


MITEL NETWORKS

6500 | Unified Communications

GENERAL INFORMATION GUIDE

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Mitel Networks 6500 Unified Communications General Information Guide

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Product Overview

Mitel Networks 6500 Unified Communications

The Mitel Networks™ 6500 Unified Communications is an advanced new architecture that brings powerful conversational speed recognition capabilities to a wide range of telephony solutions, applications and standalone platforms. The 6500 Unified Communications is a speaker independent, flexible vocabulary technology. This means that users don't have to train the system to understand their voice nor must they remember a fixed set of commands. The core 6500 platform supports speaker authentication for unsurpassed security, barge in capability to allow power users to quickly navigate through applications and digital integration with Calling Line ID for superior integration with PBX and VOIP platforms. The 6500 offers a range of enterprise applications including the 6500 Auto Attendant, 6500 Unified Messaging and 6500 Voice Portal options.

The 6500 UC Server can support up to 30 ports of simultaneous speech, corporate directories containing up to 10,000 names and personal directories containing up to 500 names. The 6500 UC Server integrates to a range of PBX and VOIP platforms including Mitel Networks SX200, SX2000, 3300 ICp and the Nortel 2616.

The 6500 Unified Communications system consists of the following products:

- The Mitel Networks 6500 Attendant is an automated attendant 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 or query the system for the phone numbers of people or departments. An online tutorial introduces users to the system features, and voiced-based help is available to answer questions.
- The 6500 Unified Messaging option is a software application that can be enabled on the Mitel Networks 6500 Attendant. It combines the advantages of speech recognition, voice mail, and e-mail to provide a powerful communications solution. It allows users to manage their e-mails, voice mails, and faxes directly from their Microsoft® Outlook accounts, using voice commands. In addition, users can query, sort, and search their Microsoft Outlook Inbox by phone.
- The 6500 Voice Portal enables customers to provide speech recognition access to enterprise databases, intranets, Web sites and business systems. The 6500 Voice Portal option is a powerful Voice XML-based toolkit that can be used to develop vertical market and business specific applications targeted at simplifying business process, reducing operating expenses and improving customer service. In addition, the 6500 Voice Portals allows customers to speech enable voice response systems which are far faster, simpler and pleasant to use for callers as opposed to traditional touch-tone based IVRs.

Advanced Speech Recognition

The 6500 Unified Communications system uses advanced speech-recognition technology that

- Recognizes and complies with commands that are spoken in sentences. For example, "Call Bob on his cell phone."
- Accepts voice commands at any time, even while prompts are being played
- Converts text to speech using Text-to-Speech (TTS) technology
- Supports users in English or French (Bilingual option required)
- Supports a large, dynamic vocabulary
- Allows the administrator to program the system to recognize variant pronunciations of names in the Company Directory
- Supports a variety of telephone systems such as mobile phones and IP phones
- Provides a secure system environment and prevents toll fraud, using voice verification
- Encourages handsfree use, increasing efficiency as well as safety in certain environments
- Frees users from having to remember phone numbers
- Allows users to access desktop applications with voice commands
- Provides service 24 hours a day
- Personalizes business communications—recognizes names as well as numbers and voices as well as digits

Supported Systems

The 6500 Unified Communications system works with

- **Digital telephone systems:** The 6500 Unified Communications system runs on a PC-based platform and connects through a digital line to the phone system. This configuration provides fast call setup and tear-down, reliable speech recognition, and calling line identification (CLID).
- **Voice-over-IP systems:** The 6500 Unified Communications system connects with the Mitel Networks 3300 Integrated Communications Platform (3300 ICP) through the Local Area Network. For high capacity systems, Q.SIG integration is supported. The 6500 Unified Communications user and administration applications are integrated into the user and administration applications on the 3300 ICP. This configuration also provides reliable speech recognition and calling line identification (CLID).
- **Voice mail systems:** The 6500 Unified Communications supports Voice Profile for Internet Messaging (VPIM) to work with both the Mitel Networks NuPoint Messenger™ and the 3300 ICP embedded voice mail system.

Mitel Networks 6500 Attendant

The 6500 Attendant uses speech recognition to route incoming calls to people or departments within a company. Typically, callers state the name of the person or department that they want to speak with, and the system routes the call to the requested party.

The 6500 Attendant consists of four main applications:

- **Auto attendant**—answers incoming calls and routes them to the appropriate person or department, in response to voice commands. Each directory name can be associated with multiple numbers.
- **Personal dialer**—allows registered users to create a personal dialing list through a Web-based application. Users with the appropriate system privileges can call from an external number and use the 6500 Attendant features.
- **Mobility application**—allows registered users to redirect calls to any phone number. Users can also set up a schedule for forwarding their calls, using their Web-based interface or any phone.
- **Toll management solution**—authenticates users through speaker verification or by the calling line ID. Multiple levels of security can be set for each system user. Each security level can be configured according to the system dial plan, allowing the system to regulate access to long-distance resources.

The 6500 Attendant allows users to

- Place a call to any number in the Company Directory by stating a name, department, or extension number or by dialing numbers on the keypad. Multi-level menus can help direct calls easily and efficiently.
- Activate features such as Expert Mode, Barge-in, and Help, using voice commands.
- Program a directory list of their frequently called numbers and then use voice commands to place calls to those numbers (Personal Directory).
- Call into the system from their home phone or cellular phone and use voice commands to place calls to external numbers that are programmed in their Personal Directory.
- Forward incoming calls to another number. The Mobility feature (optional) forwards calls from the user's office number to another programmed number (cell, pager, fax, home, or other temporary number) for an indefinite or a scheduled period of time.
- Listen and interact with VoiceXML scripts. The Enterprise Voice Portal feature (optional) allows users to interact with speech-enabled Web sites and databases to access information on the Internet, corporate intranet, or any internal network, using voice commands.



Tip: For complete descriptions of the 6500 Attendant features, see “Attendant Features” (p. 11). Also see the *6500 Attendant User Guide* for more information.

6500 Attendant Configuration

The 6500 Attendant is a Windows NT-based turnkey system that works with Mitel Networks SX-200® PBXs, SX-2000® PBXs, 3300 ICP systems, and Nortel Networks PBXs.

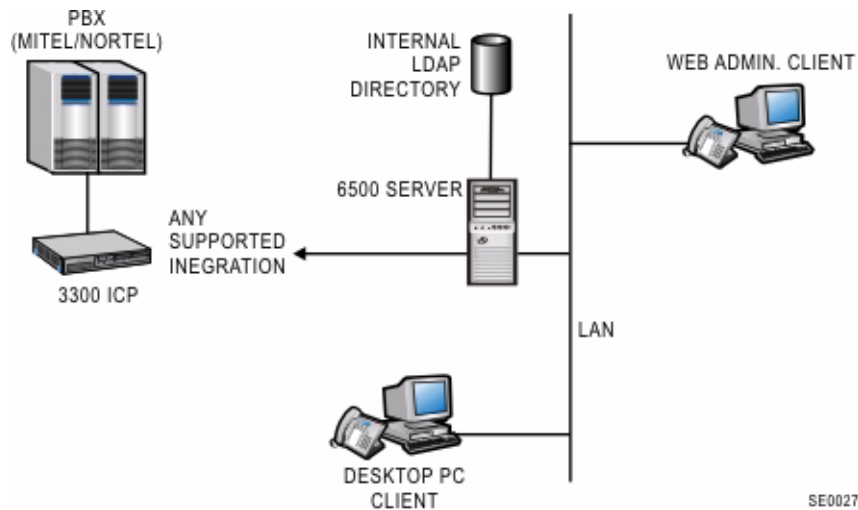


Figure 1 6500 Attendant Configuration

Required Components

The 6500 Attendant system provides the following software and functionality:

- 6500 server software (includes five Personal Directory names)
- Auto attendant
- Speech ports
- Multi-level menus
- Company Directory

Optional Components

The following software licenses and options are available for the 6500 Attendant system:

- Mobility
- Additional Personal Directory names
- Enterprise Voice Portal
- Bilingual (English/French or English/Latin American Spanish)
- TTS ports for the voice portal application or multi-level menus

Mitel Networks 6500 Unified Messaging

The Mitel Networks 6500 Unified Messaging option provides unified messaging features in addition to the 6500 Attendant functionality. Unified messaging stores e-mails, voice mails, and faxes in one location and allows users to access and manage these messages anywhere, from a phone or desktop. If the required software options are enabled, users can also manage their appointments, meetings, and tasks, using speech commands.

6500 Unified Messaging allows users to

- Access all message types in one inbox (Microsoft Outlook or Outlook Web Access). The voice mail, e-mail, and fax messages are stored in the Exchange 2000 Server.
- Use the phone to listen to e-mails. The 6500 Unified Messaging software is synchronized with the user's contact list in Microsoft Outlook and uses Text-to-Speech (TTS) to play e-mail messages over the phone. Users can reply to an e-mail with a voice message that is sent as an e-mail attachment, or they can instruct the 6500 Attendant to call the sender. Note that the sender's e-mail address and phone number must be listed in the user's Personal Directory or in the Company Directory.
- Use the phone to check for messages from particular senders. Users can reply to the messages or forward them to a name that is listed in the Personal Directory or in the Company Directory.
- Use the phone to check for urgent messages.
- Enable notification to a pager or e-mail enabled cellular phone for urgent messages.
- Dial commands on the telephone dialpad to access and manage messages.
- Set messaging preferences and notification settings from a Web-based Personal Directory.
- Manage voice and text messages in Microsoft Outlook.
- Reply to messages in Microsoft Outlook by creating and sending voice messages (requires 6500 Multimedia Outlook Plug-in).
- Use the telephone to manage appointments, meeting requests, or tasks in Microsoft Outlook. The 6500 Calendar and Task Management option provides users with phone access to their Calendar and Task Management lists in Microsoft Outlook, allowing them to book appointments and e-mail meeting requests and tasks.
- Use the phone to forward a fax or e-mail to another fax number. The 6500 Fax Integration option allows phone users to identify faxes in their inbox and forward their faxes to other fax machines.



Tip: For a complete list of 6500 Unified Messaging features, see “Unified Messaging Features” (p. 27). Also, see the *6500 Unified Communications User Guide* for more information.

Configuration

The 6500 Unified Messaging option requires the 6500 server, an Exchange 2000 server, and an Active Directory server within a Windows 2000 Domain. The 6500 Unified Messaging option can be used with Mitel Networks SX-200 PBXs, SX-2000 PBXs, 3300 ICP systems, and Nortel Networks PBXs.

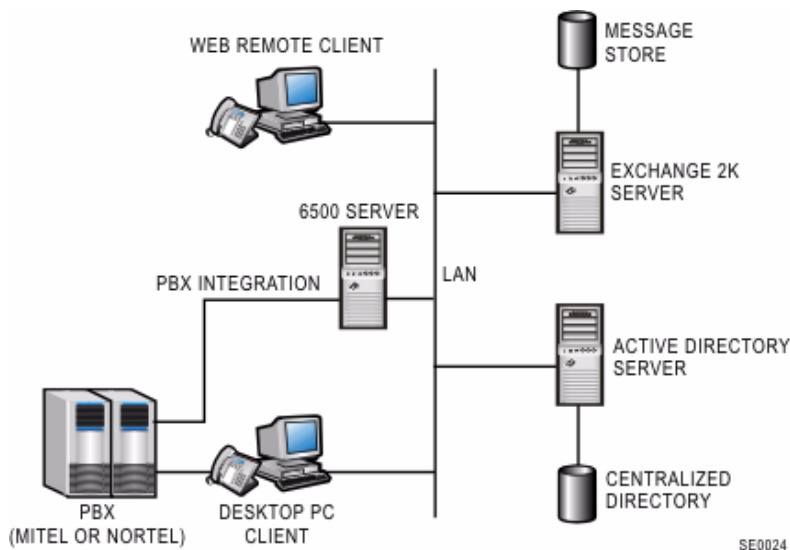


Figure 2 6500 Unified Messaging Digital Configuration

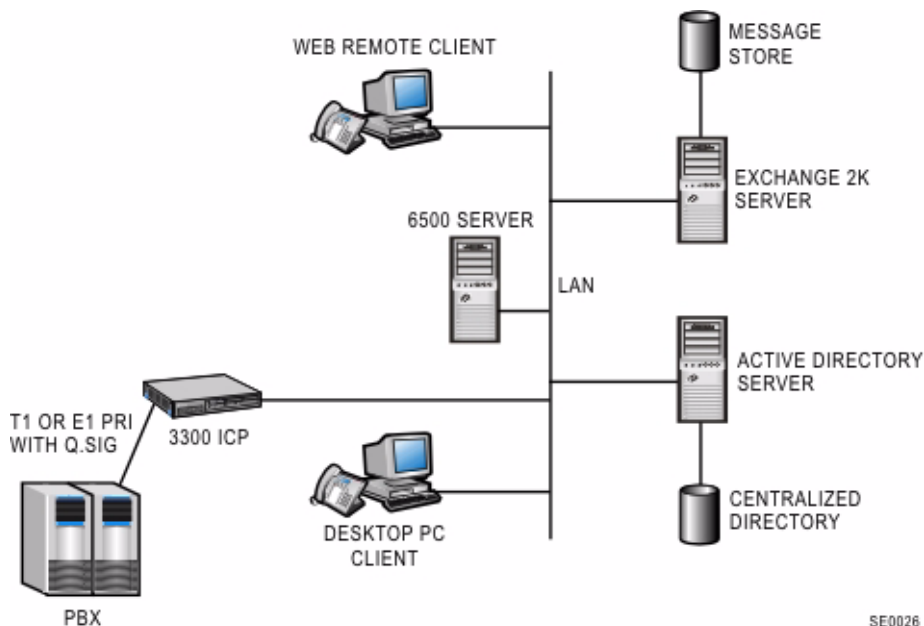


Figure 3 6500 Unified Messaging IP Configuration

Required Components

6500 Unified Messaging system provides the following software and functionality:

- 6500 Server software (includes five Personal Directory names)
- 6500 Unified Messaging Server License
- Speech Ports
- TTS (Text-to-Speech) Ports
- Company Directory
- Multi-level menus
- Unified Messaging User Licenses

Optional Components

The following licenses and options are available for 6500 Unified Messaging:

- Mobility
- Additional Personal Directory names
- Calendar and Task Management
- Third-Party Fax Integration (RightFax or Facsys)
- Enterprise Voice Portal
- Bilingual Option (English/French)
- Voice Mail Networking (VPIM support with Mitel Networks NuPoint Messenger)

Language Support

6500 Attendant

6500 Attendant prompts are available in NA and UK English, French, and Spanish.

Bilingual systems are available for the 6500 Attendant systems in English/French or English/Spanish. On bilingual systems, the default setting is NA English.

6500 Unified Messaging

Unified Messaging prompts are available in NA and UK English, and French.

An English/French bilingual system is available for the 6500 Unified Messaging option.



Note: Calendar and Task functionality are not available in French.

Features of bilingual systems

- Attendant prompts are provided in both languages.
- Voice commands are supported for both languages.
- Name recognition is available simultaneously in both languages, provided minimum hardware requirements are met.



Note: Bilingual systems do not support multi-level menus.

The following table identifies the languages supported for each feature:

Language Support

Feature	English (NA & UK)	French	Spanish
Attendant	Yes	Yes	Yes
Unified Messaging	Yes	Yes	No
Mobility	Yes	Yes	No
Multi-Level Menus	Yes	No	No
Administrator Web Page	Yes	No	No
Personal Web Page	Yes	Yes	Yes
Calender and Tasks	Yes	No	No
Outlook Plug-in	Yes	Yes	No
E-mail Playback (TTS)	Yes	Yes	No
Enterprise Voice Portal	Yes	No	No
Notification Services	Yes	Yes	No
Fax Integration	Yes	Yes	No
User Options	Yes	Yes	No
Tutorials	Yes	Yes	No
Help	Yes	Yes	No
Universals	Yes	Yes	No

Application Examples

The following examples provide an overview of possible 6500 Unified Communications applications. Many of these examples use the extra software options available to the 6500 Attendant.



Tip: The *6500 Unified Communications User Guide* provides instructions for using the features that are described in the following examples.

Calling by Name/Department

If you can't remember a colleague, customer, or even a family member's phone number, don't worry. If their name is listed in your Personal Directory, all you need to do is call the 6500 Attendant and state the name as it appears in the directory, and the system places your call. For example, to call your colleague, Bob Smith, simply say, "Bob Smith."

How many people do you know who have a home number, an office number, a pager number, and a cellular phone number? Forget about having to remember all of these numbers—your Personal Directory can keep track of them. To call Bob when he is on the move, all you have to do is call the 6500 Attendant and say, "Bob Smith on his cell phone."

What if you want to speak with someone in the Shipping Department, but you don't have a name or a number of someone who works there? Instead of looking one up, just call the 6500 Attendant, say "Shipping Department," and the system places your call to a department representative or extension.

Forwarding Calls

You are working off site, and you want your calls transferred to your cellular phone. Call the 6500 Attendant, say "Call forwarding," "Forward calls," and, when prompted, say "Cell." Alternatively, if you are working from home, say "Home" instead of "Cell" to forward calls to your home number. You can then set the date and time when you want the call forwarding to expire.

If you want to direct people who reach your voice mail to call you on your cellular phone, set your cellular phone as your Personal Operator, then, in your voice mail greeting, instruct callers to press 0 (zero) to call you on your cellular phone.

Checking Your Inbox

You are held up in traffic, sick at home, or away from the office on business, and you want to check your messages. Call the 6500 Attendant and say "Messenger" to hear your voice mails, e-mails, and fax messages.

Searching for an E-mail

You are anxiously awaiting an e-mail from a colleague, supplier or customer, and you want to quickly check your inbox for the message without having to wade through all of your new messages. Just call the 6500 Attendant, log in, say "Messenger," "Find messages," and then, when prompted, state the sender's name as it appears in your Personal Directory. If a message has arrived from the sender, the system will play it for you.

Forwarding E-mails/Faxes

You are out of town on business, and you want to use your hotel's fax machine to print an e-mail or fax from your manager. Call the 6500 Attendant, manually log in, say "Messenger," and listen to the message summary. After identifying the message from your boss, say "Fax forward," and, when prompted, change the fax forward number to the telephone number of the hotel's fax machine, and then respond to the prompts to print the message.

Getting Notified of Urgent Messages

You want to take a day off from work and to be notified only of urgent messages. In your Personal Web Page, enable the Notification settings so your e-mail enabled cellular phone can notify you of urgent voice mails, e-mails, and faxes.

Creating Appointments/Tasks

You want to keep track of your son's hockey game schedule. Create appointments for each scheduled game and refer to them at a later date. Call the 6500 Attendant, say "Calendar," "Create Appointment," and then respond to the prompts. When you want to check your appointments for the day. Simply call the 6500 Attendant, say "Calendar," and you'll hear a summary of appointments for the current day. If you say "Check Calendar," you can hear the summary of appointments for another day.

You want to schedule a task: Draft A of your Quarterly report is due next month. Call the 6500 Attendant, say "Task Manager," "Create Task," and then respond to the prompts to record your task information.

Setting Up a Meeting

You are at home, listening to your messages, and you hear that your company's stock prices have risen again. Knowing that your department deserves a congratulatory speech, you want to set up a meeting immediately. Say "Desktop," "Calendar," "Create Meeting Request," and answer the prompts to set up the date and time, create a list of attendees, and send an e-mail to notify the attendees of the meeting.

Accessing Company Information (sample VoiceXML application)

You are a salesperson on the road, and you need determine the status of a customer's purchase order. Call the 6500 Attendant and say, "Check P.O. status," and, when prompted, state the P.O. number. The system provides the scheduled delivery date, actual delivery date, and the waybill information.

Attendant Features

Standard Features

Account Codes

The administrator can program account codes for each user, and the system will log the appropriate code when the user makes an outgoing call.

Administration by Phone

Maintenance and administrative functions can be performed locally, from an extension, or remotely, from an external phone. The Admin Web Page can also be accessed through a dial-up modem connection.

Text-to-Speech

A built-in text-to-speech engine synthesizes the pronunciation of directory names for which there are no voice recordings.

Always Escape to Operator

At any time during a session, users can reach a live attendant by saying "Operator" or by pressing 0 (zero) on the dialpad.

Backup and Restore

The administrator can back up the system settings and recordings (greetings, names, and voice prints). If necessary, the database and file system can be restored from backup files.

Barge-in

This feature allows users to interrupt a system prompt with a speech command. The 6500 Attendant will stop playing the prompt and respond to the command. Barge-in allows experienced system users to skip quickly through the prompts.

The administrator can enable or disable barge-in on a system-wide basis. Once this feature is enabled, the administrator can enable or disable it on individual extensions.

Call by Department

Users can place a call to a department number by stating the name of the department. The department name and number must be programmed in the department section of the Company Directory.

Call by Dialing

Users can manually dial numbers when they do not wish to use voice commands.

Call by Extension

Users can place calls to an extension by stating the digits one at a time.

Call by Name

Users can place calls by stating the first and last name of anyone programmed in the Company Directory or in their Personal Directory.

Call Restrictions

The administrator can configure call restrictions to prevent calls to unauthorized destinations. Call restrictions are set in the dial plan.

Cancel Call

Before the 6500 Attendant begins dialing a number, users can cancel the call by saying “No,” or “Cancel.” By pressing 0 (zero) on the dialpad, users can cancel the call and call the operator instead.

Confirmation

The system recognizes speech at three confidence levels: high, medium, and low.

High: When the system recognizes a name or department with a high-level of confidence, the 6500 Attendant repeats the call request, pauses briefly, and then places the call (for example, “Human Resources ... dialing”). If the caller says nothing during the pause, or says “Yes,” the system will dial the number.

Medium: When the system recognizes a name or department with a medium-level of confidence, it prompts the user to confirm the name or department (for example, “I heard Blair Tyson. Is that correct?”). After the caller confirms the call request by saying “Yes,” the 6500 Attendant dials the call.

Low: When the system does not recognize a name, number, or department requested, it instructs the caller to repeat the call request (for example, “Pardon?...I'm sorry, I didn't understand. To place a call, say a name or a phone number.”).

Company Directory

The system supports up to 10,000 users and departments; users can have up to five numbers associated with their name (for example, office, cellular, home, fax, and pager).

Custom Greetings and Prompts

The system provides the following greetings and prompts to external callers:

- Emergency prompt (precedes all other greetings)
- Standard greeting for all external callers
- After-hours prompts
- Business-hours prompts
- Greeting for expert mode users (default is a tone)
- Instructions (prompts for when the 6500 Attendant does not detect a response, for example, “Please say a name or a number.”)
- Instructions indicating that an operator is also available
- Holiday prompts
- Prompts recorded with the 6500 Multi-level Menus

You can customize greetings and prompts for your organization. Note that the operator prompt tells the caller what to say to reach the operator. You can re-record any or all of the custom prompts or reset them to the system default.



Note: By default, the system plays all greetings and prompts except the emergency prompt. The emergency prompt must be enabled before it will be played.

Custom Dictionary

See “Custom Pronunciations” below.

Custom Pronunciations

This feature allows the system to recognize variant pronunciations and routes calls accordingly. For example, Ann Forget could be pronounced “Ann Forget” or “Ann Forjet.”

The administrator adds custom pronunciations for entries (first name, last name, department, and location) to the 6500 Attendant dictionary with the Pronounce Tool. Custom pronunciations can be created for any names that are entered in the Company and Personal Directories.

Demo Mode

Lets the user verify that the system will recognize and call their personal contact names. The system's demonstration mode simulates features such as Call By Name, without actually placing the call. Instead of routing the call to the requested party, the system returns the user to the main menu. Demo Mode is always available to internal or registered users.

Department Query

Callers can ask the 6500 Attendant what departments are available. The 6500 Attendant responds by listing the departments that are listed in the directory.

Directory Import Tool

This tool allows the administrator to import a list of names and numbers from a comma separated file (.csv) into the directory at initial commissioning. The Directory Import tool is available for 6500 Attendant systems only.

Directory Queries

Callers logged into the system can obtain a phone number by saying "Check number for *first name, last name*." The system will not provide numbers that are identified as "Private" in the directory.

Directory Update (Online)

An administrator can add or update new users from the Admin Web Page, and the system will enable the user accounts without interrupting phone service.

Disambiguation

If two or more people have names that sound the same or are the same, the system prompts callers to resolve the ambiguity asking them to identify the department or location of the person who they are trying to call. Once the caller identifies the department or location of the person, the system places the call.

Example

Caller calls the 6500 Attendant and asks for John Smith, but there are two John Smiths: one in Marketing and one in Sales.

6500 Attendant: "There are two employees with that name. Please indicate which of the following departments John Smith works in. Is it John Smith, Sales?"

Caller: "No," or remains silent.

6500 Attendant: "John Smith, Marketing?"

Caller : "Yes."

The system routes the call to John Smith in Marketing.

The administrator can set the order of the disambiguation prompts to either

- Department then Location, or
- Location then Department.

Emergency Mode

In an emergency situation, the administrator can configure and enable Emergency Mode for the system from a remote location by phone. While in Emergency Mode, the system plays a pre-recorded emergency prompt before the welcome greeting. The emergency prompt is played to all calls directed to the system.

Error Handling

The system responds to an error by saying "I did not understand." Note that the system does not count the need for a recognition-clarification prompt (for example, "Did you say Helen Roy?") as an error. After three (default) recognition errors, the system routes the caller to the operator. If the operator is not present, the call is routed to an alternate operator number (for example, a general voice-mail box). If this number is also not available, the system plays an apology and disconnects the call. The administrator can specify the number of allowed recognition errors, using the administration application.

Expert Mode

If Expert Mode is enabled, the system provides a short prompt or tone when a user calls in to the system. If an error is encountered, the system begins providing prompts and instructions.

External Calls to 6500 Users

External callers can direct calls to any of the five telephone numbers programmed for a 6500 user. For example, an external caller can call the cellular phone of a user by saying "Call Bob Smith on his cell." To receive this call, the user (Bob) must not have his cellular number programmed as a private number.

Help (Voice-based)

A caller can access the Help system by saying "Help." In addition, if a caller experiences difficulties, the system provides helpful prompts. By default, if the 6500 Attendant fails to recognize a destination request three times in a row, it transfers the call to the operator. The administrator can specify the number of recognition failures that the system will allow before it transfers the call to the operator.

Help Always On

See "Help (Voice-based)" above.

Historical Reporting

Crystal Seagate Reports software is included with the 6500 Attendant system. This reporting package allows administrators to measure call completion, recognition rates, latency, and login failures. The system supports several report types—from operational graphs to full call detail records including paging statistics and message-waiting indicator reports.

Holiday Schedule

The administrator can schedule holidays (for example, New Year's day) and have the system play a customized greeting.

IP Integration

The 6500 Unified Communications system integrates with the Mitel Networks 3300 ICP system. IP integration creates connections through virtual IP ports to the 3300 ICP. The system configuration can use 2 to 30 ports. T1 interfaces support up to 22 speech ports, and the E1 interfaces support up to 30 speech ports. IP integration can also support Q.SIG. See "Q.SIG Integrations" (p. 57).

LDAP Database

The 6500 Attendant can import directory information from any Lightweight Directory Access Protocol (LDAP) server. It can also import directory information from virtually any database capable of exporting data. See "Directory Import Tool" (p. 14).

Login Security

Phone Access

The first time a user calls the 6500 Attendant, they are guided through the enrollment process. During enrollment, the system records the user's voice and then uses this voice print to establish telephone security for the user. The system must recognize a user's voice before it will allow the user to log in to his or her account.

Users can choose from three login types that offer varying levels of security.

- Full Login
- Partial Login
- Manual Login



Note: The system does not use voice recognition for Full and Partial logins. Users are not required to say “Login” and then state their Login ID number; they are given full access to features whenever they call the 6500 Attendant from their extension.

Full Login—allows any person calling from an registered extension to have immediate and full access to the system features (including Mobility and Unified Messaging, if purchased). This login level provides quick system access and low-level security. For example, anyone using a given extension can access the Company Directory or Personal Directory that is associated with that phone. If Unified Messaging is enabled, then anyone using the phone would also have access to the message inbox for the extension owner. Full login is ideal for personal cellular phones and home phones because they are not publicly available.

Partial Login—gives users access to their message inbox after saying “Messenger” and after dialing their personal identification number (PIN). The PIN provides an intermediate level of account security and is useful for phones such as a department phone that may have several users.

Manual Login—is ideal for phones that serve many users. While this type of login provides immediate access to the Company Directory, access to other functionality requires users to say “Login,” and then state their Login ID so that the system can verify their voice, using the voice print that was registered during enrollment. Users do a manual login when they call the 6500 Attendant from a department phone or from an external phone.

The manual login procedure gives system users access to contacts that are in the Company Directory and in their Personal Directory, from any phone. The difference between manual-login calls from internal extensions (for example, lobby phones) and manual-login calls from external extensions (for example, pay phones) is the initial prompts. Internal manual-login callers hear the system prompt “Who would you like to call?” while external manual-login callers hear “Welcome, to ABC Company....”.

Personal Web Page Access

Users have access to a Personal Web Page that allows them to create a personal directory, program their phone numbers, change their PIN, and so on. Refer to “Personal Web Page” (p. 36) for details.

Users must log in to their Personal Web Page with their Login ID and PIN. They can set a maximum number of login attempts (2, 3, 4, 5, or 6). Upon exceeding the maximum number of attempts, users are locked out. The administrator must clear a user’s lockout condition before that user can log in again. The default maximum number of login attempts before the user is locked out is three.

Admin Web Page Access

Administration tasks such as configuring system parameters, are performed in the Admin Web Page. Refer to “Admin Web Page” (p. 41) for details. The administrator must enter the Login ID “Administrator”, and then type the admin PIN (default, 1234567890) to access this Web page.

Management Integration for IP Systems

When the 3300 ICP is integrated with the 6500 Unified Communications system, the 3300 ICP administrator can modify the 6500 Attendant database from the 3300 ICP System Administration Tool. When the administrator enters a user's name in the 3300 ICP System Administration Tool, the name of that user is automatically added into the 6500 Admin Web Page. This integration applies to 6500 Attendant systems only.

The Mobility (Reach Me) feature settings override any previously programmed forwarding. If a 3300 ICP extension user enables the Reach Me feature, all calls to the user's extension will be redirected to the Reach Me number for the specified length of time. Forwarding programmed with the 6500 Attendant system is synchronized with the call forwarding on the 3300 ICP.

Multi-level Menus

Multi-level menus enable callers to easily find a person or access information. The system can support up to 20 multi-level menus with a maximum of 500 nodes.

The following types of nodes are available:

- Menu nodes
- Audio-message nodes
- Call-transfer nodes
- Transfer-to-voice-mail nodes
- VoiceXML nodes

The nodes are not counted against the corporate list license limit. Each multi-level menu has its own greetings, business hours, holidays, and operator. Multi-level menus do not always require subnodes and can, therefore, provide multiple greetings for the same 6500 Attendant. Additional licensing is not required for multi-level menus; however, you do require the Enterprise Voice Portal option in order to use VoiceXML scripts with the menus.



Note: Bilingual systems do not support multi-level menus.

Multiple Numbers per Name

The administrator can program up to five phone numbers for each user entry in the Company Directory. The following numbers are supported: business, home, cellular, pager, and fax.

Users can also set and provide call restrictions to their home phone, cellular, pager, and fax numbers with their Personal Web Page. Note that users cannot change their business extension number.

By default, the system routes calls to the business phone number. Other numbers must be specifically requested for by the caller. For example, a logged-in user can say “Bob Smith on his home number” to reach Bob Smith at home instead of at the office. Contact could only be made if Bob’s home number was not programmed as private.



Note: This feature is only available for registered callers (callers who have a user account).

Nicknames

The system recognizes common nicknames such as “Dave” for “David” and “Steve” for “Stephen,” and routes calls accordingly.

The administrator can also enter a nickname for each user. Nicknames are supported for first names only and must be used in conjunction with last names. The administrator only needs to enter uncommon or unique nicknames. For example, if Bernard Jones likes to be called “Buzz Jones,” enter “Buzz” as a nickname for his first name. Users can then place a call to him by requesting “Buzz Jones.”

Non-Registered Phone Access

External callers who are not registered in the 6500 Unified Communications database can only use the following features when calling the system:

- Call by name, number, or department (internal numbers only)
- Call by dialing DTMF digits

Internal callers who are not registered have access to more features.

Operator Available Prompt

For each day of the week, the administrator can program the time of day when an operator is available. The time can be programmed in 15 minute intervals. When an operator is available, the system will prompt the callers to press 0 (zero) or say “Operator.”

Operator Prompt—Selectable

The 6500 Attendant greeting includes an operator prompt that tells callers what to say to reach the operator; for example “Press zero to reach the operator”. The administrator can turn off the operator prompt by disabling it. Note that if you disable the operator prompt, only the prompt is disabled; the system will still route calls to the operator.

Outbound Calls

Callers can use the system to place outbound calls by stating or dialing the digits. External numbers must be defined in the dial plan. Calling privileges are regulated by the system. In order to place an external call, users must be logged in and have the appropriate calling privileges defined in their profile.

Personal Directory

Users can create their own Personal Directory. Users on the 6500 Attendant system enter personal contacts in their Personal Web Page; users on the 6500 Unified Messaging system create contacts in Microsoft Outlook that are automatically filtered into their Personal Web Page. After creating their Personal Directory, users can log into the system and place calls to people in their directory by stating the name of the person.

For example, a user could store the personal entry, "Anne Jones at home," along with the appropriate phone number and then place a call to Anne by logging in to the system and requesting "Anne Jones at home." The 6500 Unified Messaging system is synchronized with information in Microsoft Outlook and responds to the same request with the home phone number that is programmed in Microsoft Outlook.

The number of entries allowed in the Personal Directory depends on purchased license options.

Personal Greetings

Users can record primary and alternate greetings and then enable or disable them by phone or from their Personal Web Page. If users don't record any greetings, the system plays the default voice mail greeting, using the recorded (if one exists) or the text-to-speech (TTS) name.

Personal Name Recording

Users can make a voice recording of their name and of the names of people they frequently call, from their Personal Directory Web page. Personal name recordings help users identify their entries over the phone because they recognize their own voice and pronunciation.

Personal Options

After users enroll with the system, they can

- Record names for their Personal Directory entries
- Place calls from their Personal Directory
- Record their name
- Change their PIN
- Select their language preference (if on a bilingual system)
- Use the Mobility feature (if the option is enabled)

Privacy

Users' cellular, home, pager, and fax numbers can be marked "Private." Callers cannot make calls to a private number or query a private number through the 6500 Attendant.

Users can enable or disable privacy for any of their numbers except the business number. Typically, a user's home number will be set for automatic login but marked "Private."

Pronounce Tool

The Pronounce Tool enables users to create and maintain a dictionary of name pronunciations. When the system is unable to recognize a particular name, the administrator can use this tool to enter phonetic spellings that will enable the system to recognize various pronunciations of the name.

Real-time Monitoring

The system monitors the status of each port in real time through the channel monitor. You can access the channel monitor in the following folder on the 6500 server:
Programs/Mitel Networks/Speech Recognition/Channel Monitor.

Registered Users

A registered user has a user account on the system and is programmed in the Company Directory. To register a user, the administrator assigns the user a Login ID number and a PIN.

Schedule Management

The administrator can schedule different system greetings and operator transfer points for different times of day, different days of the week, and for the holidays.

Self-management

In their Personal Web Page, users can manage their own personal numbers (home, cellular, fax, and pager) as well as set their Reach Me, privacy, and login security options. Note that users cannot change their business extension number.

Speech Filtering

The 6500 Attendant ignores irrelevant words or expressions that are not programmed as names or voice commands in its dictionary. Callers can use expressions such as "please," "thank you," and common prefixes such as "Mr.," "Mrs.," "Miss" or "Dr.," and the 6500 Attendant will still recognize the command.

Speech Recognition

The 6500 Attendant recognizes normal speech patterns—entire sentences as well as single words. This feature allows users to speak naturally and enables the system to comply with complex sentences containing more than one command, for example, “Call Bob Smith at home.” This command requires the system to recognize 1) that it must call Bob Smith, and 2) that it must call him at his home number rather than his work number.

Speech recognition uses speaker-independent technology, meaning that users do not have to train the system to recognize their voice; the system accepts many accents and manners of speech.

Standard Directory Interface

An internal LDAP server is provided with the 6500 Unified Communications system. If the 6500 Unified Messaging option is purchased, Active Directory is used as the system directory.

Text-to-Speech

The 6500 Unified Communications system converts text to speech (TTS) for user names, department names, and personal contact names that haven't been recorded by the administrator or user. The system also uses TTS for multi-level menu and voice-portal prompts. TTS is available in NA and UK English, Canadian French, and Latin American Spanish.

Time of Day Schedules

The daily schedule for open and closed hours determines the type of greeting that callers will hear and also what they will hear when a call will be routed to an operator, routed to an alternate number, or disconnected.

Touchtone Access

Users can choose to manually dial calls if they do not want to use voice commands. This feature is useful in noisy or public environments.

Transfer to Operator

A caller can call the operator by saying “Operator” or “Zero,” or by dialing 0 (zero). The system knows when the operator is not available (for example, during holidays) based on the Time of Day Schedule.

The administrator can also configure an alternate number to which calls can be routed whenever the operator is not available (not scheduled) to answer them.

Tutorial

When users call the system for the first time, they are prompted to record their voice print, record their name, and take a tutorial on how to use the features. Users can also access the tutorial any time they want to refresh their knowledge of the system features.

User and Administrator Interfaces

The system provides an Admin Web Page for administrators and a Personal Web Page for users. See “User Interface” (p. 33) and “Administrator Interface” (p. 41) for more information.

User Management—Web-based or from Active Directory

If a 6500 Attendant system is installed, the administrator manages the Company Directory from the Admin Web Page.

If a 6500 Unified Messaging system is installed, the administrator manages the Company Directory from Active Directory.

Optional Features

Bilingual Support



Note: Bilingual systems do not support multi-level menus.

There are two bilingual versions of the 6500 Attendant system:

- NA English/Canadian French
- NA English/Latin American Spanish

There is one bilingual version of the 6500 Unified Messaging option:

- NA English/Canadian French

The default language for bilingual systems is NA English.

In bilingual mode, the system plays the “Welcome” prompt, first in the primary language and then in the secondary language. The last part of each prompt instructs callers in how to access the desired language. The 6500 Attendant supports the speech recognition of names in the directory for the two languages that are chosen for the system. Users can alternate between languages, as desired, and need only to state the language they wish to use. For example, if a user is speaking English on an English/French system, he or she can say, “Français,” and the 6500 Attendant will respond in French.

The installer sets the primary and secondary language during the installation of the 6500 software. The administrator can also set the primary and secondary language from the 6500 server.

By default, the prompts for each user are set to the primary language. The administrator or the end user sets the language for the prompts and as well for the e-mail playback. Users can then use the system in their preferred language.

After logging into their Personal Web Page, users can select the language of their Web interface and change the language of the attendant voice prompts for their account from their Personal Web Page.

All features are not available in all languages. Users must switch to a supported language to access these features. For details, see “Language Support” (p. 7).

The administrator can customize greetings in both languages on a bilingual system.



Note: Bilingual support is a licensed option.



Note: Users can change mobility settings and access 6500 Unified Messaging from a phone in English and French only.

Enterprise Voice Portal

The voice portal application allows users to speech-enable a third party database, Web site, or company intranet. This application increases the quality of customer service by ensuring that information is available to customers 24 hours a day.

The Enterprise Voice Portal option allows the system to run VoiceXML scripts based on port number or dialed number.

- If the script is associated with a port number, the designated VoiceXML is executed after a user has called a port that has been configured to run VoiceXML. For example, a hotel may write a port-based script that will instruct a guest in how to set up a wake-up call, request room service, ask for valet service, or hear the local transportation schedule.
- If the script is associated with a dialed number (only available with the 3300 ICP), the VoiceXML script will be played when the user calls that number. For example, for a sports arena, you might configure three dialed number scripts that would
 - play a message that guides callers through the process of purchasing a ticket
 - provide the schedule of a basketball team
 - list the arena concert schedule

Mobility ("Reach me" or "Forwarding") Option

This optional feature allows users to direct calls that are placed to their default office number to one of their other programmed numbers (cellular, pager, fax, or home) or to a temporary number. While Mobility is enabled, all calls to the office number are directed to the "Reach Me" number; however, if a caller specifically requests the cellular phone, pager, fax, or home phone number, the call is routed accordingly.

For example, if Bill Jones is working from home, he can set the "Reach Me" field to his home phone number. Then, if someone calls his office number, the system will automatically redirect the call to his home phone number.

The following conditions apply to the Mobility feature:

- Users can set the date and time that they want the Mobility feature to expire. After the feature expires, the system directs calls back to the office number.
- Users can enable, query, and cancel Mobility through the 6500 Attendant, or they can set this feature through their Personal Web Page.
- The administrator can enable or disable this feature on a system-wide and per-user basis.
- The administrator can set the call redirection privileges to internal, local, toll, or international, from the Admin Web Page.



Note: You can change mobility settings and access 6500 Unified Messaging from a phone in English and French only.

Expiry Date and Time

This feature allows users to specify the date and time when forwarding will expire.

Forwarding on a 3300 ICP System

Users can set forwarding of their calls through the 6500 Attendant or their Personal Web Page so that calls placed through the 3300 ICP are forwarded to a new number. The Mobility settings programmed in the 6500 Unified Communications system are consistent with the forwarding of a user's set on the 3300 ICP. The forwarding of calls as defined in the 6500 Unified Communications is dependant on the management integration of the 3300 ICP system with the 6500 Attendant system or 6500 Unified Messaging system.

Voice Programming

Users can set up mobility over the phone, using voice commands.

Web Programming

Users can setup mobility from their Personal Web Page.

Unified Messaging Features

Standard Features

Basic Touchtone Command Support for Message Scanning

Users can use the phone dialpad or voice commands to

- Access messages
- Reply to messages
- Forward messages

See the *6500 Unified Communications Quick Reference Card* for details.

Callback Sender

After accessing a message, the user can initiate a callback to the number from which they received a voice or e-mail message, if the sender of the message meets either of the following conditions:

- The name and number of the sender are in the Company or Personal Directory.
- Caller ID is available

Contact List Synchronization

Users can use Microsoft® Outlook 2000 as a personal dialing list without having to remember phone numbers. Users' Microsoft Outlook 2000 contact list is integrated with their Personal Directory. Names entered into the Outlook 2000 contact list are copied to the user's Personal Directory. For the 6500 Unified Communications system to recognize a contact, the first and last name of the contact can only contain alphabetical characters, and the phone number of the contact can only contain digits.

E-mail Access

Users can access e-mails from their phone, using text-to-speech. If the e-mail has text attachments, the system gives the user the option to play the attachments. After listening to the e-mail, the user can e-mail a reply to the sender, place a call to the sender, or forward the e-mail to another person.

Exchange 2000 Server Integration

Voice messages are audio files that are attached to e-mails and stored in the inbox on the Exchange 2000 Server.

Forward Messages

Users can forward voice or text messages to anyone who has an e-mail address listed in the Company or Personal Directory. Users can attach a voice introduction to the e-mail.

Inbox Message Navigation

All message types (voice, e-mail, and fax) can be accessed and managed from a single unified inbox. Users can navigate to the messages that are in their inbox, using speech commands or touchtone commands.

Individual Personal Operator Transfer

Each user has a programmable Personal Operator transfer (to get personal assistance). This feature is accessed by dialing 0 (zero) during the time the caller hears the voice-mail greeting prompt.

Message Addressing by Name

If users access their messages using speech commands, they can address messages with names. Multiple recipient lists are supported; however, if users access their messages using touchtone commands, they can only address messages using the recipient's extension number.

Message Caching

When the network is down or the Exchange server is unavailable, the 6500 server caches voice messages until the connection to the Exchange server is restored.

Message Forwarding

Users can forward voice or text messages to recipients that are on the company or personal lists and have an associated e-mail address. Users can attach a voice introduction to their forwarded message(s).

Message Priority

After creating a message, users can flag the message as "Urgent" and then send the message.

Message Response

6500 Unified Messaging provides users with the ability to send messages of any media type from any remote device (phone or PC). The user can

- Reply to a voice or text message
- Add recipients to a voice or text message
- Attach a voice reply to a voice or text message

Message Review/Re-record

Before sending a voice message users can review it, and if necessary, re-record the message or append information to it.

Message Waiting Indication

A Message Waiting indicator on the phone flashes when there are unplayed voice messages in the user's inbox. The indicator light turns off after the user plays the voice messages.

Multimedia Outlook Plug-in

The Multimedia Outlook Plug-in customizes the graphical user interface (GUI) for Microsoft Outlook 2000 or Microsoft Outlook XP to allow users to play voice messages directly from Microsoft Outlook without launching a media player. Users listen to their voice mails with their PC speakers or telephone. From Microsoft Outlook, users can

- Receive and play voice messages
- Record and send voice messages
- Reply to voice messages
- Forward voice messages

To create voice messages, users need a microphone attached to their PC.

Notification Service

Users can choose to be notified of urgent incoming messages or to receive meeting reminders that are generated by Exchange 2000. Users can receive an e-mail on their e-mail-enabled device (pager or cell phone) or a pre-determined numeric sequence on their DTMF pager.

Query, Sort, and Find

Users can use voice commands to browse or search their inbox messages by date, sender, message type, or importance.

Recipient List Management

After recording messages, users can modify the list of message recipients by saying “Modify recipients.” Users can then review the recipient list, clear the list, add or delete a recipient from the list, or copy the message to someone in their Company or Personal Directory.

Selectable Personal Contacts

Users can select the contacts in their Microsoft Outlook for their Personal Directory. This enables users who have more personal contacts than the 6500 system allows, to choose which contacts they want the 6500 system to recognize.

Selectable Playback

Users can use the phone to listen to voice messages in their Microsoft Outlook Inbox.

Standard Voice-encoding

Users can play the voice message encoding in ASF format on any Windows desktop.

Summary Feature

After users log in to 6500 Unified Messaging, the system plays a summary of their unread messages. The summary can include the

- Number of all unread messages
- Number of unread e-mails and voice mails
- Number of urgent messages

Users can customize the format of this summary in their Personal Web Page.

Touchtone Command User Interface

The user can use touchtone commands to access and manage their messages. In noisy environments where the system may have difficulty understanding voice commands, users can press *T (*8) to switch to Touchtone Command Mode.

User-Configurable Messaging

In their Personal Web Page, users can configure the order in which the 6500 Attendant will play their messages. Users can choose to have messages played based on

- Priority (for example, play urgent messages first)
- Type of message (voice mail, fax, or e-mail)
- Order of arrival (for example, oldest to newest or newest to oldest)

Optional Features

Calendar and Task Management

This option enables users to perform the following tasks, using voice commands:

- Access their Calendar and Task lists in Microsoft Outlook
- Review their message lists
- Create, modify, or delete an appointment, meeting, or task

Fax Integration

The unified messaging voice user interface (VUI) supports fax messages. Users can sort their messages by mail type and forward their faxes to another fax machine. E-mails can also be forwarded to a fax machine. You can integrate a RightFAX or Facsys server with the Exchange 2000 server to obtain inbox fax support.

Voice Mail Networking

This option lets unified messaging users receive and send voice mails with other Voice Profile for Internet Mail (VPIM) nodes (NuPoint Messenger and the 3300 ICP voice mail). The system uses the VPIM protocol, Microsoft Active Directory, and Microsoft Exchange 2000. The administrator programs the voicemail users for the network in Active Directory.

User Interface

User Enrollment

The first time that users call the 6500 Attendant, the system guides them through enrollment. After users enroll with the system, they can begin using the 6500 Attendant features, the 6500 Unified Messaging option (if purchased), and their Personal Directory.

When a user enrolls, the system obtains the user's voice print. The system associates the user's voice with the user's account and can prevent other people from gaining access to the user's Personal Directory and calling privileges.

Users require the following information for enrollment:

- 6500 Attendant extension (2- to 7-digit number)
- User Login ID (10-digit number for NA; 11-digit number for UK)
- User PIN (4- to 7-digit number)

Users also require the following information to use the system:

- Type of login: automatic login (partial/full login), or manual login
- URL for their Personal Web Page: `http://servername/login.html` (where `servername` is the netbios name of the 6500 server)
- 6500 server name (for the installation of the 6500 Multimedia Outlook Plug-in)
- User Guide
- Quick Reference Card

Logging In

Automatic Login

With Automatic Login, users have immediate access to the Company Directory and the Personal Directory whenever they call the 6500 Attendant. If automatic login is not enabled, users must call the 6500 Attendant, say "Login" and then state their login ID before they can access their Personal Directory.

6500 Unified Communications provides two types of automatic logins with different degrees of security for the unified messaging user. Unified messaging users want to be confident that people do not access their messages. Users who do not have unified messaging will see no difference between full and partial logins.

- Full Login gives users immediate access to their messages after the unified messaging user says “Messenger.” There is no user verification.
- Partial Login gives users full access to their messages after they say “Messenger” and then dial a PIN.

The system administrator programs the automatic login on the business extension number; however, users can program the type of automatic login they want for their cell, pager, fax, and home phone numbers.



Note: Extensions must be unique in the system to allow automatic login.

Manual Login

Extensions that serve many users such as lobby phones or department phones are typically programmed for Manual login. The extension provides immediate access to the Company Directory, but access to other functionality requires the user to say “Login,” and then state his or her Login ID so that the system can verify the voice with the voice print that was registered during enrollment.

Users can manually log in when they call in to the system from an external phone that is not registered with the system.



Tip: To manually log in, users must have recorded their voice print (Login ID) during enrollment.

Voice Interface

The system’s voice interface is easy to use and makes communication much faster. Users do not have to remember numbers or look them up. Instead, they simply state the name of the person who they want to call.

Users are never out of reach:

- The 6500 Attendant allows users to redirect their calls to other numbers (for example office, cell, and home). This ensures that when users are on the move, personal and business contacts are always able to call them.
- Unified messaging enables users to receive any type of message (voice, e-mail, or fax) by phone.

Touchtone Interface

Users can use the dialpad if they do not wish to use voice commands.

6500 Attendant

Users can manually dial a phone number

- When the system has trouble recognizing a name
- In noisy or non-private environments

6500 Unified Messaging

Users can use the telephone dialpad to

- Access all messages (e-mails, voice mails, faxes)
- Listen to e-mails and voice mails
- Reply to messages
- Forward messages
- Create new messages
- Mark messages as "Urgent"
- Manage greetings
- Change their PIN
- Change their name recording

Personal Web Page

The following figure shows an example of a user's Personal Web Page.



Figure 4 Personal Web Page

The Personal Web Page lets users perform the following functions:

- Create a Personal Directory (users on the 6500 Attendant system only)
- Program a cell, home, fax, pager, and temporary number
- Program a Reach Me (call forwarding, mobility) destination and forwarding expiration time
- Choose the language of the auto attendant voice prompts (available on bilingual systems only)
- Set messaging options (if the 6500 Unified Messaging option is enabled)
- Enable notification and choose the device and the events that require notification (if the 6500 Unified Messaging option is enabled)
- Restrict calls to their cell, pager, fax and home phone numbers
- Change their PIN
- Browse their personal profile settings

Users can access their Personal Web Page, using a Web browser or through the Outlook plug-in (if installed).

Personal Directory

The following figure shows an example of a user's Personal Directory.

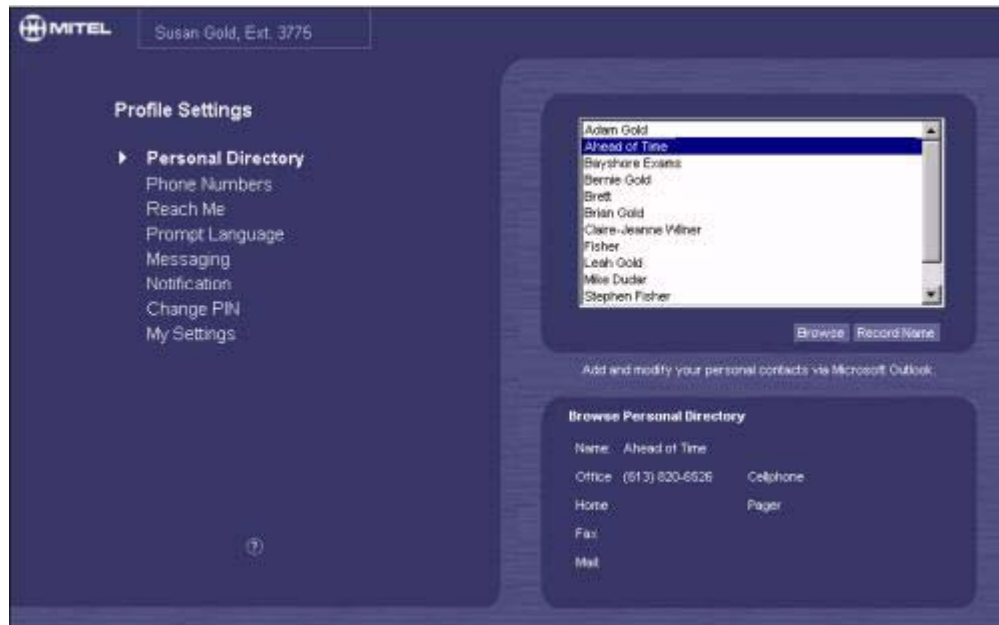


Figure 5 Personal Directory

A Personal Directory allows users to place calls by name to personal contacts. A user's Personal Directory may include phone numbers for clients, business associates, doctors, friends, and relatives.

The procedure for creating the Personal Directory is dependant on the system used:

- With the 6500 Attendant system, users list their personal contacts in their Personal Web Page.
- With the 6500 Unified messaging system, users list their personal contacts in Microsoft Outlook.

Users on the 6500 Attendant system can program multiple phone numbers for a personal contact, but the text programmed for the contact should specify a name and location. For example, a user could create a personal contact, "Aunt Joan at home". To place a call to this contact, the user would say "Aunt Joan at home."

Users can record names for their Personal Directory over the phone. The 6500 Attendant will use the recorded name when playing prompts instead of the text-to-speech version of the name.

Users on a 6500 Unified Messaging system can program multiple phone numbers for a personal contact in Microsoft Outlook, and the system lets users place a call or a callback to a contact on any of the contact's five distinct phone numbers (business, home, pager, mobile, or fax).

Microsoft Outlook Inbox

When Unified Messaging users are at their desk, they view and manage all of their messages from a single inbox. When travelling, they can use any phone to access and manage all of their messages from this one inbox. On the road, they can create, play, forward and reply to their voice messages as well as listen to their e-mails (using text-to-speech) and reply to their e-mail with a voice message.

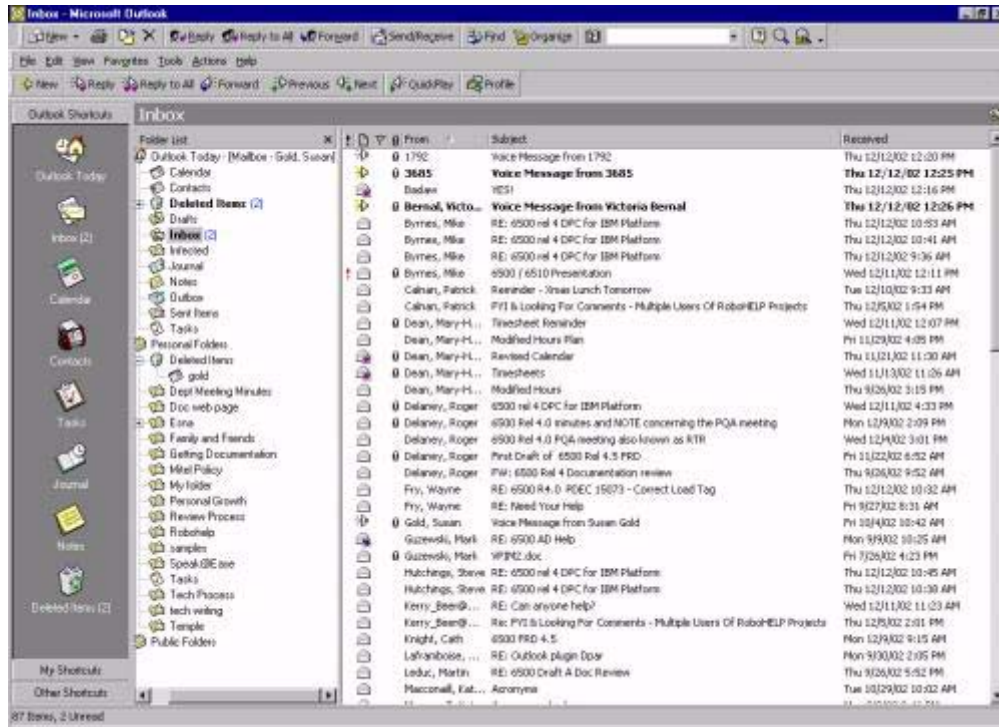


Figure 6 Microsoft Outlook Inbox

Microsoft Outlook Calendar and Tasks

Unified Messaging users use the Calendar and Task application within Microsoft Outlook to organize and keep track of their activities. There is no need for PDAs and Blackberry handhelds when you can use any telephone to check and manage your appointments, meetings, and scheduled events.

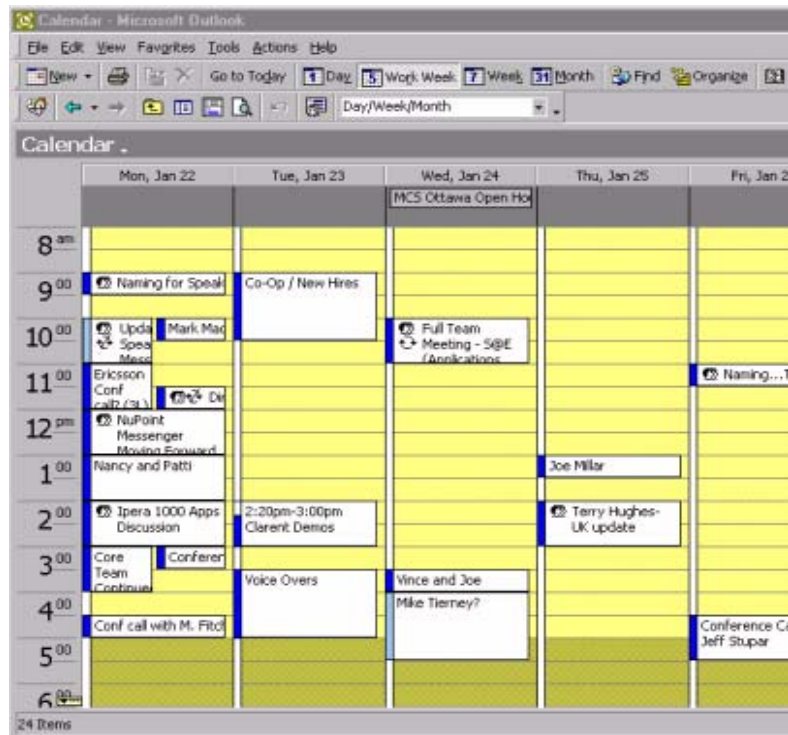


Figure 7 Microsoft Outlook Calendar

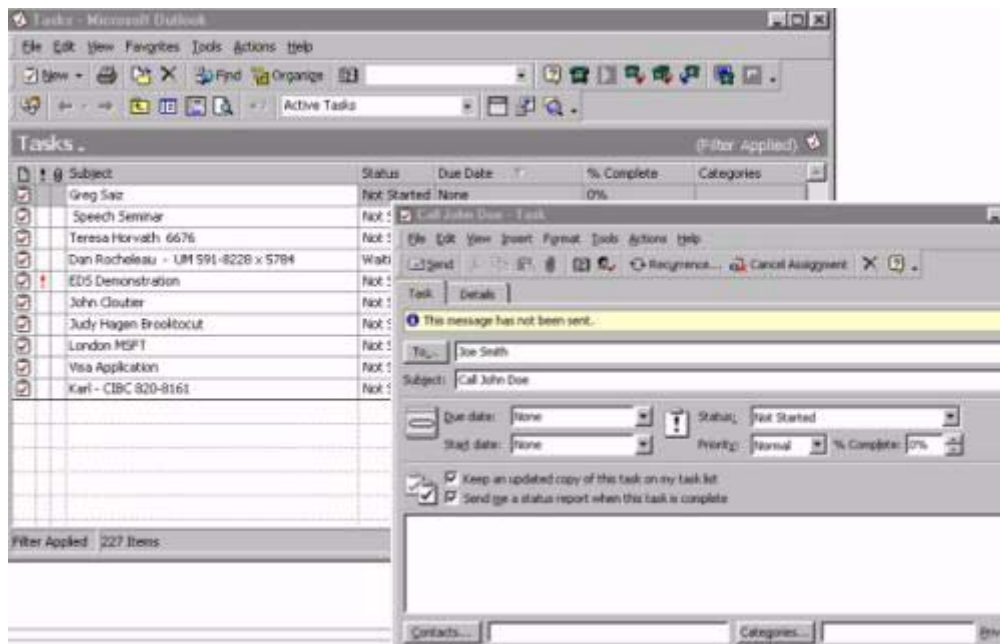


Figure 8 Microsoft Outlook Tasks

Administrator Interface

Admin Web Page

The administrator performs tasks such as configuring system parameters and user settings, from the Admin Web Page. The Admin Web Page runs in a browser on either the system server or a client station. The recommended browser for the client stations is Microsoft® Internet Explorer 5.5 or greater.

An online Help system provides instructions on how to use the Admin Web Page. Concurrent administration sessions are not supported. If a second administration session is started, the first is shut down.

The Admin Web Page is divided into the following sections:

- Directory Management
- System Configuration
- System Management
- Applications

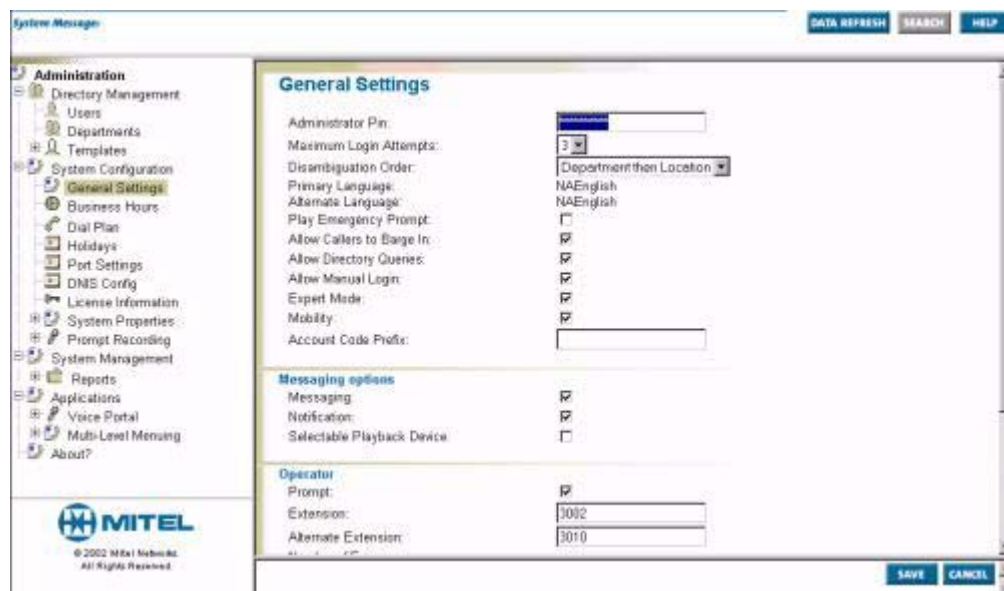


Figure 9 Admin Web Page

Management Integration for IP Systems

When the 3300 ICP is integrated with the 6500 Unified Communications system, the 3300 ICP administrator can modify the 6500 Attendant database from the 3300 ICP System Administration Tool. When the administrator enters a user's name in the 3300 ICP System Administration Tool, the name of that user is automatically added into the 6500 Admin Web Page. This integration applies to 6500 Attendant systems only.

The Mobility (Reach Me) feature settings override any previously programmed forwarding. If a 3300 ICP extension user enables the Reach Me feature, all calls to the user's extension will be redirected to the Reach Me number for the specified length of time. Forwarding programmed with the 6500 Attendant system is synchronized with the call forwarding on the 3300 ICP.

Standard Directory Interface

An internal LDAP server is provided with the 6500 Unified Communications system. If the 6500 Unified Messaging option is purchased, Active Directory is used as the system directory.

Admin Tools

In addition to the Admin Web Page, the following tools are available to the administrator:

- Backup and Restore
- Channel Monitor
- Language Selector
- License Manager
- Pronounce Tool
- Service Manager
- MWI Controller
- Configuration Wizard
- Uninstall
- Directory Import
- Active Directory Users and Computers
- 3300 ICP System Administration Tool

Backup and Restore

The administrator can back up the data and voice files to a user-defined directory on the 6500 server and then restore them later, if required.

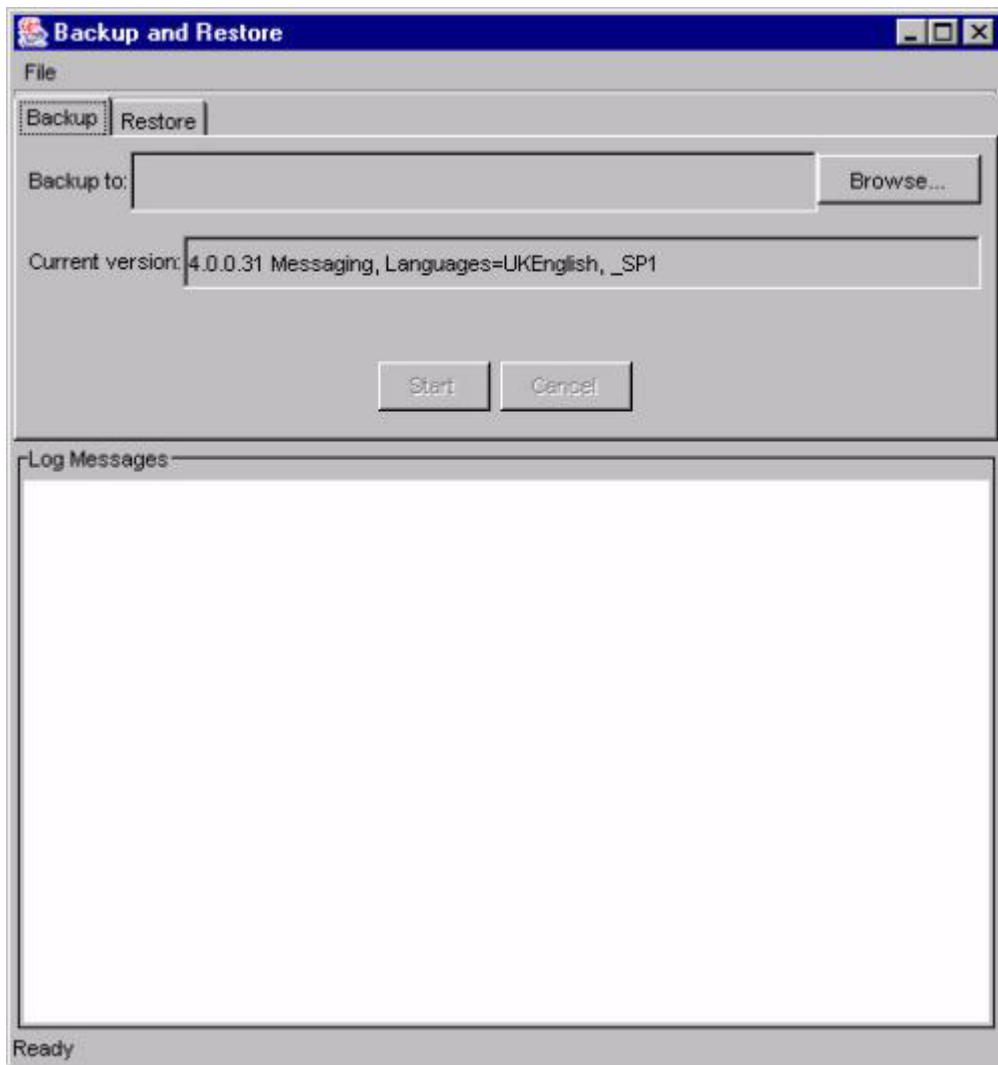


Figure 10 Backup and Restore Tool

Channel Monitor

The channel monitor shows the status of each port in real time.



Figure 11 Channel Monitor

Language Selector

If the system is a bilingual system, the Language Selector tool is available on the 6500 server (Start\Programs\Mitel Networks\Speech Recognition\Language Selector).

Bilingual systems allow the administrator to select the primary and secondary language of the standard greeting. The standard greeting prompt is played first in the primary language and then in the secondary language. The last part of each prompt instructs the caller to identify the desired language. After the caller states the desired language, the system provides further prompts or instructions in the requested language.

Outside callers who access bilingual systems can choose French or Spanish. After a user has chosen a Spanish or French voice user interface (VUI), he or she can access Mobility or Messaging by stating the function name in the chosen language. Note that, Messaging and Mobility VUIs are only available in UK or NA English. The user will hear his or her preferred system language after returning to the main menu.



Figure 12 Language Selector

License Manager (View or Configure Options and Dimensions)

From the 6500 server, the administrator can launch the License Manager window. It displays the following specifications:

- System ID
- Number of speech ports allowed
- Number of personal list entries allowed (per user)
- Number of Company Directory entries allowed
- Number of 6500 Unified Messaging users
- Number of Text-to-Speech ports
- Enterprise Voice Portal option
- Bilingual option
- Mobility option
- Messaging option
- Calendar or Task Manager option
- Fax Integration option
- Voice Mail networking

The administrator must select the Messaging check box to edit the number of Messaging users and the number of text-to-speech ports. Each of the options listed above must be purchased before they can be enabled.

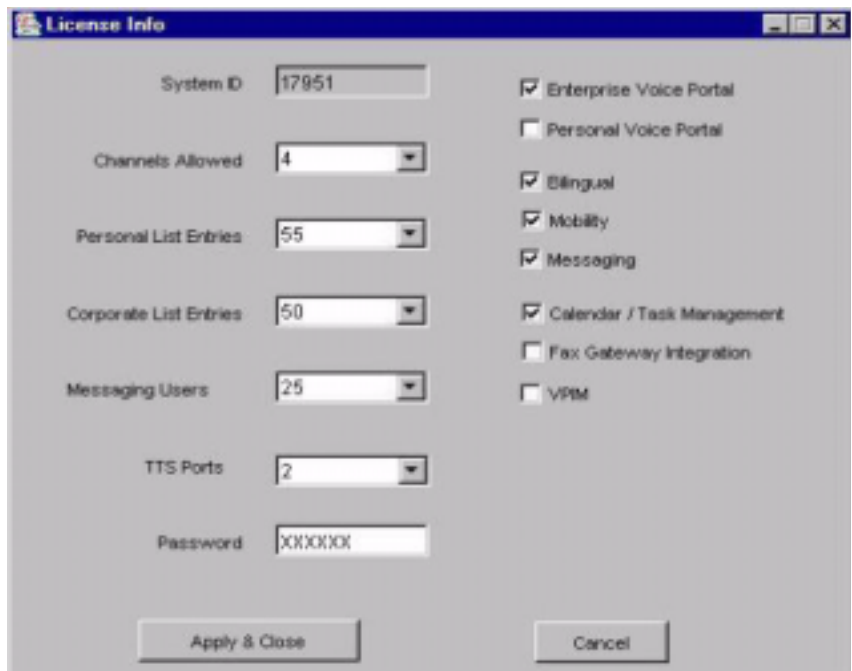


Figure 13 License Manager

Pronounce Tool

The Pronounce tool is provided on the 6500 server. It allows the administrator to add custom pronunciations for first and last names, department names, and locations to the system dictionary. Custom pronunciations are applied to all entries in the company and personal directories. For example, if you add a customized pronunciation for “Thériault,” it will apply to all entries that contain the name “Thériault.”

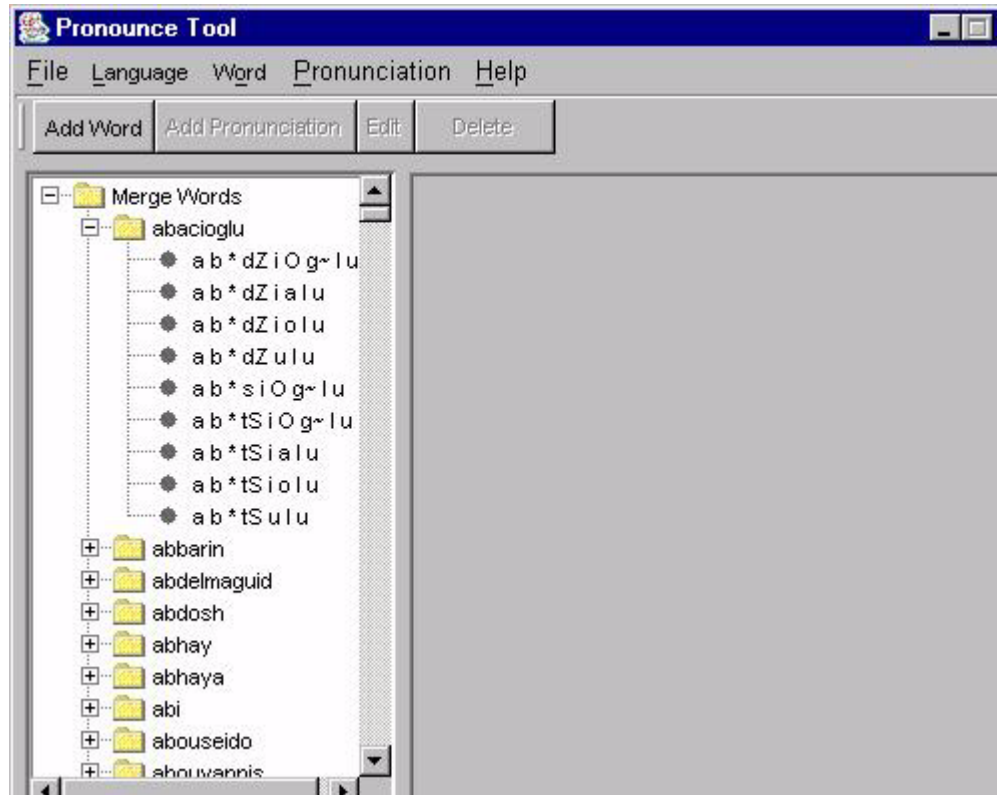


Figure 14 Pronounce Tool

Service Manager

Each time the 6500 server is powered up, it automatically starts the Service Recovery Manager (SRM) service. This service initiates a guardian process that interfaces with the Windows NT Service Control Manager (SCM) to

- Start up and shut down services in a specific order
- Continuously monitor the performance of critical applications

If a failure occurs in one or more services, the guardian will detect the failure and create an NT event log message.

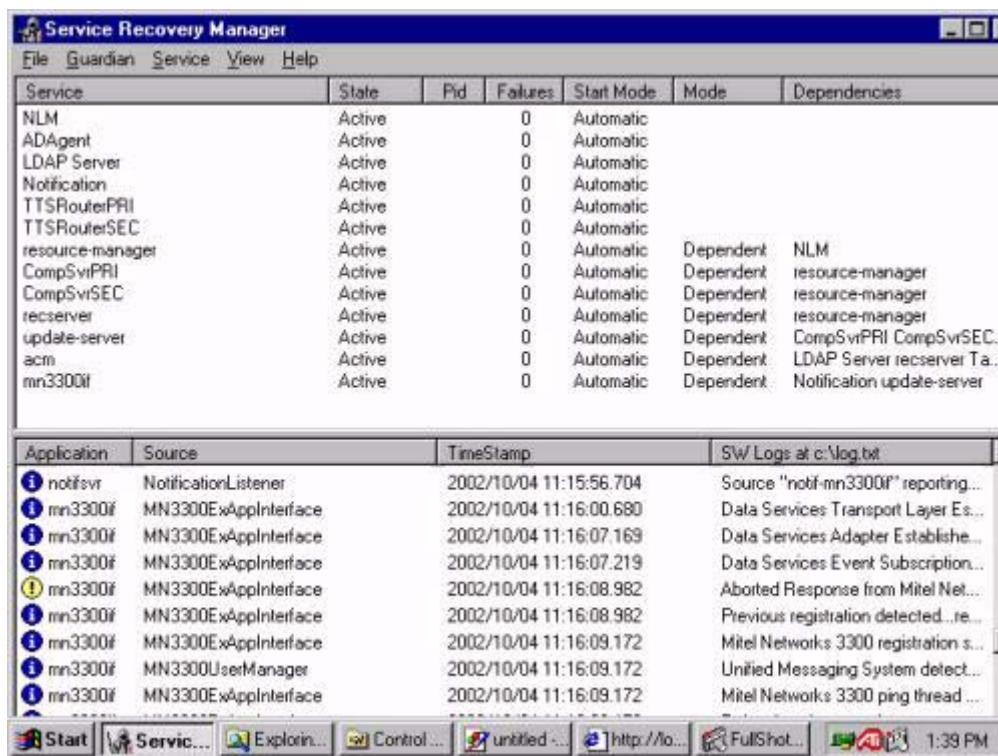


Figure 15 Service Manager

MWI Controller

The administrator can reset the Message Waiting Indicators (MWI) on the phones, on a system-wide or an individual basis, using the MWI Controller tool. This MWI Controller resets all of the phones assigned to the users listed in the Active Directory. A status window on the MWI Controller window logs MWI transactions.

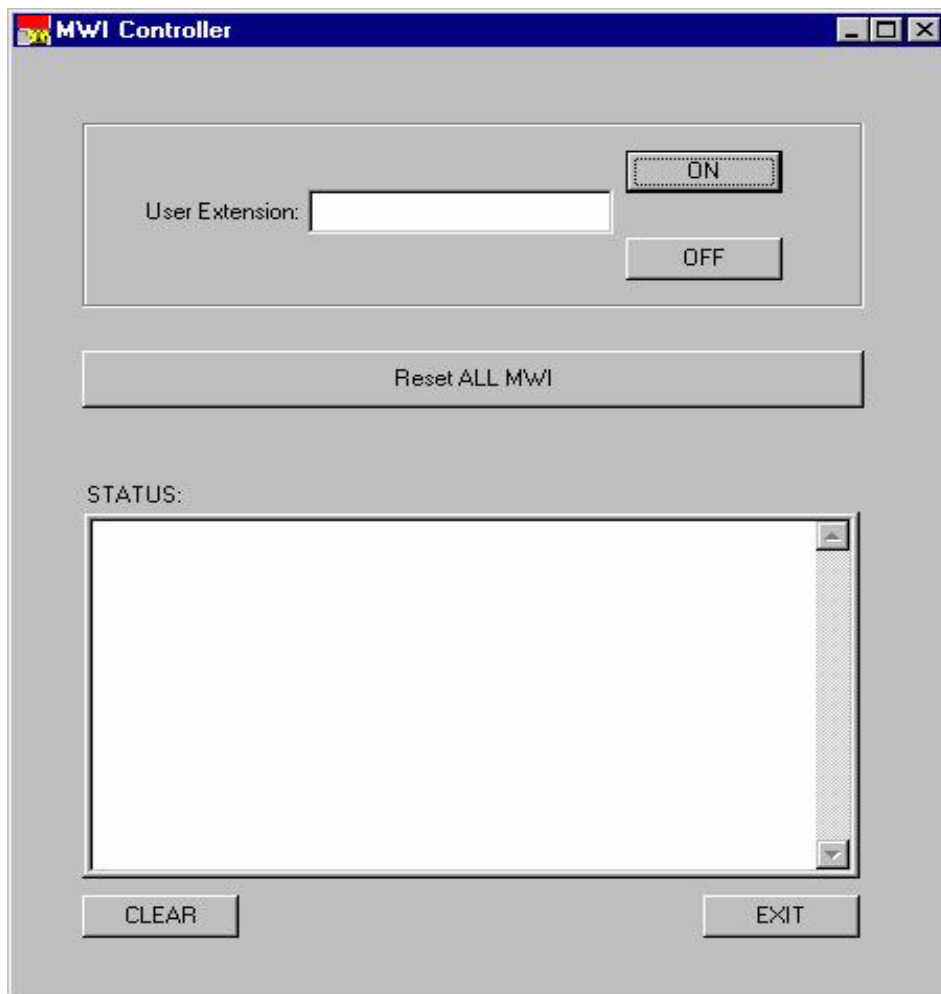


Figure 16 MWI Controller

Configuration Wizard

The administrator uses the Configuration Wizard to automatically reconfigure the 6500 system to operate in a new environment for 6500 Unified Messaging.

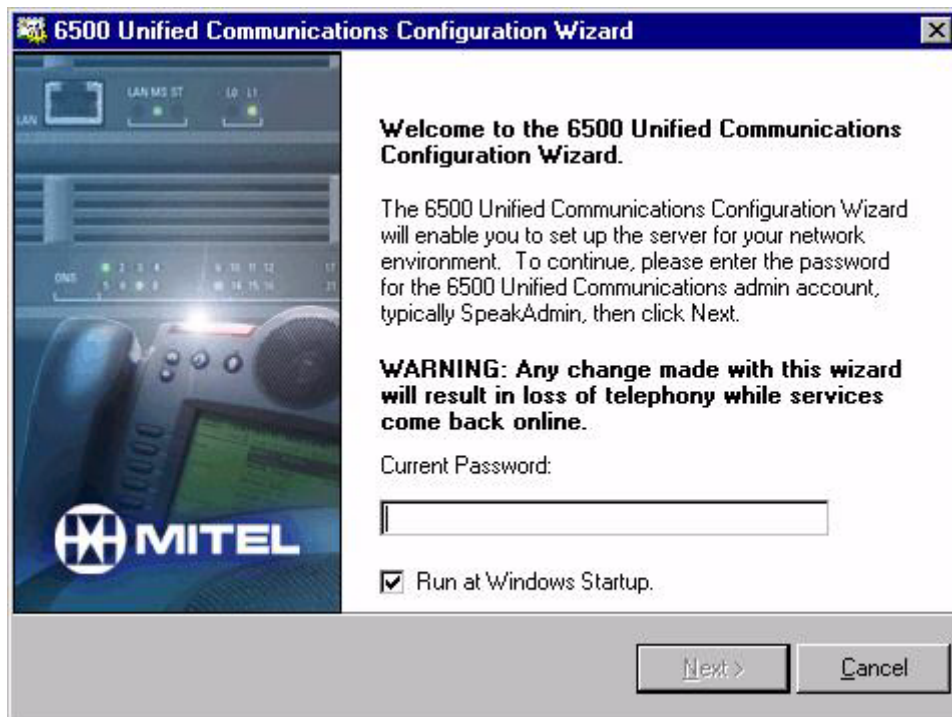


Figure 17 Configuration Wizard

Uninstall

The administrator uses this application to uninstall the 6500 Unified Communications software.



Figure 18 Uninstall

Directory Import

On 6500 Attendant systems, the administrator can import a phone directory database from an Lightweight Directory Access Protocol (LDAP) compliant server or from a comma separated value (.csv) file into the 6500 Attendant database.

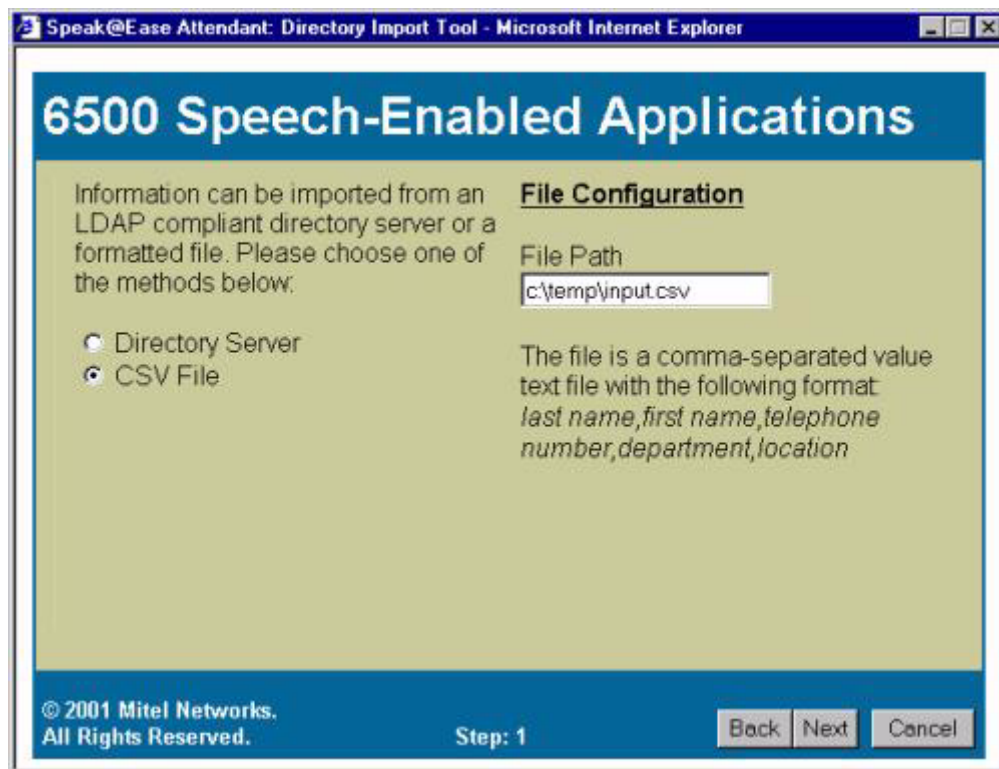


Figure 19 Directory Import Tool

For 6500 Unified Messaging systems, the administrator accesses the corporate Active Directory server database and displays users who have 6500 Unified Communications enabled. These attributes are installed with the 6500 Unified Messaging Active Directory Snap-in.

Active Directory Users and Computers

On systems that have the 6500 Unified Messaging option, the administrator manages the Company Directory user details through the Active Directory SR Settings tab in the Active Directory Users and Computers window. The administrator logs in to the Active Directory Domain and navigates to the application (Start\Programs\Administrative Tools\Active Directory Users and Computers).

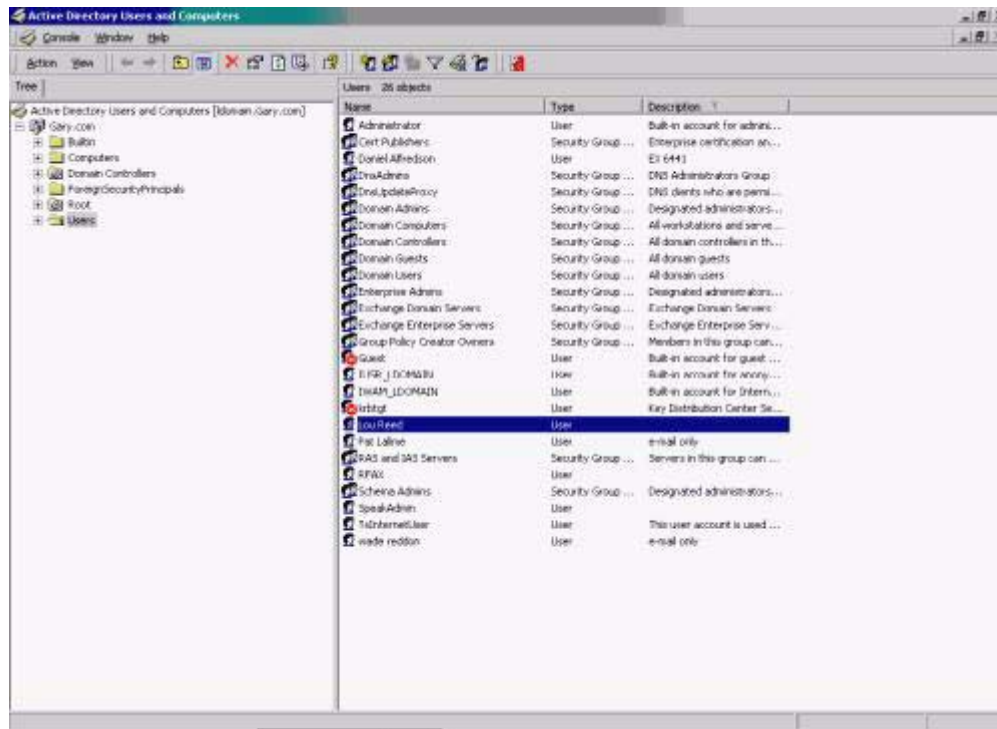


Figure 20 Active Directory Users and Computers

3300 ICP System Administration Tool Integration

The 3300 ICP Web-based System Administration Tool is integrated with the 6500 system. Users who are entered in the 3300 ICP System Administration Tool are automatically entered in the 6500 Admin Web Page.



Figure 21 3300 ICP System Administration Tool

6500 Voice Portal Software Development Kit

Administrators can write custom VoiceXML scripts using the 6500 Voice Portal Software Development Kit (2 x SDK CD-ROMs). We strongly recommend that they complete Nuance University before writing custom scripts.

Mitel Networks supplies software for the SDK. Customers must provide their own hardware. No custom hardware is required for the development platform. Mitel Networks will specify the requirements for hardware and software (Operating System and Service Pack) required for the development platform. You must have a PC with Windows NT installed before you can load the SDK. The PC must be equipped with a sound card to test the application and to record voice prompts.



Tip: You can hire Mitel Networks Professional Services to write VoiceXML script(s) that suit the needs of your company.

Technical Information

Supported PBX Integrations

Digital Integration

The VTG VB-2007 card and NMS AG-2000 card provide from 2 to 16 speech recognition ports on the following Mitel PBXs:

- Mitel Networks SX-200
- Mitel Networks SX-2000
- Mitel Networks 3200 Integrated Communications Platform

The VTG VB-2009 card and NMS AG2000 card provide from 2 to 16 speech recognition ports on the following Nortel Networks PBXs:

- Nortel Networks™ Meridian M1
- Nortel Networks Meridian SLI

IP Integration

You can integrate the 6500 Unified Communications system with the following voice over IP system:

- Mitel Networks 3300 Integrated Communications Platform (2–30 ports)




Note: Q.SIG provides a higher capacity system with the use of the 3300 ICP as a T1/E1 gateway. A single T1 link supports up to 22 speech ports; an E1 link supports up to 30 speech ports.

Minimum PBX Software Versions

The following minimum software versions are required on the PBXs:

- SX-2000 LIGHTWARE™ 26 (M-stream) or greater (including SX-2000 MICRO-LIGHT) to support DNIC integration. To support a DNIC softkey that displays “Speak@Ease™,” LIGHTWARE 30 Release 1, UR1 or greater is required.
- SX-200 LIGHTWARE 16 version 1.1 or greater is required. To support a DNIC softkey that displays “Speak@Ease,” LIGHTWARE 18 Release 1 (L36.0.5) or greater is required.
- 3300 ICP Release 3.1 UR2 or greater
- 3200 ICP Release 2.1.1.27 or greater
- Nortel Networks Meridian M-1 and SL-1 Release 15 and greater; Options 11, 21, 21A, 51, 61, 71, and 81 are supported.

 **Note:** Unified Messaging for the SX-200 and Mitel Networks 3300 ICP requires 6500 Unified Communications software Release 3.5.2.8, UR1 SP6 or greater.

PBX configurations

SX 2000 and SX-200 IP Integrations

The following diagrams show the 6500 server configured with the SX-2000 and the SX-200.

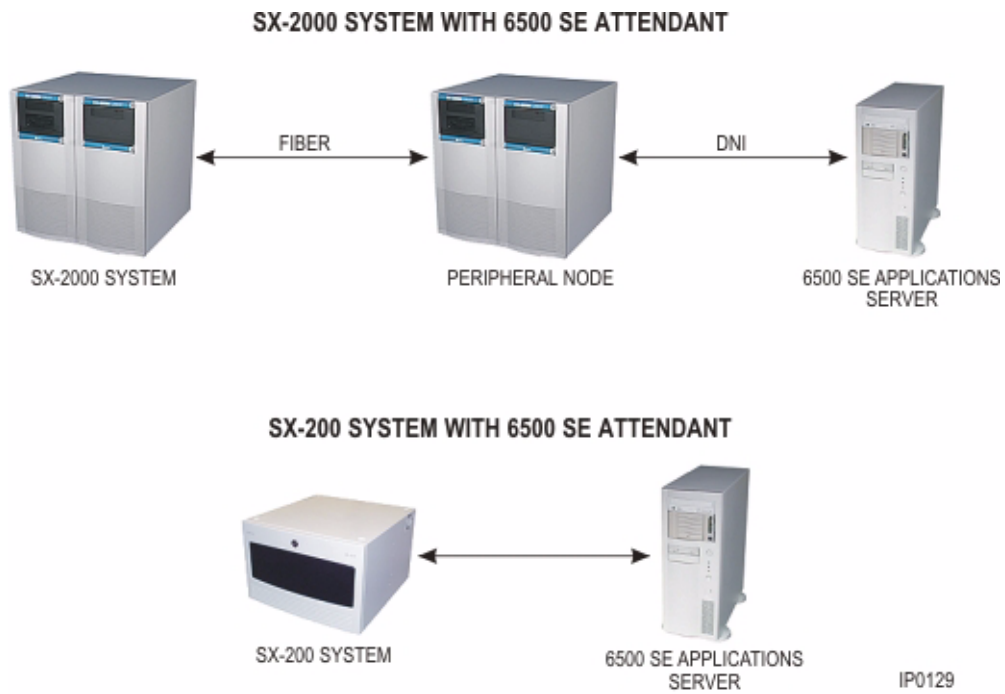


Figure 22 SX-2000 and SX-200 Integrations

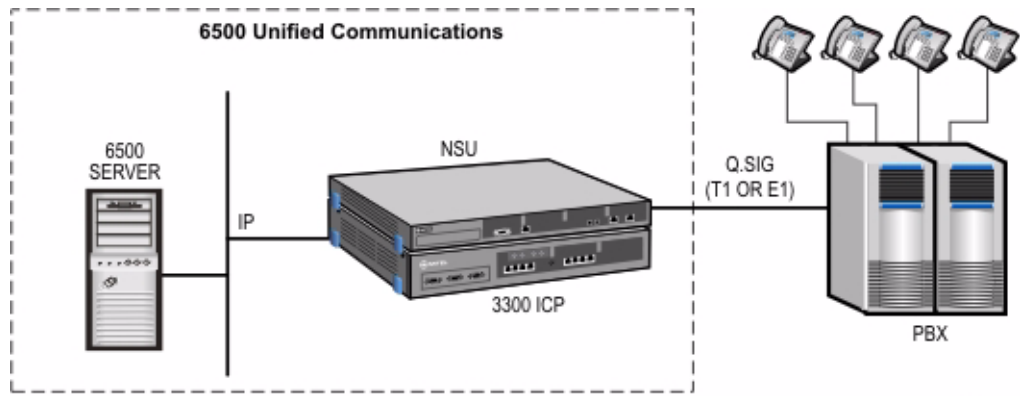
Q.SIG Integrations

Q.SIG is an international signaling and control standard that allows a private network to include networking equipment from different vendors.

The 6500 Unified Communications system supports Q.SIG with the SX-2000 PBX. The Q.SIG integration kit consists of a 3300 ICP and a 3300 Network Service Unit (NSU) configured and licensed as an integration gateway for the 6500 Unified Communications system. This integration is supported for both T1 and E1 circuits when connected to an SX-2000 PBX.



Note: One link on the NSU supports up to 22 T1 ports or 30 E1 ports.



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Figure 23 Q.SIG Configuration

3200 and 3300 ICP IP Integrations

The following diagrams show the 6500 server with the 3200 ICP and the 3300 ICP.

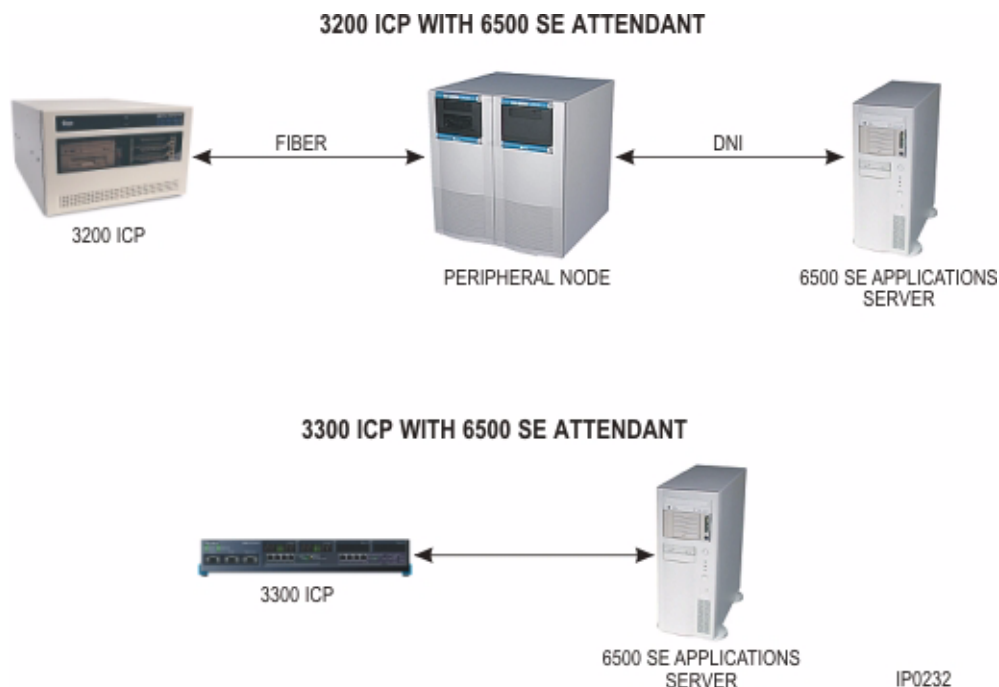


Figure 24 3200 ICP and 3300 ICP Integrations

6500 Server

The f6500 server is shipped from the factory with all the required hardware and software components installed. The main hardware components consist of

- An industry-standard computer with a mouse and keyboard (monitor not included)
- Integrated 10/100 Mbps Ethernet network interface for connection to the LAN
- Up to two VTG VB-2007 (Mitel) or VB-2009 (Nortel) cards. These 8-port digital integration cards are not required for the 3300 ICP.
- Up to two NMS AG-2000 (8-port) cards
- Multi-Vendor Integration Protocol (MVIP) cable

For more information about the above cards, see "Circuit Cards" (p. 59). For additional information about the server platform, refer to the Documentation Kit for the TS1400/TS1404 server that was shipped with your system.

The main software components consist of

- Microsoft Windows NT 5.0 Server Operating System

- Microsoft Option Pack 4
- Microsoft Service Pack 5
- 6500 Unified Communications software

The software CD-ROM disks and Security Access Module (SAM) are shipped with the server. The SAM is programmed at the factory with the system identification code for the site-specific features and dimensions.

Circuit Cards

VTG VB-2000 Card (DNI Interface Card)

The VTG VB-2000 card from Dialogic is an 8-port DNI integration card that interfaces the 6500 server with the DNI line ports in an SX-200 PBX, SX-2000 PBX, or Nortel Networks PBX. There are two versions of this card:

- For Mitel Networks PBXs, the ports on the VTG VB-2007-Mitel card emulate Superset telephones.
- For the Nortel Networks PBXs, the ports on the VB-2009 Nortel card emulate 2616 digital phones.

This card is installed in the following slots:

- ISA slot J5 of the turnkey 6500 Unified Communications (TS-800) Server
- ISA slot ISA2 for systems with up to 8 ports, or ISA2 and ISA3 for systems with the 10-16 port configuration of the turnkey 6500 (TS-1400) server

This DNI integration card is a VoiceBridge 2000 ISA card from Dialogic. See the Dialogic Web site for detailed information about this card.

NMS AG-2000 (DSP Resource Card)

The NMS AG-2000 card is an 8-port Digital Signal Processor (DSP) resource card that provides 6500 Unified Communications with echo cancellation, Dual Tone Multi Frequency (DTMF) detection, and the capability to play and record voice prompts.

This card is installed in

- PCI slot J7 of the turnkey 6500 Unified Communications TS-800 servers
- PCI slot SPCI4 for systems with up to 8 ports, or in SPCI4 and SPCI2 for systems with the 10-16 port configuration of the turnkey 6500 Unified Communications TS-1400 servers

This DSP card is an Alliance Generation® 2000 Series (AG-2000), PCI card from Natural MicroSystems. See the Natural MicroSystems Web site for a detailed description of this card.

MVIP Conversion Card

The MVIP Conversion card allows the 6500 Unified Communications MVIP cable to interface with the AG-2000 card. The conversion card plugs into a connector on the edge of the AG-2000 card and is fastened by a single screw.

MVIP Cable

The MVIP cable from the VB-2000 card plugs into a connector on the MVIP conversion card. The TS-800 Server uses a 2-connector MVIP cable. The TS-1400 and TS1404 Server use a 6-connector MVIP cable.

Network Requirements

The LAN that you install the 6500 server on must be based on IEEE 802.3 Ethernet and use the TCP/IP protocol standard.

- For DNIC integration, we recommend that you put the 6500 server on the same segment of the LAN as the Exchange Server.
- For IP integration, the server must be on the same segment of the LAN as the 3300 ICP and must be connected to the LAN through a layer 2 switch.
- The 3300 ICP and the 6500 server should be on the same VLAN.

6500 Unified Messaging requires

- A Windows 2000 infrastructure that comprises an Exchange 2000 server and a Domain Controller. We recommend that this environment be in place and be used by the targeted 6500 Unified Messaging site for a minimum of 2 weeks prior to installing 6500 Unified Messaging. Mitel Networks recommends that you position the 6500 Unified Communications server, the Exchange server, and the Domain Controller server, on the same 100 Megabit network segment for optimum performance.
- Each supporting server (the Exchange 2000 server and the Active directory server) to have at least a Pentium 3, 800 MHz with 512 Megabytes of RAM

Client PC Hardware and Software Requirements

- Pentium Class Processor (P133 Min) or greater with a minimum of 64 Meg of RAM
- Multimedia Hardware
- Microsoft Windows 95, 98, NT 4.0 workstation and server, Windows 2000
- Microsoft Outlook 98 or Outlook 2000
- Microsoft Internet Explorer 4.01 SP2 or greater

Performance Standards and Capacities

Performance Standards

The 6500 Unified Communications system meets the following performance standards:

- Average recognition time: 1.5 seconds
- Average time to answer: 2 seconds

High Capacity Connectivity

High capacity connectivity through Q.SIG provides T1 and E1 connectivity for the 6500 Unified Communications product line. Q.SIG integration maximizes PBX compatibility. The 3300 ICP system supports Q.SIG over primary rate interface (PRI) to connect to the SX-2000 Q.SIG-compliant PBX.

- The Q.SIG configuration uses a 3300 ICP connected to an NSU as an IP to Q.SIG gateway.
- One link on the NSU supports up to 22 T1 ports or 30 E1 ports.
- Q.SIG integration requires the TS1404 server.

Voice Mail Networking Connectivity

6500 Unified Messaging uses Voice Profile for Internet Messaging (VPIM) protocol in order to interface with NuPoint Messenger and the 3300 ICP voice mail. Nupoint Messenger software must be Release 7.0 or later, and the 3300 ICP software must be Release 4.0 or later.

Port and Memory Requirements

The number of ports and the amount of server memory required in the Mitel Networks 6500 Unified Communications Server depend on the following site factors:

- Number of busy-hour call attempts anticipated
- Acceptable percentage of time that the ports can be busy
- Total number of Company Directory entries required
- Total number of personal list entries required



Tip: Use the Configuration Tool on Mitel Online (Products/6500 Unified Communications/Configuration Tools) to determine the port and memory requirements for a site.

Hardware Upgrade Requirements

The following chart lists the different server types and the features and ports that they support.

Server Type	Processor	RAM	Max. DNIC Ports	Max. IP Ports	Q.SIG	Mobility	Bilingual	Unified Messaging	Multi-level Menus
TS800	550 MHz	512	4	n/a	n/a	+			
TS800 TS1400	8xx MHz	768	8	8	n/a	+	+	+	+
TS1400 2P	Dual 850	1 GB	16	n/a	n/a	+	+	+	+
TS1404	2 GHz P4	1 GB	8	8	8	+	+	+	+
TS1404	2 GHz P4	1.5 GB	16	30	22 T1 30 E1	+	+	+	+



Note: Large multi-level menus may affect performance on TS800 and TS1400 IDE servers and may require an upgrade to a TS1404.

System Capacity Parameters

Component	Maximum Capacity
Unified Messaging Users	1000 users
Company Directory	10,000 names
Personal Directory	500 names per user
Speech Ports	16 ports for DNIC integration 30 ports for IP integration with the 3300 ICP 22 ports for Q.SIG (T1) 30 ports for Q.SIG (E1)
Text-to-Speech Ports	12 ports
Multi-level menus	20
Multi-level menu nodes	500

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