive Telephone User Interface
• This section is not applicable to NP in MiCollab

System Prompts
• Competitive TUI is not available to NP in MiCollab
• For NA English only, MiCollab systems can support either numeric or mnemonic prompts the option to provide some users with mnemonic prompts and other users with numeric prompts in a single system does not apply to MiCollab-NP.
• Standalone NuPoint supports more languages than NP in MiCollab languages. Refer to NuPoint in MiCollab Language Support102.
• Call Director - Personal Edition TUI prompts are only supported in English.
• Speech Auto Attendant and Text-to- Speech are only supported for NA or UK English. The bilingual capability is not available for MiCollab-NP.
• You set the language of the My Unified Communication portals and the Telephone User Interfaces (TUIs), including NP-UM, for the MiCollab application end-users from the MiCollab administrator portal.
• NP-MiCollab end-users can select their preferred language on the Settings page of their My Unified Communications portal.
Chapter 5: Base Features

- Since NP in MiCollab system is priced on a mailbox basis, features that require multiple mailboxes may mean that the customer must purchase additional mailbox licenses. NP standalone is licensed by the port so mailboxes can be added without additional license.
- All available languages are included in a NP in MiCollab system. Extra languages must be purchased in NP standalone systems.

Web View

- NP in MiCollab includes 50 simultaneous sessions.
- In NP in MiCollab, every mailbox always includes a Call Director license.

Multilingual Service for Prompts

- Multilingual Service is managed at the system level.
- The Language Selection Template in Call Director may be assigned to users through LCOS.

Note that NP in MiCollab does not provide an option to create custom language prompts. System prompts must be used on MiCollab systems.

Chapter 6: Optional Features

Unified Messaging

- Although the functionality described in this section applies to NP in MiCollab, the number of supported UM users (capacity) is different. Refer to the MiCollab Engineering Guidelines for the NP in MiCollab UM user capacities.

Speech Auto Attendant

- Phonebook/Presence: NP in MiCollab does not support integrations with other databases such as Active Directory.

Hospitality Features and Applications

- This section is not applicable to NP in MiCollab.

Voice Mail Networking

- The Audio Messaging Interchange Specification (AMIS) section is not applicable to NP in MiCollab.

NuPoint TDD

- This section is not applicable to NP in MiCollab.

Chapter 7: System Administration and Maintenance

- User and mailbox administration is performed differently on NP in MiCollab. The NP in MiCollab administrator adds users and mailboxes from the User and Provisioning application in the server manager web interface. The User and Provisioning application provides a single point of provisioning for MiCollab applications, including NP in MiCollab.
- NP in MiCollab system administration is accessed through the Administrator web portal.
• Administration from Active Directory is available through MiCollab Administrator web portal.

• It is not possible to back up and restore ONLY the NuPoint database in a MiCollab installation. Instead, the backup and restore is performed for all the databases of all the MiCollab applications at the same time.

• Security at Mailbox Level: The configurable passcode expiry feature is not supported for NP in MiCollab. The NP in MiCollab end-user portal (My Unified Communications portal) security rules apply.

• Hot Desk PIN Synchronization is available on NP in MiCollab. To enforce a controlled level of security for Hot Desk users, administrators can configure passcode synchronization. Hot Desk PINs can then be synchronized with NuPoint TUI passcodes and managed through the NuPoint voice system.

Chapter 8: Upgrades and Migrations
• Not applicable to NP in MiCollab. Refer to the MiCollab Installation and Maintenance guide for upgrade, conversion, and migration procedures.

Chapter 9: Software Assurance and Licensing
• Refer to the MiCollab Installation and Maintenance guide for NP in MiCollab Software Assurance and Licensing details.

Appendix A: NP in MiCollab Summary
• Applies specifically to NP in MiCollab

Appendix B: Supported Software Versions and Dependencies
• Not applicable to NP in MiCollab

Appendix C: Geographic Considerations
• Not applicable to NP in MiCollab

Appendix D: Non-Standard Configurations
• Not applicable to NP in MiCollab

Appendix E: New in Previous Releases
• Applies to NP in MiCollab unless noted otherwise in descriptions.
NUPOINT IN MICOLLAB LANGUAGE SUPPORT

Table 12 summarizes the languages supported for NP-UM features on MiCollab:

Table 12: Summary of NP in MiCollab Language Support

<table>
<thead>
<tr>
<th>Languages</th>
<th>NP UM</th>
<th>Web GUI</th>
<th>Call Director Personal Edition (See Note 1)</th>
<th>Text-to-Speech (See Note 2)</th>
<th>FAX Prompts</th>
<th>SAA Prompts</th>
<th>Extended Absence Greeting prompts</th>
<th>Clock format</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arabic</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>24</td>
</tr>
<tr>
<td>Cantonese</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>24</td>
</tr>
<tr>
<td>Danish</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>24</td>
</tr>
<tr>
<td>Dutch</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>24</td>
</tr>
<tr>
<td>English (NA)</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>12</td>
</tr>
<tr>
<td>English (UK)</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>12</td>
</tr>
<tr>
<td>English (Australia)</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>12</td>
</tr>
<tr>
<td>English (New Zealand)</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>12</td>
</tr>
<tr>
<td>Finnish</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>24</td>
</tr>
<tr>
<td>French (Canadian)</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>24</td>
</tr>
<tr>
<td>French (European)</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>24</td>
</tr>
<tr>
<td>German</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>24</td>
</tr>
<tr>
<td>Italian</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>24</td>
</tr>
<tr>
<td>Japanese</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>24</td>
</tr>
<tr>
<td>Korean</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>24</td>
</tr>
<tr>
<td>Mandarin</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>24</td>
</tr>
<tr>
<td>Norwegian</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>24</td>
</tr>
<tr>
<td>Portuguese (Brazil)</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>24</td>
</tr>
<tr>
<td>Portuguese (European)</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>24</td>
</tr>
<tr>
<td>Spanish (LA)</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>12</td>
</tr>
<tr>
<td>Spanish (European)</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>24</td>
</tr>
<tr>
<td>Swedish</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>24</td>
</tr>
</tbody>
</table>
Notes:

1. No charge option
2. Speech Auto Attendant and Text to Speech are available in NA and UK English only.
APPENDIX B: APPLICATION COMPATIBILITY

OVERVIEW

This section lists the application compatibility for the following features/functionality:

- Unified Messaging
- User and Administration Interfaces
- Speech Auto Attendant
- Virtual NuPoint

NUPOINT UNIFIED MESSAGING SUPPORT LINEUP

<table>
<thead>
<tr>
<th>PRODUCT</th>
<th>NPM 8.3 in MiCollab 7.3</th>
<th>NPM 8.3 standalone</th>
</tr>
</thead>
<tbody>
<tr>
<td>MiVoice Business</td>
<td>8.0, 7.1 for SPUP</td>
<td>6.0 SP3+patch, 7.0, 7.1</td>
</tr>
<tr>
<td>MiVoice Office 250</td>
<td>6.2 SP1, 6.0, 6.0 SP1</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>MiVoice Office 400</td>
<td>4.1, 4.0</td>
<td></td>
</tr>
<tr>
<td>MX-One</td>
<td>6.2, 6.1 SP1, 6.0 sp2</td>
<td>6.0 sp2</td>
</tr>
<tr>
<td>MiV5000</td>
<td>6.1 sp2 *</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>IE</td>
<td>9, 10 and 11</td>
<td>9, 10 and 11</td>
</tr>
<tr>
<td>Mozilla Firefox</td>
<td>31, 32 and 33</td>
<td>31, 32 and 33</td>
</tr>
<tr>
<td>Google Chrome</td>
<td>36, 37, 38, and 46</td>
<td>36, 37, 38, and 46</td>
</tr>
<tr>
<td>Mac OS and Safari</td>
<td>7.0, 7.1, 9.1, 10.11</td>
<td>7.0, 7.1, 9.1, 10.11</td>
</tr>
<tr>
<td>Windows OS</td>
<td>Win 7.0, Win 8.0, Win 8.1, Win 10.0</td>
<td>Win 7.0, Win 8.0 and Win 8.1</td>
</tr>
<tr>
<td>MS Exchange Server</td>
<td>2010, 2013 CU8 with CAS, 2016</td>
<td>2010, 2013 CU8 with CAS</td>
</tr>
<tr>
<td>MS Outlook</td>
<td>2010, 2013 SP1, 2016</td>
<td>2010, 2013 SP1, 2016</td>
</tr>
<tr>
<td>AD Snap In</td>
<td>32, 64 bit</td>
<td>32, 64 bit</td>
</tr>
<tr>
<td>vSphere</td>
<td>5.1, 5.5 and 6.0</td>
<td>5.1, 5.5 and 6.0</td>
</tr>
</tbody>
</table>

ADVANCED UNIFIED MESSAGING REQUIREMENTS

<table>
<thead>
<tr>
<th>NP-UM FEATURE/ FUNCTIONALITY</th>
<th>COMPONENT/ CATEGORY</th>
<th>REQUIREMENTS/COMPATIBILITY</th>
</tr>
</thead>
</table>
| Advanced Unified Messaging with IMAP | Email Server | • Exchange Server 2010 SP3  
• Exchange Server 2013 CU11 |
<table>
<thead>
<tr>
<th>NP-UM FEATURE/FUNCTIONALITY</th>
<th>COMPONENT/CATEGORY</th>
<th>REQUIREMENTS/COMPATIBILITY</th>
</tr>
</thead>
</table>
| Advanced Unified Messaging with MAPI | Email Server | - Exchange 2016  
- Google Mail (Gmail)  
- Office 365 |
| MAPI Gateway | MAPI Server | - Exchange Server 2010 SP3  
- Exchange Server 2013 CU11 |
| Advanced Unified Messaging Superuser Account | IMAP Server | - Exchange Server 2010 SP3  
- Exchange Server 2013 CU11  
- Exchange Server 2016  
- Google Mail (Gmail)  
Note: Earlier releases of Exchange require the use of end-user names and passwords; the IMAP Superuser account is not supported. |
| Advanced Unified Messaging Microsoft Outlook Plugin | E-mail Client | - Microsoft 2010, 2013, 2016 |
| Blackberry Server Integration for Advanced Unified Messaging | Email Server | - Microsoft Exchange 2010 SP3  
- Microsoft Exchange 2013 CU11  
- Exchange Server 2016 |

**USER AND ADMINISTRATION INTERFACE REQUIREMENTS**

*Table 14: User and Administration Interface Requirements*

<table>
<thead>
<tr>
<th>NP-UM FEATURE/FUNCTIONALITY</th>
<th>COMPONENT/CATEGORY</th>
<th>REQUIREMENTS/COMPATIBILITY</th>
</tr>
</thead>
</table>
| Admin Web Console | Client Operating Systems | - Microsoft Windows 10  
- Microsoft Windows 8.1  
- Microsoft Windows 8 Pro (64 bit)  
- Microsoft Windows 7.0  
- Mac OS 10.9.x |
### Browser Support

- Internet Explorer 9 - 11
- Mozilla Firefox 41+
- Google Chrome 46+
- Safari 9+
- Microsoft Edge 21+

### Web View

- Microsoft Windows 10
- Microsoft Windows 8 Pro (64 bit)
- Microsoft Windows 8.1
- Microsoft Windows 7.0
- Mac OS 10.9.x

### SPEECH AUTO ATTENDANT REQUIREMENTS

**Table 15: SAA Requirements**

<table>
<thead>
<tr>
<th>NP-UM FEATURE/FUNCTIONALITY</th>
<th>COMPONENT/CATEGORY</th>
<th>REQUIREMENTS/COMPATIBILITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active Directory Snap-In for Speech Auto Attendant</td>
<td>Application and Server</td>
<td>• Active Directory Services 2008 R2 and 2012 R2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Supported on 32-bit systems and can be used on 64-bit systems by running Active Directory Users and Computers in 32-bit mode</td>
</tr>
<tr>
<td>Presence Support for Speech Auto Attendant</td>
<td>Data Source and Server</td>
<td>• Microsoft Active Directory 2008 as user data source</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Microsoft Live Communication Server (LCS) 2005 SP2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Office Communications Server (OCS) 2007</td>
</tr>
</tbody>
</table>

### VIRTUALIZATION REQUIREMENTS

For virtualization requirements, please consult the *Mitel Virtual Appliance Deployment Solutions Guide* available at Mitel OnLine.
APPENDIX C: PLATFORM COMPATIBILITY

OVERVIEW

This section lists the call control platform compatibility for the most common features on NuPoint UM.

Table 16: Platform Compatibility

<table>
<thead>
<tr>
<th>FEATURE</th>
<th>MIVOXCE BUSINESS</th>
<th>MIVOXCE OFFICE 250</th>
<th>MIVOXCE MX-ONE</th>
<th>MIVOXCE 5000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Integration</td>
<td>MiTAI</td>
<td>SIP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Call Transfers:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Blind Transfers: A Blind Transfer dials the destination and then releases the call regardless whether the destination is busy or not answering.</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Supervised Transfer: A Supervised Transfer waits for the called party to answer before completing the transfer. If the call is not answered or the called party is busy, it returns to the call flow for further processing.</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Screened Transfer: A Screened Transfer, is similar to a Supervised Transfer, except that the caller's name is first recorded and then played back to the called person. The called person has the option to accept or reject the call.</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Alternate Transfer: An Alternate Transfer is used to route calls to an external destination, such as a cell phone or pager, and for text messaging.</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Message Waiting Indicator (MWI): MWI synchronization.</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pager: The Pager application causes the NuPoint Unified Messaging server to initiate, rather than receive, a telephone call. It is used for sending messages to pagers, but also for a number of other functions that require out dials. An out dial is</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### FEATURE

<table>
<thead>
<tr>
<th>Feature</th>
<th>MVOICE BUSINESS</th>
<th>MVOICE OFFICE 250</th>
<th>MVOICE MX-ONE</th>
<th>MVOICE 5000</th>
</tr>
</thead>
<tbody>
<tr>
<td>a call placed by the server.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Fax:</strong> Receiving and replying to fax messages.</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>DTMF:</strong> Dual tone multi frequency (DTMF) recognition and collection.</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>G.729 Support:</strong> If the system is licensed for G.729, when you program a line group you can select between two audio codecs, G.711 (the default) and G.729. Without a license, only G.711 is supported.</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Speech Recognition Features:</strong> Speech Auto Attendant and Speech Navigation. In MiCollab NP, Speech Auto Attendant is available in North American (NA) and UK English, and Speech Navigation is available in NA English.</td>
<td>Yes</td>
<td>Yes for MiVoice Office 250 Not available for MX-ONE and MiVoice 5000.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Text to Speech (TTS):</strong> TTS is used to read email to Advanced UM users in North American (NA) English.</td>
<td>Yes</td>
<td>Yes for MiVoice Office 250 Not available for MX-ONE and MiVoice 5000.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Resiliency:</strong> When NuPoint UM is integrated with a resilient MiVoice Business system, resiliency is supported for the voicemail services. When in resilient mode, voice mail ports conform to the behavior of resilient IP phones. It is not necessary to configure the NuPoint UM system for resiliency on MiCollab; it is configured entirely on the MiVoice Business communications platform.</td>
<td>Yes</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Voice Mail Soft Keys:</strong> The Voice Mail Soft Keys feature allows users to control voice mail functions through context-sensitive keys on the telephone.</td>
<td>Yes</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FEATURE</td>
<td>MVOICE BUSINESS</td>
<td>MVOICE OFFICE 250</td>
<td>MVOICE MX-ONE</td>
<td></td>
</tr>
<tr>
<td>--------------------</td>
<td>-----------------</td>
<td>--------------------</td>
<td>----------------</td>
<td></td>
</tr>
<tr>
<td>Record-A-Call (RAC):</td>
<td>Yes</td>
<td>No</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

RAC is an optional feature that allows mailbox subscribers to record both ends of a two-party external call at their phone. Recorded conversations are delivered to the user's voice mailbox. Unlike regular voice mail messages, RAC messages are stored immediately as saved messages, so they do not trigger Message Waiting Indicator on the user's telephone.
APPENDIX D: GEOGRAPHIC AND LANGUAGE CONSIDERATIONS

INTRODUCTION

NP-UM standalone is available globally.

This Appendix summarizes NP-UM features and functionality related to geographic considerations.

STANDALONE NP-UM PROMPT SETS

North American English (mnemonic and numeric overlay) prompts are included in the base pack and cannot be removed. Two additional languages of the customer's choice are included in the base pack.

NA English (mnemonic and numeric overlay) and 24 additional prompt sets can be installed on a single system for a maximum of 25 prompt sets. Customers may select NA English Numeric Full set, or some other languages entirely (e.g. Spanish numeric) as the other two "included" prompt sets.

If more languages are required, the customer may purchase and install up to 22 additional prompt sets.

Overlay prompt sets do not count towards the maximum.

<table>
<thead>
<tr>
<th>PROMPT SET NAME</th>
<th>EXAMPLE</th>
<th>LANGUAGES</th>
<th>LICENSING</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mnemonic</td>
<td>Press P to play</td>
<td>NA English only</td>
<td>Included in the Base Pack. Cannot be removed.</td>
</tr>
<tr>
<td>Numeric Overlay</td>
<td>Press 7 to play</td>
<td>NA English only</td>
<td>Included in Base Pack. If applied will OVERWRITE the mnemonic prompts so ALL users will hear &quot;Press 7 to play&quot;.</td>
</tr>
<tr>
<td>Numeric Full Set</td>
<td>Press 7 to play</td>
<td>NA English and many languages</td>
<td>Not included in Base Pack. If applied, both Mnemonic and Numeric can be used. Users will hear &quot;Press P to Play&quot; or &quot;Press 8 to play&quot;, depending on the LCOS.</td>
</tr>
</tbody>
</table>

Note: NP in MiCollab supports different languages. Refer to "NuPoint in MiCollab Language Support" on page 102 for details.
### Table 17: Summary of Standalone NP-UM Languages

<table>
<thead>
<tr>
<th>LANGUAGES</th>
<th>NP-UM PROMPTS</th>
<th>WEB VIEW GUI</th>
<th>CALL DIRECTOR PERSONAL EDITION PROMPT</th>
<th>CALL DIRECTOR PERSONAL EDITION GUI</th>
<th>FAX PROMPTS</th>
<th>SAA PROMPTS (SEE NOTE 1)</th>
<th>EXTENDED ABSENCE GREETING PROMPTS</th>
<th>GENERIC HOSPITALITY PROMPTS (SEE NOTES 2 AND 3)</th>
<th>CLOCK FORMAT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arabic</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>24</td>
</tr>
<tr>
<td>Cantonese</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>24</td>
</tr>
<tr>
<td>Danish</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>24</td>
</tr>
<tr>
<td>Dutch</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>24</td>
</tr>
<tr>
<td>English (NA)</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>24</td>
</tr>
<tr>
<td>English (UK)</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>24</td>
</tr>
<tr>
<td>English (Australia)</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
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<td>Swedish</td>
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<td>No</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>24</td>
</tr>
</tbody>
</table>

**Notes:**

1. Bilingual option allows you to combine any two languages and set one language as the Primary and the other as the Secondary.
2. The full prompt set for the specific language must already be installed in order to use an overlay hotel prompt.
3. Custom hotel prompts are available in several languages. Refer to Custom Hotel Prompts.
4. For NP in MiCollab deployments, see the “NuPoint in MiCollab Language Support” on page 102.
5. The Administrator’s Web Console GUI is available in English only.

TEXT TO SPEECH

The following languages can be selected for TTS playback: NA English and UK English. Prompts associated with the TTS feature are in English only.

SPEECH AUTO ATTENDANT

Speech Auto Attendant supports speech recognition in the following languages:

- North American English
- UK English
- Canadian French
- European French

and the following bilingual recognition options:

- North American English and Canadian French
- UK English and European French

Text to Speech (used to “speak” a mailbox owner’s name if it has not been pre-recorded) is available in NA or UK English only.

HOSPITALITY

Generic Hotel Prompts

Generic Hotel Prompts are available in different languages. Refer to Summary of NP in MiCollab Language Support111.

Note: The full prompt set for the specific language must already be installed in order to use an overlay hotel prompt.

Custom Hotel Prompts

NuPoint Unified Messaging Hospitality provides customized prompts for the following hotels:

- **Hyatt Regency**: English (NA), French (Canadian), Spanish (Latin American), Japanese
- **Grand Hyatt**: English (NA), French (Canadian), Spanish (Latin American), Japanese
- **Hyatt**: English (NA), French (Canadian), Spanish (Latin American), Japanese
- **Park Hyatt**: English (NA), French (Canadian), Spanish (Latin American), Japanese
- **Marriott, Marriott Suites, Marriott Marquis, Courtyard Marriott**: English (NA)
APPENDIX E: NEW IN PREVIOUS RELEASES

INTRODUCTION

This appendix lists the features that were introduced in the previous releases of NuPoint Unified Messaging:

RELEASE 8.3

Advanced UM Enhancements:

- NuPoint UM now supports up to 750 Advanced UM users with the Exchange Server and Office 365 hosted email configurations.
- If using Office 365 as an email server, a Superuser account can be configured to access the individual email accounts eliminating the need for users to maintain passwords manually on NuPoint UM.

New Alarms:

- If the Advanced UM service stops working, an email is sent automatically to the System Administrator.
- An alarm is raised and an email is sent automatically to the System Administrator for a Socket disconnect.

RELEASE 8.2

Technology Alignment with Release 8.2:

<table>
<thead>
<tr>
<th>PRODUCT</th>
<th>VERSION SUPPORTED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Call Control Servers</td>
<td></td>
</tr>
<tr>
<td>MiVoice Business</td>
<td>6.0 SP3 (12.0.3.24), 7.0, 7.1 and 7.2</td>
</tr>
<tr>
<td>MiVoice MX-ONE</td>
<td>6.1 SP2</td>
</tr>
<tr>
<td>Browsers (operative with Web Console and Web View interfaces)</td>
<td></td>
</tr>
<tr>
<td>Microsoft Edge</td>
<td>21</td>
</tr>
<tr>
<td>Internet Explorer</td>
<td>9, 10, 11</td>
</tr>
<tr>
<td>Apple Safari</td>
<td>9 and higher</td>
</tr>
<tr>
<td>Google Chrome</td>
<td>46 and higher</td>
</tr>
<tr>
<td>Mozilla Firefox</td>
<td>41 and higher</td>
</tr>
</tbody>
</table>
Operating Systems  
(operable with Web Console and Web View interfaces, OCP and Fax Printer application)

<table>
<thead>
<tr>
<th>System</th>
<th>Version Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Microsoft Windows</td>
<td>7.0, 8.0, 8.1 and 10</td>
</tr>
<tr>
<td>Apple OS X (supports Web View only)</td>
<td>10.9.x</td>
</tr>
</tbody>
</table>

MAPI Gateway servers

<table>
<thead>
<tr>
<th>System</th>
<th>Version Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>MS Windows</td>
<td>8 Professional (64-bit)</td>
</tr>
<tr>
<td></td>
<td>10 (64-bit)</td>
</tr>
<tr>
<td></td>
<td>Server 2008 R2 (64-bit)</td>
</tr>
<tr>
<td></td>
<td>Server 2012 R2 (64-bit)</td>
</tr>
</tbody>
</table>

Email Servers for Advanced UM

<table>
<thead>
<tr>
<th>Server</th>
<th>Version Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Microsoft Exchange</td>
<td>2010 SP3, 2013 CU11 and 2016</td>
</tr>
<tr>
<td>Google Mail (Gmail)</td>
<td>N/A (web-based)</td>
</tr>
<tr>
<td>Office 365</td>
<td>N/A (web-based)</td>
</tr>
</tbody>
</table>

Active Directory Snap-in application and server

<table>
<thead>
<tr>
<th>System</th>
<th>Version Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>MS Active Directory Services (data source)</td>
<td>2008 R2 and 2012 R2</td>
</tr>
<tr>
<td>MS Exchange Server</td>
<td>2010, 2013 with CAS</td>
</tr>
</tbody>
</table>

Presence application and server

<table>
<thead>
<tr>
<th>System</th>
<th>Version Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>MS Active Directory Service (data source)</td>
<td>2008</td>
</tr>
<tr>
<td>MS Live Communication Server (LCS)</td>
<td>2005 SP2</td>
</tr>
<tr>
<td>MS Office Communications Server (OCS)</td>
<td>2007</td>
</tr>
</tbody>
</table>

Email Clients for Advanced UM

<table>
<thead>
<tr>
<th>Client</th>
<th>Version Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Microsoft Outlook</td>
<td>2010, 2013 SP1 and 2016</td>
</tr>
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</table>

Virtualization platforms

<table>
<thead>
<tr>
<th>Platform</th>
<th>Version Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>VMware vSphere</td>
<td>For details concerning the currently supported software application versions, see the Virtual Appliance Deployment Solutions Guide available at Mitel Online.</td>
</tr>
<tr>
<td>Microsoft Hyper-V</td>
<td></td>
</tr>
</tbody>
</table>

Advanced UM Enhancements:
- The IMAP mail server adapter is supported on Microsoft Exchange 2016.
- The Outlook Client Plug-in (OCP) is supported on Microsoft Outlook 2016 (32- and 64-bit).

Support for Additional Languages: The following new languages are now supported: Danish, European Spanish, Italian, and European Portuguese.
**Virtualization:** For details concerning VMware vSphere and Microsoft Hyper-V version support, software and hardware requirements, supported features and configurations, and installation and upgrade instructions, refer to the Mitel Virtual Appliance Deployment Guide on Mitel Online.

**RELEASE 8.1**

**Call Director:** When users add a Caller ID Filter to a call flow, they can program up to twenty numbers to be filtered.

**Virtualization Features:**

- After you upgrade NuPoint UM software on a VMware platform, the system will automatically restore the database and licensed software blades. Previously, these steps had to be performed manually.
- For details concerning VMware vSphere and Microsoft Hyper-V version support, software and hardware requirements, supported features and configurations, and installation and upgrade instructions, refer to the Mitel Virtual Appliance Deployment Guide on Mitel Online.

**Deprecated Feature:** Effective Release 8.1, Lotus Notes and Lotus Domino are no longer supported by NuPoint UM as part of Advanced UM implementations.

**Technology Alignment with Release 8.1:**

<table>
<thead>
<tr>
<th>PRODUCT</th>
<th>VERSION SUPPORTED</th>
</tr>
</thead>
<tbody>
<tr>
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</tr>
<tr>
<td>Microsoft Hyper-V</td>
<td></td>
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</tbody>
</table>

RELEASE 8.0

Integration with MXONE: NuPoint UM standalone and NuPoint in MiCollab can be integrated with MX-ONE release 6.0 SP2.

Language Enhancements

- NuPoint UM has been significantly enhanced to address the needs and expectations of end users in the following languages: English (NA, UK), French (Euro, Cdn), Spanish (LA), Dutch, German, Swedish, Norwegian and Finnish
- Three new languages have been added to NuPoint: Finnish, Swedish and Norwegian.
- Some prompts in other existing languages have been re-recorded.
- End user names will be saved as entered so that accents and characters beyond the 26 characters of the English alphabet will be saved with the special characters intact. For example, "Andre Björkner"
- All static text in email messages sent to end users will be consistent with the language associated with the end user’s account.
- At the auto attendant level, bilingual service has been extended to allow up to five languages. Once selected, the caller will hear remaining prompts in the selected language.
• The maximum number of languages that can be installed on a NuPoint system has been increased to 25.

• We believe that Call Director is, for the most part, an administrator tool. As such, the Call Director tab of Web View has not been translated to any additional languages.

24 Hour Clock format

• NuPoint will use a 12 hour clock or 24 hour clock in communications to callers and mailbox owners, depending on the language choices made by the system administrator and the mailbox owner.

• All versions of English as well as LA Spanish will use 12 hour clock.

• All other languages will use 24 hour clock.

• There were inconsistencies in the clock format used in LA Spanish and Dutch. This has been addressed.

• Since Admin tools are in English, the Admin Web Console and Call Director will continue to use the 12 hour clock.

• Note that when NuPoint is integrated with an email service for Unified Messaging, the timestamp in the email message is controlled by the email service, not by NuPoint UM.

Dial by Name Enhancement

• NuPoint standalone and NP in MiCollab can now switch between dial by Last Name and dial by First Name without the need to re-enter the address book. Simply select whether you want callers to dial by first name or last name. This will change the prompt played to the caller as well as the name field used for searching.

• Inputting of the letters Q and Z have been updated to be consistent with most telephony keypads.

• Users will be prompted to press "7" for "Q" and "9" for "Z".

• For languages with additional characters, the characters have been mapped to the telephony keypad as follows so that for example, a Swedish caller would press "2" for the letter "Å".

Email warning for Voice Mailbox almost full: Mailbox owners will receive email warnings when their voice mailbox approaches capacity. This is in addition to the audio warning that they already receive.

Fax in PDF format: NuPoint UM can now receive faxes in PDF format or TIFF.

Caller name in email subject line (when available)

When available from MiVoice Business, NP will show the name of callers in the email header instead of CLI. The calling number will continue to be sent in the body of the message for easy call back from mobile devices.

Call Director Template for Auto Attendant: A new template has been created in Call Director to provide a simple "out of the box" automated attendant.

RELEASE 7.0 SP1

Technology Alignment

• Browser Support: The Web Console and Web View interfaces have been tested and verified with Internet Explorer 11.0.11, Mozilla Firefox versions 3.5 to 31.0, Google Chrome 36.0, and Safari 7.0.6.
Operating System Support: The Web Console and Web View interfaces and the OCP and Fax Printer applications have been tested and verified with Windows Vista, 7, 8 and 8.1. The Web View interface has been tested and verified with Apple OS X version 10.9.

General Improvements

The Advanced UM Configuration screen now includes a Restart button in addition to the Save, Reset and Cancel buttons. The new button can be used to restart Advanced UM while all other NuPoint services remain running.

FCOS 14, which is assigned to NuPoint mailboxes that are created in the MiCollab platform, now includes feature bit 081 by default. This feature bit prompts a user to enter a correct passcode only once after having entered an incorrect passcode. Without feature bit 081, the correct passcode must be entered twice.

Advanced UM Enhancements

The mail server adapters (IMAP and MAPI) are supported on Microsoft Exchange 2013 SP1.

NuPoint UM now supports up to 2500 Advanced UM users with a Gmail (Google Apps) hosted email configuration.

RELEASE 7.0

SYSTEM IMPROVEMENTS

Technology Alignment: NuPoint UM 7.0 Web View and Web Console interfaces have been verified with new versions of browsers and operating systems:

- Internet Explorer 11
- Firefox 3.5 to 24.0
- Google Chrome 29.0

The Web View and Web Console interfaces, and the MAPI Gateway also support Windows 8 and 8.1.

NEW FEATURES

Virtual NuPoint UM enhancements

- Support for up to 240 ports on VMware with a 3rd resource profile for Large Enterprise
- Basic qualification against Microsoft Hyper-V for up to 120 ports
- VMware vSphere 5.5
- Support for PMS interface for Hospitality

Unified Messaging Enhancements

- Advanced UM integration with Office 365.
- Advanced UM integration with Exchange 2013
- Outlook Client Plug-in (OCP) for Outlook 2013
- Ability for Administrator to select the IP port when connecting to email servers
- Ability for Administrator to define a single "from" email address

Distribution List Enhancement

- Ability to import and export distribution lists using a .csv file.
Enhancement to Call Director

- Context sensitive Help has been added
- Tool Tips have been revised to provide more relevant information
- Ability to print a call flow
- Call flows associated with mailboxes "inherit" the timezone offset of the mailbox

RELEASE 6.0

SYSTEM IMPROVEMENTS

NuPoint UM 7.0 Web View and Web Console interfaces have been verified with new versions of browsers and operating systems:

- Internet Explorer 10
- Firefox 17.0
- Google Chrome (version 19 or later).

The Web View and Web Console interfaces, and the MAPI Gateway also support Windows 8 Professional, 64-bit.

North American English prompt refresh. In this release, all North American prompts have been re-recorded by the original NuPoint voice talent.

NEW FEATURES

Speech Navigation: Users can manage their mailbox using spoken commands such as “play”, “delete” or “answer”.

Functionally Partitioned System Administration (FPSA): FPSA is a standard feature that allows the main system administrator (“root” or “admin” accounts) to securely create other administrator accounts with varying levels of permission. Previously available only in the Text Console, FPSA is now available in the Web Console. The FPSA feature allows up to 5 administrator users to be logged in to the Web Console simultaneously.

Audit Trails: With FPSA, up to 500 distinct admin accounts can be created, and an audit trail can be kept of all admin activities.

Hosted Email Support: NuPoint UM can integrate with Google Mail and Microsoft Exchange (Office 365), with or without an intermediate SMTP server. Smart Host configuration has now moved from the Offline Configuration menu to the MSL server manager.

G.729 support: The G.729 compression codec is supported at the line group level for all except fax groups.

Flexible Calling Line ID Delivery: Currently, when Calling Line ID is enabled, it is always played back before the voice mail message. New FCOS bits are introduced in Release 6.0 that allow the administrator to suppress Calling Line ID playback, or to play it only after the message has been heard.

Secure Media Streaming over HTTPS: To provide higher security and privacy, all NuPoint UM media streaming will default to HTTPS.

Virtual NuPoint Enhancements:

vNuPoint now supports:

- Up to 120 ports, with selection of 60-port or 120-port resource profiles during installation
- Dialogic Media Gateway to enable integrations with 3rd party PBX
- VMware vSphere 5.1
• VMware Site Recovery Manager (SRM) 5.0
• Virtual Storage Appliance

Physical Portfolio Consolidation: The NuPoint 640 models have been discontinued. The NuPoint physical platform portfolio now comprises:
• NuPoint UM 60 (previously NuPoint Standard Edition), and
• NuPoint UM 120 (previously NuPoint 640 Single Server).

Data migration procedures are provided for most 640 and Single Server (640E) models upgrading to the NuPoint 120 model or to Virtual NuPoint.

Documentation Update: The NuPoint UM System Administration/Web Console online help now contains a complete list of alarm messages you may see in Alarm Manager. See System Administration > Maintenance > Description > Alarm Manager.

Mitel Applications Suite (MiCollab) Version Enhancements:
MiCollab 5.0 deployments of NuPoint UM now provide
• Advanced UM is now enabled using the MiCollab Users and Services Provisioning application.
• Hot Desk PIN Synchronization (Optional): To enforce a controlled level of security for Hot Desk users, administrators can configure passcode synchronization. Hot Desk PINs can then be synchronized with NuPoint TUI passcodes and managed through the NuPoint voice system.
• SIP Communication Port: Effective this release, NuPoint UM on MiCollab will use port 5058 for SIP Communication. As a result of this change, Mitel MiVoice Office integrations must be reconfigured to use port 5058 for SIP communication from NuPoint via MiCollab.
  Note: NuPoint UM Standalone will continue to use SIP port 5060.

RELEASE 5.0

SYSTEM IMPROVEMENTS
• NuPoint and vNuPoint are supported on the Mitel Standard Linux (MSL) 9.4 operating system (32-bit version only).
• A new "cache" option has been added to the Blades panel. It enables you to download software blades for installation/upgrade at a later time.
• USB storage devices may now be formatted with the NTFS file system in addition to FAT32 and EXT3. This allows for file sizes larger than 4 GB.
• There is no longer a need to log in a second time after selecting "Access Server Manager" from the Server Console menu.
• Cluster management has been made easier: You can now remove a cluster simply by clearing its Cluster IP address, and you can update a password and have the change replicated across cluster nodes.
• The NuPoint OVA file includes a new blade, known as the Mitel Virtual Framework (MVF) blade, which manages optional VMware features like Site Recovery Manager and High Availability. See the NuPoint Technician’s Handbook for installation instructions.

NEW FEATURES
• IMAP for Advanced UM:
• When using the IMAP connector with Exchange Server 2007 or 2010, it is now possible to configure a Superuser account to access the accounts and inboxes of the users in order to synchronize voicemail and email messages. This eliminates the need for users to update their Advanced UM Email Password when they change their email client passwords.

• Secure IMAP connections are now supported for Exchange Server 2007 and 2010. If this feature is enabled, the entire communication session, including passwords, is encrypted using SSL with digitally signed certificates.

• **Browser Support**: The NuPoint UM Web Console and Web View applications now support Mozilla Firefox 3.5, 3.6 and later versions, as well as Internet Explorer 9 for Windows Vista and 7.

• **Virtual MAPI Gateway**: The Advanced UM MAPI Gateway can now be installed as an appliance within a VMware virtualized environment.

• **Speech to Text**: You can enable text transcription of voice messages for NuPoint users (UM Standard, UM-SMTP, and UM Advanced). This feature is available only in North America for English-language messages.

• **OCP for Outlook 2010**: The Outlook Client Plug-in (OCP) is now supported on Microsoft Outlook 2010 (32- and 64-bit). “Call-me/Meet-me” is not included in this release. The plug-in provides new multimedia controls that enable you to manage your messages in an intuitive manner.

• **Bilingual Service**: For systems with at least two languages installed, a primary and secondary language can be selected. Callers to the attendant will be prompted to select a language, and all following prompts will be played in the selected language.

• **Fax Confirmation**: Voice and email confirmation messages are sent to the fax sender to indicate final status of the sent fax. The email subject line includes key information such as status, number of pages, time and date of successful transmission—or last attempt if unsuccessful.

• **Virtual NuPoint**: Virtual NuPoint (vNuPoint) UM was first introduced in a NP 4.2 SP2. Since then it has been qualified on VMware vSphere 5.0 and the HDD requirement has been reduced to 100 GB without impacting system capacities previously published. VMware vCenter management tools, including High Availability and Site Recovery Manager (SRM) continue to be supported.

• NuPoint and vNuPoint are supported on the Mitel Standard Linux (MSL) 9.4 operating system (32-bit version only).

• NuPoint UM Release 5.0 software is supported on all platforms except the NuPoint 640 platform, which is limited to Release 4.2 software.

• The Competitive TUI feature has been reduced in price to $0.

**RELEASE 4.2**

**SYSTEM IMPROVEMENTS**

• Improved Detection of Advanced Unified Messaging with Lotus Notes: Improvements to the design of AUM integration with Lotus Notes help to optimize message management.

• **Auto Verify utility**: In NuPoint UM Release 4.2 all administrator functions were deprecated and removed. As of NuPoint UM Release 4.1, the system has run the utility automatically without the need for administrator intervention.
NEW FEATURES

- **Unified Messaging Limits**: Administrators can specify that voice mail notifications be forwarded to email clients in text format only.

- **Lotus Notes Unified Messaging Support**: NuPoint UM now supports 500+ users in Lotus Notes.

- **Windows 7 Support for Fax Driver and Outlook Client Plug-in**: The Fax Printer Driver application and the Microsoft Outlook plug-in now run on 32-bit and 64-bit versions of all Windows 7 variants. This includes Regular and N (Windows 7 without Windows Media Player) versions.

- **Fax Printer Driver Installation**: Previously, only administrators could install the fax printer driver. End users can install the fax printer driver themselves without administration privileges.

- **Support for Mitel Standard Linux (MSL) 9.2**: For information about improvements to MSL Release 9.2, refer to the MSL documentation.

- **Support for Servers and Components**: NuPoint UM Single Server 640 now supports HP ProLiant DL380 G7 servers. NuPoint UM 640 (Active/Passive and Active/Active) now supports HP ProLiant DL360 G7 servers and HP StorageWorks P2000 G3 Modular Storage Array.

- **Support for Outlook 2010**: NuPoint UM now supports both 32 and 64 bit versions of Outlook 2010 on Windows 7 Professional for Advanced Unified Messaging, except for the Outlook plug-in.

- **Active Directory SnapIn Support for AD 2008**: The Active Directory (AD) SnapIn now supports AD 2008.

- **Support for DMG Service Updates**: NuPoint UM supports the 6.0 Service Update 7 release of Dialogic Media Gateway (DMG) 1000 and DMG 2000.

- **Support for Symmetric SIP Trunking**: NuPoint UM now supports Symmetric SIP Trunking; networks set up to work with symmetrical SIP can readily receive and transmit audio on the same predefined port(s). You must enable the Variable Packet Rate setting.

- **Automatic Gain Control**: NuPoint UM Release 4.2 supports Automatic Gain Control (AGC). AGC is a 3300 ICP, MiVoice Business feature that adjusts the volume of audio streams of individual calls so they are neither too loud nor too faint. AGC is enabled or disabled on NuPoint UM on a system wide basis. AGC settings are maintained during system reboots and are backed up. The default setting is Disabled.

- **Client Throttling**: NuPoint UM Release 4.2 supports a new Exchange 2010 feature called Client Throttling. You can use it to create restrictions on users that limit the resources they use on the Exchange Server. NuPoint UM Release 4.2 includes an additional Client Throttling policy you apply to MAPI Gateway users to allow increased access to the MAPI Gateway.

- **New Dutch and German Voice Mail Prompts**: NuPoint UM Release 4.2 includes new German prompts and updated Dutch prompts.

- **NuPoint UM 640 Improvements**: NuPoint UM Release 4.2 continues the commitment to improve the quality of the 640IP configuration. There have been various improvements to system stability and reliability for Mitel Standard Linux and NuPoint UM. With this release, these improvements have been validated with extensive failover testing scenarios based on common client network configurations.
DOCUMENTATION IMPROVEMENTS

The NuPoint UM Technician's Handbook (at E-docs) has been updated to include:

- Guidelines that illustrate ways to minimize service outages to NuPoint UM and prevent data loss during network maintenance
- Overview information for backup processes and includes procedures for configuring the FTP server and the MS Network Share for backups and restores
- Details of what each guide and help file in the NuPoint UM documentation suite contains to help orientate users

The NuPoint UM System Administration Help (at E-docs) and Web Console Help have been updated to include:

- Full procedures for backing up and restoring NuPoint UM system data
- Details of what each guide and help file in the NuPoint UM documentation suite contains to help orientate users

The NuPoint UM Call Director Help (at E-docs) has been updated to include printable (PDF) tutorials that walk you through the steps required to create the following call flows:

- Creating a Personal (Mailbox) Call Flow
- Creating a Company-Wide (Line Group) Call Flow
- Programming a Call Flow to Handle Statutory Holidays

The NuPoint UM Engineering Guidelines have a number of updates which help with the design and deployment of a NuPoint system. The highlights are:

- A section on SAA Port requirements has been added that can be used to help determine how many ports are required for a given installation.
- The Network Engineering section has been expanded to cover NuPoint IP integrations for NuPoint Standard Server, NuPoint Single Server, NuPoint 640 and the Speech Auto Attendant.
  - How to use VLANs to ensure good voice quality is covered.
  - Guidelines for selecting appropriate L2 switches are provided.
  - Detailed network diagrams have been provided and design guidelines for high availability NuPoint 640 deployments are discussed in detail.
- Information on ‘tuning’ and customizing the SAA application for a particular installation has been provided.
- A section discussing power and environmental considerations has been added to assist with site planning.
- The section pertaining to G.711 Fax transport has been updated with networking guidelines.
- A new section has been added which addresses T.38 Fax and G.729a compression internetworking between NuPoint and the 3300 ICP. This section will be of assistance when sizing a system for a particular application and also be of assistance when designing the network.
RELEASE 4.1

SYSTEM IMPROVEMENTS

- **Improved Hardware Support Architecture**: Legacy systems required installers to choose one of five separate platform setup blades. Release 4.1 provides one NP-UM Platform Setup blade that inspects system parameters during installation and automatically selects the correct platform setup.

- **Offline Verify Requirement Removed**: Offline Verify as a maintenance tool is no longer required. NP-UM Release 4.1 introduces automatic system maintenance (no configuration or programming required). The Verify utility remains and can be used for "on demand" system maintenance, if required.

- **Maximum number of messages per mailbox increased to 200**: the previous limit of 73 messages per mailbox is increased to 200. Most default values are also now set to 200. Note: When upgrading, LCOS limits retain their original default settings (that is, the limits will not automatically increase - you can configure higher values if required).

DOCUMENTATION IMPROVEMENTS

- **NP-UM System Administration Help** at E-docs has been updated and expanded to include both Text Console and Web Console instructions.

- **NP-UM Web Console help** in the software has been updated with overview information for all NP-UM features, and "how-to" procedures for all Web Console tasks.

NEW FEATURES

- **IP Connectivity for PMS**: Until now, PMS integrations required serial port connections or serial-to-IP converters. NP-UM 4.1 provides a direct IP connection for PMS systems integrated with NuPoint Standard or NuPoint 640 Single Server platforms (only). In the past, NP-UM required that PMS serial connectivity be restricted to COM2. NP-UM Release 4.1 introduces COM1 connectivity for PMS. See the PMS optional feature for information.

- **Microsoft 2010 Exchange Server Support**:
  - Messages replicated from Advanced UM will now have a message ID in the subject line (for example, "Voice message for John Doe NuPointmsgid 268476712"). Note: When upgrading to NP-UM Release 4.1, messages that have already been replicated to Exchange or Domino mail servers are replicated again to the user's Inbox but they do not maintain synchronization with the original voice mail and are treated as regular e-mail messages.
  - The MAPI Gateway software has been modified to enable subject line searches for message IDs. MAPI Gateway users will need to upgrade MAPI software before upgrading to NuPoint Release 4.1.
  - The Outlook Client Plug-in (OCP) has also been updated to accommodate subject line searches. Plug-in users will need to upgrade their OCP software before upgrading to NuPoint Release 4.1.
  - With NP-UM Release 4.1 and MS Exchange 2010, it is no longer necessary to use the UMPROX application to register X-headers in the Exchange mailbox database.

- **BlackBerry Enterprise Server (BES) Support**: In addition to Microsoft Exchange mail server support, NP-UM now supports BlackBerry users who connect to Lotus Domino mail servers. UM mailbox programming and Web View Personal Settings now include specific configuration to enable BlackBerry users.

• **Centralized Media Service and Variable Packet Rate Support**: NP-UM Release 4.1 introduces a centralized media service that provides improved RTP streaming support to all MiNET and SIP channels in the NuPoint server. In the past, NP-UM only supported G.711 with a fixed packet rate of 20 milliseconds. Release 4.1 introduces configuration for variable packet rate for interworking with SIP endpoints connected via the Mitel 3300 ICP. Note: Variable Packet Rate is not supported for SIP connectivity to the Mitel MiVoice Office, or Digital Media Gateway (formerly PIMG/TIMG).


• **Internet Explorer 8 Support**: The NP-UM Web Console and Web View applications now support IE8 for Windows 7. Note: IE8 support does not extend to the Outlook Client Plugin or Print-to-Fax applications.

NEW HARDWARE

• **NP-UM Single Server 640 (formerly 640E)** is now available on the Hewlett-Packard DL380 G6 server. See the NP-UM Engineering Guidelines for hardware specifications.

RELEASE 4.0

GENERAL ENHANCEMENTS

• The NuPoint Unified Messaging Technical Documentation online help has been updated and re-organized into the following new guides:
  
  • **The Technician's Handbook** contains installation, basic configuration, and maintenance information.
  
  • **The Optional Integrations Guide** provides installation and configuration for NuPoint servers deployed in non-Mitel ESMDI, Enhanced DataLink, and Enhanced Inband integrations
  
  • **The System Administration Online Help** combines the Web Console help and Text Console help with detailed information about software configuration; system administration; and installation and configuration of optional features like Unified Messaging and Speech Auto Attendant.

• All PDF guides are available at Mitel OnLine. The online help is available in the Web Console software and also at Mitel OnLine.

• **Advanced Unified Messaging Supported on Lotus Domino 7**: NuPoint Advanced Unified Messaging can now be integrated with Lotus Domino LDAP server and Lotus Notes 7 e-mail clients.

• **Unified Messaging – Configurable Audio Encoding**: Users can now configure the encoding format for Unified Messaging audio files and streams.

• **Presence Proxy Support for Mitel Unified Communications Server**: The Speech Auto Attendant ability to optionally play back the current presence state of the matched person prior to transferring a caller is extended to the Mitel Unified Communications server.

• **Speech Auto Attendant Bilingual Language Support**: Speech Auto Attendant can be configured for Bilingual language support. Callers who speak a name or number in either the primary or secondary language automatically set the prompt language. (Callers may also press a digit for language choice.)
• **Offline Configuration Available in the Web Console**: Administrators can now perform offline configuration using the Web Console.

• **Simplified DVD Installation Process**: NuPoint Unified Messaging software can now be installed from a single DVD.

• **Alarm Manager**: NuPoint Unified Messaging systems can now dispatch alarm messages to e-mail addresses as well as SNMP management systems. Administrators can configure alarm notification frequency and create alarm reports using the text console or the Web console.

• **Dial-back Voice mail management** is extended to include the dial-back feature. Users have the optional choice to answer voice mails by dialing back the caller.

• **Configurable Passcode Expiry**: For increased security, you can configure mailbox passcodes to expire at regular intervals. Reconfiguration of passcodes is enforced through the TUI when the expired mailbox is accessed. (Note: Unified Messaging users who don't use the TUI are not affected by passcode expiry.) Note: This feature is not compatible with the MiCollab End User Portal for MiCollab installations and should be left at the default disabled state.

• **Direct File Streaming**: NuPoint Unified Messaging now stores and retrieves audio recordings using direct file streaming, which requires less overhead and provides more efficient behavior during times of higher system load.

• **EMEM Mailbox Migration**: The EMEM migration feature provides automated mailbox creation in NuPoint Unified Messaging based on programmed mailboxes from the 3300 ICP Embedded Voice Mail application. Migration instructions for NP-UM standalone deployments can be found in the NuPoint Unified Messaging Technician's Handbook. MiCollab deployments should refer to the MiCollab Installation and Maintenance Guide for more information.

**WHAT'S NEW FOR THE WEB CONSOLE?**

• **New Menus**: All offline programming (previously available only in the text console) is now available in the Web console. The following new items have been added under the Offline Configuration menu:
  - View Offline Configuration
  - Duplicate Active Configuration
  - Dialers (Pagers)
  - Fax Groups
  - Pre-extension Dial Strings
  - RS232-only Applications
  - NP Net TCP/IP
  - Unified TCP/IP
  - Auto Purge
  - Auto Verify
  - Auto Backup
  - View System Information is now available under the Report Generation menu.

• Some familiar menu items have changed places:
  - Class of Service and Auto Attendant are now Main Menu items
  - Look for Line Groups under Offline Configuration
• Cluster Configuration has been re-named to Network Element Configuration and moved to Offline Configuration

• New Features:
  • Alarm Manager

RELEASE 3.0

• New Product Name and Release Number: NuPoint Messenger IP product has been re-named to "NuPoint Unified Messenger (NP-UM)" and the release number has been reset from Release 12.5 to Release 3.0.

• Mitel Applications Suite (MiCollab) 1.2 Support

• NuPoint Unified Messenger Integration with the Mitel 5000 via SIP (on MiCollab 1.2 only)

• Sun Servers Support:
  • Entry-level NuPoint Unified Messenger 640E Model on Sun Servers: NuPoint Unified Messenger introduced a new Model 640E platform to address the mid-market for users who want more than a standard system but do not necessarily need the redundancy and scaling of a full Model 640.
  • New Installer for NuPoint Unified Messenger Software on Sun Servers: NuPoint Unified Messenger software will be preloaded on Sun hardware using a new software installer.

• Unified Messaging:
  • Support for Lotus Notes and GroupWise: The support of Unified Messaging is extended to the Lotus Notes and GroupWise e-mail clients.
  • The Standard UM SMTP and Standard UM Web View user types have been combined into one licensed user type, Standard UM. Standard UM provides full Web View access and limited MWI synchronization.
  • Two Unified Messaging user types are available without charge: UM - SMTP and UM - Web View.

• Advanced Unified Messaging:
  • Advanced UM can now be entirely configured using the Web Console. For more information, see the Web Console Help. Some menus within the text console have also been changed and simplified. See Advanced UM Parameters.

• Outbound Fax: NP Fax optional feature now includes the ability to send faxes to NuPoint mailboxes or fax numbers.

• Cascade Paging feature has been reintroduced.

• Speech Auto Attendant:
  • Supports UK English prompts and grammar.
  • Presence feature of the Speech Auto Attendant is now supported on the Microsoft Office Live Communications Server 2005 (LCS 2005), Microsoft Office Communications Server 2007 (OCS 2007), and IBM Lotus Sametime 8.0 server.

• Maintenance Enhancements:
  • You can perform a new installation of NuPoint Unified Messenger using the Release 3.0 software.
The software upgrade from NuPoint Messenger Release 12.0 UR to NuPoint Unified Messenger Release 3.0 now requires you to upgrade the MitelNPMSA blade and then perform a mandatory AMC sync before the upgrade.

A procedure for migrating NuPoint Messenger Release 7.0 to NP-UM Release 3.0 is supported.

You can now import mailboxes from another voice mail service, automatically creating new mailboxes on NuPoint Unified Messenger.

RELEASE 12.0 UR

Distributed Data Centre - AANAS Platform with Active/Active NAS Model (Four Nodes): NuPoint Messenger has been scaled up to provide voice applications to large customers who demand high capacity, high availability and resilient services. The design is augmented to support 4 nodes and the external storage changes from directly connected SCSI to iSCSI.

Arabic Language Support: Arabic has now been introduced as a supported language for NuPoint Messenger. You must license this language on your system first before you can install the language prompts.

NuPoint License Manager (Software Assurance)

The Mitel Software Assurance (SWA) Program is a subscription-based service that provides the end-customer with access to new software releases, updates, functionality and product support services. The Mitel Applications Management Center (AMC) manages the software licensing and entitlement of the Software Assurance Program, determining whether a given application record ID (ARID) for a customer is entitled to a specific software installation or upgrade.

As of Release 12.0 UR, software licenses are release specific. This means that customers must first acquire a release-specific software license in order to install or upgrade a specific release of NuPoint Messenger. In addition, the software license must be synchronized with the Mitel Applications Management Center (AMC) before installing or upgrading the NuPoint Messenger system.

Maintenance Enhancements:

As a result of the new Software Assurance initiative, the installation procedure for each of the platforms has changed to accommodate the new MitelNPMSA blade.

As a result of the new Software Assurance initiative, the software upgrade procedure for each of the platforms has changed to accommodate the new MitelNPMSA blade.

A procedure for migrating NuPoint Messenger Release 7.0 to Release 12.0 is supported.

RELEASE 12.0

Distributed Data Centre - AANAS Platform with Active/Active Model: NuPoint Messenger has been scaled up to provide voice applications to large customers who demand high capacity, high availability and resilient services. In phase 1, a two-node, Active/Active design is introduced. Subsequent phases will introduce further capacity augmentation serving multiple sites as well as service resiliency.

Speech Auto Attendant Support:

The NuPoint Messenger Speech Auto Attendant (SAA) is a speech-enabled application that allows users to place calls to people quickly and efficiently by speaking their names.
• Presence-Enabled Speech Auto Attendant: The Speech Auto Attendant provides the ability to determine and optionally playback the current presence state of the matched person prior to transferring the caller. Note that the Presence feature is only supported with installations that use Active Directory as their user repository.

• Microsoft Vista OS Support: NuPoint Messenger interfaces (Web Console and Web View) can be installed on Microsoft Vista operating system. The following Microsoft Vista versions are supported in this release: Vista Business, Vista Enterprise, and Vista Ultimate.

• As of Release 12.0, the Mitel Standard Linux CD-ROM and the NuPoint Messenger IP Base Software CD-ROM are no longer shipped with the hardware. The Mitel Standard Linux and the NuPoint Messenger software can now be downloaded from Mitel Online.

RELEASE 11.0 UR

• FCOS 303 created to disable the Microsoft Outlook Client Plug-in (OCP) installation from the Web View interface (Plug-in Downloads page).

• Superuser Account (NPMAdmin) is required for Advanced UM configuration.

• PIMG/TIMG Renaming
  • The PBX-IP Media Gateway (PIMG) is now called the Dialogic 1000 Media Gateway Series (DMG1000).
  • The T1/E1 IP Media Gateway (TIMG) is now called the Dialogic 2000 Media Gateway Series (DMG2000).

• Call Director Enhancements
  • Daily Greeting (Today's Daily Greeting): allows callers to personalize their greeting on a daily basis with a temporary greeting that will revert at midnight back to the user's Default Daily Greeting, or, if that is not recorded, to their Primary Personal Greeting.
  • Personal Dial Zero: allows the user to transfer a call to the same attendant whether the caller is transferred while dialing 0 in the call flow or after being transferred to the mailbox.

• Web View interface can be configured on Internet Explorer 7.0.

• Personal Attendant Preferences: User is able to specify the attendant extension through the Web View interface and it will be saved in the mailbox data in the NuPoint Messenger database. This enhancement allows the user to transfer a call to the same attendant whether the caller is transferred while dialing 0 in the Call Director call flow or after being transferred to the mailbox.

RELEASE 11.0

• You can perform a new installation of NuPoint Messenger IP using the Release 11.0 software on the Base Software CD.

• If you already have Release 10.0 UR2 installed, and you want to upgrade to Release 11.0, you need to upgrade your version of the Mitel Standard Linux operating system from Release 7 to Release 8, and then run the Release 11.0 upgrade from the software CD.

• A System Recovery and a System Rebuild procedure are available for the IP Model 640 platform.
• For a System Recovery, you use master disks containing a capture of the system software image to recover a system that has been damaged or corrupted. If you cannot use the master disks, you must perform a system rebuild.

• The System Rebuild procedure enables you to fully rebuild a system from scratch without the use of master disks containing a previous software image.

• Advanced Unified Messaging provides advanced integrated-messaging capabilities to Unified Messaging (UM) users on NuPoint Messenger® IP Standard and IP Model 640 platforms. This feature offers:
  • Microsoft® Exchange Server and Outlook® Integration
  • Text-to-speech playback of e-mails for Advanced UM users.

• Messaging Application Programming Interface (MAPI) Gateway is an additional NuPoint Messenger UM component running an e-mail protocol gateway that interfaces the UM Advanced components using IMAP and connects to the Microsoft Exchange Server 2003 using a proprietary Microsoft MAPI protocol. NuPoint Messenger Release 11.0 supports the IMAP and MAPI protocols in order to connect to the Exchange Servers for voicemail synchronization and Text-to-Speech (TTS).

• Integration of the NuPoint Messenger IP voice mail server and the Microsoft Exchange e-mail server enables Advanced UM users to access all of their messages (voice, fax, RAC, and e-mail) from their Microsoft Outlook inbox as well from their NuPoint Voice mailbox.

• Text-to-speech (TTS) capability is available with the Advanced Unified Messaging feature. TTS enables users to listen to Microsoft Outlook email messages over the phone, from their NuPoint Voice mailbox.

• The following languages can be selected for TTS playback: NA English and UK English.

• The three Unified Messaging user types are now known as:
  • UM Standard SMTP (formerly UM Standard): Provides SMTP forwarding of voice mail, RAC, and fax messages to e-mail, with no MWI synchronization. This type of user has limited access to features in the Web View.
  • UM Standard Web View (formerly UM Standard + MWI): Provides access to voice mail, fax, and RAC messages from the Web View in the user's e-mail client or from a Web browser. Users can also access voice, fax, and RAC messages from the telephone user interface (TUI). MWI synchronization is supported. No access to e-mail via the TUI is provided.
  • Advanced UM (new user type): Provides access to all messages (e-mail, voice mail, fax, and RAC) and the Web View from the user's Microsoft Outlook e-mail client and the TUI, with MWI synchronization for voice mail and message status synchronization for e-mail. Access to e-mail via the TUI is enabled by integration with Microsoft Outlook and Exchange Server and text-to-speech technology.

• Access Web View from Microsoft Office Communicator: You can install a NuPoint tab in Microsoft Office Communicator that links directly to the Web View interface and automatically logs you into your voice mailbox.

• Multiple numbers can be assigned to a single mailbox. This was previously only available in ESMDI implementations. This feature adds 4 more extension fields to the mailbox record for a total of 5 phone numbers that can be associated to a mailbox.

• The Hookflash over trunk parameter is configurable from either Call Director (if a user is licensed for it), or the NP Receptionist application. Refer to the Call Director Help or the Per-Linegroup Hookflash for configuration instructions.
The administrator can manage NuPoint users through the Active Directory (AD) management interface without requiring that the AD Snap-In run on a domain controller. Using the AD interface the administrator can add/modify/delete NuPoint mailboxes, reset mailbox passwords, and modify the FCOS and LCOS template setting for a mailbox.

Voice Mailbox Enhancements:
- An Extended Absence Greeting (EAG) tells callers that the person they are calling is away for an extended period of time. Callers do not have the option to skip the greeting. At the end of the greeting, callers can leave a message, transfer to the line-group attendant, or end the call.
- Feature bit 300 (Enable secure tutorial) prevents the mailbox PIN from being played back to the user for confirmation during the tutorial. Instead, the user is required to confirm the passcode by entering it twice.
- A voice mail prompt has been added to the system to inform users to press the pound key (#) when they are finished recording a voice message. This prompt applies to mailbox-to-mailbox messaging and to messages recorded after being forwarded to a user's mailbox.
- A new FCOS setting (302) has been created "MWI Toggle with Skipped Messages" which allows users to skip a new message (if bit 204 is enabled), have it remain in the unplayed queue (if bit 145 is enabled) and when the user logs out have the MWI lamp turn off. The user is still able to log in at any time and listen to the skipped messages that were still marked as unplayed and are announced as such.
- A new Mitai message for MWI has been added to reduce outbound calls with the 3300 ICP.

New FCOS Feature Bits:
- 295 - Enable Advanced UM
- 296 - Enable Text-to-Speech Playback
- 297 - Enable Extended Absence Greeting
- 298 - Disable message delivery when Extended Absence Greeting is enabled
- 299 - Allow choice of unplayed or saved messages during playback
- 300 - Enable secure tutorial
- 301 - Enable "Press # when you are finished recording" prompt to make, forward, or answer a message for a mailbox
- 302 - Enable Alternate MWI for skipped messages

Call Director
- New Call Director functionality includes the ability to edit the line group configuration, edit a call flow, create call flow templates and generate call director reports.
- Call Director includes a set of templates that can be assigned to a mailbox or line group. There are two sets of templates: system templates and user-defined templates.
- Several Call Director reports can now be generated from the Reports menu of the Web Console. The following reports can be generated:
  - Call Flow Report
  - System Reports (which include a Mailbox System Report, Line Group System Report, and a combined System Report)
- The format of the NuPoint Technical Documentation has been converted from Folio Views (a proprietary browser) to an HTML web-based Online Help system.