MITEL

Applications Suite

General Information Guide
Release 5.0

MITEL®
Simply Communicating®

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Release 5.0

June 7, 2013

Chapter 1: Introduction

Chapter 2: Software Applications

Appendix A : MAS-NuPoint Feature Support

Introduction

About this Document

Purpose

This guide provides an overview of the Mitel® Applications Suite solution. It describes the MAS product and provides details about the supported applications, platforms, and deployment configurations.

> **Note:** This guide describes the Mitel Applications Suite solution. For a decription of the Unified Communications and Collaboration Virtual Appliance (vUCC) solution, see the *vUCC Deployment Guide.*

Audience

This guide is intended for the following audience:

- Customers
- Solution Providers
- Sales Executives
- Sales Engineers

About Mitel Applications Suite Documentation

The documentation set consists of guides in .pdf format and online help systems that you can view using any of the following browsers:

- Microsoft® Internet Explorer 8.0, 9.0, or 10.0 (Note that you cannot view help systems locally on your PC using Internet Explorer 10)
- Google Chrome (version 21 or higher)
- Mozilla® Firefox® 14 or higher

The following documents are the main source of information for the MAS platform:

- *Mitel Applications Suite Installation and Maintenance Guide* provides installation instructions for the MAS software and for the supported applications.
- *Mitel Applications Suite and vUCC Engineering Guidelines* provide information about the characteristics, requirements, configurations, capacities, and performance of the Mitel Applications Suite solution and the Unified Communications and Collaboration Virtual Appliance (vUCC) solution.
- *vUCC Deployment Guide* provides a description, site planning, and deployment instructions for the vUCC system.
- *Mitel Applications Suite Administrator Online Help Systems* provides administration, programming, and maintenance procedures.

Additional guides and help systems are available that provide instructions on how to configure and use the individual Mitel applications that are supported on MAS. The complete documentation set is listed in the [MAS Installation and Maintenance Guide](#).

To access the MAS product documentation set:

1. Log on to Mitel OnLine.

2. Click **Support** and then click **Product Documentation**.

3. Click **Applications & Solutions** and then click **Mitel Applications Suite**.

About Mitel Applications Suite

Mitel Applications Suite (MAS) unifies Mitel applications into an easy-to-use, cost effective communications solution for small and medium sized businesses. MAS provides co-residency of applications that support the following business needs:

*   Voice Messaging

*   Speech Auto Attendant

*   Unified Messaging

*   Mobility

*   Collaboration

*   Communications Usage Reporting

*   Casual or Workgroup Customer Interaction

Users have single point of access to all their Mitel applications through the My Unified Communications portal, a web-based interface. The My Unified Communications portal allows users to

*   set personal settings, such as passwords and phone numbers.

*   configure and maintain their communication applications, such as voice mail and Mitel Collaboration Advanced (MCA).

Installation and management costs are minimized because multiple communication applications are consolidated on a single industry-standard server. MAS can also be installed as a virtual application running in a VMware environment.

Improve Your Business Communications

The MAS applications are designed to simplify and improve communication between employees, workgroups, and customers:

*   NuPoint Unified Messaging™ provides extensive voice mail and FAX messaging capabilities.

*   Speech Auto Attendant provides a speech-enabled auto attendant with Microsoft Office Communications Server presence.

- Unified Communicator Advanced converges the call control capabilities of Mitel communications platforms with contact management, Dynamic Status, and collaboration applications, to simplify and enhance real-time communications.

- Mitel Border Gateway (MBG) provides the following services:

  - Teleworker service to connect remote employees with the main office while minimizing communication costs

  - Secure Recording Connector (SRC) service allows you to record system calls using third-party call recording equipment

- Mitel Collaboration Advanced allows your employees to collaborate in real time, give presentations, and conduct interactive online meetings

Reduce Costs and Improve Efficiencies

Cost reduction while improving efficiency is a challenge for most businesses. The Mitel Applications Suite solution is designed to help you meet this challenge. Consolidating Mitel applications on a single MAS server platform provides the following benefits:

- decreases costs by reducing the number of application servers (all applications can be installed on a single MAS server platform or as a single virtual appliance in a VMware environment)

- reduces initial installation time (single install)

- simplifies ongoing administration through a single web-base administrator portal

- provides users with single-point of access to all their application settings through the My Unified Communications web portal

MAS supports small businesses (up to 150 users), medium-sized businesses (150 to 1000 users), or large distributed enterprise deployments (up to 2500 users) where the users are located in branch or regional offices.

Note: System capacities and performance levels are dependent upon the type of MAS platform, the number of users, and the installed applications. Refer to *MAS System Capacities, Performance and Constraints* in the [MAS and vUCC Engineering Guidelines](#) for details.

Improve Employee Productivity

The MAS applications provide employees with the following features and capabilities:

- receive all their calls at a single phone number and voice mail box regardless of their location with Unified Communicator Advanced.

- view emails, listen to voice mails, direct FAXs, from any location with Unified Messaging

- share presentations and conduct interactive online meetings with Mitel Collaboration Advanced.

- place calls by speaking a person's name, department name, or telephone number with Speech Auto Attendant.

- extend office communications to their home office using the Teleworker service of MBG.

User Web Portal

Users can access their My Unified Communications portal web page using a single URL, user ID, and password from a PC on the corporate LAN or from a PC on the internet. Secure connection for users on the internet is supported through the MBG web proxy on an MBG server that is located in the DMZ.

From their My Unified Communications portal, users can manage all their application settings and access application features. Because all the user's applications are unified within a single web portal interface, the user experience is simplified and training costs reduced.

When MAS is used in conjunction with an MCD platform, user updates to phone parameters, such as Passcode, can be automatically updated in the MCD programming database via single-point provisioning (see "Single-Point Provisioning" on page 30).

The My Unified Communications portal and application telephone user interfaces are supported in the following languages:

- English US
- English UK
- French Canadian
- French European
- Dutch
- Spanish (Latin American)
- German

Figure 1: My Unified Communications Portal

General Settings

Users can configure general application settings such as

- configure their email address

- select the default page that the My Unified Communications portal will display after log in

- set their Speech Auto Attendant contact number

- change their portal login password. The administrator sets the password strength at Weak, Medium, or Strong for all users

- set the language of their telephone user interfaces (TUI) to one of the available supported languages. From the administrator web portal, the administrator can also apply a system preferred TUI language for all users

- search contact information for a Mitel Applications Suite user.

NuPoint Unified Messaging

The NuPoint Unified Messaging component allows users to configure and manage their Web View and Call Director settings.

Web View

The NuPoint Unified Messaging Web View allows users to access and manage voice, fax, and recorded messages from their e-mail client or web browser. It allows users to

- manage personal Web View settings

- record mailbox greetings

- create and manage personal distribution lists

- play a voice or Record-A-Call (RAC) message over PC speakers or over the phone

- record a phone conversation

- read, print, and send faxes

- reply to a voice, RAC, or fax message with a text message

- forward a message

- call back the message sender from a mobile device.

Call Director

Call Director allows users to create an automated attendant application (known as a call flow) to handle their calls when they can't answer them personally.

A call flow is a collection of call-processing actions programmed by the call flow owner to control how an incoming call is handled. Call flow owners can be either the end user of the phone, or the system administrator. The user programs personal call flows, which are associated with their own voice mailboxes. Users can create call flows that direct NuPoint Unified Messaging 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.

Mitel Collaboration Advanced

Mitel Collaboration Advanced (MCA) users can schedule and manage conferences through the My Unified Communications portal. From the interface, users can manage three types of conferences: Audio and Web, Audio only, and Web only.

Audio conferences allow users to

- upload documents to present to callers during a conference call

- mute, drop, and add participants, and place individual participants on hold while the call is in progress

When hosting a Web conference, users can

- upload documents, transfer files, record the conference, chat online, and broadcast videos

- share applications or desktop and use white board features.

Consolidated Configuration and Administration

Administrators can enter the system configuration and administration settings for all the applications in a single web-based interface. Common data elements are shared among the applications, reducing both the need for duplicate entry and the possibility for error.

The Users and Services Provisioning application is a single, easy-to-use interface that administrators use to add, edit, or delete user data and to modify users' application settings. This application significantly reduces administration costs.

The system can automatically send Welcome E-mails to users that contain the user's communications settings, such as login ID, password, primary e-mail address, phone type and number, and service information. You can send the Welcome E-mail with a default or custom greeting message. With the exception of the custom greeting, the information can be sent in two languages.

Single-point provisioning is supported for MCD platforms, reducing data entry requirements (see "Single-Point Provisioning" on page 30 for details).

Note: Single-point provisioning is not supported for 5000 CP platforms.

Figure 2: Users and Services Provisioning

System Structure

The Mitel Applications Suite system is comprised of the Mitel Standard Linux (MSL) operating system and any combination of the following software applications:

- **Suite Application Services**: solution software that provides seamless interaction between co-resident applications to provide consolidated administrator and My Unified Communications portals.

- **Mitel NuPoint Unified Messaging**: Mitel's powerful call routing, voice, and unified messaging system.

- **Speech Auto Attendant:** speech-enabled auto attendant with Microsoft Office Communications Server presence.

- **Mitel® Unified Communicator® (UC) Advanced**: communications client that integrates presence and availability, secure instant messaging, audio conferencing and web and video collaboration with the call control capabilities of Mitel Communications Platforms. UC Advanced also integrates with leading business productivity tools like Google®, Microsoft® Exchange/Outlook® and Office as well as IBM® Lotus Notes®.

- **Mitel Collaboration Advanced**: provides flexible, cost-effective audio and web collaboration tools.

- **Mitel MBG with Teleworker and Secure Recording Connector**: Teleworker connects a remote office user to the corporate voice network to provide full access to voice mail, collaboration tools and all the other features of the office phone system; Secure Recording Connector facilitates the recording of Mitel-encrypted voice streams by third-party call recording equipment.

Figure 3 illustrates how the MAS system is structured:
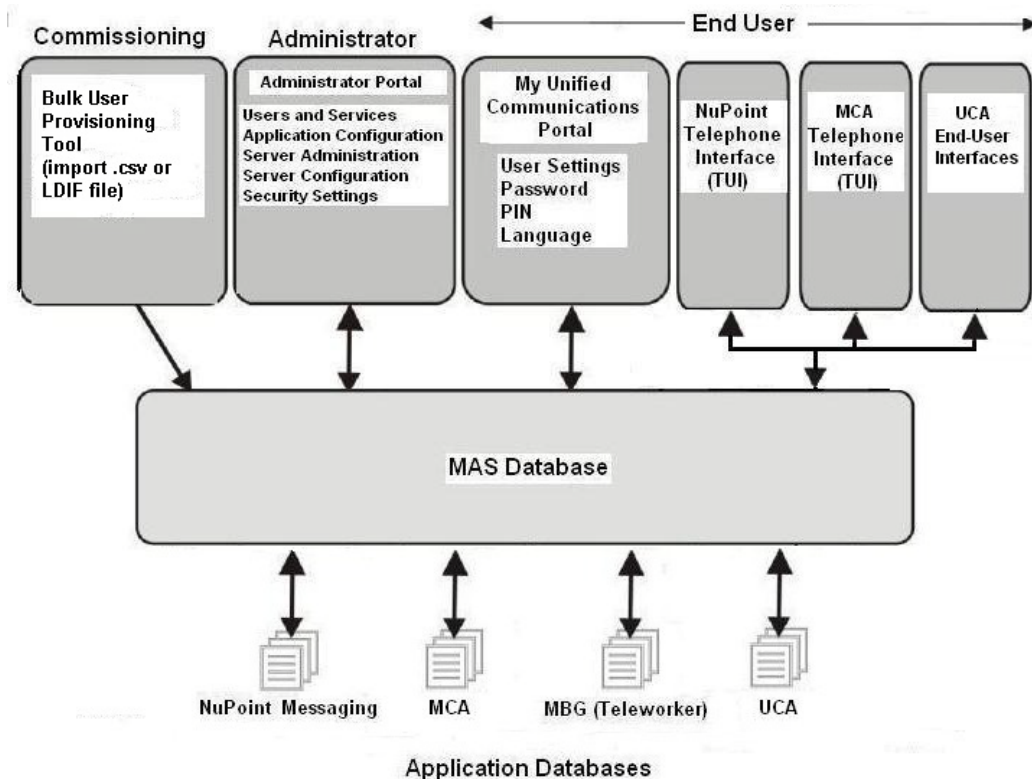
Figure 3: MAS Architecture

- User and services provisioning is supported through the Bulk User Provisioning tool. This tool allows administrators to import a comma separated value (.csv) file or LDAP Data Interchange Format (LDIF) file of entries into the MAS User and Services database.

- The Administrator portal allows the administrator to access the server manager console. This web based administration interface allows the administrator to provision the user data and services, perform server administration and configuration, and set security parameters.

- The My Unified Communications portal allows users to
  - control their general settings: password, TUI personal identification number, and preferred language
  - access their application settings: voicemail, FAX, call director, and Mitel Collaboration Advanced.

- Users access application features and functions through the application TUIs and end user interfaces.

- The MAS server is the repository for the application databases.

- The suite applications (NuPoint Messaging, UCA, MCA, and MBG) function separately and are supported in any combination.

> **Note:** Not all applications are supported on the 5000 CP communication platforms.

Glossary of Terms

Term	Name	Description
3300 ICP	3300 IP Communications Platform	Mitel IP communications platform supporting 30 to 60,000 users. The 3300 ICP is the hardware platform that runs the Mitel Communications Director (MCD) software.
5000 CP	Mitel 5000 Communications Platform	Mitel IP communications platform (formerly Inter-Tel 5000 Network Communications Solutions) supporting up to 250 users.
MAS	Mitel Applications Suite	a Mitel product that unifies communication applications for small and medium sized businesses into an easy -to-use, cost effective solution. MAS supports multiple Mitel applications on a single industry standard server.
-	MAS server	MAS software installed in conjunction with the MSL operating system.
	MAS Server Appliance	A server with MSL and MAS software pre-installed.
MBG	Mitel Border Gateway	The MBG server supports the Teleworker service in the DMZ (previously named Mitel Mult-Protocol Border Gateway).
MCA	Mitel Collaboration Advanced	Software solution that provides audio and web collaboration services using a Web-based browser (previously named Audio and Web Conferencing).
MCD	Mitel Communications Director	Mitel Communications Director (MCD) is the brand name of the call-processing software that runs on hardware platforms, such as 3300 ICP controllers.
MCD-ISS	Mitel Communications Director for Industry Standard Servers	This communications platform consists of MCD call processing software running on an industry standard platform. MAS is supported for the MCD-ISS platform.
MCS	Mitel Communications Suite	This communications platform consists of MCD call processing software running on an SUN Microsystems server. MAS is supported for the MCS platform.
MiCW	Mitel Integrated Configuration Wizard	a standalone software application that performs initial system setup and user commissioning of the MAS server and the MCD software.
MSL	Mitel Standard Linux	the operating system that supports MAS software; along with Mitel SDK components, it comprises a base for all MAS software.
NP-UM	NuPoint Unified Messaging	server-based voice processing system that provides call processing along with voice messaging and paging support.
SAA	Speech Auto Attendant	speech-enabled software application that allows users to place calls quickly and efficiently by speaking a person's name, a department name, or telephone number.
SAS	Suite Applications Services	This application provides single-point user services provisioning and centralized management of shared system resources for all the MAS applications. This application also provides the My Unified Communications web portal.

Term	Name	Description
SRC	Secure Recording Connector	Formerly a standalone application product, SRC is now incorporated in the MBG software. The Secure Recording Connector application facitlitates the recording of voice calls by third-party call recording equipment.
TW	Teleworker Service	software service on the MBG server that connects a remote office to the corporate voice network to provide full access to voice mail, collaboration tools and all the other features of the office phone system. Note that the Teleworker Service is only available on an MBG server.
UC Advanced	Unified Communicator Advanced	communications client that integrates presence and availability, secure instant messaging, audio conferencing and web and video collaboration with the call control capabilities of Mitel Communications Platforms. UC Advanced also integrates with leading business productivity tools like Google®, Microsoft® Exchange/Outlook® and Office as well as IBM® Lotus Notes®.
UC Portal	My Unified Communications portal	a MAS application that provides a common portal for users to update/enter user-configurable information for all applications.
vMAS	Virtual MAS	Virtual Mitel Applications Suite (vMAS) is supported as a virtual appliance within the VMware vSphere environment.

Chapter 2

Software Applications

Introduction

The Mitel Application Suite supports any combination of the following applications. Customers have the flexibility to choose only those applications that meet their business needs:

- NuPoint Unified Messaging
- Speech Auto Attendant
- Unified Communicator Advanced
- Mitel Border Gateway
- Mitel Collaboration Advanced

NuPoint Unified Messaging

NuPoint Unified Messaging is a powerful, voice processing application that provides voice messaging and paging support. Users can access their voice mails remotely and can be notified by telephone or pager when a voice message is left for them. Users can also use NuPoint's Unified Messaging capabilities to listen to their voicemails through their Lotus Notes, Novell GroupWise, or Microsoft Outlook 2003 and 2010 clients with Message Waiting Indicator (MWI) on playback via a URL. In addition, they can play their emails through the Telephony User Interface. Messages between these clients and the NuPoint TUI are synchronized for message playback. NuPoint Unified Messaging also offers desktop access of voice messages from an email client or web browser.

If NuPoint Unified Messaging is integrated with a resilient MCD 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 Unified Messaging application for resiliency; it is configured entirely on the MCD platform.

NuPoint Unified Messaging Features

Features of the NuPoint Unified Messaging application include:

- Scalability from small to large enterprise systems.
- Advanced call processing and automated attendant.
- Unified Messaging with the ability to send, receive, forward, save, and sort voice and fax messages from the PC. Unified Messaging emails contain Caller ID information. Users who receive UM email notifications on mobile devices (such as Blackberry, Apple iPhone, or Windows Mobile devices) can click the text to return a call.
- NuPoint Unified Messaging includes the Speech Auto Attendant (SAA) application (see "Speech Auto Attendant" on page 18 for details).
- Multiple language support per system. Speech Auto Attendant can be configured for bi-lingual language support with either Canadian or European French. 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.)

- Speech Navigation enables users to manage their mailboxes using voice commands in North-American English.

- Speech-to-Text enables users to receive text transcriptions of their voice messages via email. This feature is available only in North America for English-language messages.

- Integration to MCD communications platforms and 5000 CP platforms.

- Streamlined management support for SNMP and remote system management and administration.

- Ability to respond to voice mail messages by dialing back to the caller who left the message.

- Ability to dispatch alarm messages to email addresses as well as SNMP management systems. Administrators can configure alarm notification frequency and create alarm reports using the Web console.

- Per-user voice mailbox licensing

- Supports BlackBerry® users who connect to MS Exchange or Lotus Domino mail servers. NP-UM mailbox programming and Web View Personal Settings include configuration to enable BlackBerry users.

- Outbound FAX

Refer to the *NuPoint Unified Messaging General Information Guide* for a complete description of the available features.

> **Note:** Mitel's NuPoint Unified Messaging is also available as a separate standalone product that is distinct from the MAS NuPoint Unified Messaging application. The NP-UM application on the MAS product does not support all the same features and functionality of the NP-UM standalone versions. Refer to "MAS-NuPoint Feature Support" on page 55 for a list of the supported features.

Speech Auto Attendant

The NuPoint Unified Messaging Speech Auto Attendant (SAA) is a speech-enabled application that allows users to place calls to people quickly and efficiently by speaking their names. In addition to placing calls by name, users can say a department name or telephone number. A tutorial introduces users to the system features, and voice-based help is available to answer questions.

Speech Auto Attendant has the ability to store four numbers per person and provides the configurable option for the user to select which phone number will be called. Department names are also supported and can be heard after speaking the "Department" command. The auto attendant provides users with the ability to optionally play back the current presence state of the matched person prior to transferring a caller. This feature is supported:

- via integration with IBM Sametime, or

- via integration with Microsoft Live Communications Server 2005 (LCS), and Microsoft Office Communications Server 2007 (OCS).

The supported languages for Speech Auto Attendant are North-American (NA) English and United Kingdom (UK) English.

Unified Communicator Advanced

This unified communications application provides a single access point for all your business communication and collaboration needs. It converges the call control capabilities of Mitel communications platforms with contact management, Dynamic Status, and collaboration applications, to simplify and enhance real-time communications. It gives you unprecedented control over your communications and allows real-time access to everyone in the organization, on or off the premises, with user and phone presence information that makes every phone call or instant message (IM) count. Employees can find, communicate, and collaborate with others quickly, simply, and in the moment.

Unified Communicator Advanced is a solution that meets the needs of your user communities. It delivers increased efficiency and productivity, reduced costs, enhanced responsiveness, and streamlined business operations.

Figure 4 shows the UC Advanced Web Portal interface.
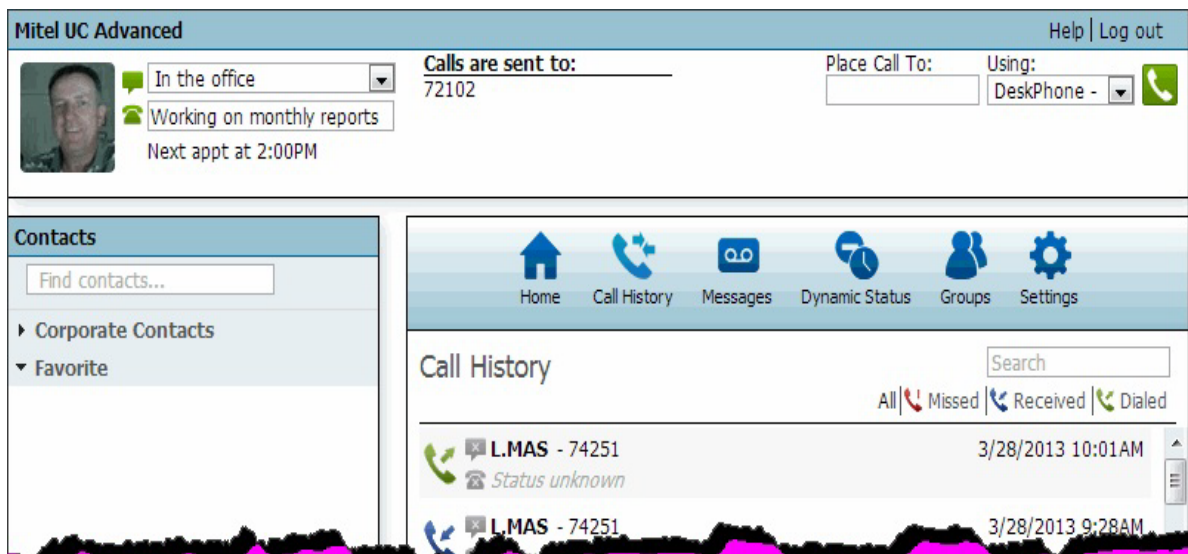
Figure 4: UC Advanced Web Portal Interface

Softphone, Web Portal, and Mobile Client Support

- **Softphone**: provides mobile users with access to Mitel Communication Platform features from a remote PC or laptop. When remotely connected to an MCD or a 5000 CP via a secure network connection, users can make and receive calls as though they were on the corporate network.

- **Softphone (SIP-based)**: supports the use of Session Initiation Protocol (SIP) softphones from remote PCs or laptops as well as Mobile devices. Desktop clients utilizing SIP-based softphone can also take advantage of Video calling functionality.

- **Web Portal**: provides a web-based interface to a key subset of UC Advanced features, perfect for users who are remote from the office.
- **Mobile Clients**: supported for BlackBerry®, Android™, iPad™, and iPhone™.

Features and Functionality

- **Simplified Call Management and Logging**: The UC Advanced desktop client provides users with the advanced call management features of the Mitel Communications Director (MCD) or Mitel 5000 Communications Platform (CP). The UC server logs incoming calls for the UC Advanced clients, even when the UC Advanced client software is not running. When a UC Advanced client is re-started, the UC server updates the client with all the cached call log information since the last session. It also stores frequently dialed phone numbers and allows users to call these numbers from a drop-down menu.

- **Presence and Availability**: This feature informs you of a person's availability -- whether they are on the phone, away from their desk, or available for secure instant chat or collaboration. You can also tag selected users so that you get a visual indication when they log into UC Advanced.

- **Contact Grouping**: Corporate, Personal and Favorite contact groups are combined into a single view. A Corporate directory group is visible with the flexibility to create additional groups. Personal contacts from Google® or Microsoft® Exchange® can also be integrated and imported into the UC Advanced application.

- **Dynamic Presence**: This feature allows the server to automatically track and update presence information.

- **Hot Desking**: The Desktop Client supports Hot Desking in and out of supported PBX endpoints. This feature is available on MCD systems only.

- **Call Handoff**: The Desktop Client supports the handoff of an active call to another device. It can also pick up an active call from another device (such as a softphone). This feature is available on MCD systems only.

- **Teamwork mode**: Allows UCA clients to work without being associated with a PBX device. A subset of features such as contact grouping, presence, dynamic status and chat are supported in Teamwork Mode.

- **Visual Voice Mail**: provides the user with an intuitive interface to view and listen to Mitel NuPoint Unified Messaging™ (UM) voice mail messages.

- **Corporate Secure IM**: facilitates secure instant messaging and file sharing. Initiate a single or multi-party chat at the click of a mouse and, at the same time, share documents by dragging and dropping files into the chat session.

- **Dynamic Status**: provides the user with an easy method of specifying IM, presence, and call routing options when showing a specific Dynamic Status. The status can be changed from within the UC Advanced client, remotely from the UC Advanced Web or Mobile Portal, or it can be automatically updated based on the user's Google® or Microsoft® Outlook® calendar information.

- **UC Advanced Dynamic Location**: an add-on option for UC Advanced or UC Advanced Web and Mobile Portals and installs as a client on supported BlackBerry® devices. It allows

users to define the GPS locations to associate with each Dynamic Status and automatically changes Dynamic Status based on GPS location or by manual selection.

- **UC Advanced Console**: provides attendants and receptionists with console features and presence information allowing them to process calls efficiently.

- **Client Only Software Delivery:** delivers Windows Desktop Client and mobile clients software without having to upgrade the UCA server version. Supported clients: Desktop, Android, BlackBerry and Web clients.

- **Dialed Digits Processing Flexibility**: allows the admin to modify the dialed digit processing logic to suit their site specific needs. When a user dials a telephone number from the client, the UCA application can apply pre-defined digit modification rules (such as pre-pending the PBX outgoing prefix) before the number is dialed out.

Supported Integrations

- **Integration with Mitel Teleworker Solution (MCD Platforms only)**: Teleworker allows users to access their corporate voice network through the UC Advanced Softphone, from home or on the road, without the need for a virtual private network (VPN) connection.

- **Integration with Mitel Dynamic Extension and Dynamic Extension Express**: A UC Advanced user who also has Dynamic Extension or Dynamic Extension Express can answer an incoming call directed to their desk phone on a device of their choice – for example, on a cell phone or home phone. When the call is answered, UC Advanced changes the user's telephony presence to "off hook." This enables UC Advanced to display the correct telephony status for a user, regardless of whether the call was answered on a user's desk phone, softphone, or mobile device.

- **Integration with Mitel Collaboration Advanced (MCA)**: integration with MCA allows users to place a video call with the click of a button, and create or schedule collaboration sessions.

- **Integration with Business Applications**: integrates with popular communications and productivity tools such as Outlook and Microsoft Office. Users can dial from their Outlook contact list, integrate their Dynamic Status with their Outlook calendar, and click-to-dial using smart tags. UC Advanced also integrates with IBM Lotus Notes, allowing users to dial from their contact list, launch web / video collaboration sessions, and integrate their Dynamic Status with their calendar.

- **My Voice for Lync**®: UC Advanced supports seamless integration with Microsoft Lync 2010 and 2013 clients through the Mitel Lync PlugIn. Mitel Lync plug-in is an application that integrates with Microsoft Lync Client and allows Microsoft Lync users to use Mitel telephony functionality through its feature rich UCA infrastructure.

Note: Standard ACD is not supported in MAS Release 4.0 for the UCA application. MAS only supports provisioning for ACD hotdesk agents, but UCA does not support ACD hotdesk agents.

Integrated or Co-Located with MAS User and Services Provisioning

UCA is supported on MAS in either integrated or co-located mode:

- **Integrated Mode**: In this mode, the MAS system keeps the User and Services database and UCA database synchronized so they function like a single database on the MAS server. This mode is only supported for MAS with MCD systems. It allows you to provision UCA services from the MAS User and Services application and supports single point provisioning of the UCA services on the MCD platform(s). This is the recommended mode for sites that meet the integration requirements.

- **Co-located Mode**: Prior to MAS Release 4.0, UCA is supported only in co-located mode. In this mode, the Users and Services data and UCA data are contained in separate, independent databases on the MAS server. This mode is supported for sites with either MCD or 5000 CP platforms. With this mode, you must provision UCA services separately from the UCA Server Application interface. Single point provisioning of UCA services is not supported.

By default, MAS systems are in co-located mode. You must run the UCA Integration Wizard to put a MAS system into integrated mode.

Mitel Border Gateway

The Mitel® Border Gateway (MBG) is a multi-service software solution that provides the following functionality:

- Teleworker service

- Web proxy blade that provides a secure method for MAS end user web clients to connect with their LAN-based applications

- Secure remote SIP access for IP phones on the Mitel 3300 ICP and an outbound proxy for SIP trunking from internal 3300 ICPs to external third-party SIP providers

- Secure Recording Connector service to facilitate the recording of Mitel-encrypted voice streams by third-party call recording equipment.

Note: Mitel Border Gateway is only supported with MCD platform. It is not supported with 5000 CP platforms.

Teleworker Service

To deploy Teleworker service you must

- install the MAS server or vMAS in Network Edge mode (see Figure 5), or

- install MAS server or vMAS in LAN mode and install a separate MBG server in the DMZ to support the teleworker services (see Figure 6).

A MAS server, by itself in LAN mode, does not support Teleworker service.
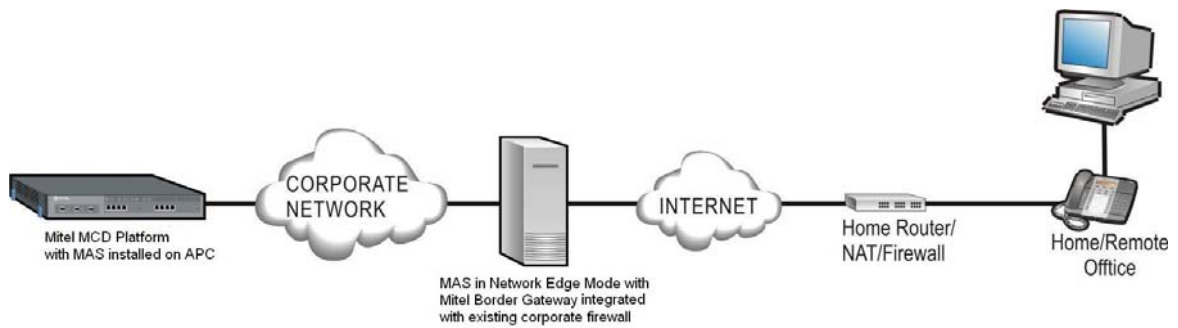
**Figure 5: MAS in Network Edge Mode Running
Mitel Border Gateway (Teleworker) Solution**
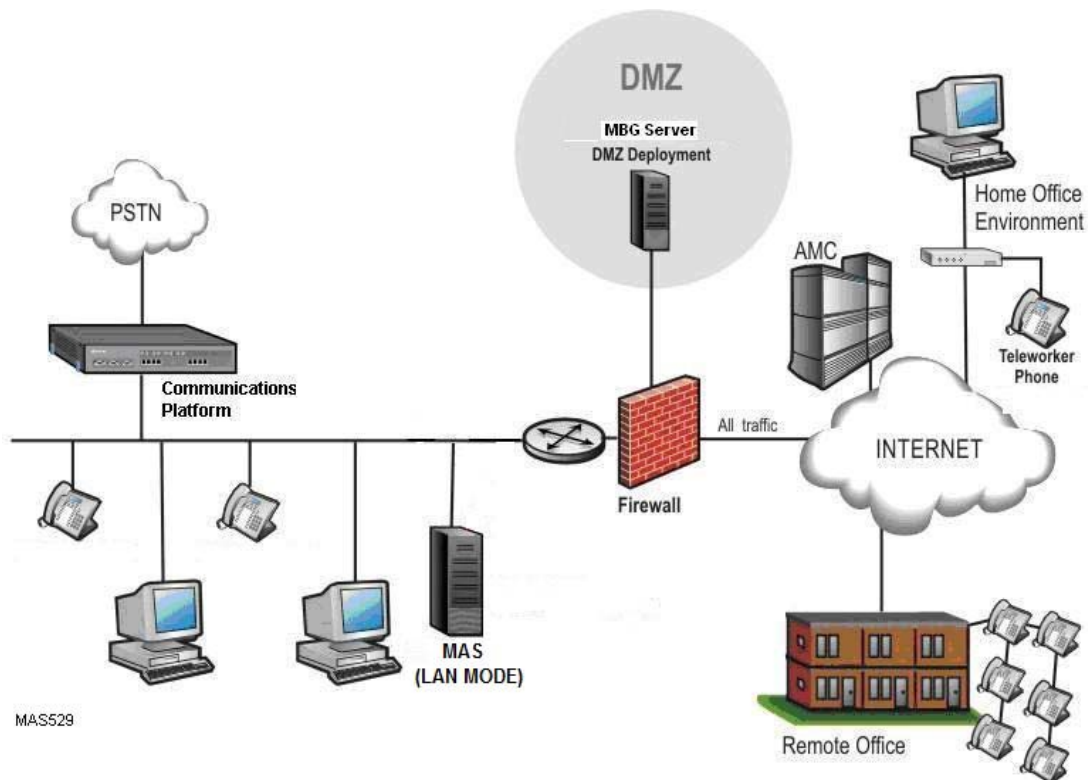
Figure 6: MAS in LAN with Mode MBG Server in DMZ

The Teleworker service connects remote office phones to the corporate voice network providing full access to voice mail, collaboration tools, and all the other features of the office phone system. Teleworker service can be completely configured at the head office using most models of Mitel IP phones. On the telephone keypad, you enter the IP address of the MBG server that is installed at the head office. Using a two-click process, you can set a Mitel IP phone to operate in teleworker mode. The phone can then be taken off-site and plugged into any broadband Internet connection. When the phone is powered up, it automatically establishes a connection

with the MBG server and is registered as a standard extension of the office phone system. The phone can also be returned to normal (non-teleworker) mode with the touch of a button.

When configured for teleworker use, the remote IP Phone has the following capabilities:

- Encryption to provide a secure voice path between the phone and the system across the Internet

- Adaptive jitter buffering and other software enhancements to improve voice quality over the Internet

- G.729 compression to reduce bandwidth requirements

- Operates in the same manner as any other phone connected to the network

- Operates over any broadband LAN connection that provides connectivity back to the corporate office where the MAS is visible from the Internet Mobility Solutions

- Directly accesses the corporate office phone system (for example, voice mail and collaboration tools)

- Support for the SIP protocol

- Mitel Border Gateway scales teleworker functionality for large enterprise.

- Teleworker functionality is only supported on MCD platforms. It is not supported on the 5000 CP platform.

Web Proxy Service

An MBG server with web proxy installed in the Demilitarized Zone (DMZ) protects the MAS server in the LAN from Internet exposure. In a DMZ configuration, the firewall is the gateway for all IP network traffic with the internet.

The Web Proxy blade provides a secure method for remote web browser users, such as MCA users, to connect with a MAS server located on the corporate LAN. It also provides internet based clients (for example, UCA clients) with access to a MAS system located on the LAN. Remote web browser users and UCA clients connect to MAS in the LAN through the Web Proxy blade that is installed on a separate MBG server in the DMZ.

The Web Proxy blade included with MBG acts as a reverse proxy, providing a secure method for Mitel end user web clients to connect with their LAN-based applications on the MAS system. In the current release, the Web Proxy supports UCA and MCA clients. The Web Proxy also restricts access only to those URLs that belong to the end user web interfaces for the applications.

The Web Proxy is intended to provide secure Internet access from an Internet-accessible server to an Internet-protected server on the LAN. The Web Proxy software should not be installed in the following cases:

- When MAS is deployed in Network Edge mode with direct connection to both the Internet and the LAN. A single server deployment does not need a proxy.

- When MAS is deployed in LAN mode and Internet access is not required.

SIP Trunk Proxy Service

The MBG application on the MAS server supports SIP trunk proxy service.

You can use SIP trunks provided by an Internet Telephony Service Provider to connect your communications platform to the traditional PSTN network. Three components are required to successfully deploy SIP trunks:

- a Mitel communications platform with SIP-enabled trunk side

- an Internet telephony or SIP Trunking service provider

- MAS with MBG SIP Trunk proxy service to connect the service provider to the ICP on the LAN. The MBG SIP Trunk Proxy service on MAS also serves as a SIP-aware firewall and eliminates the need for 3rd party firewalls, simplifying configuration and deployment.

A "SIP trunk" in the context of the MBG blade is simply a pair of endpoints, defined by their IP addresses and signaling ports. One of the endpoints is usually your ICP, and the other is your SIP provider's firewall or SBC.

A trunk can have any number of "channels," each of which corresponds to an active media stream. A channel license is required for each active channel, so you will need enough channel licenses to cover the maximum number of active calls. As an analogy, an ISDN PRI link contains 23 B channels for audio and one D channel for signaling, and can carry a maximum of 23 simultaneous calls. This would be equivalent to a SIP trunk with 23 channel licenses.

For SIP Trunking support, you require one SIP Trunking Channel license for each of the maximum number of simultaneous calls you estimate to make. No extra licenses are required for SIP device support.

Secure Recording Connector Service

The Secure Recording Connector (SRC) allows you to record Mitel-encrypted voice streams using third-party call recording equipment (CRE). SRC is positioned between the ICP and the sets to be recorded, where it accepts requests from an authorized CRE to establish taps in the voice stream. These taps are separate (mirrored) streams from the SRC service to the CRE.

Mitel Collaboration Advanced

The Mitel Collaboration Advanced (MCA) application allows users to schedule and create audio or web conferences. A web-based interface is used to schedule conferences, and to view conference calls. Configuration of MCA is performed in the MAS administrator portal. All interfaces are directly accessed through the secure HTTPS protocol. Authorization and authentication allows only valid users to access the services. Secure Sockets Layer (SSL) encryption for secured messages and server-side digital certificates are used to meet the highest security requirements.

The MCA application is integrated into the MAS My Unified Communications portal and provides the following features:

- **Instant, flexible calling**: Initiate an instantaneous call or to create a conference call from a two-party call. A conference call can also be pre-scheduled.

- **Complete call control and management**: Add and drop other call participants as well as mute, hold, or transfer the call directly from the desktop. A call detail record (CDR) provides a log of all calls. The CDR includes the dates and times of all calls call duration of all calls for billing purposes. Conference accessibility via personal identification is also available for an even more secure experience.

- **Cost-effective conferencing**: Delivers the most cost-effective group calling, with ultimate flexibility to customize solutions to best meet individual needs.

- **Web-based collaboration tools**: Facilitate online meetings, training, and presentations with features designed for sharing your desktop or individual applications. Enhance conferences to increase participation and understanding by using interactive markup tools, user polling, and video-conferencing. Use the file transfer utility to immediately share the outcome of online collaborative sessions by transmitting updated files and presentations to conference participants.Figure 7 shows an example of the Instant Conference screen.

- **Conference archiving**: Create recordings of conference calls and collaborative sessions for playback later
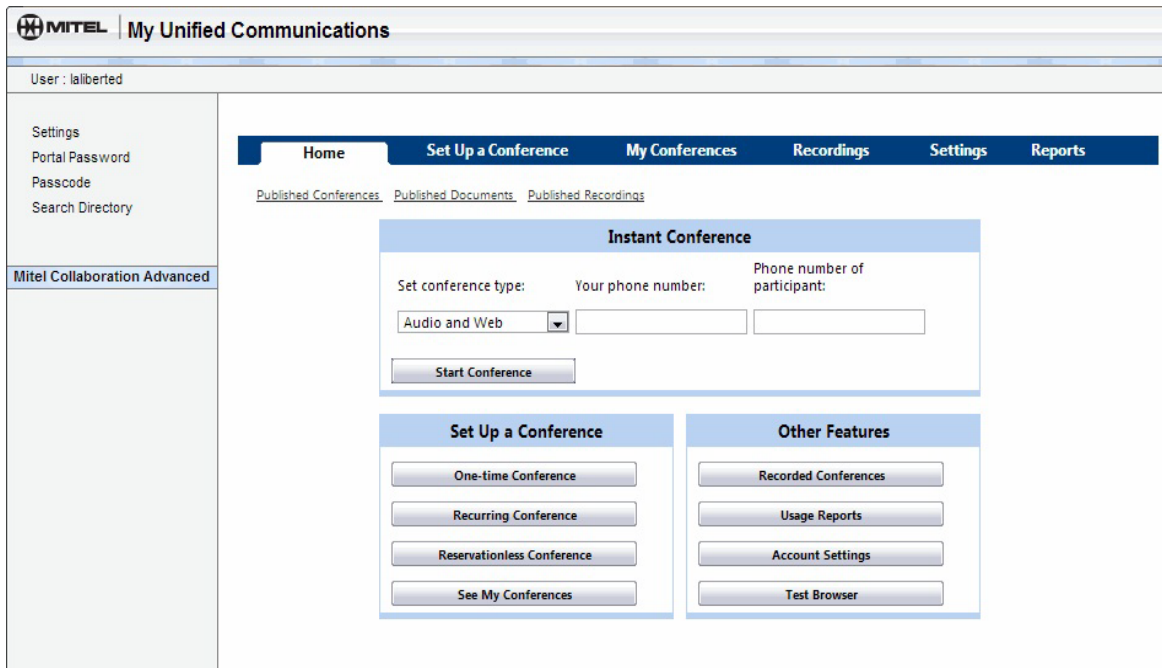

Figure 7: Instant Conference Screen

Chapter 3

Installation and Maintenance Features

Installation

Easy-to-Install Software

MAS Server Platform

To simplify software installation for the technician, the MAS applications are installed as a product rather than as a collection of separate software components. The MAS software installation wizard guides the technician through the software installation process to prevent any possibility of error.

The software required for each installation is determined by an Application Record ID (ARID). Technicians create an ARID for the MAS installation in their AMC license account. All the software installation components (MSL operating system and MAS application software) are available for download from Mitel Online.

After technicians obtain the MAS software and copy it to CD/DVDs or to a USB stick, they can install it on the MAS hardware platform on site. Based on the Application Record ID, the installation wizard prompts the technicians to copy the required applications to the system. If any of the software applications are an out-of-date version, the wizard automatically prompts the technician to obtain the correct version.

vMAS Platforms

You deploy vMAS on a VMWare vSphere Standalone host or via a vCenter Server. The entire vMAS virtual appliance is installed as an image in OVF package format (file ending in .ova), The vMAS .ova file contains the VMware tools, MSL operating system, MAS software, and MAS applications as a pre-installed image.

Minimal Installation with MAS Server Appliance

You also have the option of purchasing the MAS Server Appliance. The MAS Server Appliance is a server with the MSL and MAS software pre-installed. The technician only has to install the server, configure some site-specific values and system attributes, and provision users. Then, the MAS Server Appliance is up and running. User provisioning of MAS can be accomplished quickly using the Bulk User Provisioning Tool.

Note: the MAS Server Appliance is currently only available in North America and UK.

Refer to the [MAS Installation and Maintenance Guide](#) for more information.

Simplified Initial User Provisioning

Initial provisioning of MAS is simplified with the use of the Bulk User Provisioning tool. This tool allows you to bulk import user data from a comma-separated value (.csv) file or an LDAP Data Interchange Format (LDIF) file into the MAS system's Users and Services database.

Figure 8: Bulk User Provisioning Tool

Roles and Templates

You can use roles and templates to apply common configuration data across multiple user entries. This approach greatly reduces the amount of time that it takes to enter customer data. Roles define the task, position, or responsibilities for a type of user within the organization. Roles are associated with user templates that define the common phone and application service settings for the roles.

You identify types of users within the enterprise that have common phone and application service needs and then create user templates that define the required services for each user type. After creating the user templates, the administrator assigns a role to each template and applies the templated information to new users using any of the following methods:

- **Quick Add**: allows you to create a new user through the User and Services application and apply a role in the Users tab. The role automatically applies the associated template data to the user entry.

- **Bulk User Provisioning**: allows you to import a .csv or LDIF file of user entries and specify user roles for the entries. The roles reference templates that automatically apply common data during the import process. You also have the ability to auto-fill a selection of user entries in the bulk user provisioning tool with roles, directory entries, and e-mail addresses.

- **Provisioning with IDS**: When a directory server is integrated with MAS, you can map a directory service attribute to a MAS role. When a user is provisioned in the directory service and synchronized with the MAS database, the associated template data is applied to user entry that is created on MAS.

Default roles and templates are provided with the system.

Single-Point Provisioning

When you add or delete information for a single user on the MAS server, you can optionally update the MCD system database at the same time. When the Single Point Provisioning option on the Network Element tab is enabled, new configuration data entered on the MAS server (such as phone and mailbox creation, COS option setup, Call Forwarding, and Desktop Monitor setup) is automatically updated in the MCD programming database at the same time.

MCD system programming forms are updated with data via single point provisioning. For example:

- User and Device Configuration
- Telephone Directory Assignment
- Station Service Assignment
- Multiline Set Key Assignment
- User Call Forwarding
- Class of Service
- Personal Ring Groups

Note: Single Point Provisioning is not supported for the Mitel 5000 Communications Platform. Users and services must be provisioned manually on this platform.

When you use single point provisioning in conjunction with roles and templates, bulk user provisioning, Integrated Directory Services, or Quick Add you can further minimize the time spent user provisioning.

Unified Communicator Advanced Integration Wizard

The Unified Communicator Advanced Integration Wizard allows administrators to integrate the UC Server application database with the USP application database. Note that UCA integrated mode is only supported for MCD platforms. After the databases are integrated, you can manage UCA services from the USP application. Single point provisioning of UCA services from the USP application is supported to the MCD platforms. The UCA Integration Wizard steps the administrator through the process of integrating the databases and provides instructions on how to resolve any configuration issues or database conflicts.

Installers can also use the UCA Integration wizard when they are installing a new MAS system into a site with existing MCD platforms. In this scenario, the wizard can be run to update the MAS database with the user and phone data from the MCDs.
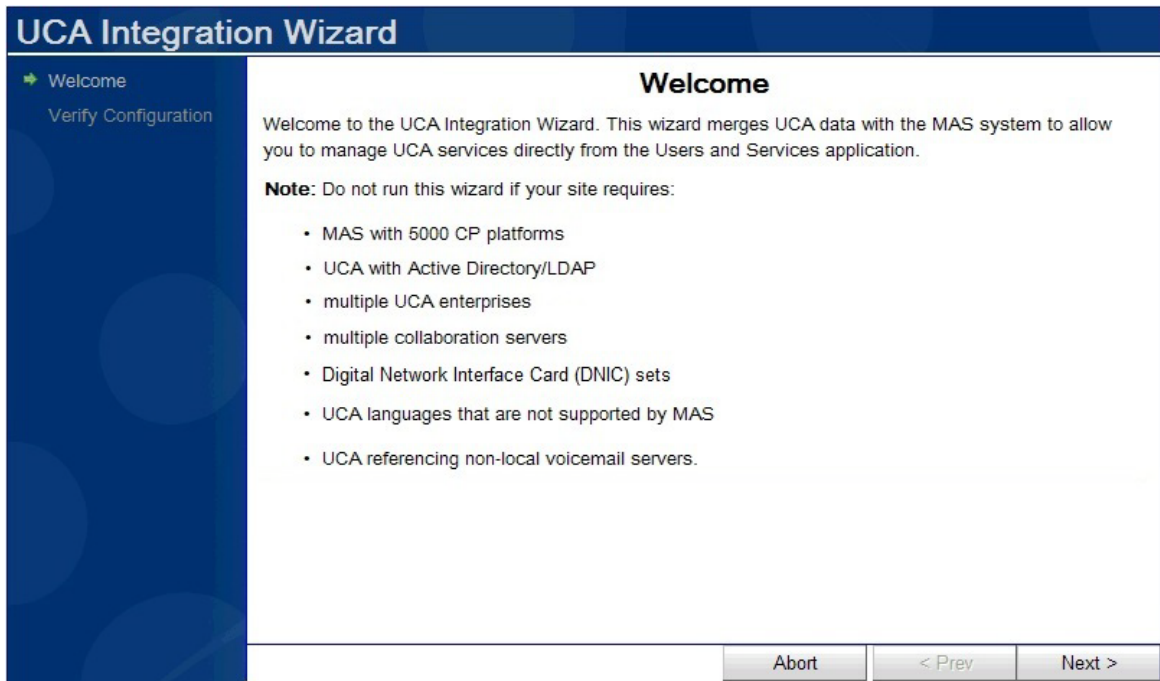
Figure 9: UCA Integration Wizard Screen

Maintenance

Comprehensive Administration and Maintenance Tools

Maintenance and system administration are performed from the following interfaces:

- **Server Console**: a text-based control panel built into the MSL operating system that technicians use to perform maintenance tasks such as
  - install the MAS software
  - configure network parameters
  - perform upgrades and software updates
  - upgrade application suite licensing
  - perform backups.
- **MAS Administrator Portal**: a web-based control panel, also called the "server manager", that administrators use to
  - configure and administer the MAS applications
  - perform server administration tasks, such as view logs, display system information, assign system users, and perform backups
  - configure network and server security settings
  - set system-wide parameters, such as system language and password strength.

Remote Management of MAS via MBG Remote Proxy Services

MAS Release 5.0 and later supports secure remote access from clients on the internet to the MAS server manager interface through a standalone MBG server. The standalone MBG server requires the Remote Proxy Services application to support this functionality.

Integrated Directory Services

You can integrate the user database of a corporate directory service with the MAS database to minimize data entry and administration. The user data on the corporate directory server is synchronized with the MAS database using Lightweight Directory Access Protocol (LDAP). If single point provisioning is enabled, then MAS distributes the user data to the MCD platforms. Synchronization occurs in one direction only—from the directory server to MAS. To move updates in the other direction, you must export an LDAP Data Interchange Format (LDIF) file from MAS and then import it into the directory server.

On the directory server, you can assign an "employeeType" attribute to each user data record. The "employeeType" attribute maps to a "role" in the MAS database which corresponds to a MAS User and Services template. The User and Services template allows you to apply additional personal data, application services, and telephony features to the user entry.

MAS detects updates that are made on the directory server via polling. MAS polls the directory server on a pre-specified interval or on-demand.

Support for SSL Certificates

The MAS server manager allows you to request and import SSL certificates from a trusted Certificate Authority. An SSL certificate authenticates the identity of a web site and encrypts information between a server and a client using Secure Sockets Layer (SSL) technology. The presence of an SSL certificate on the MAS web server also prevents security alert warnings from appearing in your browser when users access the MAS web portals. To purchase a SSL Certificate, you send the Certificate Signing Authority a Certificate Signing Request (CSR). The Certificate Signing Authority sends back an SSL certificate that can be imported into system by the administrator via the MAS server manager.

Flexible Backup and Restore

MAS Server and MAS Server Appliance Platforms

Technicians and administrators can back up system data (including all application data) from either the server manager interface or from the server console:

- Server manager "Backup" option: Supports database backups to a local workstation or to a network file server. When backing up to a network file server, you can perform an immediate backup (Backup Now) or schedule automatic backups on a daily, weekly, or monthly basis.

- Server console "Perform Backup" option: Supports database backups to a USB stick or to a network file server.

Backups can also be performed remotely by leaving a non-bootable USB device permanently attached to the MAS server and logging into the console via Secure Shell (SSH). For more information about the server console, backups, and SSH, refer to the *Mitel Standard Linux Installation and Administration Guide* available at Mitel OnLine.

Database restores are performed from the server console by selecting the "Do you wish to restore from backup?" option.

vMAS Platforms

You can perform backups using the MAS server manager or server console. You can recover a vMAS system database on the same virtual machine by deploying the latest vMAS OVF file, restoring your vMAS database backup, and then installing the latest MAS application software.

Migration Paths

MAS supports the migration of

- Inter-Tel Audio and Web Conferencing (AWC) to MAS MCA.

- Standalone UCA Release 4.0 or later to a MAS Release 3.0 or later system that has the UCA application installed.

- MAS Release 3.0 or later server data to a vMAS Release 5.0 or later deployment.

Chapter 4

Licensing

Introduction

MAS is licensed as a base package with a series of optional, add-on specialty application packages. There are several core packages available. Add-on packages, such as the Customer Service Manager and Mitel Business Dashboard add-on packages, enhance the base package functionality.

The base package provides application software and a minimal number of user licenses that allows customers to evaluate the applications. Customers then have the option of purchasing uplift license packages for each application to increase capacity up to the supported system maximums as defined in the system capacity tables of the MAS Engineering Guidelines.

About AMC Licensing

MAS supports licensing through the Mitel Application Management Center (AMC) and the Mitel Software Assurance (SWAS) program. The Mitel AMC manages the software licensing and entitlement of the Software Assurance Program. After you obtain an Application Record ID (ARID) from the AMC, the AMC uses your Application Record ID (ARID) to provide you with access to licenses, software releases, and upgrades.

The Application Management Center (AMC) allows licensing keys to be automatically created at all times (24 hours a day, 7 days a week) through remote license keys generation.

The AMC is also the procurement and provisioning interface for AMC-delivered products and services. As a reseller of Mitel products, you receive a unique licensing account on the AMC. By logging in to the AMC with the username and password you are given when you obtain your account, you can view a list of your AMC-enabled products, check their status, and add services to any of them.

When you place a new order for products with the Mitel Customer Care Center, the order information is entered into the AMC system. The AMC places the purchased licenses into your licensing account for use in creating an application record. You must then log in to the AMC and create the application record; assign purchased products, features, and options to that application record; and then activate the customer's Mitel Standard Linux (MSL) operating system (OS) before you can install the MAS application.

MAS uses the AMC to obtain licensing information, which is required for installing main base software, for installing upgrade software, and for installing system option upgrade software. You must install MAS and then register it with the AMC online.

When you install MAS, 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").

Software Assurance

The Mitel Software Assurance (SWAS) Program is a subscription-based service that provides customers with access to new software releases, software upgrades, 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 your chosen term. (Discounted rates are applied to multi-year renewals.)

Your Authorized Mitel Reseller will contact you before the expiry of your Software Assurance term to assist you with the renewal process. When you have decided upon a renewal term (from 1 day to 4 years), your Mitel Reseller will supply a price quotation. Upon acceptance of the quotation, your Mitel Reseller places your order and your Software Assurance is renewed within minutes. Note: If your Software Assurance plan has expired, you can still renew it, but there will be a re-enlistment fee.

Under the SWAS program, software upgrades are provided at no additional cost without any of the new features or functionality that are available in the base upgrade package. To obtain the new features and functionality available in a software release, you must purchase the MAS base software package.

Refer to the latest Software Assurance Product Bulletin for the latest information. To access the SWAS bulletins:

- Log into Mitel Online
- Under **Services**, click **Software Assurance and Support**.

vMAS Licensing Detection and Violation Mode

vMAS appliances must maintain online connectivity to the AMC at all times. Loss of AMC connectivity for a short period of time due is tolerated by the system. However, AMC connectivity must be re-established without delay in order to maintain access to all system functions and features. If AMC connectivity is lost for an extended period of time, an automatic email alert is generated and sent to the named Channel Partner AMC account administrator. If AMC connectivity is not re-established, then the virtual appliance system goes into license violation mode and certain capabilities are no longer be accessible.

Mitel recognizes that in some deployment situations, it is not practical to implement online connectivity to the AMC from each virtual appliance deployed at a customer's site. For this reason, Mitel supports the ability to proxy online AMC connectivity from each Virtual Appliance through a single named proxy within the customer data center environment. This enables AMC online connections to be managed and controlled from one central point within the data center rather than from each individual product.

UCC Licensing

Unified Communications and Collaboration (UCC) licensing helps to simplify the selling and ordering process because it bundles the platform and application user licenses together. Instead of ordering an MCD user license and multiple individual applications licenses for each MAS user, you order a single UCC license per user. The existing "a la carte" licensing options will still be available; however, UCC licensing offers the following benefits:

- Simplifies the licensing of a MAS user by bundling an MCD user license with a specific set of application user licenses.

- Offers a significant pricing discount over "a la carte" licenses.

- Provides tiered functionality with progressive discounts. The following UCC user licenses are available:

  - **UCC Entry license**: provides an MCD user license, voicemail and unified messaging.
  - **UCC Standard license**: adds the UCC desk and web client and full audio and web collaboration to the Entry license.
  - **UCC Premium license**: adds full mobile UCC functionality to the Standard license.

- Provides two categories of UCC license bundles:

  - "Business" for use with MCD standalone systems, and
  - "Enterprise" for use with MCD Enterprise systems.

- Offers 50 user license packs for Standard and Premium licenses with discounted pricing for volume.

UCC Licensing Tiers

There are three tiers of UCC license, Entry, Standard, and Premium. Each of these three tiers of UCC licenses is available for use with a Standalone MCD system or an Enterprise MCD system.

- Business UCC licenses for standalone MCD systems

- Enterprise UCC licenses in a network of MCD systems..

Licenses included	UCC License		
	Entry	**Standard**	**Premium**
Dynamic extension with EHDU license (includes MCD user license)	Yes	No	No
Multi-device user license (includes MCD user license)	Yes (Simple twinning, 2-user Multi-device)	Yes (Multi-device user group up to 8 devices)	Yes (Multi-device user group up to 8 devices)
NuPoint mailbox license with call director	Yes	Yes	Yes
Standard and Advanced UM license	Yes	Yes	Yes

Licenses included	UCC License		
	Entry	**Standard**	**Premium**
MCA audio and collaboration access	No	Yes	Yes
MBG Teleworker license, UCA MiNET and SIP softphone license	No	Yes	Yes
UCA desktop and web client with Instant Messaging Presence only	Yes	No	No
UC Advanced deskphone license	No	Yes	Yes
UC Advanced web license (see Note 1)	No	Yes	Yes
UC Advanced softphone license (see Note 1)	No	Yes	Yes
UC Advanced mobile SIP for Softphone and Video and client license	No	No	Yes

Notes:

1.   Entry license provides UCA desktop and web client with just the Instant Messaging Presence feature. Standard and Premium licenses provide UCA desktop and web client with full UCA feature functionality.

Software Packages

The following sections detail the software licensing packages:

- Refer to the [MAS and vUCC Engineering Guidelines](#) for descriptions of the supported platforms and deployment configurations.

- Refer to Product Bulletin PB 20110051 for MAS upgrade and migration licensing details.

The following table lists the MAS Release 5.0 base, add-on, and upgrade licensing packages.

Software Package	Platform(s)	Part Numbers
BASE PACKAGES		
MAS Base SW for Free UCA Client	MCD and 5000 CP	54005963
MAS Base SW (Full)	MCD and 5000 CP	54005441
MAS Virtual Appliance for MCD	MCD	54005442
MAS Virtual Appliance for 5000 CP	5000 CP	54005799
MAS Server Appliance for MCD (NA)	MCD	52002722
MAS Server Appliance for Mitel 5000 (NA)	5000CP	52002723
MAS Base Add-on to UCA		
MAS 5.0 add-on to UCA	MCD and 5000 CP	54005444
vMAS 5.0 add-on to vUCA	MCD	54005445
UPGRADES		
MAS 2.2 base kit to MAS 3.0/4.0 base kit upgrade	MCD and 5000 CP	54005447
vMAS 2.2 to vMAS 3.0/4.0 base kit upgrade	MCD	54005449
MCA HD Codec Upgrade	MCD and 5000 CP	54005475
MCA HD Codec + Web Collaboration license	MCD and 5000 CP	54005477
MAS Base SW for Free UCA Client to Full MAS Base	MCD and 5000 CP	54005964
DATABASE MIGRATIONS		
MAS Server to VIrtual MAS Conversion (see Note)	MCD or 5000 CP	54005389

Note: The "MAS Server to Virtual MAS Conversion" part number allows you to convert a MAS Server to a vMAS for either MCD or 5000 CP platforms.

Note: Only MBG Teleworker service is supported for 5000 CP platforms. The MBG SIP Trunking, MBG Secure Recording Connector, and MBG Web Proxy services are not supported on 5000 CP platforms.

Note: Although the Unified Communicator Mobile application is included in the vMAS 5.0 base pack and .ova file, and appears as an application within the Users and Services application, it is not supported for vMAS with the 5000 CP.

Supported Configurations

Overview

This chapter provides an overview of the required hardware platforms, supported communication platforms, deployment topologies, and supported applications. Refer to the MAS and vUCC Engineering Guidelines for detailed information.

MAS Hardware Platforms

The Mitel Application Suite is available on the following hardware platforms:

- Industry Standard Server
- MAS Server Appliance
- Virtual Mitel Applications Suite (vMAS)

> **Note:** System capacities and performance levels are dependent upon the type of MAS platform, the number of users, and the installed applications. Refer to *MAS System Capacities, Performance and Constraints* in the MAS and vUCC Engineering Guidelines for details.

Industry Standard Server

This option provides a small enterprise solution for up to 1500 users. Note that deployments that have just a single application can scale beyond 1500 users. Customers have the flexibility of purchasing their own MSL qualified server and then installing the MSL operating system software and MAS software on it.

MAS Server Appliance

This option provides a small business solution for up to 150 users. The MAS Server Appliance is a rack-mount Dell R210 server with the MSL operating system software and MAS software pre-installed at Mitel. After the technician configures the server site-specific values, the MAS Server Appliance is ready to use. This option simplifies the installation process and reduces the time on site required to get the system up and running.

> **Note:** the MAS Server Appliance is currently only available in North America and UK.

Virtual MAS

Virtual MAS (vMAS) allows you to deploy the MAS system as a virtual appliance within a VMware® vSphere environment. A vMAS deployment supports

- Enterprise multi-application site up to 1500 users
- Enterprise single application site up to 2500 users.

Virtual Mitel Applications Suite (vMAS) runs as a virtual appliance within the VMware vSphere Cloud Operating System. A virtual appliance is a packaging format for virtual machines that allows virtual machine templates to be installed and configured on a VMware Cloud Operating

System. A virtual appliance defines the operational policies for applications in such a way that the cloud OS can automatically interpret and execute the applications. Virtual appliances are software solutions that can include any applications running on any OS.

Virtual Appliances are packaged and maintained as a single entity in OVF format. OVF formatted files are recognized by their *.ova* file extension. vMAS is packaged as a virtual appliance (.ova file) that runs on an ESX/ESXi server.

The vMAS virtual appliance contains the following pre-installed software:

- VMware tools

- Mitel Standard Linux (MSL), the base operating system on which all other MAS applications reside.

- MAS, the application base software bundle, independent of any specialized hardware. (The pre-installed base software bundle excludes NPM optional features).

vMAS has the following characteristics:

- hardware-independent MSL operating software and application software.

- a virtual appliance that encapsulates both MSL and MAS which is deployed using the vSphere Client. The vSphere Client can be used to deploy vMAS directly onto the ESX/ESXi server or through the vCenter Server.

- -Mitel Initial Configuration Wizard: guides you through the initial configuration of the vUCC system.

Mitel Communications Platforms

You can integrate MAS with any of the following Mitel communications platforms:

- Mitel Communications Director platforms:
    - 3300 MXe
    - Mitel Communications Director for Industry Standard Servers (MCD-ISS)
    - vMCD
- 5000 CP

MAS is not available for integration with the following Mitel communications platforms:

- SX-2000, SX-200, SX-200 ICP, MXe Server, MCD-Multi Instance Communications Director (MICD), or MCD-Unified IP Client (UIPC).

vUCC includes the Mitel Communications Director as an application blade. vUCC does not support other communications platforms (for example 5000 CP).

Deployment Topologies

MAS is supported in the following deployment topologies:

Small Business

• Network Edge Deployment (Server-gateway mode)

• LAN Deployment (Server-only mode)

Medium Business/Enterprise Site

• LAN Deployment with Separate MBG Server in DMZ

• LAN Deployment with Separate MBG Server in Network Edge

📝 **Note:** Refer to the

Network Edge Deployment (Server Gateway)

In this configuration, MAS is installed on an internet-facing server with firewall capability.

This deployment configuration

• supports all MAS applications

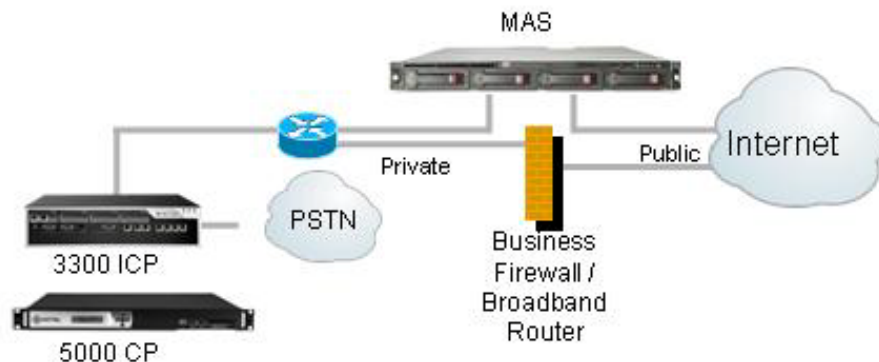• provides a high level of security by using the MSL firewall with pre-configured filtering and port forwarding.

Figure 10: Network Edge Deployment

LAN Deployment (Server Only)

In this configuration, the MAS server is located in the LAN with the communications platform. This configuration does not support MBG Teleworker service in MAS with teleworker phones configured in MAS. Firewall configuration and port forwarding must be configured to allow internet access to the Application Management Center (AMC).

This deployment configuration

- supports all MAS applications that do <u>not</u> require Internet access (for example, NuPoint Unified Messaging). **Note**: Internet based services, such as MBG Teleworker service and remote Mitel Collaboration Advanced clients, are not supported for this configuration.

- requires firewall configuration. You must configure port forwarding to allow application clients on the public network to connect through the firewall to the MAS server on the private network.
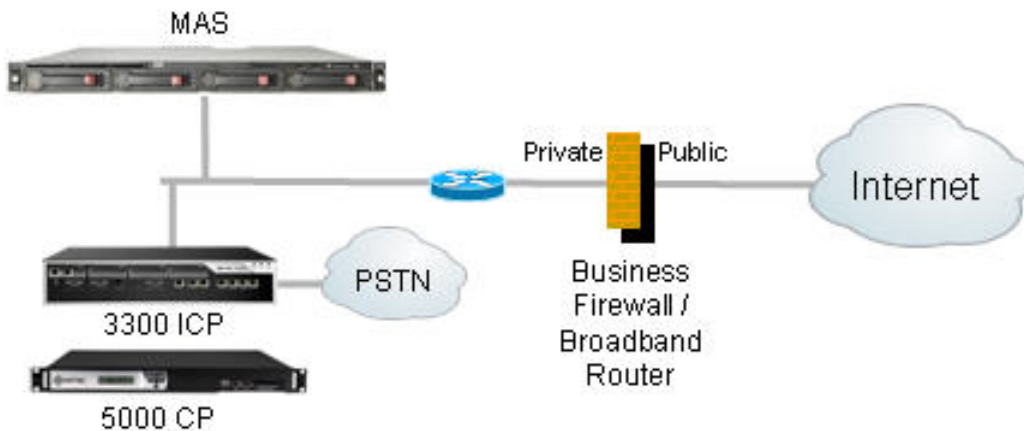

Figure 11: LAN Deployment

LAN Deployment with Separate MBG

To support applications that have clients on the Internet, such as, MBG-Teleworker, MCA, and UCA, you require a a separate MBG server running the Web Proxy application to protect the MAS server in the LAN from Internet exposure. This deployment configuration:

- supports all MAS applications.

- provides the highest level of security. It uses the separate MBG server as a stateful proxy for Internet communications.

This configuration uses a MAS server connected to a second MBG server in one of the following deployments:

- MAS in LAN mode with Web Proxy running on a second MBG server in the DMZ (see Figure 12), or

- MAS in LAN mode with Web Proxy running on a second MBG server on the network edge (see Figure 13).

The deployment of MAS server in the Local Area Network (LAN) connected to a second MBG server in the Demilitarized Zone (DMZ) supports two variants:

- The **Web Proxy** deployment consists of a MAS server on the corporate LAN with Web Proxy running on an MBG server in the DMZ. Remote web browser users connect to the MAS server through the Web Proxy service that is running on the MBG server in the DMZ.

- The **Teleworker Service and Web Proxy** deployment consists of a MAS server on the corporate LAN with Teleworker and Web Proxy on a MBG server located in the DMZ. The MBG is a multi-service software application with a Web Proxy that provides a secure method for Teleworker Web clients to connect to the LAN. Teleworker service is installed on both the MAS and MBG servers. The Teleworker service in the Mitel Border Gateway (MBG) is used to support the teleworkers in the DMZ. The Teleworker service in the MAS server is only used to remotely manage the Teleworker phones that are configured on the MBG server. The Web Proxy service is also installed in this configuration.
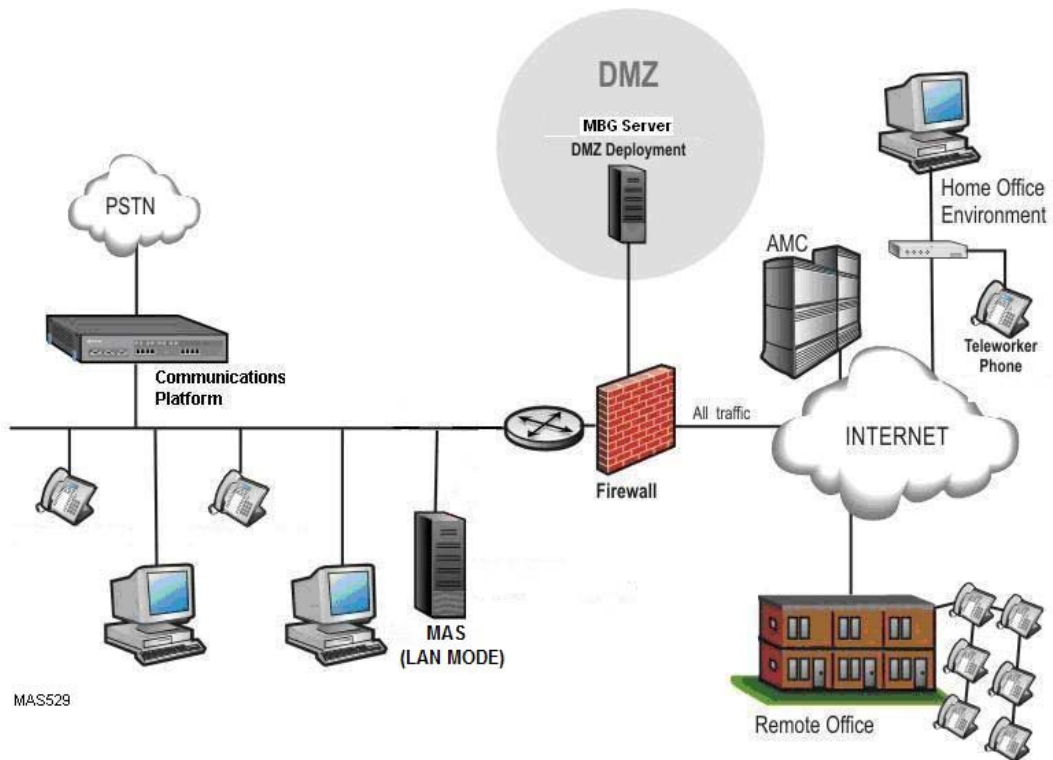

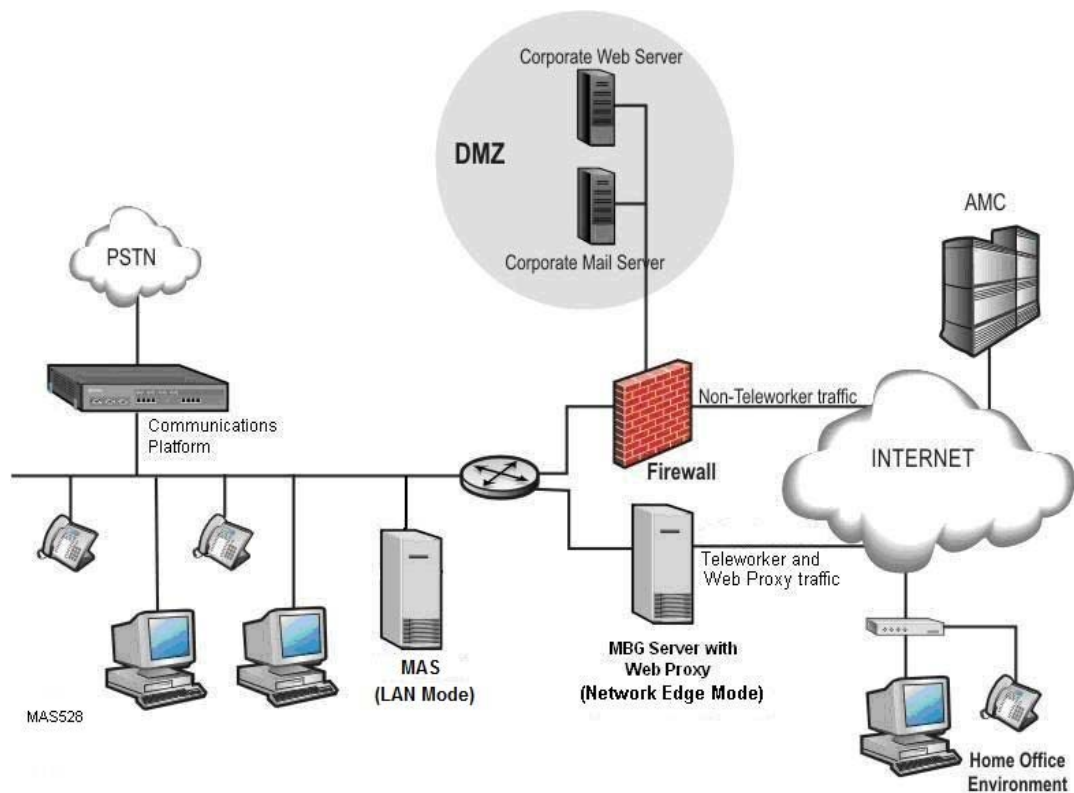**Figure 12: LAN Deployment with MBG in DMZ**

Figure 13: LAN Deployment with MBG on Network Edge

Secure Recording Connector Deployments

Mitel Applications Suite supports the Secure Recording Connector (SRC) services in the following deployment configurations:

- MAS in LAN Mode

- MAS in LAN Mode with MBG Server in Network Gateway Mode

- MAS in LAN Mode with MBG Server in the DMZ

MAS in LAN Mode

In this configuration, the MAS is installed in LAN mode with either the MAS Server Software Base Package or vMAS Software Base Package which include the MBG application. The MBG application on the MAS platform provides SRC services for devices on the LAN only. SRC services are not supported for teleworker devices.

📝 **Note:** MAS with SRC is not supported in Network Edge mode.

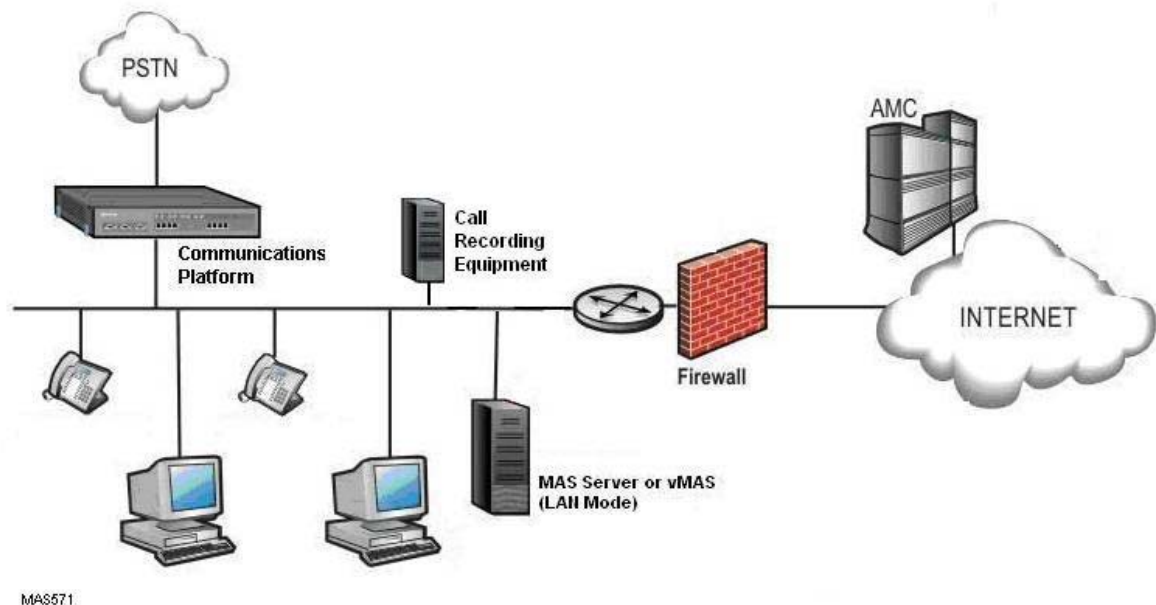Refer to the MAS and vUCC Engineering Guidelines for deployment configuration details.

Figure 14: MAS with SRC in LAN Mode

MAS in LAN Mode with MBG Server in Network Edge or DMZ

In this configuration, you deploy the MAS in the LAN or DMZ with the MAS Base Software Package. This software package allows the teleworker and SRC licenses to be shared with an MBG server in the network edge or DMZ. A separate MBG server is installed in the network edge or DMZ. The MBG application on the MAS platform

• provides the SRC services for the LAN devices, and

• allows you to manage the teleworker devices supported by the MBG server that is located on the network edge or in the DMZ.

The standalone MBG server on the network edge or DMZ provides the teleworker and SRC services for all WAN devices. Cluster zoning is used to minimize the teleworker and call recording licensing requirements on the LAN side. After you create a cluster and divide it into two zones: MAS server in a "LAN" zone and MBG in the "Default" zone, the teleworker and call recording licenses are shared between the MAS and MBG servers. The devices in the "LAN" zone each consume one call-recording license (when in use) but no teleworker licenses. Teleworker sets in the "Default" zone each consume one Teleworker license, and if required one call recording license (when in use).
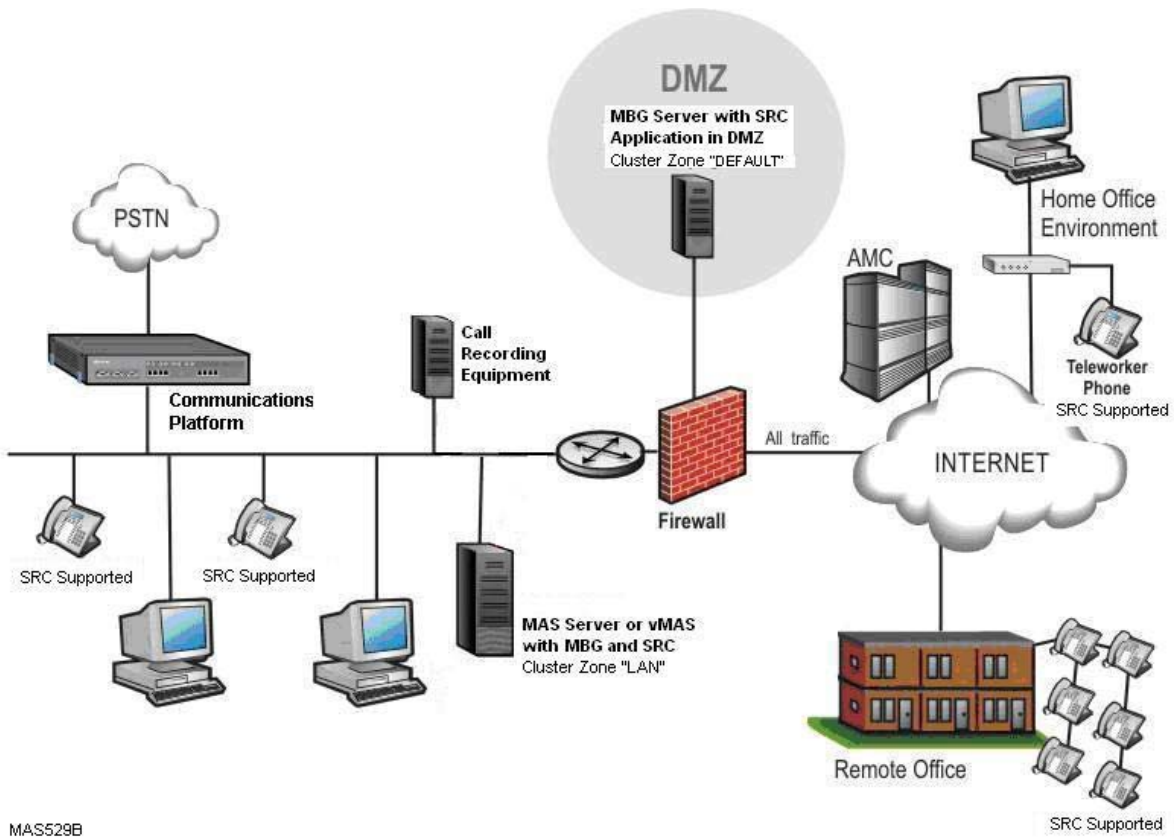
Figure 15: MAS with SRC in LAN Mode with MBG Server with SRC in DMZ

Supported Applications

MCD Platforms

For the supported MCD platforms, the following MAS applications are available:

- NuPoint Unified Messaging
- Speech Auto Attendant
- Unified Communicator Advanced
- Mitel Collaboration Advanced
- Mitel Border Gateway (MBG) with Teleworker service and/or Secure Recording Connector service.

Mitel 5000 CP Platform

For the Mitel 5000 CP platform, the following MAS applications are available:

- NuPoint Unified Messaging
- Speech Auto Attendant
- Mitel Collaboration Advanced
- Unified Communicator Advanced

Note: MBG (Teleworker and SRC services) is not supported for the Mitel 5000 CP platform.

Appendix A

MAS-NuPoint Feature Support

Unsupported Features in "MAS-NuPoint"

The MAS-NuPoint product does not support all the same features and functionality of the NP-UM standalone versions. The following standalone NP-UM features are **not** supported in the MAS-NuPoint application:

- PMS Integration

- Hospitality Features

- Competitive TUI Emulation

- Third party non-Mitel PBX integrations (DMG/PMG gateway integration)

- High availability configurations, such as those available with the 640E and 640 platforms

- Greater than 2500 mailboxes

- NP TDD for the Hearing Impaired

- Speech Auto Attendant integrations with other databases such as Active Directory are not supported. On MAS-NuPoint, Speech Auto Attendant must collect its user data from the MAS database.

- NP-UM database only backup or restore is not supported (with MAS you cannot back up and restore just the NP-UM database; you must back up and restore the databases of all the MAS applications at the same time).

Other Differences in "MAS-NuPoint"

The following differences are also worth noting:

- NuPoint Unified Messaging is licensed on a per mailbox basis.

- Speech Auto Attendant and Text-to-Speech are only supported for the following languages:
    - North American English (NA)
    - British English (UK)

- MAS is available as a software only, as a turnkey platform, and as a virtual application

- MAS platforms can be deployed on the LAN or on the network edge (server-gateway mode)

- You set the language of the My Unified Communication portals and the Telephone User Interfaces (TUIs), including NP-UM, for the MAS application end-users from the MAS administrator portal. End-users can also set their own prompt language on the Settings page of their My Unified Communications portal. NP-UM mailbox prompt language is not set at the mailbox level via an LCOS setting.

- When installed on MAS, NuPoint is supported for the 5000 CP. The NuPoint standalone product does not support the 5000 CP.

- Call Director - Personal Edition TUI prompts are only supported in English.

- The NuPoint Bilingual Service feature provides a secondary prompt language for the MAS NuPoint system. However, on MAS systems the following NP-UM standalone configuration options are NOT supported for this feature:

- Custom language selection prompt
- Language selection prompt timeout
- Play only second language selection prompt.

• The MAS Release 4.0 and later NuPoint application is supported as a trusted service on MCD Release 5.0 SP1 and later systems. Standalone NuPoint Release 5.0 is NOT supported as a trusted service on the MCD.

Summary of Standard and Optional Features

Table 1 lists the standard and optional features that are available with a NP-UM application on the MAS platform. Refer to the *NuPoint Unified Messaging General Information Guide* for descriptions of these features:

Table 1:   Standard and Optional Features

Feature	Availability on MAS-NuPoint Product
Standard Features	
Mailbox Support	Yes
Greetings	Yes
Distribution Lists	Yes
Message Management	Yes
NP Receptionist	Yes
Bilingual Service	Yes
Call Director - Corporate Edition	Yes
Classes of Service	Yes
System Day/Night Hours	Yes
Dial-by-Name	Yes
Dial-Back	Yes
System Prompts	Yes
Wait Prompts	Yes
Pager Application	Yes
RAD Support	Yes
Message Waiting Notification	Yes
Unified Messaging (STMP)	Yes
Functionally Partitioned System Administration (FPSA) for Web Console and Text Console	Yes
Visual Voice Mail	Yes
Optional Features	
Active Directory Integration	Yes (via MAS-IDS)
	Page 1 of 2

Table 1:   Standard and Optional Features (continued)

Feature	Availability on
	MAS-NuPoint Product
Call Detail Recorder	Yes
Call Directory - Personal Edition	Yes
Competitive TUI Emulator	No
DMG Integrations	No
Hospitality	No
Language Support	Yes
NP Cut Through Paging	Yes
NP FAX Services	Yes
NP Forms	Yes
NP Net	Yes
NP Ondemand	Yes
NP Rapid Dial	Yes
NP TDD	No
NP Wakeup	Yes
NP-UM IP Miscellaneous Applications	Yes
PMS Integration	No
Record A Call (see Note 1)	Yes
Redundancy - NP-UM System	No
Redundancy - Hard Disk	No
Resiliency - Voice Mail Resiliency in MCD Clusters (only)	Yes
Softkey Support (see Note 1)	Yes
SMS Notification (UK only)	Yes
Speech Auto Attendant (See Note 2)	Yes
Speech Navigation (See Note 3)	Yes
Text to Speech (See Note 2)	Yes
Unified Messaging - Standard	Yes
Unified Messaging - Advanced	Yes
Visual Voice Mail (MCD only)	Yes
Voice Profile for Internet Mail (VPIM)	Yes
	Page 2 of 2

Note 1: No charge option.
Note 2: Speech Auto Attendant and Text to Speech are available in North-American (NA)
English and UK English only.
Note 3: Speech Navigation is available in North-American (NA) English only.

System Prompt Language Support

Table 2 summarizes the system prompt language support for MAS-NuPoint:

Table 2:   Summary of System Prompt Support for MAS-NuPoint

Prompt Set	What is it?	Supported Prompt Languages	Cost
Numeric	Press 7 to play	See Table 3	NA English and choice of one other language is included in NP-UM base software
Numeric (default) or Mnemonic	Press 7 to play OR Press P to play	NA English	Included in NP-UM application software

Note 1: The prompt sets default to Numeric.

MAS-NuPoint Language Support

Table 3 summarizes the languages supported for NP-UM features on MAS:

Table 3:   Summary of Language Support

Languages	Prompts NP-UM on MAS	NP Recp	Web View	Call Director Personal Edition (See Note 1)	Text -to-Speech (See Note 2)	FAX Prompts	SAA for NP-UM on MAS	Extended Absence Greeting prompts
English (NA)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
English (UK)	Yes	Yes	No	No	Yes	Yes	Yes	Yes
English (Australia)	No	Yes	No	No	No	No	No	No
English (New Zealand)	No	Yes	No	No	No	No	No	No
French (Canadian)	Yes	Yes	Yes	No	No	Yes	No	Yes
French (European)	Yes	Yes	Yes	No	No	Yes	No	Yes
Spanish (European)	No	Yes	Yes	No	No	No	No	No
Spanish (LA)	Yes	Yes	Yes	No	No	No	No	Yes
Portuguese (Brazil)	No	Yes	No	No	No	No	No	No
Dutch	Yes	No	Yes	No	No	Yes	No	Yes
Italian	No	No	No	No	No	No	No	No
German	Yes	No	Yes	No	No	No	No	No
Japanese	No	Yes	No	No	No	No	No	No
Korean	No	Yes	No	No	No	No	No	No
Mandarin	No	Yes	No	No	No	No	No	No

Note 1: Call Director - Personal Edition TUI prompts are only supported in English.

Note 2: Text to Speech is used in SAA for playing Mailbox and Directory names and used in Advanced UM Email playback. Text to Speech is available in NA and UK English only.