

MITEL NETWORKS

6500 | Unified Communications

INSTALLATION AND MAINTENANCE GUIDE

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Safety Instructions

Read all instructions before attempting to install or use this product.

Changes or modifications not expressly approved by Mitel Networks™ could void the user's authority to operate the equipment.

Warning: Failure to follow all instructions may result in improper equipment operation and/or risk of electrical shock.

- Read all instructions.
- Keep these instructions with the equipment.
- Do not attempt to install or service this equipment unless you are skilled in the installation and maintenance of electronic telecommunications equipment and have successfully completed specific training for this equipment.
- This product must be installed and serviced in accordance with both this document and the technical documentation.
- Follow all procedures outlined in the technical documentation, in the sequence given.
- Configure this product with only the assemblies specified and in the locations stated in the technical documentation.
- Replace all guards or barriers. Close and lock doors when you complete the installation or before you return the equipment to service.
- Do not connect telecommunications cabling to the system, service the system, or operate the system with the grounding conductor disconnected.
- Install all wiring in accordance to local, state, and federal electrical code requirements.

Use of Safety Notices

These safety notices appear on the product or in the technical documentation.




Danger: Danger indicates an imminently hazardous situation, which, if not avoided, could result in death or serious injury.

Warning: Warning indicates a potentially hazardous situation, which, if not avoided, could result in death or serious injury.

Caution: Caution indicates a potentially hazardous situation, which, if not avoided, may result in minor or moderate injury and/or damage to the equipment or property.

Use of Symbols

These symbols appear on the product.

 <p>DANGEROUS VOLTAGE</p>	<p>The lightning flash with arrowhead symbol within an equilateral triangle indicates an un-insulated "dangerous voltage" within the product's enclosure that may present a significant risk of electric shock to persons.</p>
 <p>INSTRUCTIONS</p>	<p>The exclamation point within an equilateral triangle indicates that important operating and maintenance (servicing) instructions are included in the literature accompanying the product.</p>
 <p>PROTECTIVE GROUNDING TERMINAL</p>	<p>The ground symbol within a circle identifies the terminal to be connected to an external protective conductor. Connect this terminal to earth ground before you make any other connections to the equipment.</p>

Chapter | 1

New Installations

Installation Requirements

System Requirements

1. Identify the server type that you have and how much RAM is installed.
2. Use the chart below to determine whether the current server supports the required features/ports and also how much RAM is required.
3. If your server does not support the features/ports that you require, purchase a TS1404 server.

Server Type	Processor	RAM	Max. Digital 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	+	+	+	+
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.



Note: Releases 3.X to 4.0 do not require a hardware upgrade as long as the capacity and feature options are not increased.



Note: IP Integration Ports include 1 port for Message Waiting Indicator (MWI). MWI programmed with MWI feature access codes require a port dedicated to MWI. If MiTAI is used for MWI, a dedicated MWI port is not required.

Supported PBX Integrations

Digital Integration

The following systems support digital integration with Mitel Networks™ 6500 Unified Communications:

- Mitel Networks SX-200® 2–16 ports
- Mitel Networks SX-2000® 2–16 ports
- Mitel Networks 3200 ICP 2–16 ports
- Nortel Networks M1 2–16 ports
- Nortel Networks SL1 2–16 ports.

All of the above systems use a VTG VB-200X card (an 8-port ISA digital card from Voice Technologies Group that provides call control via digital set emulation to the PBX) and a NMS AG-2000 card (an 8-port card from Natural Microsystems that provides DSP resources). Mitel Networks systems use VTG VB-2007 and Nortel Networks systems use VTG VB-2009.

IP Integration

The following system supports IP integration with Mitel Networks 6500 Unified Communications:

- Mitel Networks 3300 ICP 2–30 ports

Minimum PBX Software Versions



Note: Q.SIG provides a higher capacity system with the use of the 3300 ICP as a T1/E1 gateway. The SX-2000 system supports Q.SIG. A single T1 link supports up to 22 speech ports, and the E1 supports up to 30 speech ports

The 6500 Unified Communications server system is available for

- SX-2000 LIGHTWARE™ 26 (M-stream) or greater (including SX-2000 MICRO-LIGHT) to support digital integration. To support a digital 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 digital softkey that displays “Speak@Ease,” LIGHTWARE 18 Release 1 (L36.0.5) or greater is required.
- Mitel Networks™ 3300 Integrated Communications Platform Release 3.1 UR2 or greater.
- Mitel Networks 3200 ICP Release 2.1.1.27 or greater.
- Nortel Networks Meridian™ M-1 Release 15 and greater.
- Nortel Networks Meridian SL-1 Release 15 and greater.

For more information about Nortel Networks software, see Page 14, "Programming a Nortel Networks PBX").

Unified Messaging Requirements

6500 Unified Messaging is only supported in the Microsoft® Exchange 2000 environment.

To use 6500 Unified Messaging, the customer must have an infrastructure comprised of an Exchange 2000 Server and an Active Directory Server.

The SX-200 systems require 6500 Unified Communications software Release 3.5.2.8 UR1 SP6 or greater.

The SX-2000 systems, the Nortel Networks systems, and the 3300 ICP systems require 6500 Unified Communications software Release 3.6.2.19 UR1 or greater.

The number of 6500 Unified Messaging users logging in is restricted to the number of TTS (text-to-speech) channels.



Note: The system supports up to 1,000 Unified Messaging users; the number of people or listings in a corporate directory can be up to 10,000. Remember to change the Active Directory setting to support over 1000 listings in the corporate directory.

There are four passwords for the 6500 Unified Messaging system:

- Local Admin: **Administrator** with a default password of **mitel**
- Admin Web Page: **Administrator** with a default password of **1234567890**
- Active Directory Admin: **SpeakAdmin** with a default password of **admin**
- Exchange Admin: **SpeakAdmin** with a default password of **admin**

When you receive the 6500 server, the server has **SpeakAdmin** with **admin** as the password. When you run the Configuration Wizard for the first time you will use **admin** for the Current Password. You have the option to change this password with the Configuration Wizard.

Connecting and Customizing the 6500 Server

The 6500 Unified Communications server (6500 server) is a stand-alone server system that is shipped from the factory with the required software and hardware. A monitor is not included with the platform. The third-party software and the 6500 Unified Communications software are included on CDs.



Note: Do not install any other applications on the 6500 Unified Communications server—system performance could be affected.

Your system identification code is written on a label attached to the 6500 Unified Communications Security Access Module (SAM).

For digital integrations, you will require available Digital Line Card ports for each port in the 6500 Unified Communications Server.

To install the server you must

- Unpack and position the server (see page 6).
- Connect the server components (see page 7).
- Power up the server (see page 9).
- Change the computer name and the TCP/IP properties (see page 9).



Note: Before you power up the server, reseal all of the cards in the server. Confirm that the CPU and memory are seated properly.

Unpacking and Positioning the Server

When you unpack the components



Note: Acclimatize the equipment *before* unpacking it. Before you unpack the platform, let the *unopened* cartons sit at room temperature for at least 24 hours.

- Handle the hardware components with care
- Collect all product documentation and warranties
- Unpack each component separately.

Make sure the location is

- Cool and dry
- Well-ventilated
- Out of direct sunlight
- Away from foot traffic.

Allow three inches of clearance around the sides and top of the server unit to permit heat dissipation.

Review the system condition internally and externally before applying power to the system.



Tip: Verify that all of the components in the server are seated properly to ensure proper connection.

Connecting the Server Components

The monitor, keyboard, mouse, and SAM connect to the rear panel of the server. A monitor is not shipped with the server; however, you will require a monitor to set up the server. After the server is configured on the LAN, you can remove the monitor.

Caution: When you connect the components, do not force a cable connector into an interface connector. If you have difficulty making a connection, make sure the cable connector is properly aligned with the interface connector and that the keys or slots align with their mates. Also, make sure the connector pins are straight.



Tip: For detailed information on the hardware connections needed for your installation, refer to the documentation that accompanies the platform.

Connecting the Monitor

To connect the monitor to the server

1. Ensure the AC power switch for the monitor is set to the OFF position.
2. Locate the signal cable for the monitor.
3. For monitors with a separate modular signal cable, plug this cable into the interface connector on the monitor.
4. Plug the other end of the monitor signal cable into the Video Adapter interface connector on the server. If you need more length, use a monitor signal extension cable.
5. Plug the AC power cord for the monitor into an electrical outlet.

Connecting the Keyboard and Mouse to a TS1404 Server

The TS1404 Server has only one PS/2 connector. You must use the “Y” adapter cable to connect the mouse and the keyboard to the TS1404 server.

To connect the keyboard and mouse with a Y cable

1. Locate the “Y” adapter cable provided with the server.
2. Connect the “Y” adapter cable to the PS/2 connector at the rear of the server.
3. Connect the keyboard and the mouse to the appropriate “Y” adapter connector (identified by keyboard and mouse symbols on the connector). If you need more length, use a keyboard extension cable.



Note: If the “Y” cable disconnects while the server is operating, reconnect the cable, and then restart the server to obtain mouse and keyboard functionality.

Connecting to AC power

To connect the AC cord to the power supply

1. Turn the AC power switch to the OFF position.
2. Ensure that the voltage selector switch is set correctly for your country.



Tip: If the power supply contains a manual switch, you can locate this switch on the rear of the system close to the power cord connection. (If the power supply has auto-voltage-sensing capability, there is no switch on the rear of the power supply.)

3. Locate the AC power cable for the server.
4. Plug the male connector into the female receptacle on the main computer unit.
5. Connect the AC cord from the computer to an uninterrupted power supply (recommended).
6. Plug the male connector from the server, the surge protector, or the UPS into a power outlet with the required voltage. Ensure that the outlet is properly grounded.

Connecting the Security Access Module

To connect the Security Access Module (SAM) to the server

The SAM provides the 6500 Unified Communications system with a System Identifier (ID) code. This ID code, in combination with a password, enables the application software and software options.

- Connect the SAM to the parallel or printer port of the server.



Note: The SAM must be installed for the system to function.

Powering Up the Server

To power up the server

1. Turn on the monitor power switch. (Note that a monitor is not supplied with the system.)
2. Turn on the server power switch.



Tip: If you receive an error message indicating that one of the services has failed, check the Windows NT Event Viewer to determine which service has failed.

Changing the Computer Name and TCP/IP Properties

You must change the computer name and the TCP/IP properties before connecting to the LAN.



Note: Log in to the 6500 Unified Communications server with the default user name "Administrator" and password "mitel".

To change the TCP/IP address and the server name for your network

1. Use Service Manager (click **Start, Programs, Mitel Networks, Speech Recognition, then Service Manager**) to stop and set all of the services except for LDAP and NLM to manual.
 - To stop the required services, press CTRL, select all of the services except for NLM and LDAP Server, right click on the selected services, select **Stop**, then click **OK**.
 - To set the services to manual, right click on the selected services, click **Start Mode**, then **Manual**.
2. From the **Start** menu, click **Settings**, then **Control Panel**. Double-click the Network icon.
3. In the Network window under the **Identification** tab, click **Change**. Change the Computer Name from "speakease" to the network name suitable for your environment.



Note: Do not use an underscore character in the computer name. Systems with Internet Explorer 5.5 SP2 or Internet Explorer 6.0 will prevent access to the Admin Web page and the Personal Web Page if the server name contains an underscore character.

4. Click **OK**.
5. Click the **Protocols** tab, then **Properties**.
6. Enter the required TCP/IP properties specific to your network.

To reconfigure TCP/IP, you will need the

- Internet Protocol (IP) address of the 6500 Unified Communications server. Each device on a network has a unique 32-bit number, for example: 192.135.2.32. Note that Dynamic Host Configuration Protocol (DHCP) is supported but not recommended.
- Internet subnet mask that specifies the sub-network
- Gateway address to which all packets that are destined for remote networks are sent

- DNS and/or WINS server addresses, if used
 - IP addresses and host names for the Hosts file of the client stations (may be required if your network does not have a DNS server or WINS server).
7. Click **OK**, and then **Close**.
 8. If you have a 6500 Unified Messaging system, click **Yes** to reboot the system.
 9. If you have a 6500 Attendant system, click **No** to reboot the system, and then change the computer name for the Oracle settings. Refer to the following procedure.

To change the computer name for Oracle (6500 Attendant systems only)

1. Log in to the Admin Web Page (click **Start, Programs, Mitel Networks, Speech Recognition, then Administration**) with the Login ID "administrator" and the default PIN "1234567890."



Tip: You can also use <http://localhost/default.asp> to access the Admin Web Page.

2. Click **System Configuration, System Properties, then Oracle**.
3. Change the name "speakease" to the new computer name.
4. Click **Save**, and close the window.
5. Reboot the server.

Configuring the Audio Settings

To program Multimedia

1. Open the Multimedia control panel (click **Start, Settings, Control**, then open **Multimedia**). The Multimedia Properties window opens.
2. In the **Audio** tab, select **None** for **Preferred device** in both the **Playback** and **Recording** sections.
3. Select **Use preferred devices only**.
4. Click **Apply**, then **OK**.

To program Sounds

1. Open the Sounds control panel (click **Start, Settings, Control**, then open **Sounds**). The Sounds Properties window opens.
2. In the Schemes section, select **No Sounds** from the drop-down list. The Save Scheme window opens.
3. Click **No** to save the previous scheme, **Apply**, and then **OK**.

Programming the PBX

The 6500 Unified Communications system is supported on the SX-200 and SX-2000 through digital integration. The Nortel Networks Meridian PBX is also supported via digital integration. The 3300 ICP is supported through IP integration (voice-over-IP).



Tip: If you have more than one switch in a networked PBX, ensure that the Message-Waiting-feature access codes are uniform between all of the switches.

Choose from the following procedures

- Programming for Digital Integration
 - Program an SX-200 PBX (see page 11).
 - Program an SX-2000 PBX or 3200 ICP (see page 13).
 - Program a Nortel Networks PBX (see page 15).
- Programming for IP Integration
 - Program a 3300 ICP System (see page 24).
- Programming for Q.SIG Integration
 - This procedure involves programming the PRI card (see page 18), and programming the SX-2000 and 3300 ICP for T1 and E1 (see page 20 and page 24).

Integrating Digital Sets

Programming an SX-200 PBX

The VB-2007 card in the 6500 server emulates Superset 430 phone sets to the PBX.

To program an SX-200

1. In Form 01, "Configuration," assign a Digital Line Card for the 6500 Attendant ports.
2. If you have 6500 Unified Messaging, in Form 31, "System Abbreviated Dial Entry," assign a speed dial for the MWI port that points to the 6500 port hunt-group access code.
3. In Form 03, "COS Define," assign the required COS options. The following tables provide the COS options for the ports, sets, and MWI (for 6500 Unified Messaging).



Note: Leave all of the COS timers at their default setting, "9," and also leave the default options on.



Note: Use a dedicated port for MWI (Unified Messaging only) with a separate COS. The MWI port cannot answer calls. For centralized voice mail, the MWI access code should not contain a * or a #.

COS Options for the Ports
Option 208: Call Forwarding - External
Option 211: Call Hold and Retrieve Access
Option 213: Can Flash If Talking to an Outgoing Trunk
Option 245: Abbreviated Dialing Access
Option 313 to Option 319
Option 502: Display ANI/DNIS/CLASS Information
Option 613: Display ANI Only
Option 702: SMDR - Overwrite
If you have 6500 Unified Messaging, also enable Option 229: COV/DNIC Voice Mail Port
COS Options for the Sets
Option 619: Direct Speak@Ease Access (optional, and available in LIGHTWARE 18 and greater)
COS Options for MWI (Unified Messaging Only)
Option 229: COV/DNIC Voice Mail Port
Option 259: Message Sending
Option 265: Voice Mail System Speed Dial Index (0-255)



Note: The number for MWI COS Option 265 must be the same number of the speed dial index in CDE Form 31, "System Abbreviated Dial Entry." This number points to the hunt group number of the 6500 Unified Communications ports.

4. In Form 09, "Desktop Device Assignments," program the ports as SS430 sets (up to 16 ports, in increments of 2).
5. In Form 17, "Hunt Groups," program the ports as members of a hunt group. We recommend that you set the hunt group type to **circular**. Assign an Access Code for the hunt group.
6. If you have 6500 Unified Messaging, in Form 17, "Hunt Groups," program a second hunt group for MWI.
7. In Form 02, "Feature Access Codes" program the feature access codes (Message Waiting - Activate, and Message Waiting - Deactivate) for MWI. The codes must match the MWI parameters on the 6500 Unified Communications system.

To enable the Speak@Ease softkey (optional)

Users of Superset display telephones can connect to the 6500 Unified Communications system by pressing a softkey on their sets.

1. In CDE Form 03, enable COS Option 619: Direct Speak@Ease Access.
2. In CDE Form 04, enable the purchasable System Option 85: Speak@Ease Integration.
3. In CDE Form 17, program the Digital ports in a separate hunt group.
4. In CDE Form 19, "Call Rerouting Table," scroll to "Speak@Ease Number for the Tenant" and enter the hunt group access code of the Digital ports connecting to the 6500 Unified Communications.

Programming an SX-2000 PBX or 3200 ICP

The VB-2007 card in the 6500 server emulates Superset 430 telephone sets to the PBX.

To program an SX-2000 PBX or 3200 ICP

1. In the "Dimension and Feature Selection" form, enable Speak@Ease Integration (purchasable option).
2. In the System Configuration form, program a DNI line card.
3. In the "DNI Circuit Assignment" form, program the set type as Superset 430 against Channel #1 of the PLID.
4. In the "Multiline Set Assignment" form, program a prime Directory Number and an Interconnect Number against the line circuits for the 6500 Unified Communications system.
5. In the "Station Service Assignment" form, assign the phone's directory number a Class of Service (COS), Class of Restriction (COR), and Intercept Number.
6. In the "Class of Service Options Assignment" form, program the following COS.



Note: In the "Class of Service Options Assignment" form for the 6500 Unified Communications ports, ensure that the **Speak@Ease Preferred** option is set to **No**.

COS Options for the Ports	Value
COV/ONS/E&M Voice Mail Port	Yes (only for 6500 Unified Messaging)
Display ANI/ISDN Calling Number Only	Yes (optional)
Display ANI/DNIS/ISDN Calling/Called Number	Yes (optional)
Account Code Verified or Non-verified Account Code	Yes (optional)
Account Code Length	12 (optional)
Speak@Ease Preferred	No

COS Options for MWI (only for 6500 Unified Messaging)	Value
COV/ONS/E&M Voice Mail Port	Yes
Speak@Ease Preferred	No
Permanent Do Not Disturb	Yes

- In the "Feature Access Code Assignment" form, program the feature access codes (Message Waiting - Activate, and Message Waiting - Deactivate) for MWI. The codes must match the MWI parameters on the 6500 Unified Communications system.

If using COS option Account Code Verified, program the account code in the "Independent Account Code Definition" form, and then in the "Feature Access Codes" form, assign a primary code for Account Code (this code must match the code in the 6500 Admin Web Page under General Settings and in the detailed information for each user.

- In the "Hunt Group Assignment" form, program the ports as members of a hunt group.

For 6500 Unified Messaging, include the MWI designated port in the same hunt group with permanent Do Not Disturb in the COS. Set the hunt group type to **circular**.

For 6500 Attendant, program the hunt group type as "Voice;" for 6500 Unified Messaging, program the Hunt Group Type as "Voice Mail." Assign a pilot number for the hunt group.

To enable the Speak@Ease softkey (optional)

Users of Superset display telephones can connect to the 6500 Unified Communications system by pressing a softkey or feature key on their sets. This feature option must be installed and enabled on the SX-2000 PBX.

- In the "Miscellaneous Assignment" form, enter the hunt group number, extension number, or speed dial number required to access the 6500 Unified Communications system ports in the **Speak@Ease Access Number** field.
- In the "Class of Service Options Assignment" form for the Superset display phones, set **Speak@Ease Preferred** to
 - **Yes** if you want the **Speak@Ease** softkey to be displayed before the **Phonebook** softkey, or
 - **No** if you want the **Speak@Ease** softkey to be displayed after the user presses the **Phonebook** softkey.

Programming a Nortel Networks PBX

The VTG VB-2009 card in a 6500 server emulates 2616 digital phone sets to a

- Nortel Networks Meridian 1 PBX
- Nortel Networks Meridian SL1.

These Nortel Networks PBXs must have the following software and options:

- Software Generic X11 Release 15 or greater
- PBX Options 11, 21, 21A, 51, 61, 71 and 81
- Package # 19 (Digit Display)
- Package # 46 (Message Waiting Centre).

Program the 2616 phone ports as follows:

- Key **0** as the primary directory number
- Key **13** as the message indication key (MIK)
- Key **14** as the message cancellation key (MCK)
- Key **15** as the transfer key (TRN)

In the COS of the 2616 phone ports, ensure that the following options are enabled:

- ADD (Automatic Digit Display)
- FTTU (Flexible Trunk-to-Trunk Connections Unrestricted)



Note: Do not program features against any of the other keys. Program the 2616 phone ports in a hunt group.

Integrating IP Sets

Programming a 3300 ICP System

To program a 3300 ICP system

1. For each channel purchased, program a 6500 Unified Communications port in the "IP Set Configuration" form as a 5020 IP set (click **System Configuration, Telephones, Multiline IP Telephones**, then **IP Set Configuration**). Repeat this procedure for each port you want to configure.

2. Program the COS for the ports and the sets (System Administration/System Options/Class of Service Options Assignment).



Tip: In the "Class of Service Options Assignment" form for the 6500 Unified Communications ports, ensure that the "Speak@Ease Preferred" option is set to **No**.

COS Options for Ports	Value
HCI/CTI/TAPI Call Control Allowed	Yes
HCI/CTI/TAPI Monitor Allowed	Yes
Public Network Access via DPNSS	Yes
Speak@Ease Preferred	No
COV/ONS/E&M Voice Mail Port (for 6500 Unified Messaging only)	Yes
COS Options for Sets	Value
Speak@Ease Preferred	Yes

3. Program the System Options (System Administration/System Options/System Options Assignment). The following value is site specific:
 - Registration Access Code value, (for example ***)
4. Assign a pilot number for a hunt group and program the ports as members of the hunt group (circular or terminal) in the "Hunt Group Assignment" form (System Administration/Call Handling/Hunt Groups/Hunt Group Assignment).



Note: The Hunt Group Type is "Voice" for a 6500 Attendant system and "Voice mail" for a 6500 Unified Messaging system.

To enable the Speak@Ease softkey (optional)



Tip: For systems using 6500 Unified Messaging, refer to Program the 3300 ICP for MWI, page 17, in order to configure the MWI with IP Integration.

Users of the Mitel Networks™ 5000 IP series phones (excluding the 5001/5005 IP single line sets) can connect to the 6500 Unified Communications system by pressing a softkey on their sets. This feature option must be installed and enabled on the 3300 ICP.

1. For the PBX, in the "Options Assignment" form, set the **Speak@Ease Preferred** option to **Yes**.
2. In the "Miscellaneous Assignment" form, enter the hunt group number, extension number, or speed dial number to ARS (required to access the 6500 Unified Communications system ports) in the **Speak@Ease Integration Access Number** field.

3. For the phones, in the "Class of Service Options Assignment" form, set **Speak@Ease Preferred** to
 - **Yes** if you want the **Speak@Ease** softkey to be displayed before the **Phonebook** softkey, or
 - **No** if you want the **Speak@Ease** softkey to be displayed after the user presses the **Phonebook** softkey.

Programming a 3300 ICP for MWI

To create an HCI Reroute Hunt Group

1. Open the 3300 ICP Administration Web page and in the **Selection:** drop-down menu, click **System Administration**.
2. Navigate to the "Hunt Group Assignment" form (click **Call Handling, Hunt Groups**, then **Hunt Group Assignment**)
3. Click **Add**.
4. In the **Hunt Group** field, type the hunt group number.
5. In the **Hunt Group Type** field, select **HCIReroute**.
6. Click **Save**.
7. Navigate to the "Call Rerouting Always Alternative Assignment" form (**Call Handling/ Call Routing/ Call Rerouting Always Alternative Assignment**). Choose an unused **Always Alternative Number**, then click **Change**. Do not use Call Reroute number 1.



Tip: Remember the Always Alternative Number, because it will be needed in the final step of this procedure.

8. In the "Call Rerouting Always Alternative Number Assignment" form, change all four "Always Originating Device" values to **Reroute**, and change "Directory Number to Reroute to" to the 6500 messaging hunt group pilot number.
9. Click **Save**.
10. In the Call Routing folder, click **Call Rerouting Assignment**.
11. Select the entry that matches the HCI Reroute number, then click the **Change** button.
12. In the Call Rerouting Assignment window, change the Call Rerouting Day, Call Rerouting Night1, and Call Rerouting Night2 numbers to the Call Rerouting Always Alternative number created in step 7.



Tip: To test the MWI settings, see To test MWI with MiTAIX, on page 69.

Integrating Q.SIG

Programming the PRI Card for Q.SIG

You must configure the T1/E1 PRI Card with the Q.SIG protocol to operate with the 3300 ICP system. The configuration is set with the IMAT program running on a PC. The procedures in this section apply for both T1 and E1 unless stated otherwise.

IMAT connects to the target PRI device using a direct cable network connection over the serial ports. For further information on setting up the direct cable connection, do a search on “direct cable” in the Windows Help system.

To establish a connection with the PRI card

1. With a standard serial cable, connect the PC to the backplane of the chassis with the PRI card.
2. Click **File**, then **Connect to Remote Site**.



Tip: You must know the PRI link number (link 1 or 2).



Tip: When programming trunk ranges, use 23 for the maximum trunk number for T1, and use 30 for the maximum trunk number for E1.

To configure Site Options

1. Open the Site Options window (click **Config, System Configuration**, then **Site Options**) in IMAT to configure the site options.
2. For System Type, select **PRI Card**.
3. For Connect Platform, select **SX-2000 Light**.
4. Select all of the options for Options.
5. Click **Update**.

To configure PRI Link Characteristics for the Q.SIG Master

1. Open the PRI Link Characteristics window (click **Config, System Configuration**, then **PRI Link Characteristics**).
2. In the **PRI Link Number** box, select the link number of the PRI Card.
3. In the **Protocol Type** box, select **QSIG**.
4. In the **Protocol Variant** box, select **ISO**.
5. Select the Network-side/Q.SIG master check box.

6. For Physical Type, if using T1, select **T1/CSU**. If using E1, select **E1/CEPT**. The physical type characteristics are then accessed with the **Characteristics** button. Refer to the following procedures.

T1 Physical Type Characteristics

Click the **Characteristics** button. The CSU Characteristics window opens if T1/CSU was selected in step 6.

- For Line Coding, select **B8ZS**.
- For Framing, select **ESF**.
- For Line Build Out, select **0 dB**.
- For Invert Data select **Disable**.
- Click **Update**.

E1 Physical Type Characteristics

Click the **Characteristics** button. The E1/CEPT Characteristics window opens if E1/CEPT was selected in step 6.

- For CRC4, select **Enable**.
- For ADI, select **Enable**.
- Click **Update**.

To configure Call Characteristics

Incoming Call Characteristics

1. Open the Incoming Call Characteristics window (click **Config**, then **Incoming Call Characteristics**).
2. In the **PRI Link Number** box, select the appropriate number.
3. In the **Trunks** box, enter **1–23**.
4. For **DDI Delivery**, select **Yes**.
5. For **CPN Delivery**, select **Yes**.
6. Click **Update**.

Outgoing Call Characteristics

1. Open the Outgoing Call Characteristics window (click **Config**, then **Outgoing Call Characteristics**).
2. In the **PRI Link Number** box, select the appropriate number.
3. In the **Trunks** box, type "1–23".
4. For Fixed Bearer Capability, select for Voice: **Speech**, and for Data: **Null**.
5. For Fixed CLIR, select for Voice: **Allow**, and for Data: **Null**.
6. Click **Update**.

To configure Trunk Range Settings

Trunk Range Assignment

1. Open the Trunk Range Assignment window (click **Config, MinMax Settings**, then **Trunk Range Assignment**).
2. For Starting, select the PRI Link number and enter the starting trunk number.
3. For Ending, select the PRI Link number and enter the ending trunk number.
4. Click **Update**.



Tip: When programming trunk ranges, use 23 for the maximum trunk number for T1, and use 30 for the maximum trunk number for E1.

Trunk Range Limits

1. Open the Trunk Range Limits window (click **Config, MinMax Settings**, then **Trunk Range Limits**).
2. For Incoming Counts, for Min: enter **0** and for Max: enter **46**.
3. For Outgoing Counts, for Min: enter **0** and for Max: enter **46**.
4. In the **Protocol** box, select **QSIG**.
5. In the **Protocol Reject Cause Value** box enter **17**.
6. Click **Update**.

Programming an SX-2000 for T1 and E1

To program the Trunk Group



Tip: Refer to the SX-2000 LIGHTWARE 31 Technical Documentation for general information about programming the SX-2000 system.

1. Using the SX-2000 CDE Forms, in the "System Configuration" form, program the PRI card as a Universal T1 or as a Universal E1 card, as appropriate.



Tip: Record the cabinet, shelf, and slot number for use later in this procedure.

2. In the "Link Descriptor Assignment" form, choose an unused link descriptor number and create a link descriptor with the parameters listed in the following table.

Field	Value
Address for Message Control (A/B)	A
BER - Maintenance Limit, 10** - n = (3.4.5.6)	4
BER - Service Limit, 10** - n= (3.4.5.6)	3
Data Call Alternate Digit Inversion (Yes/No)	Yes
Framing Losses in 24 hrs - Maintenance Limit (0-9000)	255
Framing Losses in 24 hrs - Service Limit (0-9000)	9000
Integrated Digital Access	ISDN Node
QSIG Private Network Access (Yes/No)	Yes
Satellite Link Delay (Yes/No)	No
Slip Rate - Maintenance Limit (0-9000)	255
Slip Rate - Service Limit (0-9000)	7000
Alarm Debounce Timer - Service Limit (300-3200)	500
B8ZS Zero Code Suppression - (Yes/No)	Yes
Operation Mode (CSU/DSX-1)	DSX-1
CSU Tx Line Build-Out (0, 7.5, 15, 22.5 db)	
DSX-1 line length (1-133, 134-266, 267-399, 400-533, 534-655 ft)	0-133
Extended Super Frame (Yes/No)	No
Inverted D channel (DPNSS only) (Yes/No)	No
CRC-4 enabled (Yes/No)	No
E1 line length (1-133, 134-266, 267-399, 400-533, 534-655 ft)	0-133
Voice encoding (Nil/ADI/Sign-Mag/Inverted ADI)	Nil
Data encoding (Nil/ADI/Sign-Mag/Inverted ADI)	Nil

3. In the "Digital Link Assignment" form, assign the link descriptor number used in step 2 to the appropriate link or links of the Universal T1 or Universal E1 entries.

- In the "MSDN-DPNSS-DASSII Trunk Circuit Descriptor Assignment" form, choose an unused circuit descriptor number and create a circuit descriptor with the parameters listed below.



Note: Record this number so you can use it later in this procedure.

Field	Value
Signalling Protocol (MSDN-DPNSS/DASS II)	MSDN-DPNSS
Card Type (Cept/DS1/UNIVERSAL E1/UNIVERSAL T1/R2)	UNIVERSAL T1
Dual Seizure Priority (Incoming/Outgoing)	Incoming
ISDN BRI Mode	Leave value blank
Far End Connection (Main PBX/Satellite PBX/Toll/Local)	Local

- Choose an unused COS number, and, in the "Class of Service form," modify these values for the Q.SIG trunks with the COS number being used.

Field	Value
External Trunk Standard Ringback	Yes
Public Network Access via DPNSS	Yes

- In the "Trunk Service Assignment" form, select an unused trunk service number and assign the setting shown below. Fields not listed below must keep their default settings.

Field	Value
COS	COS number from step 5
Dial-in Trunks Incoming Digit Modification: Absorb	0
Trunk Label	QSIG TRUNK (example)

- In the "Trunk Assignment" form, locate the circuits associated with the cabinet, shelf, and slot determined in step 1.
- In the "Trunk Assignment" form, assign consecutive trunk numbers to the link you plan to use.



Note: Record these trunk numbers.

- In the "Trunk Assignment" form, create a trunk group and assign all the trunks from step 8.



Note: Record this trunk group number for use in ARS.

To program ARS

This procedure uses ARS to route the 6500 Unified Communications calls to the 3300 ICP using a designated pilot number.

1. In the "Route Assignment" form, configure a route using the trunk group number from step 9 in the previous procedure, "To Program the Trunk Group."
2. Configure the route using the following parameters:

Field	Value
Trunk Group Number	The trunk group number in step 1
COR number	Leave as default (normally 1)
Digit Modification Number	Digit modification number required

3. In the "Automatic Route Selection Assignment" form, configure an automatic route to the route configured in step 2.



Tip: Decide on the pilot number that will be dialed to access the 6500 Unified Communications. Use the first digit to recall the "ARS" form and then configure the route using the following values:

Field	Value
Digits Dialed	The rest of the digits (all but the first digit) in the 6500 Unified Communications pilot number.
Number of Digits to follow	0
Termination Type	Route
Termination Number	The route number in step 2.

To program System Options

In the "Systems Options Assignment" form, assign the following parameters:

Field	Value
Maximum Trunks in a Conference (0–8)	4
Route Optimization Establishment Time (5 s–120 s)	5
Route Optimization Attempts (0–3)	3
Optimization Network ID (max of 7 digits)	Enter an arbitrary but unique optimization network ID.
Route Optimization Trailing Digits (2–26)	2
DPNSS/QSIG Diversion Enabled	Yes

To program MWI Feature Access Codes

In the "Feature Access Code Assignment" form, make sure that the Message Waiting - Activate code and the Message Waiting - Deactivate code are the same values as programmed in the other PBXs. These codes must be the same in all of the PBXs in the network.



Tip: The Q.SIG integration uses feature access codes for MWI, not MiTAI.

To program Network Synchronization

In the "Network Synchronization" form (in the Digital Link Forms group) enter the cabinet, shelf, and slot settings of those links that will be synchronization sources for the system.

Programming a 3300 ICP/NSU for T1 and E1

Requirements

- The 3300 ICP requires Release 3.1 UR2 load 3.1.8.6 or greater in order to use E1 with the North American variant.
- The Universal NSU requires Release 1.1.0.3 PRI E1 load or higher.

You must configure the NSU connected to the 3300 ICP with the Q.SIG protocol to inter-operate with the SX-2000 system. The configuration is set with the IMAT program running on a PC. The procedures in this section apply for both T1 and E1 unless stated otherwise.

To establish a connection with NSU

1. Connect the PC with a standard serial cable to the NSU serial port.
2. Click **File**, then **Connect to Remote Site**.

To configure Site Options

1. Open the Site Options window (click **Config, System Configuration**, then **Site Options**) in IMAT to configure the site options.
2. For System Type, select **Universal NSU**.
3. For Connect Platform, select **3300 ICP**.
4. Select all of the options for Options.
5. Click **Update**.

To configure PRI Link Characteristics for the Q.SIG Slave

1. Open the PRI Link Characteristics window (click **Config, System Configuration**, then **PRI Link Characteristics**).
2. In the **PRI Link Number** box, select the link number of the PRI Card.
3. In the **Protocol Type** box, select **QSIG**.
4. In the **Protocol Variant** box select **ISO**.

5. De-select the **Network-side/Q.SIG** master box.
6. For Physical Type, if T1, select **T1/CSU**; if E1, select **E1/CEPT**. The physical type characteristics are then accessed with the **Characteristics** button. Refer to the following procedures.

T1 Physical Type Characteristics

Click the **Characteristics** button. The CSU Characteristics window opens if T1/CSU was selected in step 6.

- For Line Coding, select **B8ZS**.
- For Framing, select **ESF**.
- For Line Build Out, select **0** dB.
- For Invert Data select **Disable**.
- Click **Update**.

E1 Physical Type Characteristics

Click the Characteristics button, and the E1/CEPT Characteristics window opens if E1/CEPT was selected in step 6.

- For CRC4, select **Enable**.
- For ADI, select **Enable**.
- Click **Update**.

To configure Call Characteristics

Incoming Call Characteristics

1. Open the Incoming Call Characteristics window (click **Config**, then **Incoming Call Characteristics**).
2. In the **PRI Link Number** box, select the appropriate number.
3. In the **Trunks** box, enter **1–23**.
4. For DDI Delivery, select **Yes**.
5. For CPN Delivery, select **Yes**.
6. Click **Update**.

Outgoing Call Characteristics

1. Open the Outgoing Call Characteristics window (click **Config**, then **Outgoing Call Characteristics**).
2. In the **PRI Link Number** box, select the appropriate number.
3. In the **Trunks** box, enter **1–23**.
4. For Fixed Bearer Capability, select for Voice: **Speech**, and for Data: **Null**.
5. For Fixed CLIR, select for Voice: **Allow**, and for Data: **Null**.
6. Click **Update**.

To configure Trunk Range Settings

Trunk Range Assignment

1. Open the Trunk Range Assignment window (click **Config, MinMax Settings**, then **Trunk Range Assignment**).
2. For Starting, select the PRI Link number and enter the starting trunk number.
3. For Ending, select the PRI Link number and enter the ending trunk number.
4. Click **Update**.



Tip: When programming trunk ranges, use 23 for the maximum trunk number for T1, and use 30 for the maximum trunk number for E1.

Trunk Range Limits

1. Open the Trunk Range Limits window (click **Config, MinMax Settings**, then **Trunk Range Limits**).
2. For Incoming Counts, for Min: enter **0** and for Max: enter **46**.
3. For Outgoing Counts, for Min: enter **0** and for Max: enter **46**.
4. In the **Protocol** box, select **QSIG**.
5. In the **Protocol Reject Cause Value** box enter **17**.
6. Click **Update**.

To configure a Trunk Group and Route to Q.SIG Trunks

The procedure is the same as "To program the Trunk Group" for the SX-2000 system (see Page 19) except for two parameters in the "Link Descriptor" form:

- Set Voice encoding (nil/ADI/Sign-Mag/Inverted ADI) to **Inverted ADI**
- Set Data encoding (nil/ADI/Sign-Mag/Inverted ADI) to **Inverted ADI**

To configure ARS

You must program ARS to route all non-6500 Unified Communications calls to the Q.SIG trunks. Depending on the local dialing plan, this will require a minimum of 10 ARS entries to be programmed.

To program System Options for DPNSS

In the "Systems Options Assignment" form, assign the following parameters:

Field	Value
Maximum Trunks in a Conference (0–8)	4
Route Optimization Establishment Time (5 s–120 s)	5
Route Optimization Attempts (0–3)	3
Optimization Network ID (max of 7 digits)	Enter an arbitrary but unique optimization network ID.
Route Optimization Trailing Digits (2–26)	2
DPNSS/QSIG Diversion Enabled	Yes

To program virtual IP phones

You must program virtual IP phone sets in a hunt group using the designated pilot number. See page 15, "Programming a 3300 ICP System."

Installing a New 6500 Attendant System

The installation of the new 6500 Attendant system involves

- Integrating the system for the network (see page 28).
- Connecting to the LAN (see page 34).

After completing the above procedures, configure the system from the Admin Web Page, and then distribute the User Guides to the users.



Tip: Before proceeding, make sure that you have followed the previous procedures for connecting and customizing the 6500 server, and for programming the PBX. Customizing the server includes changing the TCP/IP properties and the computer name.

Integrating the System for the Network

Two integrations exist

- Digital (see page 28).
- IP (see page 32).

Integrating each of these into the network involves different procedures.

Integrating Digital Sets

Digital integration requires you to

- Connect the DNI Ports to the VB-2007/2009 card.
- Start the services.

To connect the DNI Ports to the VB-2007/2009 card



Tip: The Nortel Networks integration uses the VB-2009 card.

1. Connect the VB-2007/2009 interface cable to the 62-pin D-type subminiature connector on the VB-2007/2009 faceplate.
 - For an 8-port system, the VB-2007/2009 is located in ISA slot J5 of the TS1400 server.
 - For a 16-port system, the two VB2007 cards or VB 2009 cards are located in ISA slots 4 and 3.
2. Connect the 25-pair cable(s) from the PBX main distribution frame to the 25-pair, male, filtered Amphenol connector on the VB-2007/2009 interface cable.

3. On the main distribution frame, connect the VB-2007/2009 DNI ports to the PBX DNI ports. The connector pinouts for the VB-2007/2009 card ports are given in the following table. For the DNIC card pinouts of the PBX, refer to your PBX documentation.

Pinouts for 25-pair, Male, Filtered Amphenol connector on VB-2007/2009 Interface Cable				
Port #	Pin #	RJ-45 Pin #	Pair Color	Lead Designation
1	26	4	W/BL	Tip (2-wire)
	1	5	BL/W	Ring (2-wire)
	27	1	W/O	unused
	2	2	O/W	unused
	28	3	W/G	unused
	3	6	G/W	unused
2	29	4	W/BR	Tip (2-wire)
	4	5	BR/W	Ring (2-wire)
	30	1	W/S	unused
	5	2	S/W	unused
	31	3	R/BL	unused
	6	6	BL/R	unused
3	32	4	R/O	Tip (2-wire)
	7	5	O/R	Ring (2-wire)
	33	1	R/G	unused
	8	2	G/R	unused
	34	3	R/BR	unused
	9	6	BR/R	unused
4	35	4	R/S	Tip (2-wire)
	10	5	S/R	Ring (2-wire)
	36	1	BK/BL	unused
	11	2	BL/BK	unused
	37	3	BK/O	unused
	12	6	O/BK	unused
5	38	4	BK/G	Tip (2-wire)
	13	5	G/BK	Ring (2-wire)
	39	1	BK/BR	unused
	14	2	BR/BK	unused
	40	3	BK/S	unused
	15	6	S/BK	unused

Pinouts for 25-pair, Male, Filtered Amphenol connector on VB-2007/2009 Interface Cable (continued)				
Port #	Pin #	RJ-45 Pin #	Pair Color	Lead Designation
6	41	4	Y/BL	Tip (2-wire)
	16	5	BL/Y	Ring (2-wire)
	42	1	Y/O	unused
	17	2	O/Y	unused
	43	3	Y/G	unused
	18	6	G/Y	unused
7	44	4	Y/BR	Tip (2-wire)
	19	5	BR/Y	Ring (2-wire)
	45	1	Y/S	unused
	20	2	S/Y	unused
	46	3	V/BL	unused
	21	6	BL/V	unused
8	47	4	V/O	Tip (2-wire)
	22	5	O/V	Ring (2-wire)
	48	1	V/G	unused
	23	2	G/V	unused
	49	3	B/BR	unused
	24	6	BR/V	unused
	50		V/S	unused
	25		S/V	unused

Slot Designation for the TS1400/TS1404

TS1400			TS1404		
Slot ID	Slot Type	Backplane Slot Designation	Slot ID	Slot Type	Backplane Slot Designation
0	PCI	PPCI4	0	PCI	J26
1	PCI	PPCI3	1	PCI	J24
2	PCI	PPCI2	2	PCI	J25
3	PCI	SPCI4	3	PCI	J23
4	PCI	SPCI3	4	PCI	J22
5	PCI	SPCI2	5	PCI	J21
6	LPT/COM2	SPCI1	6	LPT/COM2	J20
7	ISA	ISA1/PCI4	7	SBC	J1/ J9
8	ISA	ISA2	8	ISA	J7
9	ISA	ISA3	9	ISA	J10
10	ISA	ISA4	10	ISA	J12
11	ISA	ISA5	11	ISA	J14
12	ISA	ISA6	12	ISA	J16
13	ISA	ISA7	13	ISA	J18

To start the services

The 6500 server is shipped with all services set to the “Manual” mode so that you can configure the server.

1. Launch Service Manager (click **Start, Programs, Mitel Networks, Speech Recognition**, then **Service Manager**).
2. From the menu bar, select **Service**, then **Start All**.
3. From the menu bar, select **Service, Start Mode**, then **All Automatic**.

Integrating IP

IP Integration (also Q.SIG Integration) requires you to

- Configure the IP settings in the Control Panel
- Start the services.

Configuring the IP settings in Control Panel

The IP settings include

- IP Phone Emulator
- Mitel Remote Access
- Telephony
- Multimedia
- Sounds.

To configure IP Phone Emulator

1. In the Control Panel window, open **IP Phone Emulator** (click **Start, Settings, Control Panel**, then open **IP Phone Emulator**). The Mitel IP Phone Emulation Settings window opens.
2. In the Mitel Networks Host IP Settings, select **3300** as the Host Type, and change the IP Address to the IP Address of the 3300 ICP.
3. In the middle of the Phone DN/Phone ID frame, right click the mouse and select **Insert** from the pop-up menu. Add the port numbers that the 6500 Unified Communications system will use (these ports must already be configured as IP 5020 sets in the 3300 ICP), then click **Cancel** to exit the dialog.
4. Click **OK**.

To configure Mitel Remote Access

1. In the Control Panel window, open **Mitel Remote Access**. The Mitel Remote Access Settings window opens.
2. Change **Machine Name of Remote PBX Server** to the IP address of the 3300 ICP system.
3. Click **OK**.

To configure Telephony

1. In the Control Panel window, open **Telephony**. The Dialing Properties window opens. If asked, enter the default country information (include area code), then click **Close**.
2. Select the **Telephony Drivers** tab.
3. Select **Mitel PBX TAPI Services Provider**, then click **Configure**.
4. In the MITEL Device Properties window, in the middle of the Prime DN frame, right click the mouse, and click **Select from IP Phone List**.
5. Shift-select each Prime DN from the list (this list should match all DNs entered into the IP Phone Emulator).



Note: Choose phone numbers that are not already assigned.

6. Click **Apply**, then **Close**.

To configure Multimedia

1. In the Control Panel window, open **Multimedia**. The Multimedia Properties window opens.
2. Click the **Audio** tab. In the Playback section and the Recording section, select **None** for the Preferred device.
3. Select the **Use preferred devices only** check box.
4. Click **Apply**, then **OK**.

To configure Sounds

1. In the Control Panel window, open **Sounds**. The Sounds Properties window opens.
2. In the Schemes section, select **No Sounds** from the drop-down list. The Save Scheme window opens.
3. Click **No**.
4. Click **Apply**, then **OK**.

Starting the Services

The 6500 server is shipped with all services set to “Manual” mode. Depending on the type of 6500 Unified Communications system you have, choose the appropriate procedure to start the required services.

To configure the Embedded System Management (ESM) Registry Setting

1. Click **Start/Run**. In the **Open** field, type **regedit**, and click **OK**.
2. Open **My Computer**. In the **HKEY_LOCAL_MACHINE** drive, navigate to **SOFTWARE, Mitel Networks, 6500 Unified Communications, Servers**, then **Mitel Networks 3300**.
3. Double-click **Server 1**. In the **Value Data** field, enter the IP address of the 3300 ICP.
4. Click **OK**.

To configure services to Start Automatically

1. Navigate to **Service Manager** (click **Start, Programs, Mitel Networks, Speech Recognition**, then **Service Manager**).
2. From the main menu bar, click **View**, then **Output** to view the logs (**Output** should have a check mark beside it. If not, select it).
3. From the **Service** menu, select **Start Mode**, then **All Automatic**.

To configure the Default User Template

For a 6500 Attendant system integrated with IP, the list of users in the 3300 ICP User Authorization Profile form is automatically imported in the 6500 Attendant application. For this to occur, the Default User Template must be properly configured. The LDAP service must be started in Service Recovery Manager.

1. In the **Login ID** field, enter the number of digits the switch requires to form login IDs based on existing extensions. The Login ID has a total of 10 digits for North America (N.A) and 11 digits for the United Kingdom (U.K.).
 - Example for a North American system: If the users have 4 digit extensions, you must enter 6 digits in the **Login ID** field (10-digit login ID minus 4-digit extension).
 - Example for a United Kingdom system: If the users have 7 digit extensions, you must enter 4 digits in the **Login ID** field (11-digit login ID minus 7-digit extension).
2. In the **PIN** field, enter the default password.
3. Restart the server. You are now finished your configuration for the 6500 Attendant system.



Note: For an North American system, the Login ID must conform to the North American dialing plan, that is, the first and fourth digit cannot be a 1 or a 0.



Tip: You may need to reboot the 3300 ICP if your 6500 Attendant user list is not automatically synchronized with the 3300 ICP user list. Refer to the FCI for the 3300 ICP and the FCI for the 6500 to verify the software load requirements. Rebooting the 3300 ICP takes approximately 20 minutes.



Note: To add users to an IP-integrated 6500 Attendant system, see Adding Users to the 6500 Attendant System, on page 186.

Connecting to the LAN

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

- Connect the LAN cable to the NIC card (ethernet port).

Installing a New 6500 Unified Messaging System

The installation of the new 6500 Unified Messaging system involves

- Configuring the other servers—the Exchange server and the Active Directory or Domain Controller (see page 35).
- Customizing Outlook Security (see page 45).
- Connecting to the LAN (see page 46).
- Joining the Domain (see page 46).
- Integrating the system for the network—Digital or IP (see page 47).
- Distributing the Multimedia Outlook Plug-in (see page 70).
- Integrating Fax, if applicable (see page 71).
- Integrating VPIM, if applicable (see page 75).

After completing the above procedures, configure the system from the Admin Web Page, and then distribute the User Guides.



Tip: Before proceeding, make sure that you have followed the previous procedures for Connecting and Customizing the 6500 server, and for Programming the PBX. Customizing the server includes changing the TCP/IP properties and the computer name.

Configuring the Other Servers

Creating a SpeakAdmin User

SpeakAdmin has more privileges than the administrator. SpeakAdmin accesses the accounts and inboxes of the users on their behalf in order to read messages, get notifications, and use their personal contact list. SpeakAdmin can also modify the Active Directory database and access all of the information belonging to users in Active Directory.

To create SpeakAdmin on the Active Directory server

1. Log into the Active Directory server (Domain). The person logging in must have the rights to create new users.
2. Click **Start, Programs, Administrative Tools**, then **Active Directory Users and Computers**.
3. Right click on the **Users** folder, click **New** and then **User**.
4. When the New Object-User window opens, type "SpeakAdmin" in the **First name:** and **User logon name:** fields.

5. Enter "SpeakAdmin" in the **User logon name** field.
For PC operating system releases prior to Windows 2000, the SpeakAdmin text should automatically copy into the **User logon name** field.
6. Ensure the Active Directory domain name is selected in the drop-down menu, then click **Next**.
7. In the **Password:** field of the next window, type your administration password.
8. Choose your password setting preference (we recommend **Password Never Expires**), then click **Next**.
9. In the next window, ensure that the **Create an Exchange Mailbox** check box is selected.
10. In the **Server** field, select your Exchange server name.
11. In the **Mailbox Store** field, select your Exchange server name, and click **Next**.



Tip: If you are not asked for your Exchange server name, you are missing the Exchange system management tools (you can install these tools from the Exchange CD using the "Custom Installation" option).

12. When the next window appears, click **Finish**.
13. SpeakAdmin User appears in the Active Directory Users and Computers list. Right-click **SpeakAdmin User**, and select **Properties** from the pop-up menu. Select the **Member Of** tab, then click **Add**.
14. When the Select Groups window appears, select **Administrators**, click **Add**, then **OK**.
15. On the SpeakAdmin Properties page, click **Apply**, then **OK**.

To set up SpeakAdmin rights on the Exchange server

1. In the Exchange server, open the Exchange System Manager (click **Start, Programs, Microsoft Exchange**, then **System Manager**).
2. Right-click on the root level of the Exchange folder titled "First Organization (Exchange)." Select **Properties**, click the **Security** tab, then **Advanced**.



Note: If your server does not have a Security tab, please consult your system administrator to get it enabled via registry modification. With your network administrator, refer to the following procedure "Registry Modification". The administrator may recommend a registry export before performing this procedure.

3. In the Access Control Settings for First Organization window, click the Permissions tab, then **Add**.
4. Scroll down the main drop-down menu in the Select User, Computer, or Group window until you find **SpeakAdmin**. Select it, and click **OK**.
5. The Permission Entry for First Organization window appears. In the main drop-down menu, select the first check box (**Full Control**) in the **Allow** column. All of the permissions are automatically checked.
6. Click **OK**.

7. In the Access Control Settings window, click the **Apply** button, then **OK**.
8. When the First Organization Properties window appears, click **Apply**, then **OK**.



Tip: You can verify that the “send as” and “receive as” permissions are allowed. Log in to the Exchange server as SpeakAdmin, use Windows Explorer to go into the Exchange Virtual Drive (M:), open the domain folder, MBX, then SystemMailbox. An improper setup will show you an error message.

Registry Modification

Perform this procedure only if there is no **Security** tab in step 2 above.

To access the Security tab

1. Open up Registry (click **Start**, **Run**, then type "regedit"), and navigate to **HKEY_CURRENT_USER, Software, Microsoft, Exchange**, then **ExAdmin**.
2. Right click on **ExAdmin** and go to **New**, then **String Value**. Name this value "ShowSecurityPage".
3. Press **Enter**.
4. Double-click **ShowSecurityPage**, then enter value data **1**.
5. Click **OK**, then close the registry.
6. Return to step 2 above. The **Security** tab will now appear.

Installing the Active Directory Components



Note: Ensure that you log in as administrator (with Schema Admin rights) of the root domain of the forest organization to complete this procedure. You can only update the schema on the domain controller which is the schema master. By default, the schema master is the first domain controller installed in the forest organization.

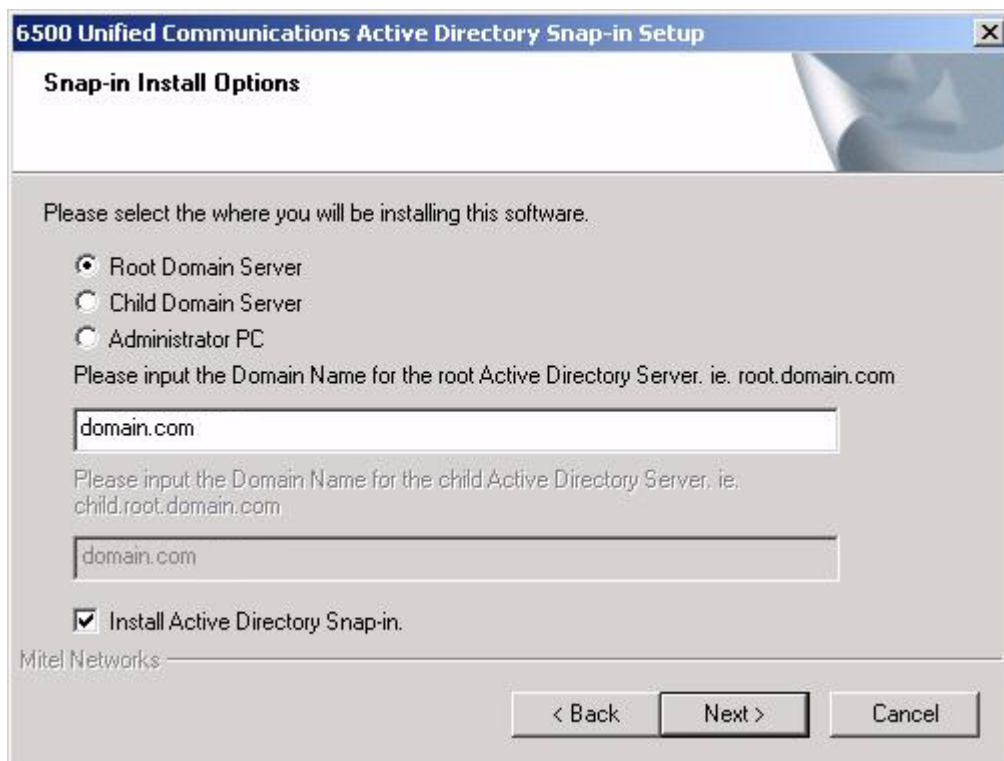
Before you start the installation, know your

- Active Directory topology (root domain and child domain)
- Active Directory domain name
- Active Directory (Domain Controller) host name
- Active Directory administration ID (SpeakAdmin)
- Active Directory administration password (for SpeakAdmin)
- 6500 server name.

To install the Active Directory components

1. Log into the root Active Directory server as administrator of the domain.
2. Insert the CD “6500 Unified Communications Installation Disc 2” in your Domain controller. The 6500 Unified Communications Setup Disk 2 window opens.
3. Click **Active Directory Snap-in**.

4. When the Install Welcome screen appears, click **Next**.
5. In the Snap-in Install Options window, select **Root Domain Server**, **Child Domain Server**, or **Administrator PC**.

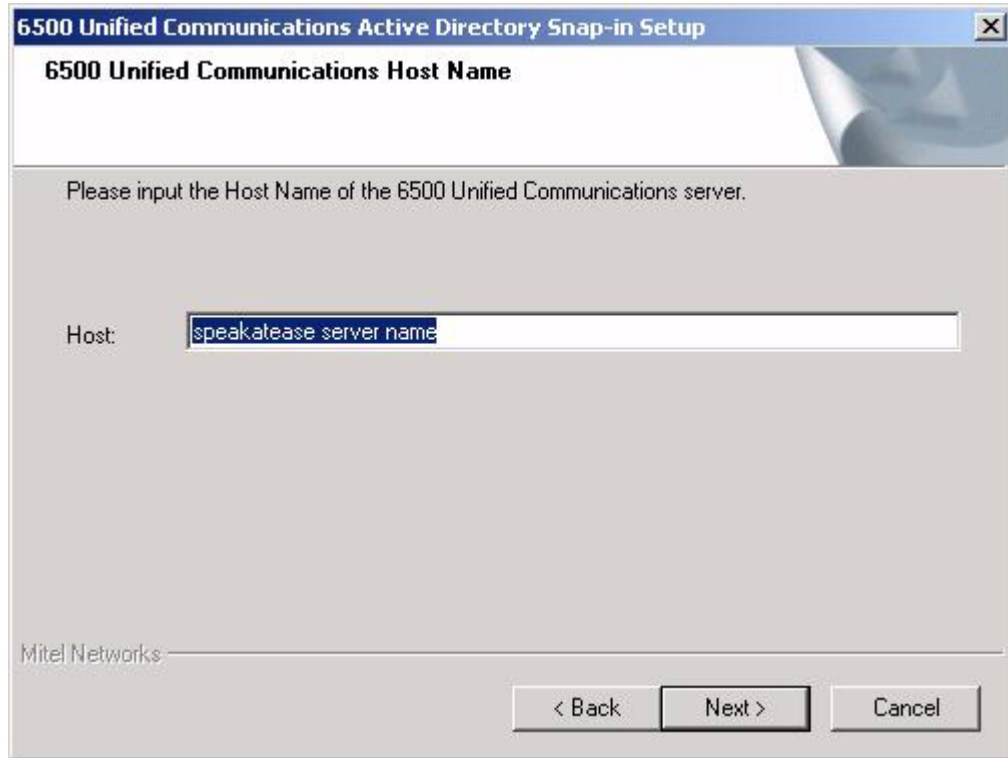


- If you selected Root Domain Server, enter the Domain name for the root Active directory server,
- If you selected Child Domain Server, enter the Domain name for the root Active directory server and enter the Domain name for the child Active Directory Server.

Note: Selecting Administrator PC, does not require you to enter Domain names.

6. Select the **Install Active Directory Snap-In** check box if you are going to administer your users on the Active directory server.
7. Click **Next**. The 6500 Unified Communications Host Name window opens.

8. Enter the host name of the 6500 server.



9. Click **Next**. The Language Configuration window opens.



10. In the Language Configuration window, select your language configuration. Select the language option that was purchased for your system (check your options sheet included with the system software).
 - For a unilingual system, click **Unilingual**, select your primary language, then click **Next**.
 - For a bilingual system, click **Bilingual**, select your primary and secondary languages, then click **Next**.
11. When the Start Copying Files window appears, verify your settings. If any of the settings are incorrect, click **Back** to the appropriate window(s), correct the settings, then click **Next** to get back to this window. If all the settings are correct, click **Next**. The Setup Status window opens and a progress bar shows the installation taking place. When finished, the Setup Complete window opens.
12. Click **Next**. The InstallShield Wizard Complete window opens.
13. Click **Finish**.



Tip: To verify the install of the Active Directory component, open the Active Directory, Users and Computers window, select Properties for a user, and then select the SR Settings. Any errors are flagged with a template error window.



Tip: If you get a template error, you may have installed the application on the wrong server not the schema master, or the child domain was entered incorrectly. If there is no child, enter domain.com.

Installing the Exchange Server Components



Note: If you are upgrading or reinstalling your Exchange snap-in, you must uninstall the snap-in with the Add/Remove Programs in the Control Panel, before installing or upgrading.



Tip: Remain logged in as "SpeakAdmin" on the Domain, since you will require an install from here. If this does not work correctly, see Page 32, "Creating a SpeakAdmin User."

Before you start the installation, you should have your

- Exchange Server name
- Exchange Server administrator ID (SpeakAdmin)
- Exchange Server administrator password (for SpeakAdmin)
- 6500 server name.

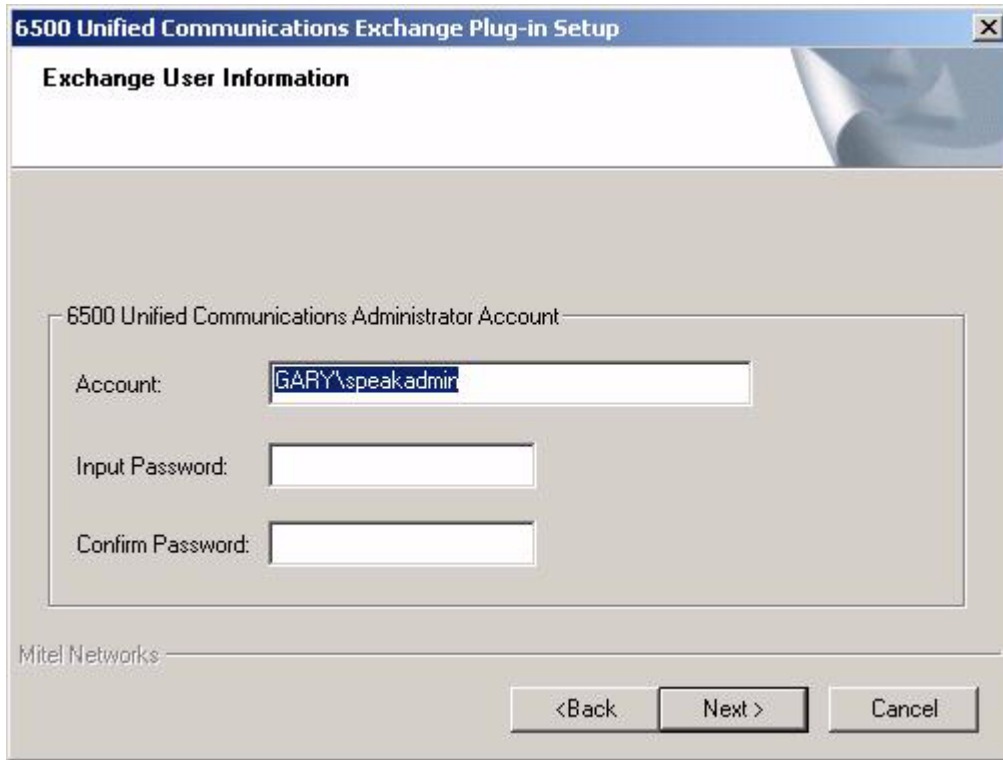
To install the Exchange server components

1. Confirm that you are logged into the Exchange Server as "SpeakAdmin" on the Domain.

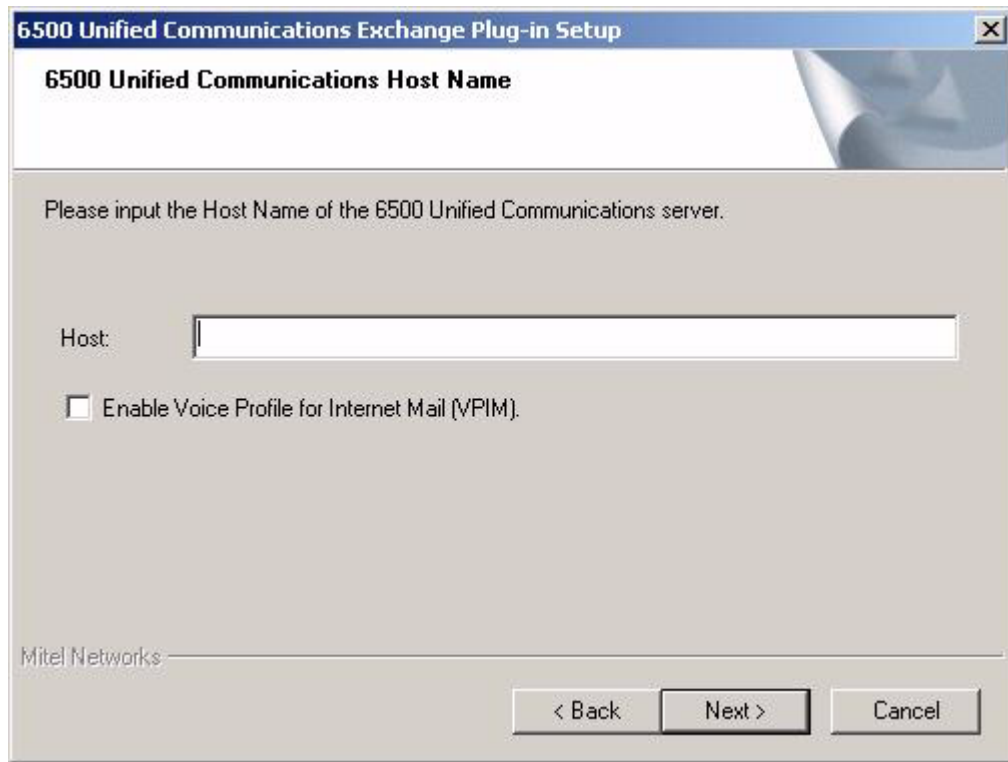


Note: Before you install the components confirm that your SpeakAdmin rights are verified. Log into Exchange as "SpeakAdmin" on the Domain, and then attempt to access the "Exchange Drive:\domain\MBX\Systemmailbox" folder. The successful programming of SpeakAdmin rights will grant you access.

2. Insert the CD "6500 Unified Communications Installation Disc 2" into the Exchange server. The 6500 Unified Communications Setup Disk 2 window opens.
3. Click **Exchange Plug-in**. A welcome screen opens. Check that you are logged in as SpeakAdmin.
4. Click **Yes** to confirm that you are logged in as SpeakAdmin. A welcome window opens.
5. Click **Next**. The Exchange User Information window opens.



6. Ensure that the user name (Domain\SpeakAdmin) is present, type the SpeakAdmin password, confirm the password, and click **Next**. The Input Exchange Drive Name window opens.
7. If necessary, browse for your Exchange Server domain name. Click **Next**. The 6500 Unified Communications Host Name window opens.



8. Type the name of your 6500 server, then click **Next**.
9. If VPIM is required, select the **Enable Voice Profile for Internet Mail (VPIM)** check box.
10. When the Start Copying Files window appears, verify your settings. If any of the settings are incorrect, click **Back** to the appropriate window(s), correct the settings, then click **Next** to get back to this window. If all the settings are correct, click **Next**. The Enable DCOM window opens.
11. Click **Yes** to install DCOM. Com+ installs silently.
12. If you selected VPIM, the Installing VPIM Proxy Gateway window opens. Select the location for the VPIM Gateway that is suitable for the Exchange server.
13. Click **OK**. A DOS window opens.
14. Wait until the InstallShield Wizard Complete window opens.
15. Select **Yes I want to restart my computer now**, then click **Finish**.



Tip: Without the reboot, MWI works immediately, but DCOM-related procedures such as paging, notification, calendar, and task will not work until the Exchange server is rebooted. Check with your customer regarding these procedures.



Tip: To verify that SAEEventNotifier exists, open up the component services. Click **Start, Programs, Administrative Tools**, then **Component Services**. Expand the Component Services folder, the Computers folder, the My Computer folder, then the Com+ Applications folder. Look for the SAEEventNotifier folder.



Tip: To verify that saeSink was installed, ensure that you are able to see all the operating files (Tools, Folder Options, View tab, deselect Hide Protected Operating System Files, click Apply and then OK) and then login as SpeakAdmin and navigate to saeSink.dll (m:domain\MBX\System Mailbox\storeevents\globalevents\saeSink).

Setting the Relay Permissions on the Exchange Server

The Exchange server requires relay permissions in order to send messages on behalf of the 6500 server (for example, sending a message to a personal contact in the Personal Directory).

To allow the Exchange Server to relay messages for the 6500 server

1. On the Exchange Server, open the Exchange System Manager (click **Start, Programs, Microsoft Exchange**, then **System Manager**).
2. Click on **ExchangeServerName, Servers, ExchangeServerName, Protocols, SMTP**, then right-click on **Default SMTP Virtual Server**.
3. Click **Properties**.
4. In the **Access** tab, click **Relay**, then **Add**. The Computer Window opens.
5. Select **Single Computer**, then type the IP address of the 6500 server.
6. Click **OK** twice, and then **Apply**.

Combining Administration Access (optional)

This procedure allows you to add the 6500 Unified Communications to the MMC console, giving you a single administration access point for Active Directory, the 6500 Admin Web Page, and the Exchange Server. This combined access point provides ease of use and is optional to the administrator.

To provide single administration

1. On the Exchange Server, click **Start, Run**, type "MMC", and click **OK**.
2. From the main menu bar, select **Console**, then **Add/Remove Snap-in**.
3. In the Add/Remove Snap-in window, click **Add**, select **Active Directory Users and Computers**, and click **Add**.
4. Select **Exchange System**, and click **Add**. The Change Domain Controller window opens.
5. Select your Exchange Org name (for example, "gdomain.dave.com") in the bottom window, and click **OK**.
6. Select **Link to Web Address** and click **Add**.
7. In the Link to Web Address window, type the URL of the 6500 server in the **Target** box, using the following format: "http://your 6500server name/mmc.asp?pass=your admin password".
8. Click **Next**.
9. In the **Select a name for the URL** reference box, type "SpeakatEase Administration".

10. Click **Finish, Close**, then **OK**. The Console Root window shows the AD users and SpeakatEase Administration.

Customizing Outlook Security

You must ensure that the Microsoft Outlook security settings accept the Mitel Networks 6500 Outlook Plug-in software so that it does not give continuous security warnings. This requirement applies to Microsoft Outlook 2000 users with the security patch or Microsoft Outlook XP. The person that owns the Exchange folder on the Exchange server should set this up.

To customize the Microsoft Outlook security

1. On the Exchange server, open Exchange System Manager (click **Start, Programs, Microsoft Exchange**, then **System Manager**).
2. Open **Folders, Public Folders**, then **Outlook Security Settings**.
3. Right-click on **Outlook Security Settings**, and click **Properties**. The Outlook Security Settings Properties window opens.
4. Select **Permissions**, and click **Client Permissions**. The Client Permissions window opens.
5. Click **Add**. The Add Users window opens.
6. Select your name, and any other names that have permission to change the Outlook Security Settings from the list, click **Add**, then **OK**.
7. In the Client Permissions window, select the user(s) in the **Name and Role** list, and use the **Roles** drop-down menu to change the role from **Author** to **Owner**. Click **OK**, then **OK** again.
8. Use the computer of any of the users that you entered in the Client Permissions window, to quit and restart Microsoft Outlook. If the Folder List is not displayed, on the main menu click **View**, and then **Folder List**.
9. In the Folder list, open **Public Folders, All Public Folders**, then **Outlook Security Settings**.
10. In the top right pane, right-click on the file, **Default Security settings.oft**.
11. Click **Open**. The Select Folder window opens.
12. Open **Public Folders, All Public Folders**, then **Outlook Security Settings**, and click **OK**. You may get a warning message asking you if you want to enable macros. Click **Enable Macros**. The Default Security Settings - Discussion window opens.
13. In the **Tools** menu bar, select **Forms**, then **Publish Form**. The Publish Form As window opens.
14. For both the **Display Name** and the **Form Name** boxes, enter **Outlook Security Form**, and click **Publish**.
15. If the system was customized for Outlook security before, a Microsoft Outlook Message opens stating "A form by this name already exists. Do you want to replace it? Click **Yes**. Close the window (with the **Close** (x) button in the top right corner). **DO NOT SAVE**. In the upper right pane of the Microsoft Outlook main window, open the published file,

Default Security Settings (with the user name in the From column). The Default Security Settings - Outlook Security Form opens.

or

If the system was not customized for Outlook security before, in the main menu, select **File, New, Choose form**. The Choose Form window opens. In the Look in drop-down menu, select **Outlook Security Settings**. Click **Open**.

16. Click on the **Programmatic Settings** tab, and select **Automatically approve** for **When accessing the address book via Outlook object model** and **When accessing address information via Outlook object model**.
17. Click **Close**, and save the changes.
18. Restart Microsoft Outlook.

Connecting to the LAN

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

- Connect the LAN cable into the NIC card (ethernet port).

Joining the Domain



Tip: Verify that all of the services are stopped except for LDAP and NLM.



Tip: The administrator should perform the following task.

To join the domain

1. Click **Start, Settings**, then **Control Panel**.
2. Double-click **Network**.
3. From the **Identification** tab, click the **Change** button.
4. In the **Member of** field, select **Domain**, and enter the domain name.
5. Select the **Create a Computer Account in the Domain** checkbox.
6. Enter the user name and password of the administrator account on the domain.
7. Click **OK** twice, then **Close**.
8. Click **Yes** to reboot the server.

Integrating the System for the Network

Two types of integrations exist

- Digital (see page 47).
- IP (see page 59).

Integrating each of these into the network involve different procedures.



Tip: Unified Messaging requires the installation of the Active Directory components and the Exchange components. Before proceeding, make sure that you have followed the previous procedures for Configuring the Other Servers and that you have verified the install of the Active Directory components (see “To install the Active Directory components” on page 37).

Integrating Digital Sets

Digital Integration requires you to

- Connect the DNI Ports to the VB-2007/2009 Card (see page 47).
- Apply the Configuration Wizard (see page 51).
- Set the MWI on the sets (see page 59).



Tip: Unified messaging requires the installation of the Active Directory components and the Exchange components. Before proceeding, make sure that you have followed the previous procedures for Configuring the Other Servers.

To connect the DNI Ports to the VB-2007/2009 Card

You connect the PBX DNI ports to the VB-2007/2009 card with the interface cable that is shipped with the card.



Tip: The Nortel Networks integration uses the VB-2009 card.

1. Connect the VB-2007/2009 interface cable to the 62-pin, D-type, subminiature connector on the VB-2007/2009 faceplate. For an 8-port system the VB-2007/2009 is located in ISA slot J5 of the TS1400 Server. For a 16-port system, the two VB2007 cards or VB 2009 cards are located in ISA slots 4 and 3.
2. Connect the 25-pair cable(s) from the PBX main distribution frame to the 25-pair, male, filtered Amphenol connector on the VB-2007/2009 interface cable.
3. On the main distribution frame, wire the VB-2007/2009 DNI ports to the PBX DNI ports. For the DNIC card pinouts of the PBX, refer to your PBX documentation. The connector pinouts for the VB-2007/2009 card ports are given in the following table:

Pinouts for 25-pair, male, Amphenol connector on VB-2007/2009 Interface Cable				
Port #	Pin #	RJ-45 Pin #	Pair Color	Lead Designation
1	26	4	W/BL	Tip (2-wire)
	1	5	BL/W	Ring (2-wire)
	27	1	W/O	unused
	2	2	O/W	unused
	28	3	W/G	unused
	3	6	G/W	unused
2	29	4	W/BR	Tip (2-wire)
	4	5	BR/W	Ring (2-wire)
	30	1	W/S	unused
	5	2	S/W	unused
	31	3	R/BL	unused
	6	6	BL/R	unused
3	32	4	R/O	Tip (2-wire)
	7	5	O/R	Ring (2-wire)
	33	1	R/G	unused
	8	2	G/R	unused
	34	3	R/BR	unused
	9	6	BR/R	unused
4	35	4	R/S	Tip (2-wire)
	10	5	S/R	Ring (2-wire)
	36	1	BK/BL	unused
	11	2	BL/BK	unused
	37	3	BK/O	unused
	12	6	O/BK	unused
5	38	4	BK/G	Tip (2-wire)
	13	5	G/BK	Ring (2-wire)
	39	1	BK/BR	unused
	14	2	BR/BK	unused
	40	3	BK/S	unused
	15	6	S/BK	unused
6	41	4	Y/BL	Tip (2-wire)

Pinouts for 25-pair, male, Amphenol connector on VB-2007/2009 Interface				
Port #	Pin #	RJ-45 Pin #	Pair Color	Lead Designation
	16	5	BL/Y	Ring (2-wire)
	42	1	Y/O	unused
	17	2	O/Y	unused
	43	3	Y/G	unused
	18	6	G/Y	unused
7	44	4	Y/BR	Tip (2-wire)
	19	5	BR/Y	Ring (2-wire)
	45	1	Y/S	unused
	20	2	S/Y	unused
	46	3	V/BL	unused
	21	6	BL/V	unused
8	47	4	V/O	Tip (2-wire)
	22	5	O/V	Ring (2-wire)
	48	1	V/G	unused
	23	2	G/V	unused
	49	3	B/BR	unused
	24	6	BR/V	unused
	50		V/S	unused
	25		S/V	unused

Slot Designation for the TS1400/TS1404

TS1400			TS1404		
Slot ID	Slot Type	Backplane Slot Designation	Slot ID	Slot Type	Backplane Slot Designation
0	PCI	PPCI4	0	PCI	J26
1	PCI	PPCI3	1	PCI	J24
2	PCI	PPCI2	2	PCI	J25
3	PCI	SPCI4	3	PCI	J23
4	PCI	SPCI3	4	PCI	J22
5	PCI	SPCI2	5	PCI	J21
6	LPT/COM2	SPCI1	6	LPT/COM2	J20
7	ISA	ISA1/PCI4	7	SBC	J1/ J9
8	ISA	ISA2	8	ISA	J7
9	ISA	ISA3	9	ISA	J10
10	ISA	ISA4	10	ISA	J12
11	ISA	ISA5	11	ISA	J14
12	ISA	ISA6	12	ISA	J16
13	ISA	ISA7	13	ISA	J18

To apply the Configuration Wizard

The Configuration Wizard is a tool that automatically reconfigures the 6500 system to operate in a new environment for 6500 Unified Messaging.

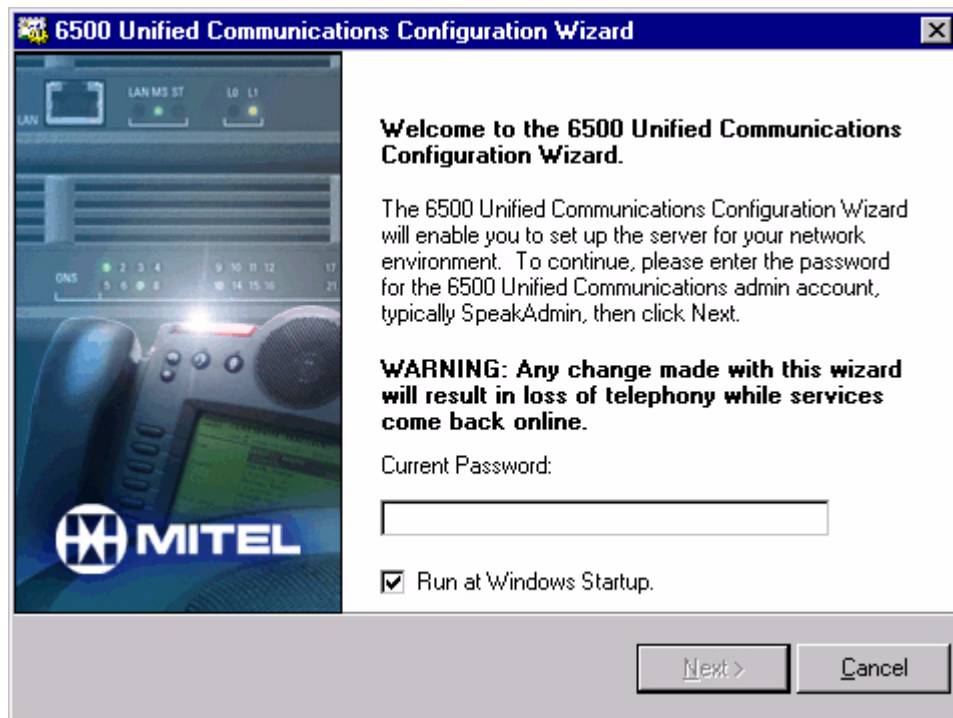


Tip: For extra information use the mouse-over feature on the entry for each field and use the help file with the Configuration Wizard. If you press F1, the system launches the help file.



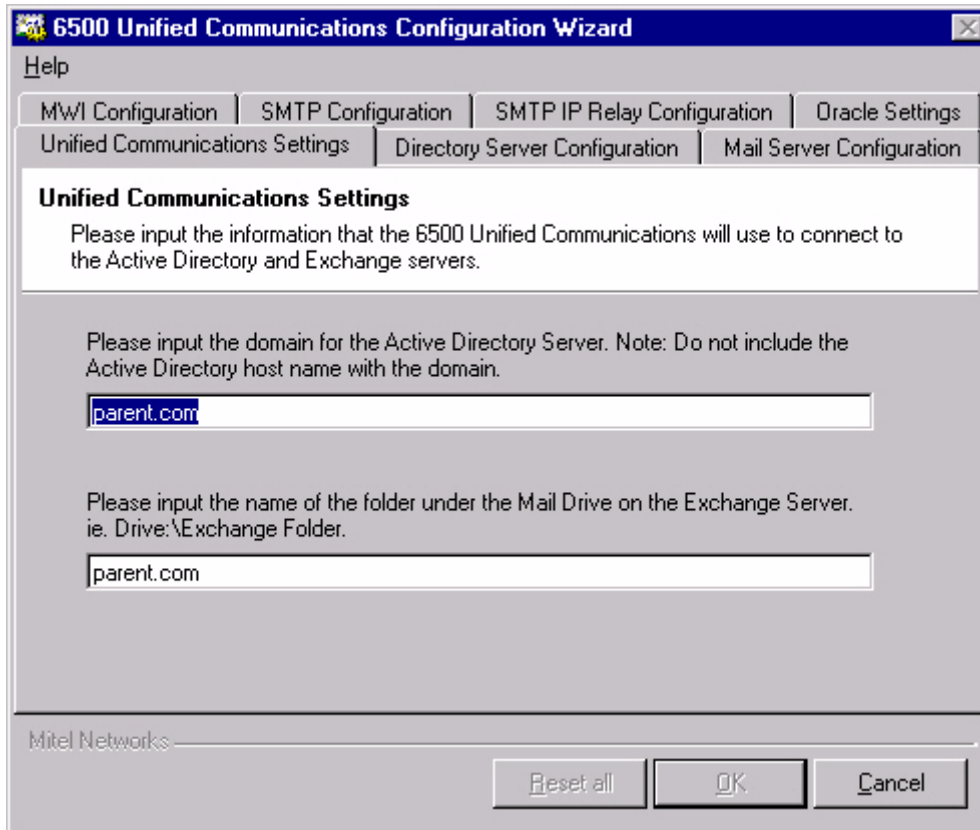
Note: Mitel Networks recommends using SpeakAdmin for the administrator account of the Active Directory server and the Exchange server. When you receive the 6500 server, the server has SpeakAdmin with admin as the password. When you run the Configuration Wizard for the first time you will use **admin** for the Current Password. You have the option to change this password with the Configuration Wizard.

1. Launch the Configuration Wizard (click **Start, Programs, Mitel Networks, Speech Recognition, then Configuration Wizard**). A welcome screen opens.



2. In the **Current Password** box, type the administration password for SpeakAdmin (default is admin). SpeakAdmin is the administrator of the Active Directory account.
3. If you want the Configuration Wizard to open everytime you reboot the server, select the **Run at Windows Startup** check box.
4. Click **Next**.

5. Under the **Unified Communications Settings** tab (default), verify that the Active Directory domain name and Exchange server mail drive settings are correct (make the necessary changes if needed).



- Click the **Directory Server Configuration** tab, and verify that the **Host name** and **Admin Account** settings are correct (make the necessary changes if needed).

The screenshot shows the '6500 Unified Communications Configuration Wizard' window. The 'Directory Server Configuration' tab is selected. The window title is '6500 Unified Communications Configuration Wizard'. Below the title bar is a 'Help' button. The main area contains several tabs: 'MWI Configuration', 'SMTP Configuration', 'SMTP IP Relay Configuration', 'Oracle Settings', 'Unified Communications Settings', 'Directory Server Configuration', and 'Mail Server Configuration'. The 'Directory Server Configuration' tab is active, displaying the following content:

Configure Directory Server
Please input the Host Name, Account Name and Password that you will use to connect to the Active Directory Server.

Host Name:

Admin Account:

Update Admin Account Password

Update Password

New Password:

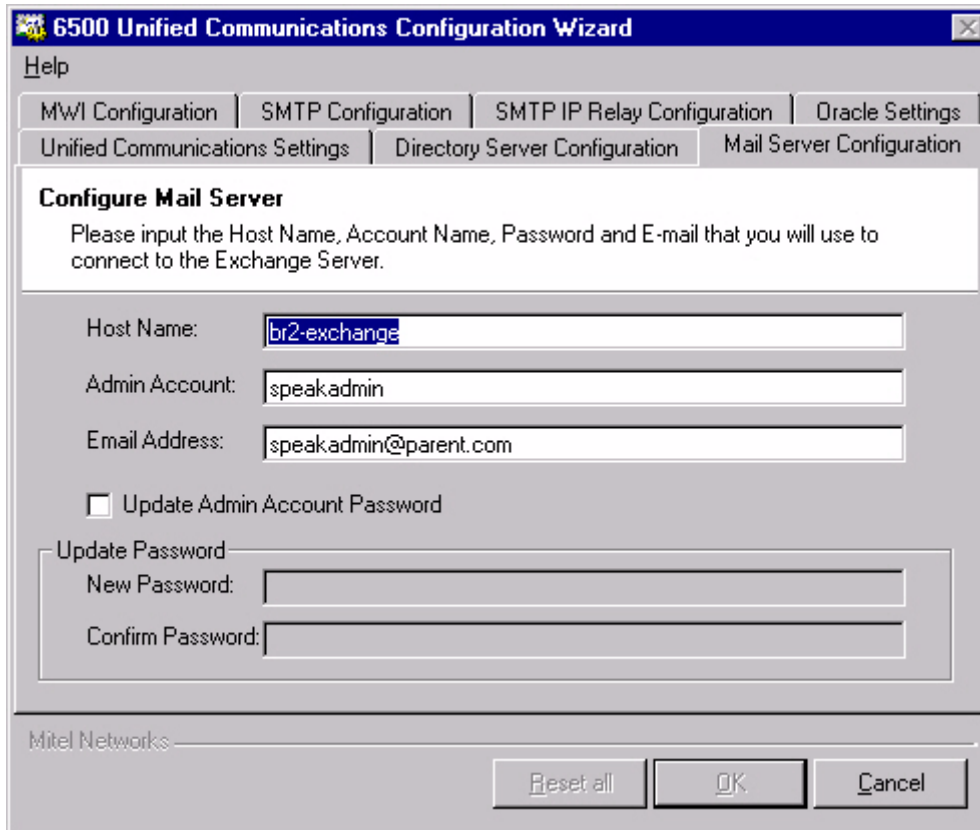
Confirm Password:

Mitel Networks

Buttons:

To change the administrator password for the Active Directory account (speakadmin), select **Update Admin Account Password**, and type the new password in the **New Password** and **Confirm Password** boxes.

7. Click the **Mail Server Configuration** tab, and verify that the **Host name**, **Admin Account** and **Email Address** settings are correct (make the necessary changes if needed).



To change the administrator password for the Exchange account (speakadmin), select **Update Admin Account Password**, and type the new password in the **New Password** and **Confirm Password** boxes.

- Click the **MWI Configuration** tab, then configure the Message Waiting options for your system.

The screenshot shows the '6500 Unified Communications Configuration Wizard' window. The 'MWI Configuration' tab is selected. The window title is '6500 Unified Communications Configuration Wizard'. Below the title bar, there are several tabs: 'Unified Communications Settings', 'Directory Server Configuration', 'Mail Server Configuration', 'MWI Configuration', 'SMTP Configuration', 'SMTP IP Relay Configuration', and 'Oracle Settings'. The 'MWI Configuration' tab is active, displaying the following settings:

Configure Message Waiting Indicator
Please select the Message Waiting Indicator(MWI) control mechanism and configure the control properties.

MWI Control Mechanism:

Maximum Requeues:

Routing Device #:

Feature Access Code Settings

On:

Off:

MWI Pause:

Port Control Settings

Control Port ID(s):

Port Hunt Mode:

Port Hunt Direction:

Mitel Networks

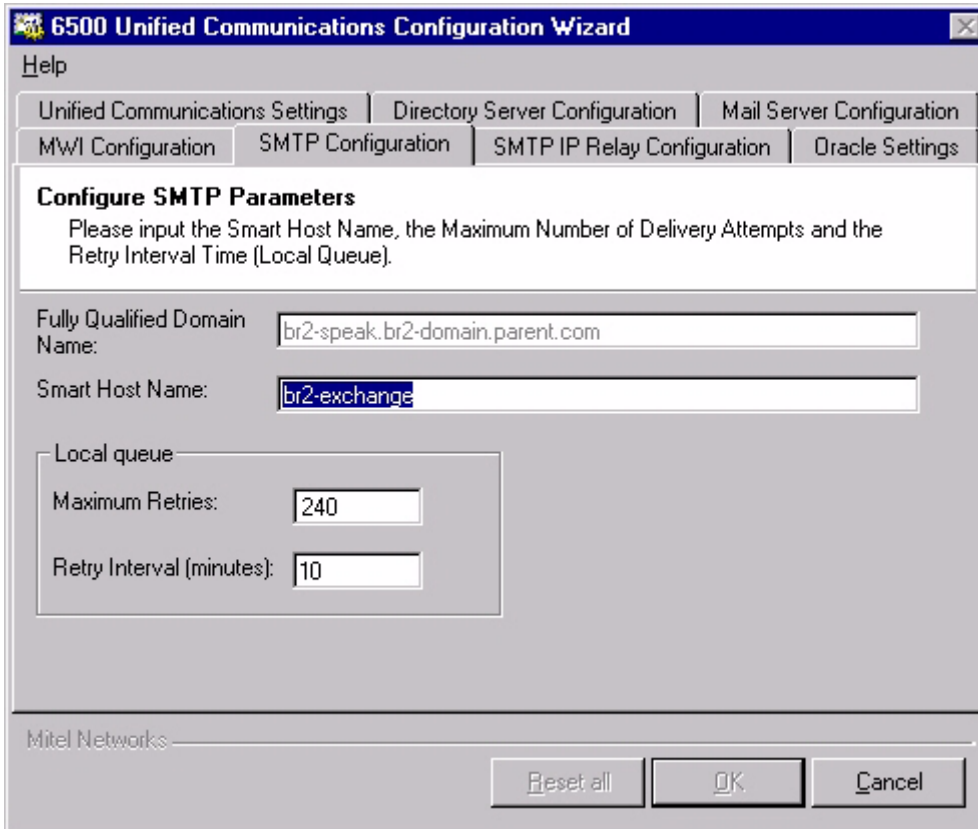
Buttons:



Note: If you want to reset all settings to their defaults, click **Reset All**.

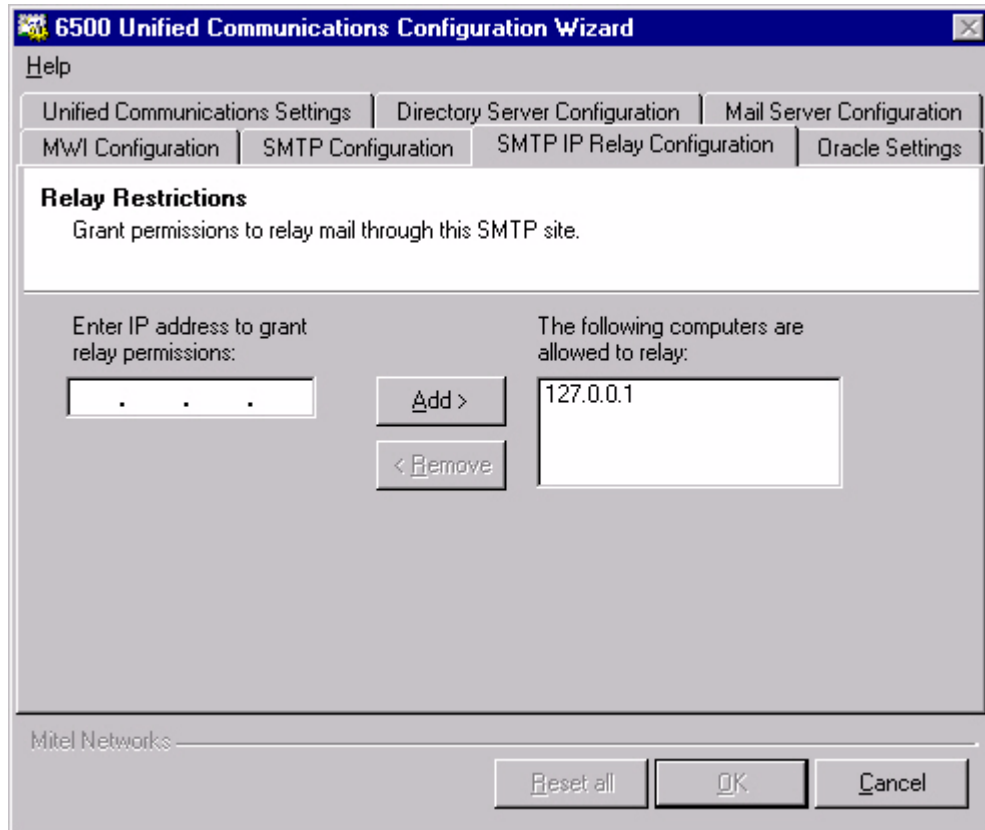
- Select the **MWI Control Mechanism** setting: **FeatureAccessCodes** (for SX-200, SX-2000, or Q.SIG systems), **VoiceBridge** (for Nortel Networks systems), or **MiTAI** (for 3300 ICP systems).
- Set the **Maximum Requeues** value.
- If applicable, set the **Routing Device #** (HCI hunt group for MiTAI).
- In **Feature Access Code Settings**, program the Message Waiting **On** and **Off** codes (for example, *88 and *89), and the **MWI Pause** value.
- In **Port Control Settings**, program the **Control Port ID(s)** (if you have more than one, separate them with commas), the **Port Hunt Mode** (**Terminal** or **Circular**), and the **Port Hunt Direction** (**HighToLow** or **LowToHigh**).

9. Click the **SMTP Configuration** tab, then configure the SMTP options:

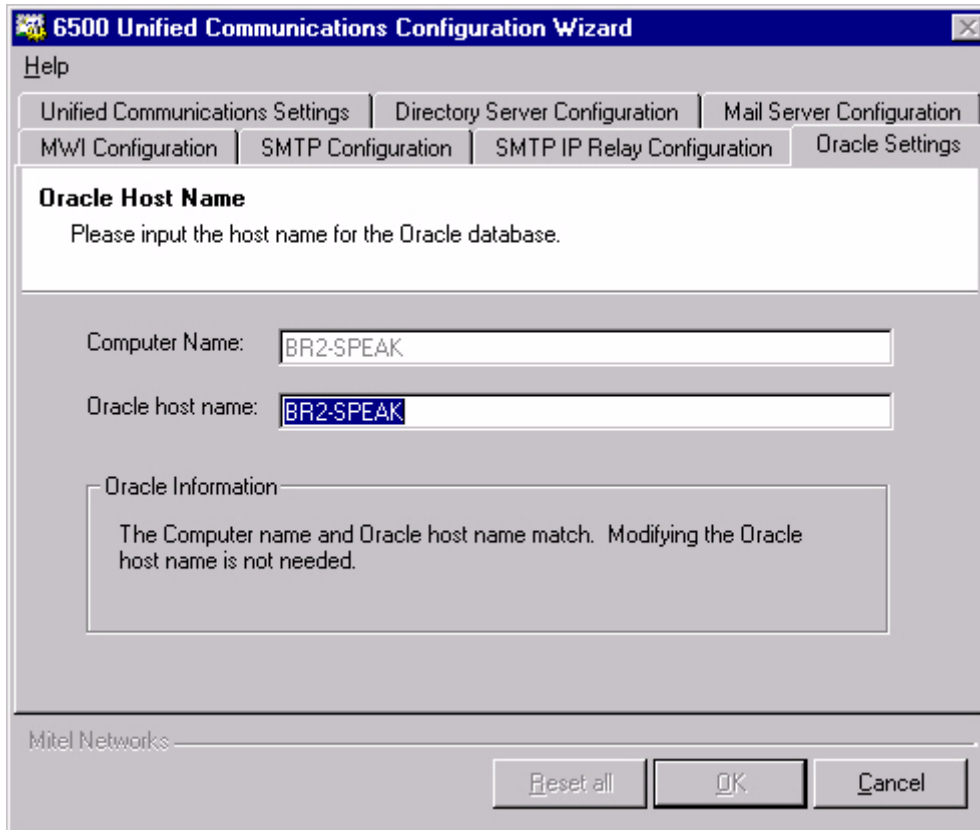


- Enter the **Smart Host Name** (the Exchange server name).
10. In **Local Queue**, enter the **Maximum Retries** and **Retry Interval** values.
- In Maximum retries, we recommend that you enter **240**. This number is the total number of message delivery attempts before the 6500 server considers the message undeliverable.
- In Retry Interval, we recommend that you enter **10** (minutes). The number for the Retry Interval defines the amount of time that the 6500 server will wait before attempting delivery of the voice mails to the Exchange server.
- In conjunction with the Retry Interval number, the 6500 server will attempt to deliver the message every 10 minutes. These settings are configurable on a per site basis, and should be discussed with the customer.


11. Click the **SMTP IP Relay Configuration** tab. Enter **127.0.0.1** in the **Enter IP address to grant relay permissions** box, click **Add**.




- Click the **Oracle Settings** tab, check that the 6500 server name is in the **Computer Name** box and if the two name do not match, enter the 6500 server name in the **Oracle Host Name** box.



- Click **OK**, and then **YES** to save all your changes. A progress bar opens and the 6500 Unified Communications Configuration Wizard Complete window opens when the configuration is complete.

 **Note:** If you want to see the configuration log file, select the **View Configuration Wizard Log File** check box before clicking **Close** in the next step.

- Click **Close**.

 **Note:** The Configuration Wizard automatically stops and restarts all of the services.

To set MWI on the sets

MWI alerts users of unread voice mails in their messaging inbox. You can use MWI Controller to turn on/off the MWI (Message Waiting Indicator) lights on the telephone sets system-wide or individually by extension. This MWI Controller is for all of the 6500 Unified Messaging users listed in Active Directory. A status window on the MWI Controller window logs the MWI transactions.

1. Click **Start**, and select **Programs, Mitel Networks, Speech Recognition**, then **MWI Controller**. The MWI Controller window opens
2. If you want to reset the MWI lights individually, in the User Extension box, enter the extension for the MWI lamp that you want to reset, and click **ON** or **OFF**.
3. If you want to reset the MWI lights for the entire system, click **Reset All MWI**.
4. Click **Quit**.



Tip: Clicking Clear deletes the information in the status window.

To verify that the PBX is programmed to enable/disable MWI on the sets

1. Connect a telephone set that has the same COS as the MWI port.
2. Dial the MWI ON feature access code plus the extension number of the telephone set. The MWI on the telephone turns on.
3. Verify that dialtone is returned immediately after dialing an extension. If not, you will have to resolve the dialing conflict on the PBX,

Integrating IP

IP Integration requires you to

- Configure the IP settings in the Control Panel (see page 59).
- Apply the Configuration Wizard (see page 61).
- Test MWI with MiTAIX (see page 69).
- Set MWI on the sets (see page 69).

Configuring the IP settings in the Control Panel

The IP settings include

- IP Phone Emulator
- Mitel Remote Access
- Telephony
- Multimedia
- Sounds.

To configure IP Phone Emulator

1. In the Control Panel window, open **IP Phone Emulator** (click **Start, Settings, Control Panel**, then open **IP Phone Emulator**). The Mitel IP Phone Emulation Settings window opens.
2. In the Mitel Networks Host IP Settings, select **3300** as the Host Type, and change the IP Address to the IP Address of the 3300 ICP.
3. In the middle of the Phone DN/Phone ID frame, right click the mouse and select **Insert** from the pop-up menu. Add the port numbers that the 6500 Unified Communications system will use (these ports must already be configured as IP 5020 sets in the 3300 ICP), then click **Cancel** to exit the dialog.
4. Click **OK**.

To configure Mitel Remote Access

1. In the Control Panel window, open **Mitel Remote Access**. The Mitel Remote Access Settings window opens.
2. Change **Machine Name of Remote PBX Server** to the IP address of the 3300 ICP system.
3. Click **OK**.

To configure Telephony

1. In the Control Panel window, open **Telephony**. The Dialing Properties window opens. If asked, enter the default country information (include area code), then click **Close**.
2. Select the **Telephony Drivers** tab.
3. Select **Mitel PBX TAPI Services Provider**, then click **Configure**.
4. In the MITEL Device Properties window, in the middle of the Prime DN frame, right click the mouse, and click **Select from IP Phone List**.
5. Shift-select each Prime DN from the list (this list should match all DNs entered into the IP Phone Emulator).



Note: Choose phone numbers that are not already assigned.

6. Click **Apply**, then **Close**.

To configure Multimedia

1. In the Control Panel window, open **Multimedia**. The Multimedia Properties window opens.
2. Click the **Audio** tab. In the Playback section and the Recording section, select **None** for the Preferred device.
3. Select the **Use preferred devices only** check box.
4. Click **Apply**, then **OK**.

To configure Sounds

1. In the Control Panel window, open **Sounds**. The Sounds Properties window opens.
2. In the Schemes section, select **No Sounds** from the drop-down list. The Save Scheme window opens.

3. Click **No**.
4. Click **Apply**, then **OK**.

To apply the Configuration Wizard

The Configuration Wizard is a tool that automatically reconfigures the 6500 system to operate in a new environment for 6500 Unified Messaging.

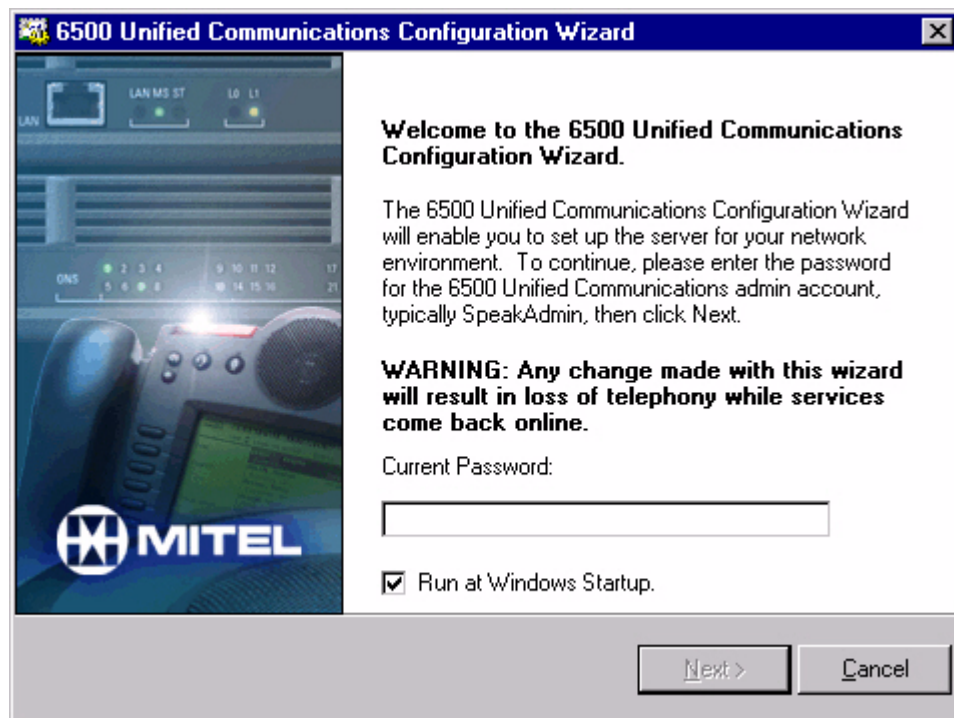


Tip: For extra information use the mouse-over feature on the entry for each field and use the help file with the Configuration Wizard. If you press F1, the system launches the help file.



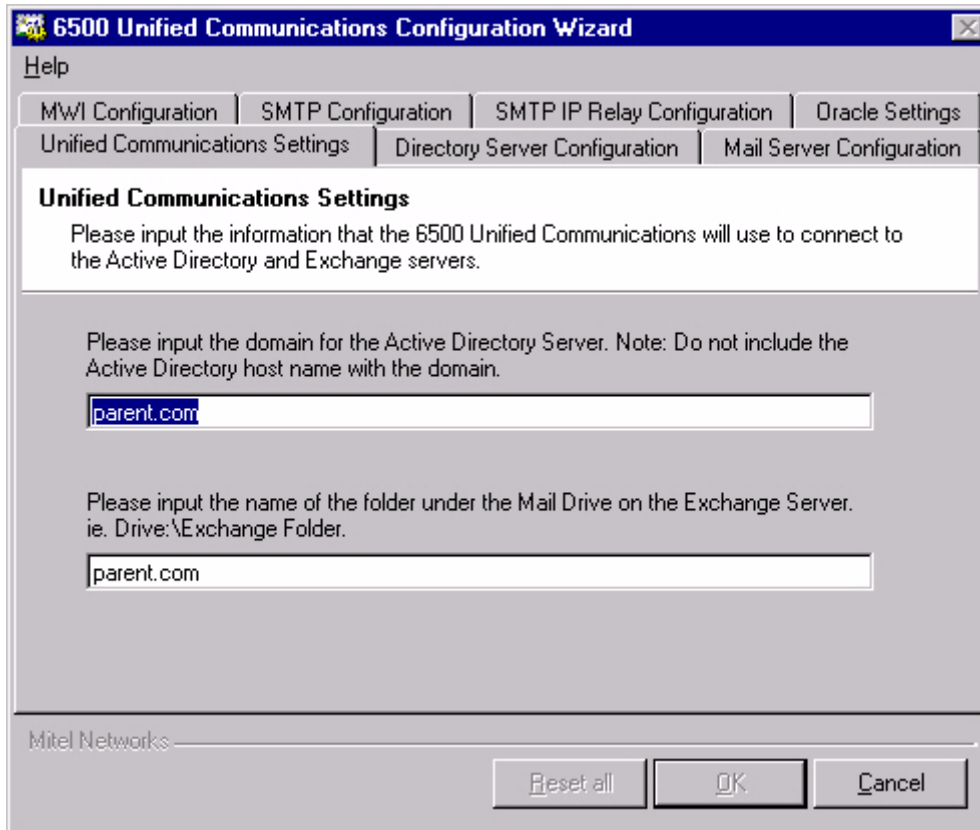
Note: Mitel Networks recommends using SpeakAdmin for the administrator account of the Active Directory server and the Exchange server. When you receive the 6500 server, the server has SpeakAdmin with admin as the password. When you run the Configuration Wizard for the first time you will use **admin** for the Current Password. You have the option to change this password with the Configuration Wizard.

1. Launch the Configuration Wizard (click **Start, Programs, Mitel Networks, Speech Recognition, then Configuration Wizard**). A welcome screen opens.



2. In the **Current Password** box, type the administration password for SpeakAdmin (default is admin). SpeakAdmin is the administrator of the Active Directory account.
3. If you want the Configuration Wizard to open everytime you reboot the server, select the **Run at Windows Startup** check box.
4. Click **Next**.

5. Under the **Unified Communications Settings** tab (default), verify that the Active Directory domain name and Exchange server mail drive settings are correct (make the necessary changes if needed).



- Click the **Directory Server Configuration** tab, and verify that the **Host name** and **Admin Account** settings are correct (make the necessary changes if needed).

The screenshot shows the '6500 Unified Communications Configuration Wizard' window. The 'Directory Server Configuration' tab is selected. The window title is '6500 Unified Communications Configuration Wizard'. Below the title bar is a 'Help' button. The main area contains several tabs: 'MWI Configuration', 'SMTP Configuration', 'SMTP IP Relay Configuration', 'Oracle Settings', 'Unified Communications Settings', 'Directory Server Configuration', and 'Mail Server Configuration'. The 'Directory Server Configuration' tab is active, displaying the following content:

Configure Directory Server
Please input the Host Name, Account Name and Password that you will use to connect to the Active Directory Server.

Host Name:

Admin Account:

Update Admin Account Password

Update Password

New Password:

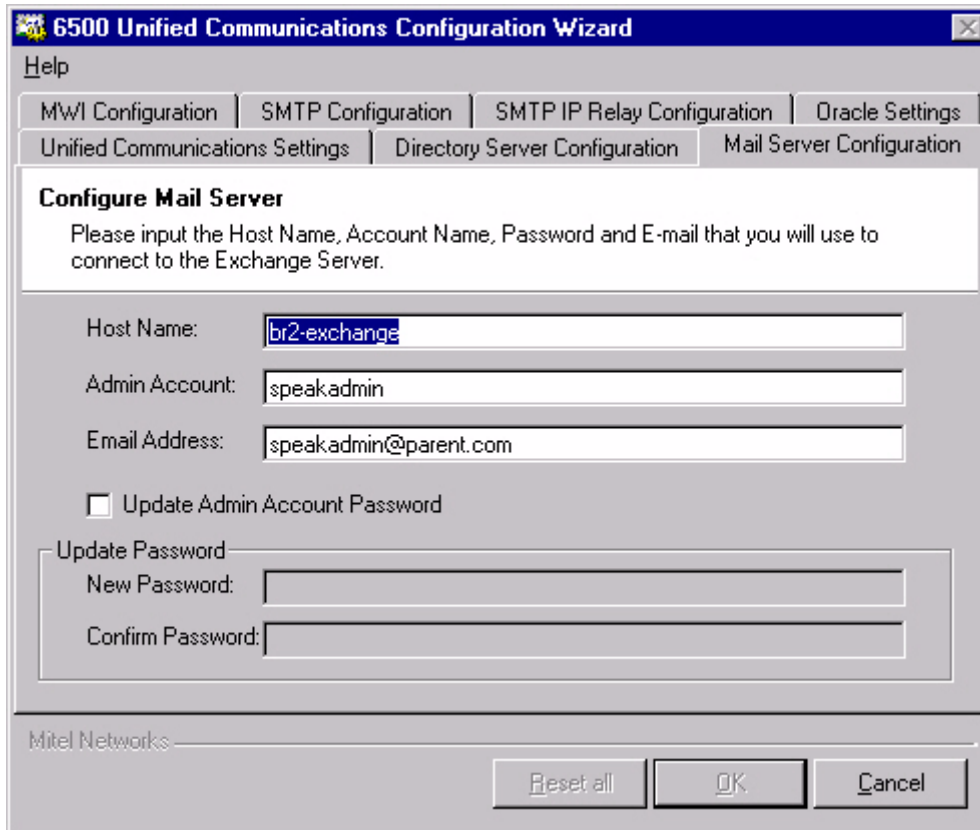
Confirm Password:

Mitel Networks

Buttons:

To change the administrator password for the Active Directory account (speakadmin), select **Update Admin Account Password**, and type the new password in the **New Password** and **Confirm Password** boxes.

7. Click the **Mail Server Configuration** tab, and verify that the **Host name**, **Admin Account** and **Email Address** settings are correct (make the necessary changes if needed).



To change the administrator password for the Exchange account (speakadmin), select **Update Admin Account Password**, and type the new password in the **New Password** and **Confirm Password** boxes.

- Click the **MWI Configuration** tab, then configure the Message Waiting options for your system.

The screenshot shows the '6500 Unified Communications Configuration Wizard' window. The 'MWI Configuration' tab is selected. The window title is '6500 Unified Communications Configuration Wizard'. Below the title bar, there are several tabs: 'Unified Communications Settings', 'Directory Server Configuration', 'Mail Server Configuration', 'MWI Configuration', 'SMTP Configuration', 'SMTP IP Relay Configuration', and 'Oracle Settings'. The 'MWI Configuration' tab is active, displaying the following settings:

Configure Message Waiting Indicator
Please select the Message Waiting Indicator(MWI) control mechanism and configure the control properties.

MWI Control Mechanism:

Maximum Requeues:

Routing Device #:

Feature Access Code Settings

On:

Off:

MWI Pause:

Port Control Settings

Control Port ID(s):

Port Hunt Mode:

Port Hunt Direction:

Mitel Networks

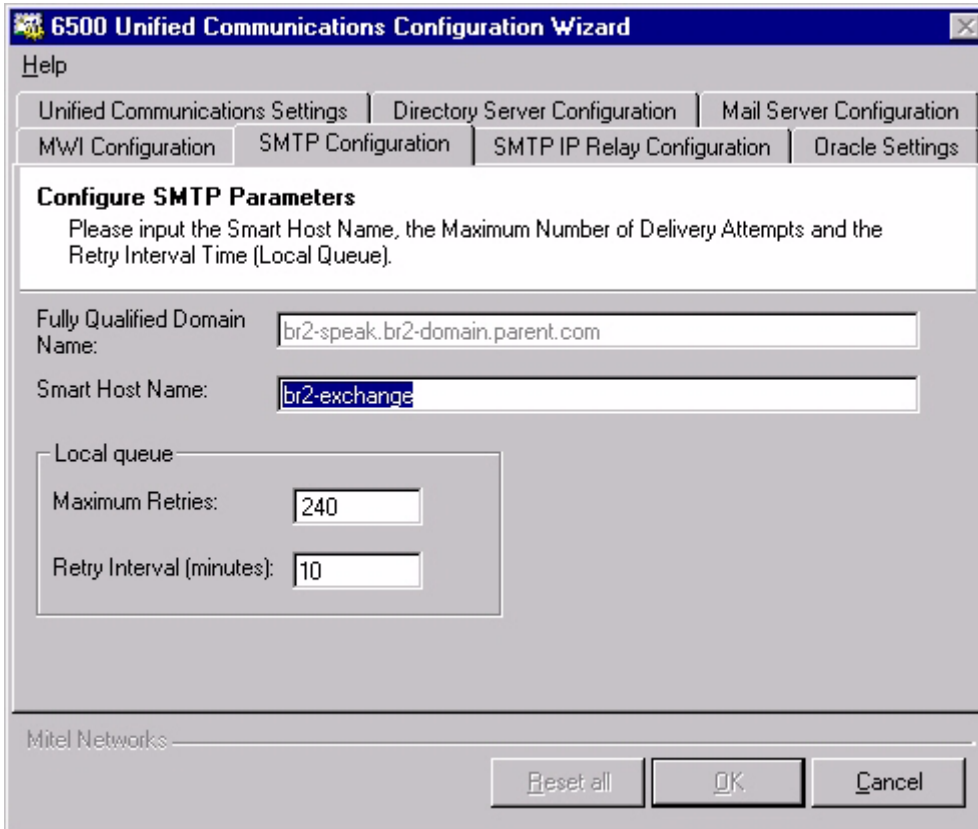
Buttons:



Note: If you want to reset all settings to their defaults, click **Reset All**.

- Select the **MWI Control Mechanism** setting: **FeatureAccessCodes** (for SX-200, SX-2000, or Q.SIG systems), **VoiceBridge** (for Nortel Networks systems), or **MiTAI** (for 3300 ICP systems).
- Set the **Maximum Requeues** value.
- If applicable, set the **Routing Device #** (HCI hunt group for MiTAI).
- In **Feature Access Code Settings**, program the Message Waiting **On** and **Off** codes (for example, *88 and *89), and the **MWI Pause** value.
- In **Port Control Settings**, program the **Control Port ID(s)** (if you have more than one, separate them with commas), the **Port Hunt Mode** (**Terminal** or **Circular**), and the **Port Hunt Direction** (**HighToLow** or **LowToHigh**).

9. Click the **SMTP Configuration** tab, then configure the SMTP options:



- Enter the **Smart Host Name** (the Exchange server name).

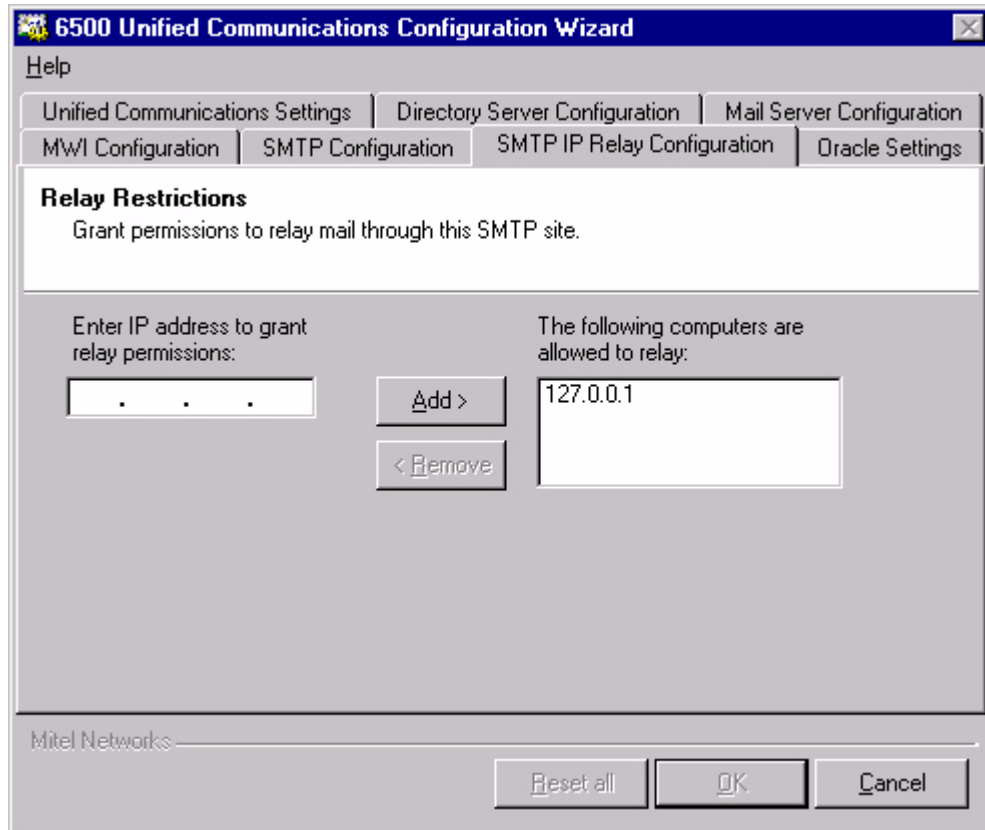
10. In **Local Queue**, enter the **Maximum Retries** and **Retry Interval** values.

In Maximum retries, we recommend that you enter **240**. This number is the total number of message delivery attempts before the 6500 server considers the message undeliverable.

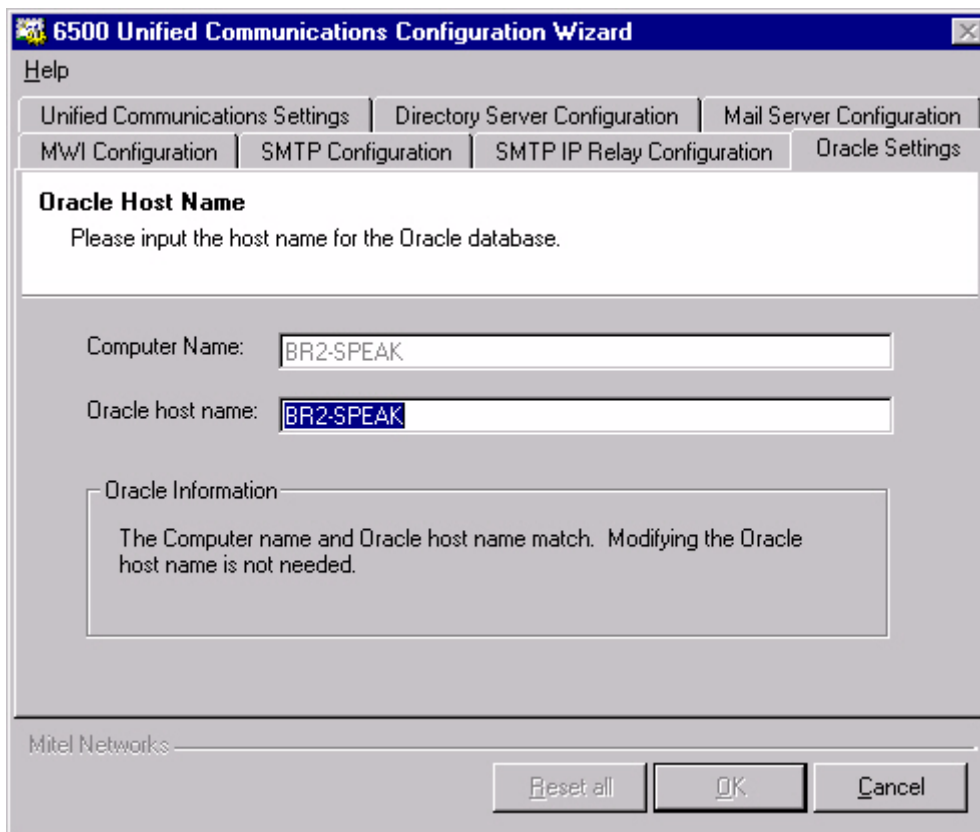
In Retry Interval, we recommend that you enter **10** (minutes). The number for the Retry Interval defines the amount of time that the 6500 server will wait before attempting delivery of the voice mails to the Exchange server.

In conjunction with the Retry Interval number, the 6500 server will attempt to deliver the message every 10 minutes. These settings are configurable on a per site basis, and should be discussed with the customer.


11. Click the **SMTP IP Relay Configuration** tab. Enter **127.0.0.1** in the **Enter IP address to grant relay permissions** box, click **Add**.



12. Click the **Oracle Settings** tab, check that the 6500 server name is in the **Computer Name** box and if the two name do not match, enter the 6500 server name in the **Oracle Host Name** box.



13. Click **OK**, and then **YES** to save all your changes. A progress bar opens and the 6500 Unified Communications Configuration Wizard Complete window opens when the configuration is complete.

 **Note:** If you want to see the configuration log file, select the **View Configuration Wizard Log File** check box before clicking **Close** in the next step.

14. Click **Close**.

 **Note:** The Configuration Wizard automatically stops and restarts all of the services.

To test MWI with MiTAIX

1. Launch **MiTAIX** (click **Start, Programs, Mitel PBX TAPI Service Provider**, then **MiTAIX Program**).

2. Enter the HCI Rerouting hunt group DN.

3. Enter the following command to turn the MWI for the extension ON:

```
Message <ext number> set callmeback=<HCIReroute number>
```

For example: Message 3006 set callmeback=2150

4. Enter the following command to turn the MWI for the extension OFF:

```
Message <ext number> cancel callmeback=<HCIReroute number>
```

Example: Message 3306 cancel callmeback

If the MWI turns on and off on the extension number, you have the MWI configured correctly.

5. Restart your server.

To set MWI on the sets

MWI alerts users of unread voice mails in their messaging inbox. You can use MWI Controller to turn on/off the MWI (Message Waiting Indicator) lights on the telephone sets system-wide or individually by extension. This MWI Controller is for all of the 6500 Unified Messaging users listed in Active Directory. A status window on the MWI Controller window logs the MWI transactions.



Note: MWI is used with 6500 Unified Messaging system only

1. Click **Start**, and select **Programs, Mitel Networks, Speech Recognition**, then **MWI Controller**. The MWI Controller window opens.
2. To reset the MWI lights individually: in the User Extension box, enter the extension for the MWI lamp that you want to reset, and click **ON** or **OFF**.

To reset the MWI lights for the entire system, click **Reset All MWI**.

3. Click **Quit**.



Tip: Clicking **Clear** deletes the information in the status window.

Distributing the Multimedia Outlook Plug-in

The distribution and installation of the Mitel Networks 6500 Multimedia Outlook Plug-in involves copying the Outlook Plug-in folder to a shared folder, customizing the Outlook security, and distributing to the users an e-mail with the location of the shared folder and the name of the 6500 server name. To install the plug-in, the user must know their Personal Web Page login ID and password.



Note: The Mitel Networks 6500 Multimedia Outlook Plug-in requires the users to have Microsoft Outlook 2000 or Microsoft Outlook XP on their PC. The plug-in functions with the following operating systems: Windows 98, Windows 2000, Windows NT (with NT4 SP4 for greater), or Windows XP. Users must have a sound card and speakers. If they want to record voice messages, they should have a microphone connected to their PC.

To distribute the Multimedia Outlook Plug-in

1. Insert the CD "6500 Unified Communications Disc 2" into a server with a shared folder.
2. Click **Browse** on the welcome page, and locate the **Outlook Plugin** folder. Copy the files in the Outlook Plug-in folder into the shared folder.
3. Before your users install the 6500 Multimedia Outlook Plug-in, you must customize the security settings on the Exchange Server for Microsoft Outlook, so Microsoft Outlook accepts the plug-in software and does not give continuous security warnings. See the procedure "To customize the Microsoft Outlook security" on page 45.
4. Notify the users (must be using Microsoft Outlook 2000 or Microsoft Outlook XP) via e-mail that the plug-in is available at, and give them the address of the shared folder. Instruct them to double-click on the setup.exe file in the shared folder to install the plug-in. Give them also the name of the 6500 server. After the installation, the user must reboot their computer to activate the software changes. Tell them to open Outlook, and go into **Tools, Options**, then **Unified Messaging** to set their personal preferences. The user requires their Login ID and Password in order to program a link to their Personal Web Page.



Tip: The 6500 Multimedia Outlook Plug-in is not supported if the user launches 6500 Unified Messaging through Outlook Web Access (OWA). Mitel suggests that you install the Microsoft Outlook Multimedia Extension for the users so they have access to a playbar for their voice messages. For more information, see the Microsoft documentation.



Tip: For a simple local installation (for your personal use, or for anyone that has access to the 6500 Unified Communications Disk 2 CD), insert the Disk 2 into the server (the 6500 Unified Communications Setup window opens), click on the Multimedia Outlook Plug-in button, and follow the instructions.



Note: Audio playback with the Multimedia Outlook Plug-in is dependant on a PC connection to the Exchange Server. The system uses the telephone or the PC speakers to play the voice messages. This choice is referred to as the Selectable Playback Device. The idle timeout for the telephone (default 180 seconds) is set in the Admin Web Page under System Properties. Timeout changes require the ACM to be stopped and restarted.

Integrating Fax

6500 Unified Communications integrates with the following fax servers so users can forward their faxes to an e-mail address or to a fax machine of their choice, using their telephone:

- RightFAX
- FACSys

Configuring the System for RightFAX

Perform the following tasks:

1. Install the fax software. Refer to the RightFAX configuration documentation.
2. Configure the fax server (see page 71).
3. Configure the Board Server. Refer to the RightFAX configuration documentation.
4. Configure the E-mail Gateways (see page 72).
5. Configure the fax users (see page 72).
6. On the Active Directory server, create a RightFAX user with an Exchange mailbox in Active Directory Users and Computers (see page 187) and record that e-mail address for the next procedure, Configuring Fax Forward in the Admin Web Page.
7. Configure Fax Forward in the Admin Web Page (see page 74).

To install a fax server you will need the following:

- Windows NT Server 4.0 with SP6
- A correctly-installed Ethernet Card
- Connection to the 6500 Unified Communications system

To configure the RightFAX server

1. On the RightFAX server, open the RightFAX Server control panel (click **Start, Settings, Control Panel**, then open **RightFAX Server**).
2. In the Server Configuration dialog window, the **General** tab is automatically selected. Leave all options at their default settings.
3. Click the **Custom Messages** tab. In the Server Configuration, Base Level window, type "::`Fax Failed to Send`" in the following fields:
 - **Imaging error**
 - **Bad fax phone number**
 - **Too many retries**
 - **Sending error**
4. Click **Start**, then **Run**.
5. Type "regedit", then click **OK**.
6. Navigate to **HKEY_LOCAL_MACHINE, SOFTWARE, RightFAX, Gateway**, then **ExchangeGatewayName**.

7. Right-click in the right panel.
8. Click **New**, then **String Value: ExchangeMsgs_0**.
9. Double-click on the new value and type "":Fax Received: A new fax has arrived from ~1 (Part ~2 of ~3)".
10. Click **OK**, and close the registry editor.

To configure the RightFAX E-mail Gateways

1. On the RightFAX server, open the RightFAX E-mail Gateway control panel (click **Start, Settings, Control Panel**, then open **RightFAX E-mail Gateway**).
2. Select **RightFAX E-mail Gateway**.
3. Click each gateway in the list to view the configuration options.
4. Verify that when the Gateway 1 - MSEXCH directory and the **General** tab are selected, the **Location of mail files** field has the setting **\\YourServerName\RFXGATE**.
5. Add a new user (default name RFX) on the Active Directory with a mailbox to talk to the RightFAX server.

Field Name	Setting
Server Address	IP address of the STMP server on the network
From Message	From field in the e-mail header sent to the user
Default User Name	Fax User ID
POP3 mailbox name	Right Fax User Account

6. Install the RightFAX connector software on the Exchange server (refer to the RightFAX documentation). Download the appropriate Exchange connector for Exchange 2000 from the RightFAX web site.
7. Share the RFXGate folder on the Exchange server (C:\Program Files\RightFAX\RFXGate), with **Full Control** permission for **All**.

To configure RightFAX users

1. On the RightFAX server, click **Start, Programs, RightFAX**, then **Enterprise Fax Manager**.
2. Under RFXSERVER(TCP/IP), click **USERS**.
3. Double-click on **User name**. The User Edit window appears.
4. If DTMF is enabled, click the **Inbound Routing** tab, and type your inbound routing code in the Routing Code field.
5. In the **Routing Type** field, click **Microsoft Exchange**.
6. Verify that **File Format** is set to TIFF(G3-1D).
7. Type the routing path of the user in the Routing Info field (see the procedure "To get the routing path for a user" below for more information).
8. Click the **Identification** tab. Type the routing path of the user in the **Distinguished Name** field, then click **OK**.

To get the routing path for a user

1. On the Exchange server, install the Windows Support Tools from the Windows 2000 Server CD.
2. Open the Active Directory Administration Tools application (click **Start, Programs, Windows2000 Support Tools, Tools, then Active Directory Administration Tools**).
3. Click the **Connection** drop-down menu, then **Connect**.
4. In the **Server** field, type your Domain Controller Name. Do not change the **Port** field.
5. Click the **Connection** drop-down menu, then click **Bind**.
6. Type your user name (Administrator or SpeakAdmin), password and domain name in the appropriate fields.
7. Click the **View** drop-down menu, then **Tree**. Leave the **BaseDN** field blank.
8. At the prompt of the window, click the **+** at the left of DC to show information in the Active Directory.
9. Double-click **CN=Users** to show all Exchange users.
10. Highlight the user you are configuring, and search on the right for **legacyExchangeDN**.
11. Note the information from **/o** to the end of the string, but not including the semi-colon at the end (for example, "o=First Organization/ou=First Administrative Group/cn=recipient/cn=Miller"). This is the routing path.



Tip: Typically, the routing information is the same for all users except for the text after the last equal sign which is the user's user name.

Configuring the System for FACSys

Perform the following tasks:

1. On the fax server, install the drivers for the fax card. Refer to the documentation supplied with the fax card.
2. On the fax server, configure the fax card. Refer to the documentation supplied with the fax card.
3. On the fax server, install the FACSys Administration software. Refer to the FACSys documentation.
4. On the fax server, install the FACSys Desktop Client software. Refer to the FACSys documentation.
5. On the Exchange server, install FACSys Fax Connector. The file FFC2000.MSI is on the FACSys CD.
6. On the Exchange server, configure the FACSys Fax Connector. Refer to the FACSys documentation.
7. On the fax server, configure the FACSys Administration software. Refer to the FACSys documentation.
8. On the fax server, create a REG file for the fax subject line. See the following procedure.

9. On the Active Directory server, create a FACSys user with an Exchange mailbox in Active Directory Users and Computers (see page 187) and record that e-mail address for the next procedure, Configuring Fax Forward in the Admin Web Page.
10. Configure Fax Forward in the Admin Web Page (see page 74).

To create a REG file for a customized subject line

1. On the Exchange server, in Notepad type the following two lines of text (make sure to leave a line between the two lines of text).

```
REGEDIT4  
  
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\FACSysFaxConnector\Parameters]  
"InboundSubject" = ":::Fax received"
```
2. Save the file as CustomSubject.REG
3. Double-click on this file. The Registry Editor window opens.
4. Click **Yes** to add the information into the registry.

Configuring Fax Forward in the Admin Web Page

To configure Fax Forward in the Admin Web Page

1. In the 6500 Administration window navigation pane, select **System Configuration**, click **System Properties**, then **Fax Forward**.
2. In the Status section, click on the **Value** drop-down menu, and select **On** to enable the fax forward service.
3. In the Fax Server section, click on the **Value** drop-down menu, and select the brand name of your fax server.
4. For RightFAX only, in the Exchange section type the e-mail address of the fax user in the **Value** dialog box of the account.

Integrating VPIM

The 6500 Unified Messaging system inter-operates with NuPoint Messenger in a VPIM (Voice Profile for Internet Mail), networked voice mail environment.

NuPoint Messenger must have the following options installed:

- NuPoint Messenger software version 7.0 RSD 3 or greater
- Network card
- TCP/IP software
- VPIM

NuPoint Messenger Configuration

Refer to the NuPoint Messenger documentation regarding VPIM configuration.

Keep the following points in mind when configuring the NuPoint Messenger to integrate with the 6500 server via VPIM:

- You must be able to ping by name the 6500 server from the NuPoint Messenger server.
- The 6500 server is the VPIM node, therefore use the fully qualified hostname of the 6500 server whenever a VPIM node hostname is required.
- Do not use prefixes for VPIM addresses arriving at the 6500 server. The 6500 user mailbox numbers must not include any prefix when leaving the NuPoint Messenger server. Enter "N" for no prefix when you are asked to "Select prefix to use [DNA]". This does not prevent you from using a prefix within the NuPoint Messenger server to group 6500 users under a particular Node Configuration and Digit Translation pair.
- The VPIM specification is for G.721 encoded audio. If you wish to use G.711 audio between the 6500 server and the NuPoint Messenger server, then program the NuPoint Messenger server as a "custom" node on the 6500 VPIM configuration screen and specify an "Encoding Format" of G.711.
- In "SMTP Receive Configuration", a "VPIM Speech Quality" lower than 32 results in noticeable audio degradation due to resampling artifacts. The default is 18, therefore by default you will hear a buzz in the background for VPIM messages. A quality vs. space savings tradeoff must be decided upon when adjusting this value.

6500 Unified Messaging Configuration



Tip: Configuring VPIM requires the VPIM Networking license.



Note: All VPIM users (including NuPoint Messenger users) must be identified with a VPIM address in the Active Directory Users and Computers window under the SR Settings tab. VPIM networking inter-works with 6500 users that are listed in a company directory on a 6500 Unified Messaging system. VPIM networking does not support the contacts that are in a personal directory.

Perform the following tasks on the 6500 Unified Messaging system to integrate the 6500 Unified Messaging system with NuPoint Messenger:

On the 6500 server

- In the Admin Web Page, provide the VPIM Configuration settings for each VPIM server (see page 76).

On the Active Directory server

- Set up a Mail Exchange (MX) record (see page 77).
- Provide a VPIM address for all of the VPIM users with the SR Settings tab in Users and Computers (see page 77).

On the Exchange server

- Ensure that you have selected the routing group for the VPIM Gateway during the procedure, To install the Exchange server components, on page 41.

To configure VPIM in the Admin Web Page

1. In the Administration frame, click **System Configuration**, and then **VPIM Configuration**.
2. Click **Add**.
3. Enter the fully qualified server name of the VPIM server, for example, *servername.mycompany.com*.
4. In the Server Type drop-down menu, select the type of server. Selecting **MN6500** or **NuPoint** tells the system to accept the default encoding type for that server.
5. If you selected **Other** as a server type, in the Encoding Type drop-down menu select **G.726**, **G.711 ulaw**, **G.711 alaw**, or **ASF/CELP**.
6. Click **Save**.
7. Repeat this procedure for each VPIM server in the voice mail network.



Note: To implement this configuration, you must stop and restart the VPIM Gateway service in Service Recovery Manager.

To set up a MX record for the Exchange Server

1. On the Active Directory server, click **Start, Programs, Administrative Tools**, and then **DNS**.
2. Select the domain in which the Exchange server resides. If the Exchange server does not have a host entry, right-click on the domain node, select **New Host**, provide the name and IP address, and click **Add Host**.
3. Right-click on the domain name of the Exchange server, and select **New Mail Exchanger**. The New Resource Record window opens.
4. Leave the **Host or domain field** blank so the system will use the Parent domain.
5. Enter or browse to the name of the mail server, for example exchange.parent.com.
6. Enter the Mail server priority, for example 10.
7. Click **OK**.
8. Restart **DNS** with **Services (Start, Programs, Administrative Tools, Services)** to apply the changes.

To define a VPIM address for the users in Active Directory

1. Log into the Active Directory Domain as Administrator.
2. Open the **Active Directory Users and Computers** window (click **Start, Programs, Administrative Tools**, then **Active Directory Users and Computers**).
3. Find the user in the list, right-click on their name, then select **Properties**.
4. Click the **SR Settings** tab.



Tip: Click on the Help button, to get more information about the SR Settings interface.

5. Define the Speech Recognition application for the user. A remote VPIM user is programmed with the Attendant application.
6. Select **General** in the pull-down menu.
7. In the VPIM Address field, enter the fully qualified host name, *servername.mycompany.com*. This name identifies the VPIM node that the user is assigned to. The same name is also entered in the Admin Web Page for the VPIM Configuration settings.
8. Click **Apply**, then **OK**.
9. Repeat this procedure for each VPIM user.

Configuring a New 6500 Attendant System

The new 6500 Attendant system, requires you to

- Create a company directory (see page 78).
- Configure the system with the Admin Web Page (see page 79).

You can create the company directory with the Admin Web Page or use the Import Directory Tool to save time. For more information on creating the company directory, see the Admin Web Page help.

Creating a Company Directory

The 6500 Attendant directory contains entries for the users and groups within your company. When you first install the system, the directory is blank. You can use the 6500 Attendant Directory Import Tool to import entries from a Lightweight Directory Access Protocol (LDAP) Directory Server or CSV file. Instructions on how to import a directory are provided in the Admin Web Page help.

CSV file requirements

- Define five or six fields for each line of the CSV file. Some fields can be empty: however the field separator comma must be present. The following is a definition for each field:
 - Last Name **Required**
 - First Name **Required**
 - Telephone Number **Required**
 - Department
 - Location
 - Cellular

Examples:

```
Smith, John, 3089, Marketing, Kanata  
Smith, John, 3089, Marketing, Kanata, 6132982222  
Smith, John, 3089, ,  
Smith, John, 3089, , , 6132982222
```



Note: The number of comma separators defines the number of fields. Four commas define five fields, and five commas define six fields.



Note: Before starting the import process, be sure that the Login ID of the Default User Template in the Admin Web Page is defined with the six or seven leading digits of the local phone number for the system. For example, the Kanata number would start with 613592. The Import Tool requires this information when generating the Login ID. If these digits are not present, the Import Tool will crash.

LDAP server requirements

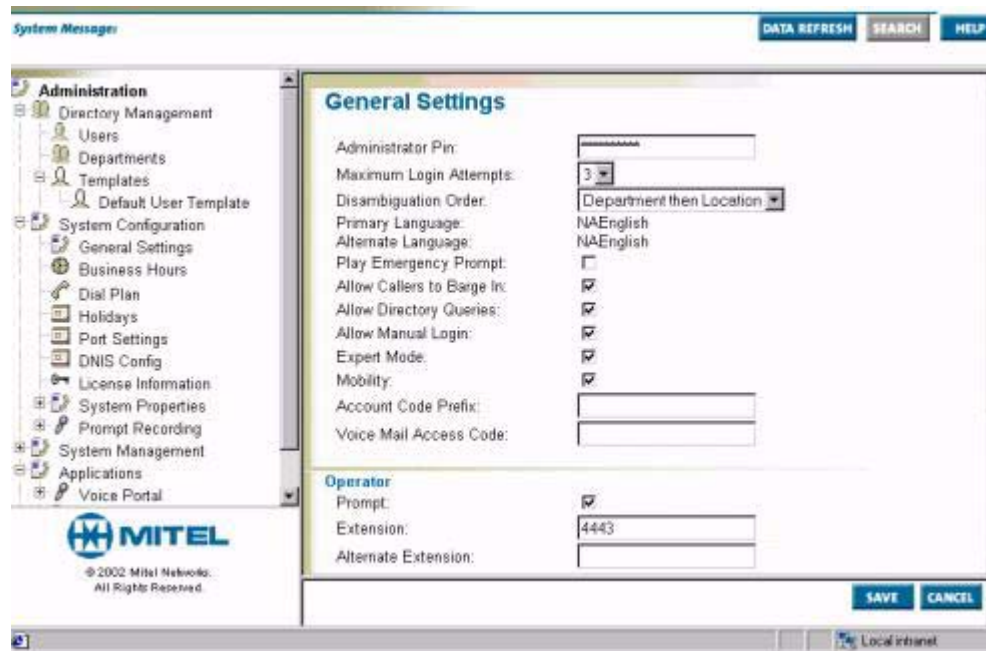
- Collect the following server information: host name, connection string, password, and the layout of the schema. Last Name and First Name parameters must be included in the schema.
- Determine the parameters for the Phone Number, Login ID, and PIN. Note that the system can also generate these parameters.
- Collect the information to complete the template (Default Template) for the directory entries.



Tip: By setting up the default template before you perform the import operation, you will significantly reduce the amount of manual data entry. See Using a Template in the Admin Web help (Managing the Directory/Managing Users/6500 Attendant Systems/Using a Template).

Configuring the System with the Admin Web Page

You can use the 6500 Unified Communications Admin Web Page to import the company directory entries, and then configure the system parameters. You can also use this Admin Web Page to add and modify the list of users to the 6500 Attendant system.



You can start the administration application from the Mitel Networks 6500 server or from a clientstation. The 6500 Unified Communications system supports Microsoft Internet Explorer 5.5 for the client stations. To log in from the clientstation, see “Opening the Admin Web Page” on page 169, in the Maintenance section.

To configure the system with the Admin Web Page from the 6500 server

1. From the 6500 server, log into the Administration session (click **Start, Programs, Mitel Networks, Speech Recognition**, then **Administration**).



Tip: In order to login, the LDAP service must be active.

2. In the Login ID field, type **administrator**.
3. Enter the administrator PIN (default administrator PIN is **1234567890**).
4. Click **Login**. The Admin Web Page opens.
5. In the 6500 Unified Communications administrator main window, click **Help**. The admin Web Page help opens in a separate browser window.
6. In the **Introduction** section, open **Setting up the Directory**, and follow the instructions on how to import a directory.
7. In the **Introduction** section, open **Managing the Directory**, and follow the instructions on how to manage the users, the departments, and create a multi-level menu.
8. In the **Introduction** section, open **Configuring the System**, and follow the instructions on how to modify the system properties and set the system configuration tasks.
9. In the **Introduction** section, open **Recording and Greeting and Prompts**, and follow the instructions on how to perform recordings with the 6500 Attendant.
10. If you want to program a multi-level menu, open **Managing Multi-level Menus** and follow the instructions for creating a multi-level menu.



Note: When you finish making changes to the Admin Web Page, ensure that you have saved your changes. In the **File** menu of your browser, select **Close**. Reboot the 6500server.

Configuring a New 6500 Unified Messaging System

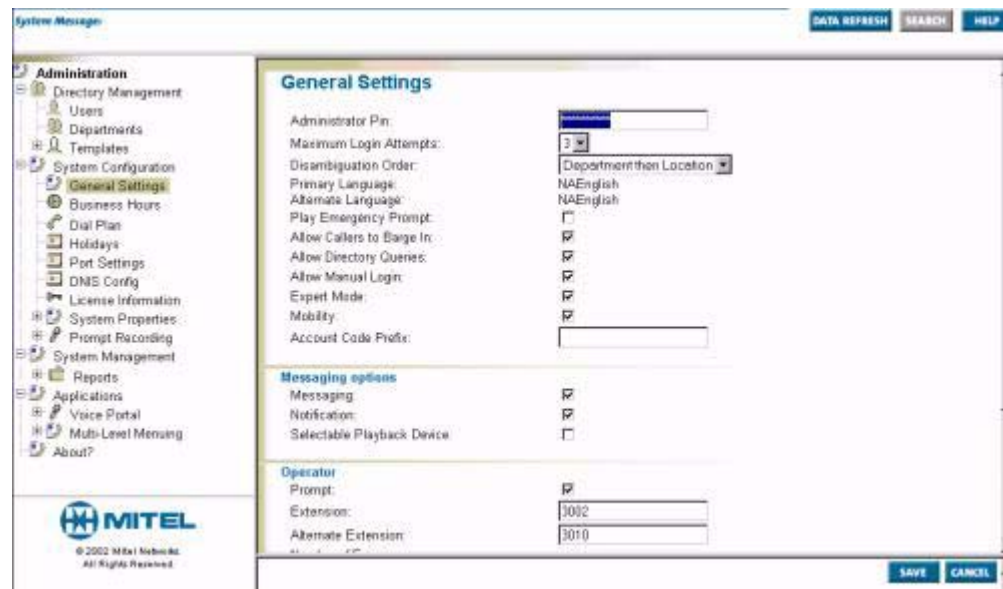
The 6500 Unified Messaging system, requires you to

- Configure the system with the Admin Web Page (see page 81).

The company directory exists in the Active Directory server and is managed using the Users and Computers window in Active Directory.

Configuring the System with the Admin Web Page

You use the 6500 Unified Communications Admin Web Page to configure the system parameters.



You can start the Admin Web Page from the Mitel Networks 6500 server or from a client station. The 6500 Unified Communications system supports Microsoft Internet Explorer 5.5 for the client stations. To log in from the clientstation, see “Opening the Admin Web Page” on page 169, in Chapter 3, General Maintenance.



Note: Users on the 6500 Unified Messaging system are managed with Active Directory. The personal directory for the users is managed with Microsoft Outlook. All users on the 6500 Unified Messaging system, including 6500 Attendant-only users, must have Microsoft Outlook for their personal contacts.

To set up Internet Explorer for the Admin Web Page

1. Open **Internet Explorer**.
2. In the **Tools** menu, select **Internet Options**.
3. In the **General** tab, under **Temporary Internet Files**, click **Settings**.
4. Select **Every visit to the page**, then click **OK** twice.

To configure the system with the Admin Web Page from the 6500 server

1. From the 6500 server, log into the Administration session (click **Start, Programs, Mitel Networks, Speech Recognition**, then **Administration**).
2. In the Login ID field, enter **administrator**.
3. Enter the administrator PIN (default administrator PIN is **1234567890**).
4. Click **Login**. The Admin Web Page opens.
5. In the 6500 Unified Communications administrator main window, click **Help**. The Admin Web Page help opens in a separate browser window.
6. In the **Introduction** section, open **Managing the Directory**, and follow the instructions on how to manage the departments, and create a multi-level menu.
7. In the **Introduction** section, open **Configuring the System**, and follow the instructions on how to modify the system properties and set the system configuration tasks.
8. In the **Introduction** section, open **Recording and Greeting and Prompts**, and follow the instructions on how to perform recordings with the 6500 Attendant.



Note: When you finish making changes to the Admin Web Page, ensure that you have saved your changes. In the **File** menu of your browser, select **Close**. Reboot the 6500 server.

Reviewing the Configuration for the Servers

Checklist for the new 6500 Attendant System

6500 Server

- Stopped all services, except Lightweight Directory Access Protocol (LDAP) and Nuance License Manager (NLM), in Service Recovery Manager in order to change the Transmission Control Protocol (TCP)/Internet Protocol (IP) properties and the computer name. Set Start mode to Manual.
- Changed the TCP/IP properties and the computer name.
- Entered the new computer name in Microsoft® Windows NT and used Internet Service Manager in Microsoft Internet Information Server (IIS) to reconnect to the new computer name.
- For an IP integration, configured IP Phone Emulator, Mitel Remote Access, Telephony, Multimedia, and Sounds in Control Panel.
- Entered the new computer name for the Oracle settings in the Admin Web Page.
- Restarted the server.
- Verified that the server can ping the other servers on the network and can be pinged back.
- Joined the domain (optional).

Checklist for the new 6500 Unified Messaging system

6500 Server

- Stopped all services, except LDAP and NLM, in Service Recovery Manager in order to change the TCP/IP properties and the computer name. Set Start mode to Manual.
- Changed the TCP/IP properties and the computer name.
- Entered the new computer name in Microsoft® Windows NT and used Internet Service Manager in Microsoft Internet Information Server (IIS) to reconnect to the new computer name.
- For an IP integration, configured IP Phone Emulator, Mitel Remote Access, Telephony, Multimedia, and Sounds in Control Panel.
- Joined the domain.
- Used the Configuration Wizard.
- For VPIM networking, configured the 6500 server with the other VPIM servers in the Admin Web Page, and then restarted VPIM Gateway in Service Recovery Manager.

- Restarted the server.
- Verified that the server can ping the Domain Controller, the Exchange 2000 server, and if applicable all VPIM servers, by server name and IP address.
- Checked the software release and service pack number (if applicable) on the Admin WEB login page to ensure that the correct software was installed.
- Added VTG/NMS port/extension associations (for digital integrations only)

Domain Controller (Active Directory server)

- Logged on to the domain as Administrator.
- Verified that the Domain Controller can ping the 6500 server, by server name and IP address.
- Created a SpeakAdmin user.
- Added SpeakAdmin to the Administrators group.
- Added SpeakAdmin to the Domain Users group.
- Logged on to the Root Domain Controller as Administrator with Schema Admin rights. Extended the schema with the Root Domain install.
- Installed the Active Directory components.
- For VPIM, created a Mail Exchange (MX) record in DNS for the Exchange server.
- From the Active Directory, Users and Computers MMC, verified that the Active Directory schema was correctly installed by selecting properties for a user and then selecting the Speech Recognition (SR) Settings. (Note: Any errors would be flagged with a template error window.)
- Verified the functionality of the schema extension. Clicked on the Extension User Node icon on the main menu bar of the Users and Computers window, committed changes, and verified in the Service Recovery Manager window that the update server received a corporate list compilation request.

Exchange 2000 Server

- Logged on to the domain as SpeakAdmin. A separate server for Exchange required the addition of SpeakAdmin to the local admin group.
- Verified that the Exchange 2000 server can ping the 6500 server by server name and IP address.
- Checked that the permissions were properly set up for the SpeakAdmin account. Navigated into the Exchange Virtual Drive (M:), opened the domain name, MBX, and then SystemMailbox. (Note: An improper setup would show an error message.)
- Installed the Exchange Server components (including the VPIM Gateway, if applicable).
- Performed basic testing: calling into the system, transferring calls, leaving and retrieving voice mails, testing the MWI (Message Waiting Indicator) lights.

Printing and Distributing the User Guide

User guides are included with the installation of the 6500 Unified Communications software. There is a user guide for the Attendant system and another one for the Unified Messaging system.



Note: You need Adobe Acrobat Reader to view or print the user guide. You can download this reader from the 6500 Unified Communications Applications Disc 2 CD or obtain this reader at no cost from the Adobe Web site at <http://www.adobe.com>.

To access and distribute the user guides

1. Print a copy of the user guide for each user. You can find the guides on the 6500 Unified Communications CD or on the 6500 server (click **Start, Programs, Mitel Networks, Speech Recognition, Documentation, then User Guides**).
2. For each user, enter the following information in their User Guide:

The 6500 Attendant number _____
 User's Login ID _____ (10-digit number for NA;
 11-digit number for UK)
 User's PIN _____ (4 to 7-digit number)

Extension is programmed for Auto Login (Partial or Full)

Extension is programmed for Manual Login

URL of the Personal Web Page: (**<http://servername/login.html>**; where *servername* is the netbios name of the 6500 server):



Tip: Order pocket-sized Quick Reference Cards for your users. There are two types: "6500 Attendant Quick Reference Card" for users on the 6500 Attendant system and "6500 Unified Communications Quick Reference Card" for users on the 6500 Unified Messaging system.

Chapter | 2

Upgrade Installations

About Upgrading to Release 4.0

Upgrade procedures differ for the 6500 Attendant system and the 6500 Unified Messaging system. They also differ for the Digital integration and IP integration. Differences are within the installation of the 6500 Unified Communications software.

The upgrade to Release 4.0 involves

1. Backing up your customer database (see page 97).
2. Upgrading the hardware, if applicable (see page 98).
3. Installing the operating system (see page 100).
4. Installing the supporting software (see page 112).
5. Updating the IIS Administration settings (see page 115).
6. Installing the 6500 Unified Communications software (see page 116).
7. Restoring your customer database (see page 122).
8. Reapply your software options (see page 173).

The 6500 Unified Messaging system has additional procedures

- Creating and adding SpeakAdmin (see page 125).
- Installing components for Active Directory and Exchange (see page 127, page 131).
- Customizing Outlook Security (see page 158).
- Distributing the Multimedia Outlook Plug-in (see page 162).



Tip: To ensure that you have all of the software and hardware requirements for your upgrade, see “System Requirements” on page 3.



Note: 6500 Multi-level Menuing is not supported on bilingual systems. The system must be UK English or NA English.



Tip: Increasing the number of ports from eight or less than eight to a greater number requires new licensing and a TS1404 server with two NMS AG-2000 cards and two VTG VB-200x cards. Perform the install with the two cards and their serial numbers. If you put a new or additional card in the server, open up the VoiceBridge user interface and add the new card information to the configuration.



Note: Custom TTS pronunciations on systems with Release 3.6 UR1 or earlier are not restored when performing an upgrade. To keep the custom pronunciations, copy the userdict.txt file, rename it to NAE_userdict.txt for a North American system or UKE_userdict.txt for a UK system, and after the restore overwrite the existing file. For the changes to take effect, stop and start the appropriate TTS router; TTSRouterPRI if the dictionary is for the primary language or TSSRouterSEC if the dictionary is for the secondary language.

Software History

All upgrades between versions include formatting the hard drive and reinstalling Windows NT due to third-party software changes. This procedure is approx. four hours after doing a backup of your existing server.

Upgrading from release 1.0 or 1.1 to release 4.0 is not supported.

Original 6500 version	Release date	Third-Party Software	New License required When upgrading to version 4.0	Format of Hard Drive required
1.0	April 2000	OS - Windows NT 4.0 Workstation Windows NT Service Pack - 4 Option Pack - 4 Internet Explorer - 4 MDAC - 2.1 Crystal Reports - 7 Oracle - 8.1.5 Nuance - 6.2.4 Nuance Speech Objects - 1.0 Java Runtime Environment - 1.2 Active Directory Service - 4.7 Windows Scripting Host - 5.0	NA	NA
1.1	July 2000	OS - Windows NT 4.0 Workstation Windows NT Service Pack - 4 Option Pack - 4 Internet Explorer - 4 MDAC - 2.1 Crystal Reports - 7 Oracle - 8.1.5 Nuance - 6.2.4 Nuance Speech Objects - 1.0 Java Runtime Environment - 1.2 Active Directory Service - 4.7 Windows Scripting Host - 5.0	NA	NA

Original 6500 version	Release date	Third-Party Software	New License required When upgrading to version 4.0	Format of Hard Drive required
2.0	Sept 2000	OS - Windows NT 4.0 Server Windows NT Service Pack - 5 Option Pack - 4 Internet Explorer - 4 MDAC - 2.1 Crystal Reports - 7 Oracle - 8.1.5 Nuance - 6.2.4 Nuance Speech Objects - 1.0 Java Runtime Environment - 1.2 Microsoft Java Virtual Machine - 5.0 Active Directory Service - 4.7 Windows Scripting Host - 5.0	Yes	Yes
2.1	Nov 2000	OS - Windows NT 4.0 Server Windows NT Service Pack - 5 Option Pack - 4 Internet Explorer - 4 MDAC - 2.1 Crystal Reports - 7 Oracle - 8.1.5 Nuance - 6.2.4 Nuance Speech Objects - 1.0 Java Runtime Environment - 1.2 Microsoft Java Virtual Machine - 5.0 Active Directory Service - 4.7 Windows Scripting Host - 5.0	Yes	Yes
3.0	Aug 2001	OS - Windows NT 4.0 Server Windows NT Service Pack - 5 Option Pack - 4 Internet Explorer - 5 MDAC - 2.1 Crystal Reports - 7 Oracle - 8.1.5 Nuance - 7.0.4 Nuance Speech Objects - 1.1 Java Runtime Environment - 1.3 Microsoft Java Virtual Machine - 5.0 Active Directory Service - 4.7 Windows Scripting Host - 5.5	Yes	Yes

Original 6500 version	Release date	Third-Party Software	New License required When upgrading to version 4.0	Format of Hard Drive required
3.5	Oct 2001	OS - Windows NT 4.0 Server Windows NT Service Pack - 5 Option Pack - 4 Internet Explorer - 5 MDAC - 2.1 Crystal Reports - 7 Oracle - 8.1.5 Nuance - 7.0.4 Nuance Speech Objects - 1.1 Java Runtime Environment - 1.3 Microsoft Java Virtual Machine - 5.0 Active Directory Service - 4.7 Windows Scripting Host - 5.5	No	Yes
3.5 UR1	Nov 2001	OS - Windows NT 4.0 Server Windows NT Service Pack - 5 Option Pack - 4 Internet Explorer - 5 MDAC - 2.1 Crystal Reports - 7 Oracle - 8.1.5 Nuance - 7.0.4 Nuance Speech Objects - 1.1 Java Runtime Environment - 1.3 Microsoft Java Virtual Machine - 5.0 Active Directory Service - 4.7 Windows Scripting Host - 5.5 MITAI - 10.0.1.12 TAPI - 3.0.1.5 IP Phone - 3.0.1.5	No	Yes

Original 6500 version	Release date	Third-Party Software	New License required When upgrading to version 4.0	Format of Hard Drive required
3.6	May 2002	OS - Windows NT 4.0 Server Windows NT Service Pack - 6a Option Pack - 4 Internet Explorer - 5.5 SP2 MDAC - 2.1 Crystal Reports - 7 Oracle - 8.1.5 Nuance - 7.0.4 Nuance Speech Objects - 1.1 Java Development Kit - 1.3.1 Microsoft Java Virtual Machine - 5.0 Active Directory Service - 4.7 Windows Scripting Host - 5.6 Apache Tomcat - 4.0.1 MITAI - 10.0.1.12 TAPI - 3.0.1.10 IP Phone - 3.0.1.10	No	Yes
3.6 UR1	Aug 2002	OS - Windows NT 4.0 Server Windows NT Service Pack - 6a Option Pack - 4 Internet Explorer - 5.5 SP2 MDAC - 2.1 Crystal Reports - 7 Oracle - 8.1.5 Nuance - 7.0.4 Nuance Speech Objects - 1.1 Java Development Kit - 1.3.1 Microsoft Java Virtual Machine - 5.0 Active Directory Service - 4.7 Windows Scripting Host - 5.6 Apache Tomcat - 4.0.1 MITAI - 10.0.1.12 TAPI - 3.0.1.13 IP Phone - 3.0.1.13	No	Yes

Original 6500 version	Release date	Third-Party Software	New License required When upgrading to version 4.0	Format of Hard Drive required
4.0	Dec 2002	OS - Windows NT 4.0 Server Windows NT Service Pack - 6a Option Pack - 4 Internet Explorer - 5.5 SP2 MDAC - 2.1 Crystal Reports - 7 Oracle - 8.1.5 Nuance - 7.0.4 Nuance Speech Objects - 1.1 Java Development Kit - 1.4.0 Active Directory Service - 4.7 Windows Scripting Host - 5.6 Apache Tomcat - 4.1.12 MITAI - 10.0.1.12 TAPI - 3.0.1.13 IP Phone - 3.0.1.13	Yes, if you want VPIM Networking.	No

About Upgrading within Release 4.0

Upgrade procedures differ for the 6500 Attendant system and the 6500 Unified Messaging system.

All upgrades within Release 4.0 involves

1. Backing up your customer database (see page 97).
2. Uninstalling the 6500 Unified Communications software (see page 193).
3. Installing the 6500 Unified Communications software (see page 116).
4. Restoring your customer database (see page 122).

The 6500 Unified Messaging system has additional procedures

- Uninstalling the components for Active Directory and Exchange (see page 195).
- Installing the components for Active Directory and Exchange (see page 127, page 131).



Note: Upgrading within Release 4.0 does NOT require you to re-install the operating system software or the third-party software.

About Upgrading from a Unilingual System to a Bilingual System



Note: The following list applies to a simple upgrade from a unilingual system to a bilingual system within the same release of the application.



Note: 6500 Multi-level Menuing is not supported on bilingual systems. The system must be UK English or NA English.

To upgrade from a unilingual system to a bilingual system



Note: Upgrading to a bilingual system requires the users to re-enroll their voiceprint.

1. Backup your database (see page 97). Place your backup files on a network drive or on a CD. If using a CD, move the backup to a local drive before restoring the database.
2. Uninstall the 6500 Unified Communications software (see page 193).
3. Perform the install procedure for the 6500 Attendant software (see page 116), or the 6500 Unified Messaging software (see page 123).
4. Restore your database (see page 157).
5. Select the **Bilingual License** option in License Manager (see page 173).
6. Reboot the server.

Backing Up the Database

A backup allows you to copy the 6500 Unified Communications database and file system to a directory or file folder. When naming a folder, use underscores instead of spaces (for example, “back_up” instead of “back up”). Back up your database to the local drive C, then copy it to a network drive. The system does not support restoring the database from a CD.

The database includes report data, compiled grammars, company directory entries, personal list entries, and system configuration settings.

The file directory includes system recordings, prompts, greetings, and recorded names.



Note: When you perform a backup, all services are automatically stopped. Use Service Manager to restart the services after the backup is complete.

To backup the customer database

1. Create a file folder for the backup.
2. Open **Backup and Restore** (click **Start, Programs, Mitel Networks, Speech Recognition**, then **Backup and Restore**). The Backup and Restore window opens. The default tab shown is the Backup window.
3. Click **Browse**, and navigate to the desired empty file folder.



Tip: Ensure that you have selected the correct file folder, and that you are not inside the file folder that you want to back up.

4. The **Current version:** field shows which version you are backing up.
5. Click the **Start** button. When completed, a log message will state that the backup is done.
6. Open **Service Manager** (click **Start, Speech Recognition**, then **Service Manager**). The **Service** Recovery Manager window opens.
7. In the **Service** menu, click **Start All** to restart the system services. Close the Service Recovery Manager window.

Upgrading the Hardware

Upgrading from an 8-port to a 16-port Digital System



Note: Upgrading to a 16-port system requires extra cards (VTG VB-200X card and a NMS AG-2000 card) and a new licence for the increased number of ports.

To upgrade port capacity on the TS1404 server

1. Use Service Manager (click **Start, Programs, Mitel Networks, Speech Recognition**, then **Service Manager**) to set all the services to manual.
1. Shut down the 6500 server, then install the new hardware in the 6500 server (see the hardware documentation for information on proper positioning).
2. Start the 6500 server. Log in as Administrator.
3. Stop the **agmon** service (click **Start, Settings, Control Panel**, open **Services**, then stop **agmon**).
4. Open **Command Prompt** (click **Start, Programs**, then **Command Prompt**).
5. Type **blocate**, and note PCI bus and slot numbers for each card. The example below shows results with 2 boards.

```
Fri Nov 09 12:27:48      There was 2 NMS AG PCI card detected
BUS      SLOT      INTERRUPT
02       14       0x9 (Board 0)
02       12       0xa (Board 1)
```

6. Open Notepad (click **Start, Programs, Accessories**, then **Notepad**).
7. In the **File** menu, select **Open**, and navigate to **c:\Speakatease\Autoattendant\config**. Select **view all file types**.
8. Open the **ag2000.cfg** file.
9. Scroll down to “BOARDS section”, and add the correct slot and bus numbers for Board 0, matching with what was found by blocate. Uncomment and add the correct slot and bus numbers for Board 1 (see the example below).

```
#----- BOARDS section -----
Board 0
PCIBUS = 2
PCISLOT = 12
ClockRef = MVIP # Change to OSC for standalone operation
EnableMvip = YES # Change to YES if there is an MVIP bus
# MVIP95slot = 1:0..7
End Board

# Uncomment for second board.
Board 1
PCIBUS = 2
PCISLOT = 14
```

```

ClockRef = MVIP # Change to OSC for standalone operation
EnableMvip = YES # Change to YES if there is an MVIP bus
# End Board

```

10. Open Notepad (click **Start, Programs, Accessories**, then **Notepad**).
11. In the **File** menu, select **Open**, and navigate to **c:\Speakatease\Autoattendant\config**. Select **view all file types**.
12. Open the **asp.cfg** file. In the MVIP configuration section, uncomment the **CARDREF**, **MVIP_***, **Port/Extension** and **ENDCARD** lines (see the example below).


```

# MVIP configuration of 2nd card pair (i.e. for 16 port system).
# Uncomment the CARDREF = 1 to ENDCARD block to enable 16 port
vbnms configuration.

CARDREF = 1

MVIP_STREAM = 0

MVIP_TIMESLOT = 8

# IMPORTANT NOTE: The extensions below must be accurate or the
wrong ANI will
# result in an AutoAttendent assisted transfer that is forwarded
to Messaging.

Port/Extension Pair: 9;0000 10;0000 11;0000 12;0000 13;0000
14;0000 15;0000 16;0000

ENDCARD

```
13. Open the VTG Configuration Manager (click **Start, Programs, Voicebridge 2000**, then open **Configuration Manager**).
14. Stop the existing board #1.
15. In the **Action** menu, select **Add**. Double click board #2, then click the **Board** tab. Change the Serial Identifier to the serial number of your second VTG card.
16. Click **Apply**, then **OK**. Start the boards.
17. Open **Command Prompt** (click **Start, Programs**, then **Command Prompt**).
18. Change the directory to **C:\NMS\Bin**, type **agcfg.exe**, then press ENTER.
19. Change the directory to **C:\Speakatease\Batch**, type **agmon.bat**, then press ENTER. Close the command prompt.
20. From the Control Panel (click **Start, Settings, Control Panel**), click **System Properties**, and then the **Environment** tab.
21. Adjust the variable, **VBNMS_CARDS** to the correct amount of installed cards (2).
22. Click **Set**, **Apply**, and then **OK**.
23. Use Service Manager (click **Start, Programs, Mitel Networks, Speech Recognition**, then **Service Manager**) to set all the services to automatic, then restart all services.

Installing the Operating System

If the Windows Operating System (NT) or the Mitel Networks third party software needs to be reinstalled, then the Windows NT 4.0 Server software needs to be installed from the beginning. We recommended that Windows NT be installed as a “New” install not as a “Repair”.



Note: Do not install IIS (Internet Information Server) as part of Windows NT. The IIS application is installed with the Mitel Networks third party software. After the install of Windows NT 4.0 Server software, install Windows Service Pack 5 or 6 for Windows NT 4.0. After installing Windows NT, the system is ready for the video drivers and then the Mitel Operating System Configuration software on disc 1. This disc has Service Pack 6a included as part of the third party software.

To install the operating system, you must

- Verify the system BIOS configuration (see page 100).
- Configure the Array (for TS1400SR/TS1404SR only) (see OEM SCSI RAID adapter documentation).
- Integrate the Windows NT Server operating system (see page 102).
- Install the Video Drivers (see page 108).
- Install Management Software (TS1404SR only) (see page 109).
- Update Pagefile (see page 110).
- Configure Event Viewer (see page 111).
- Modify Viewing Options (see page 111).
- Join the Domain (see page 111).

Configuring the System BIOS

Refer to the OEM manufacturer's documentation for instructions on how to access and edit the system BIOS as necessary.

To configure the TS800 Mini Tower Application Server BIOS

This subsection covers the general system BIOS requirements as well as the specific application requirements. This is due to the fact that the technical documentation for the base TS800 server provides default BIOS requirements.

The following Phoenix Technologies system BIOS settings must be configured before you integrate the application software. Navigate to the BIOS sub-menus indicated from the main menu.

Advanced Menu

1. In the Peripheral Configuration sub-menu, set the following options to **Disabled: Audio, Embedded PXE Support**.
2. In the IDE Configuration sub-menu, set the **IDE Controller** to **Both**.
3. In the DMI Event Logging sub-menu, set **Event Logging** and **Post Errors** to **Disabled**.
4. In the Resource Configuration sub-menu, set **IRQ5** to **Reserved**.

Power Menu

- Set **Power Management** to **Disabled**.

Boot Menu

- Set the **Boot-time Diagnostic Screen** to **Enabled**.

To configure the TS1400 Application Server BIOS

This subsection covers the BIOS settings required of the 6500 application. The general requirements are covered under the applicable TS1400/1404 Technical Documentation.

Plug & Play Configuration

- PNP/PCI Configuration: Verify that **PNP OS Installed** is set to **Disabled**.
- PNP/PCI Configuration: Verify that **IRQ-5** is set to **Legacy ISA**.

To configure the TS1404 Application Server BIOS

Ensure that the default settings are specified as documented in the Mitel Networks Application Server TS1400/TS1404 Technical Documentation. This document is included with the TS1404 server.

Set the following BIOS settings specific for 6500 Unified Communications.

PNP/PCI Configurations set

- Set **PNP OS Installed** to **No**.
- Set **Resources Controlled by** to **Manual**.
- In **IRQ Resources**, set **IRQ5 assigned to** to **Legacy ISA**.

Configuring the Array (TS1400SR/TS1404SR)

The system server hard disk array arrives pre-configured from the factory. There is no need to re-configure the array unless you are replacing the hard drive.

For more information, refer to the OEM SCSI RAID adapter documentation that is provided with the server.

Integrating the Windows NT Operating System

To integrate the Windows NT Operating system, you must

1. Install the Windows NT Operating System (see page 102).
2. Set the date and time properties (see page 105).
3. Set the display properties (see page 105).
4. Install the Service Pack (see page 106).
5. Verify the hard drive partitions (see page 107).

You will also want to

1. Install the video drivers (see page 108).
2. Install the Management Software (see page 109).
3. Update the Page File (see page 110).
4. Configure the Event Viewer (see page 111).
5. Modify the Viewing Options (see page 111).
6. Join the Domain (see page 111).

To install the Windows NT Operating System

1. With the Windows NT Server 4.0 Server Software CD in the CD tray, restart the PC and ensure that the CD is a bootable device in the BIOS.

Select the appropriate instructions in the following table.

For Server Type	Do the following
IDE (TS800/TS1400/TS1404)	(a) Press ENTER to continue the installation. (b) Press ENTER to accept IDE CD <ATAPI 1.2>/PCI IDE Controller.
SCSI (TS1400SR/TS1404SR)	(a) When the setup is inspecting your system hardware, press F6 once (Failure to do so will cause a Windows NT blue screen indicating failure to detect the hard disk array. If this occurs, reboot the system and begin again). (b) Type S in the setup screen to specify an additional device, then Other . Insert the vendor provided Adaptec Array 1000U2 Family Adapter, and press ENTER. (c) Highlight the Adaptec Array 1000U2 Family Adapter, and press ENTER. The Welcome to Setup window opens. (d) Press ENTER three times. Do NOT eject the Adaptec diskette. Windows NT Setup will require it for data access in the following steps.

2. Press ENTER to the hard disk message.
3. Press PAGE DOWN until you see the Agree to License? option.

4. Press F8 to agree with the license. If Windows NT is already on the server, type **N** for New Version.
5. Ensure (edit if necessary) that the hardware and software components read as listed below, and press ENTER to accept the settings:
 - **Computer: Standard PC** (Single Processor) or **MPS Processor PC** (Dual Processor)
 - **Display: Auto Detect**
 - **Keyboard: XT, AT, or Enhanced Keyboard** (83–104 keys)
 - **Keyboard Layout: US**
 - **Pointing Device: Logitech Mouse Port Mouse**
6. If the hard drive has a single unpartitioned space, proceed to the next step. If the hard drive has another partition, highlight the partition, press **D**, ENTER, then **L** to delete the partition (repeat for any additional partitions).
7. Enter **C** to create a partition. When prompted, enter **4095** for the size, and press ENTER to accept.



Note: If a maximum storage capacity of 2048 MB is indicated, the installation must be restarted using the Windows NT Setup diskettes (x03) and CD-ROM.

8. Ensure that the **C: New (Unformatted)** partition is highlighted, and press ENTER.
9. Highlight **Format the partition using the NTFS file system**, press ENTER and wait for the system to format the hard disk.
10. Press ENTER to accept the default **WINNT** directory where the WIN NT Server components will be installed.
11. Press ENTER to allow the setup to examine the hard disk for any corruption.
12. When completed, eject the CD when prompted.
13. Press ENTER to restart the computer. The system reboots and performs a check of the hard disk root partition. A conversion from FAT to NTFS of the partition then occurs. The system will perform a second reboot automatically.
14. When prompted, re-insert the Microsoft Windows NT Server CD, and click **OK**.
15. Follow each step in order:

Option Query	Input Selection
Gathering information about your computer	Click Next
Name and Organization	Name: type the Customer Name Organization: type the Customer Organization Click Next
Registration	Enter the CD Key found on the Certificate of Authenticity Click Next
Licensing Modes	Per Server for 5 concurrent connections Click Next
Computer Name	Type the computer name of the 6500 server Click Next

Option Query	Input Selection
Server Type	Stand-Alone Server Click Next
Password	Type the administrator password, and confirm. Click Next
Emergency Repair Disk	No (do not create an emergency repair disk) Click Next
Select Components	Accept the default components Click Next

16. The Windows NT Setup proceeds to the next part, Installing Windows NT Networking. Follow each step in order:


Option Query	Input Selection
Installing Windows NT Networking	Click Next
Windows NT needs to know....	This computer will participate on a network. Check Wired to the network . Click Next
Microsoft IIS lets you...	De-select Install Microsoft Internet Information Server Click Next
Search For Network Adapter	Click Select from list... Click Have Disk... For the TS1404, insert the Intel/PRO100+Ethernet Adapter disk, or for the TS1400, insert the LAN Driver for Windows NT disk, or for the TS800, insert the NTKW ETHREXPRS PRO DRIVER disk. Click OK . When Intel PRO Adapter (for the TS1400/TS1404) appears or the Intel Ether Express Pro Adapter (for the TS800) appears, click OK . Click Next
Network Protocols	Select TCP/IP Protocol . De-select any others. Click Next
Network Services	Network Services: RPC Configuration NetBIOS Interface Workstation Server Click Next twice to continue
TS800 servers only Adapter Properties	Click OK
TCP/IP Setup. Do you wish to use DHCP?	Click No (you can change this later)

Option Query	Input Selection
Microsoft TCP/IP Properties	Adapter: For the TS800 select Intel EtherExpress PRO Adapter , or for the TS1400 select Intel PRO/100 VM Desktop Adapter , or for the TS1404 select Intel PRO/100+ Management Adapter .
IP Address. Specify an IP address Subnet Mask. Specify a subnet mask	Type the IP address and the subnet address. If using DHCP, type 192.0.0.1 Click OK Note: These settings are site specific.
Network Bindings	Click Next . Defaults apply
Starting Network	Click Next
Workgroup or Domain?	Workgroup Click Next . For Unified Messaging system, we recommend that you join the Domain, see page 111.
Finishing Setup	Click Finish

To set date and time properties

1. The Date/Time Properties window appears . Set the date, time and daylight savings option to correspond with the geographic location of the customer. Click the **Time Zone** folder tab to see a list of time zones, and select the appropriate time zone.
2. Click the **Date & Time** folder tab and verify that the settings are correct. Manufacturing Default - today's date and time.
3. Click **Close** to continue.

To set display properties

1. **Setup** verifies the video adapter detected . In the Detected Display window, click **OK**.
 **Note:** The default VGA settings will be used for the initial configuration. Video drivers will be updated following installation of Windows NT Service Pack 5 or 6.
2. Click **OK**. When the Windows NT Server installation is complete, remove the CDs and diskettes. Return all media to their original packaging containers.
3. Select the **Restart Computer** icon in the Windows NT dialogue box. The system reboots.
4. During the system reboot, when the choice of operating systems is listed, use the UP or DOWN ARROW key to select **Windows NT Server Version 4.xx**, and press ENTER.
5. When the login window appears, press CTRL+ALT+DEL to log in the server.
6. Access the **administrator** account with the administrator password.
7. Close the **Welcome to Windows NT** window, and click **OK**.

To install NT Service Pack 5.0 or 6a

Windows NT Service Pack 6a is required for additional protection against viruses. Service Pack 6a must be installed after the Windows NT Server software and before the video drivers and the third party software is installed. Service Pack 6a is part of the third-party software and will be installed with that software, before you install the 6500 Unified Communications software.

1. Insert the Service Pack for Window NT CD. The installation program starts automatically.
2. Within the Internet Explorer session respond to each of the following prompts:
 - Section Contents: Select **Install Service Pack 6a**
 - Start the Installation: Select **Install Service Pack 6a for Intel-based systems**.
 - If you are asked Confirm File Open: **Open**
3. Once the Windows NT Service Pack Setup window appears, select the **Accept License Agreement** check box, and deselect the **Back-up file to uninstall service pack** check box.
4. Select the **Install** button (was grayed out). When the installation is complete, remove the CD, and select **Restart**.
5. During the system reboot, when the choice of operating systems is listed, use the UP or DOWN ARROW key to select **Windows NT Server Version 4.0**, and press ENTER.
6. When the login window appears, press CTRL+ALT+DEL to log in the server.
7. Access the administrators account with the administrator's password.



Note: If the Display Properties window opens, click **OK** in the Invalid Display Settings window, and cancel the Display Properties window.

8. Close the Welcome to Windows NT window.

To format drive D (if required)



Note: It is not necessary to format drive D if it already exists. If you require drive D and additional hard drive space is available in Configuration Partitions, perform this procedure. Otherwise, go to the next procedure ("To verify Hard Drive Partitions").

1. Open **Disk Administrator** (click **Start, Programs, Administrative Tools (Common)**, then **Disk Administrator**).
2. Since this is the first time Disk Administrator is run, a signature must be written to the hard disk. Click **OK** to accept. The Disk Administrator presents the available storage devices and partitions
3. Highlight the **CD-ROM 0** block. Click **Tools**, then **Assign Drive Letter**. Accept the default assigned drive, click **OK**, then **Yes** to confirm.
4. Highlight **Free Space on Disk 0**.
5. Click **Partition**, then **Create Extended**. Use the maximum available space for the Extended Partition, click **OK**, then **Yes** to confirm.
6. Highlight **Free Space on Disk 0** a second time.

7. Click **Partition**, then **Create**. Use the maximum available space for the Logical Drive, click **OK**, then **Yes** to confirm.
8. Click **Partition**, **Commit Changes Now** to enact the above settings, **Yes** to confirm, then **OK** when complete.
9. Highlight the new partition (D), click **Tools**, then **Format**.
10. Under the Format D:\ window, change **File System** to **NTFS**, then click **Start** to begin formatting. When the Warning dialogue box appears, click **OK**. Formatting will take several minutes to complete.
11. The system prompts you when the format is complete. Click **OK**.
12. Close the Format D:\ window.
13. Ensure partition C (and D, if applicable) is now partitioned as NTFS.
14. Close the Disk Administrator window.

To verify Hard Drive Partitions

1. Open **Command Prompt** (click **Start**, **Programs**, then **Command Prompt**). When the command prompt window appears, type **chkdsk c:**, and press ENTER. The chkdsk utility will perform a read analysis of the hard disk drive. A sample output is provided below:

```
The type of filesystem is NTFS.  
Warning! F parameter is not specified  
Running CHKDSK in read-only mode.  
CHKDSK is verifying files...  
File verification is complete.  
CHKDSK verifying indexes...  
Index verification completed.  
CHKDSK detected minor inconsistencies on the drive.  
CHKDSK is verifying security descriptors...  
Security descriptor verification complete.  
2096450 kilobytes total disk space.  
220429 kilobytes in 1385 user files.  
378 kilobytes in 77 indexes.  
9537 kilobytes in use by system.  
4096 kilobytes occupied by the logfile.  
1866105 kilobytes available on disk  
512 bytes in each allocation unit.  
4192901 total allocation units on disk.  
3732211 available allocation units on disk.
```

2. Ensure that there are no errors in the chkdsk test report.
3. If you have a drive D, repeat step 1 and step 2, substituting **d:** for **c:**.
4. Close the Command Prompt window.

Installing Video Drivers

To install video drivers

1. Open the Display control panel (click **Start, Settings, Control Panel**, then **Display**).
2. From the Display Properties window, click the **Settings** tab. If the Display Settings window opens, click **OK**, then **Display Type**.
3. Under Display Type window, click **Change**.
4. At the Change Display window, click **Have Disk....**
5. Follow the procedures in the table below for your server type.

Server Type	Installation Steps
TS800	<ol style="list-style-type: none"> 1. Insert the ATI Video Display Driver diskette provided under the bill of materials. 2. In the Install From Disk Window, click Browse, NT4.0, ATI, Open, then OK. 3. From the Change Display window, click ATI Technologies Inc. 3D Rage Pro Turbo. 4. When the prompt "You are about to install a third party driver. Do you wish to proceed?" appears, click Yes. 5. Following successful installation of the new driver, click OK. 6. Go to the procedure "To complete the Video Driver Installation (TS800 or TS1400 server)" below.
TS1400	<ol style="list-style-type: none"> 1. Insert the ATI Video Display Driver diskette provided by the server vendor. 2. From the Install From Disk window, click Browse, OEM Setup, then OK. 3. From the Change Display window, click Chips Video Accelerator, then OK. 4. When the prompt "You are about to install a third party driver. Do you wish to proceed?" appears, click Yes. 5. After successful installation of the new driver, click OK. 6. Eject the diskette and return it to its packaging. 7. Go to the procedure "To complete the Video Driver Installation (TS800 or TS1400 server)" below.
TS1404	<ol style="list-style-type: none"> 1. Insert the Mitel Application Server CDROM. 2. In the CD, open VGA, then NT, then double-click setup.exe. 3. Select Next in the ATI NT Driver welcome window. 4. Select Yes for the Software License agreement. 5. Confirm Yes, I want to restart my computer, then click Finish. 6. When the System reboots, login. 7. Go to the procedure "To install the TS1404 Ultra ATA100 EIDE Driver (TS1404)" on page 109.

To complete the Video Driver Installation (TS800 or TS1400 server)

1. Close all open windows.
2. When prompted to restart the computer, click **Yes**.
3. Log into the system (press CTRL+ALT+DEL, type **Administrator** as user name, then the administrator password).

4. When the Invalid Display Settings window appears, click **OK** to continue. Close any Welcome windows.
5. From the Display Properties window, verify the following settings and make any necessary changes.

Option	Setting
Color Palette	256 Colors
Desktop Area	1024 by 768 pixels
Refresh Frequency	70 Hertz (see Tip below)



Tip: The Refresh Frequency supported by the monitor may vary. If 70 Hertz is unavailable, use the lowest rate supported by the monitor for the duration of the procedure.

6. Click the **Test** button in the Display Properties window.
7. In the Testing Mode dialogue box, click **OK**. The test screen will appear for a few seconds. Verify the colors and overall clarity of the test screen. When prompted “Did you see the bitmap properly?”, click **Yes**. If the test bitmap was correct, click **OK**. To save the current Display Properties, click **OK**.

To install the TS1404 Ultra ATA100 EIDE Driver (TS1404)

1. Insert the Mitel Application Server CD provided with the system.
2. Find the “INTELATA6xx_enu.exe” file on the CD, and double-click on it.
3. Reboot the system when prompted. The Desktop Help window opens.
4. Deselect **Show this screen next time you start Windows**, and close the window.

Installing Management Software

These procedures apply to the **TS1404SR** servers only. After you install the Storage Manager software, you must add Storage Manager to the Startup menu.

To install the Storage Manager software

1. Insert the vendor-provided Adaptec 120 Management Software CD in the server. The installation program starts automatically.
2. Click **Install Adaptec Storage Manager**.
3. When the welcome window appears, click **Next**.
4. Read the license agreement, then click **Yes**.
5. In the “Choose Destination Location” window, click **Next** to accept the default folder.
6. In the “Setup Type” window, select **Custom**, then click **Next**.
7. In the “Select Components” window, ensure the boxes beside “**Storage Manager**”, “**Latest Driver**”, and “**RAID Engine**” are checked, then click **Next**.
8. In the “Select Program Folder” window, click **Next** to accept the default folder. The system begins copying files.

9. When the "Installation Complete" window appears, click **Yes, I want to restart my computer now**, then **Finish**. Eject the CD.
10. Log into the system. Type **Administrator** as your user name, then your default password.
11. Click **Start, Programs, Storage Manager, Modify Setup**, then **Next**.
12. Under Selected Components, ensure that the **Storage Manager, Latest Driver and Raid Engine** elements are selected.
13. Accept the defaults for **Driver Load**.
14. After the install, click **Finish**.
15. Open **Storage Manager** (click **Start, Programs, Storage Manager**, then **Storage Manager**). Select the Switch View tab, and verify there is a RAID5 array consisting of 3 hard disks (ID 0,1,2). The array should be labeled **MITELRAID5**.
16. Close the Storage Manager window, click **OK**, then **Yes** if there are any changes to be saved.


To add Storage Manager to the Startup Menu

17. Right click the Task Bar, and select **Properties**.
18. Select the **Start Menu Programs** tab.
19. Select **Add**, then **Browse**. Navigate to c:\program files\Adaptec\storage manager\dptmgr.exe, click **Open**, then **Next**.
20. Select **Program Folder**, highlight **Startup**, then select **Next**.
21. Select a title for the program, type **Storage Manager**.
22. Select **Finish**, then **OK**.

Updating the Pagefile

On-board memory requirements of up to 1.5 GB require that the pagefile be updated to allow proper functionality.

To update the Pagefile

1. Open the System control panel (click **Start, Settings, Control Panel**, then double-click **System**). In the System Properties window, click the **Performance** tab, then **Change**. The Virtual Memory window opens.
 2. Set the following settings for the drive C and drive D (if you have one)
 - Drive C: Initial Size = **2 MB**, Maximum Size = **2 MB**
-  **Tip:** For Drive D, we recommend the initial size to be the physical memory +12, and the maximum size to be the (physical memory + 12) X 2.
3. Click **Set**, then **OK** twice.
 4. Click **Close**, then **Yes** to reboot.

Configuring the Event Viewer

To Configure the Event Viewer

1. Open the Event Viewer (click **Start, Programs, Administrative Tools**, then **Event Viewer**).
2. From the Event Viewer window, select **Log**, then **Log Settings**.
3. In the Event Log Settings window, open the pull down menu **Change Settings for System**, and select **Application**.
4. Change the Maximum Log Size to **2048** KB.
5. Select **Overwrite Events as Needed**, then **OK**.
6. Close the Event Viewer window.

Modifying the Viewing Options

To modify the viewing options

1. Open **My Computer** on the desktop.
2. On the menu bar, click **View** and then **Options**.
3. Click the **View** tab, and select **Show all files**.
4. Deselect **Hide file extensions for known file types**.
5. Select **Display the full path in the title bar**.
6. Click **OK**, and close the My Computer window.

Joining the Domain

To join the domain

1. Open the Networks control panel (click **Start, Settings, Control Panel**, and double-click **Network**.)
2. In the **Identification** tab, click the **Change** button.
3. In "Member of field", select **Domain**, and enter the domain name (for example, VLAD).
4. Select the **Create a Computer Account in the Domain** checkbox.
5. Enter the user name and password of the administrator account on the domain.
6. Click **OK** twice, then **Close**.
7. Click **Yes** to reboot the server.

Installing Supporting Software



Tip: Before installing the software, ensure that the Windows NT Server setup procedures have been followed.



Timer: The following software installation is lengthy and there are several silent installs. This may give the impression that the software is hanging. It is not. Please be patient.



Note: If the IP address, DNS and WINS are already configured, fill in the static IP (use **192.0.0.1**) and the Subnet Mask (use **255.255.255.0**). After the install of the 6500 Unified Communications software, this information must be put back to its original configuration in the Network Neighborhood Properties window.

If you have not yet configured networking, set the IP address to **192.0.0.1** and the Subnet Mask to **255.255.255.0** until the end of the installation, when you will personalize your IP address, DNS and WINS configuration.



Tip: To install the supporting software, you will need two CDs: 6500 Unified Communications Third-Party Software Disc 1 and 6500 Unified Communications Third-Party Software Disc 2.

To install the supporting software

1. Insert the 6500 Unified Communications Third-Party Software Disc 1 CD into the 6500 server. The 6500 Unified Communications Third-Party Software Configuration window opens.
2. Click the **Third-Party Software** button. The Install Wizard window opens and verifies the requirements.
3. Click **Next**. The window lists the components that will be installed:
 - Internet Explorer 5.5, Service Pack 2
 - Internet Information Server Option Pack 4
 - Service Pack 6a
 - MDAC 2.1
 - Crystal Reports 7.0
 - Oracle 8.1.5
 - Nuance 7.0.4
 - Nuance SpeechObjects 1.1
 - Java Development Kit 1.4.0
 - Active Directory
 - Windows Script Host 5.6
 - Apache TomCat 4.1.12




Note: These components are specific to Release 4.0. Refer to the 6500 FCI for information on software components for other releases.

4. Click **Next** twice, then **Start** to install Internet Explorer 5.5
 - (a) Read the License Agreement, click **I accept the agreement**, then **Next**.
 - (b) Confirm the selection **Install Now - Typical Set of Components**, then click **Next**.
 - (c) When the setup finishes installing your components, click **Finish**. The system reboots automatically.
5. After Windows NT 4.0 reboots, log into the system again. The Install Wizard confirms the Internet Explorer and MDAC installation.
6. Click **Next** twice, then **Start** to install IIS.
 - (a) If you have SP4 or greater installed on your system, click **Yes** to the message asking if you wish to proceed with the Setup Process.
 - (b) When the Option Pack 4 Setup Window opens, click **Next**.
 - (c) Read the License Agreement, and click **Accept**.
 - (d) Click **Custom**, remove the checkmarks from **Front Page Extension** and **Microsoft Index Server**, and then click **Next**, and **Next** again. The install continues.
 - (e) When the Confirm File Replace window opens, select **No to All** for the Overwrite. The install continues.
 - (f) When the installation of NT 4.0 Option Pack is done, click **Finish**.
 - (g) Click **Yes** to restart your computer, then log back in.
7. Service Pack 6a installs silently and displays an "Updating Service Pack 6a..." message. Click **OK** to reboot the computer, then login to the system. The Install Wizard window opens.
8. Click **Next** to install MDAC (the system requires another install of MDAC after the install of IIS).
9. Review the Missing Requirements window, then click **Next**.
10. Click **Start** to continue the MDAC installation.
11. Crystal Reports Setup starts. Click **Next** to continue.
 - (a) Read the License Agreement, then click **Yes** to accept.
 - (b) Enter the Installation Key (**70001-0615523**), then click **Next**.
 - (c) Enter your name and organization information, then click **Next**.
 - (d) Select **Typical** for the type of installation mode and accept the default installation directory or browse to another.
 - (e) Click **Next**.
 - (f) Confirm that **Yes, create service(s)** is selected, leave all fields blank, and then click **Next** in Seagate Service Options.
 - (g) Click **Next** to keep default Program Group. A Setup.DLL... message window opens.
 - (h) Click **Ignore**. The Seagate Crystal Reports Setup window opens and the system installs the application.

- (i) When the Readme option appears, click **No**.
 - (j) When Crystal Reports finishes, click **OK**.
 - (k) Click **OK** to restart your computer and ignore the message stating that Crystal Reports is installing. The Install Wizard opens.
12. The Oracle Installation starts. The (silent) installation takes approximately 5–8 minutes. After Oracle is installed, the setup displays a message asking you to put the next CD in to continue the installation. Take out Disc 1 and replace it with Disc 2.
 13. Close the Explorer window displaying the contents of the CD drive.
 14. In the Information window, click **OK**.
 15. Nuance, Nuance SpeechObjects, Java Development Kit, Java VM, ADS and Windows Script Host silently install. The Install Wizard window opens with an update and then the system automatically reboots.
 16. Login. The Install Wizard window opens.
 17. Click **Next** twice, then **Start** to install TomCat. The **Apache TomCat 4.0** window opens stating the Java software that the system is using.
 18. Click **OK**. The system installs TomCat.

Updating IIS Administration

To update IIS Administration

1. Open **Internet Service Manager** (click **Start, Programs, Windows NT 4.0 Option Pack, Microsoft Internet Information Server**, then **Internet Service Manager**).
 2. Expand the Internet Information Server folder, then the (local host name) machine header.
 3. Right-click **Default Web Site**, and click **Properties**.
 4. When the Default Web Site Properties window opens, select the **Home Directory** tab.
 5. In the Local Path field, type **C:\speakatease\web**.
 6. Deselect **FrontPage Web**.
 7. Select **Run in separate memory space**.
 8. Click the **Configuration** button, then the **Process Options** tab.
 9. Verify that **Do not cache ASP files** is selected.
 10. Deselect **Enable debug exception catching**.
 11. Click **Apply**, then **OK**.
 12. Under the **Documents** tab, verify that **login.html** and **default.asp** are listed. If they are not, click the **Add** button to add them.
 13. Click **Apply**, then **OK**.
 14. Right click the root server name (the local host name or machine header), and click **Properties**.
 15. In the Properties window, click **Edit**. The **WWW Service Master Properties** window opens.
 16. Click on the **ISAPI Filters** tab, then **Add**. The **Filter Properties** window opens.
 17. In the **Filter Name** box, enter **jakarta redirect**.
 18. In the **Executable** box, navigate to **isapi_redirector.dll** (C:\Program Files\Apache Group\Tomcat 4.1\bin\native\isapi_redirector.dll), and then click **Open**.
-  **Tip:** If you can not identify the file in the above step, ensure that your viewing options are set to show all files in Windows NT Explorer. See Modifying the Viewing Options on page 111. You will have to restart IIS in order to open the file.
19. Select **Apply**, then **OK** twice.
 20. Close the IIS Manager window.
 21. Click **Yes** to save the console settings to IIS.
 22. Close all windows and reboot.

Installing the 6500 Software

Installing the 6500 Attendant Software

To install the 6500 Attendant software, you must

- Install the 6500 Attendant Software (procedures differ for Digital Integrations, page 116 and IP Integrations, page 118).
- Configure NMS for Digital Integrations (for Digital systems with TS1400/TS1404 Application Servers) (see page 120).
- Start services (see page 122).
- Restore the Customer Database (see page 122).

Getting Prepared

To collect information for the configuration of the 6500 Unified Communications Server

Provide values for the following parameters:

- Windows NT Local Administrator password (default is **mitel**)
- 6500 Attendant Administrator PIN (default is **1234567890**)
- User PIN (default is **1234**)
- Host Name
- IP Address
- Subnet mask
- WINS Server
- DNS Server
- Default Gateway

Installing the 6500 Attendant Software

Install the 6500 Attendant Software for Digital Integration

You require:

- Windows NT Administration rights
- The VTG VB-2007/2009 card serial number (5-digit number printed on a label that is affixed to the VTG VB-2007/2009 card faceplate)



Note: Before you can install or enable the 6500 Unified Communications software, the security access module (SAM) must be installed on the parallel port of the server.

1. Login as the administrator on the 6500 server.
2. Insert the CD "6500 Unified Communications Application Software Disc 1" into the 6500 server. The 6500 Unified Communications Setup Disk 1 window opens.
3. Click **6500 UC Applications**. The installation starts. At the welcome window, click **Next**.
4. Read the Software Agreement License, then click **Yes**
5. In the Language Configuration window, select your language configuration. Ensure you select the language option that was purchased for your system (check your options sheet included with the system software).
 - For a unilingual system, click **Unilingual**, select your language, then click **Next**.
 - For a bilingual system, click **Bilingual**, select your primary and secondary languages, then click **Next**.
6. In the Hardware Configuration window, select the type of system you have:
 - For an 8-port system, select **VTG/NMS - Low Capacity**, then click **Next**.
 - For a 16-port system, select **VTG/NMS - High Capacity**, then click **Next**.
7. Select the type of PBX connected to the 6500 (**Mitel** or **Nortel Networks**), then click **Next**.
8. Enter the 5-digit serial number(s) of the system's VTG VB-2007/2009 card(s). The serial number is written on a label affixed to the faceplate of the card.
9. Click **Next**.
10. Select **Attendant**, then click **Next**.
11. In the Choose Destination window, select the folder in which 6500 Attendant will be installed.
12. In the Select Program Folder window, note the name of the default folder (recommended), or select a folder from the Existing Folders list. Click **Next**.
13. In the Start Copying Files window, review all your settings. To correct a setting, click **Back** until you reach the appropriate window, make the corrections, then click **Next** until you are back in this window.
14. Click **Next**. The installation program copies the required system and application files from the CD into the target directories on the server. This will take a few minutes.
15. When prompted, remove the CD and replace it with the CD "6500 Unified Communications Application Software Disc 2", then click **OK**. The installation continues.
16. When the LDAP Server Setup welcome window appears, click **Continue**.
17. In the Select Application Folder window, change the destination folder if needed, then click **Next**. If you get a message asking you if you want to create the new directory, click **Yes**.
18. At the Setup Was Successful window, click **Close**. When the "InstallShield Wizard Complete" window appears, select **Yes, I want to restart my computer now**, then **Finish**. The 6500 server reboots.
19. Login as "Administrator". The RunOnce DOS screen opens and two Microsoft Internet Explorer Pre-compilation windows open.



Tip: If you are launching Microsoft Internet Explorer for the first time, the Internet Connect Wizard window opens. For instructions on how to set up the internet connection, see , on page 166.

20. Each pre-compilation window opens a dialog window to tell you when the compiling is finished. Click **OK** to close these dialog windows when they appear.
21. When the DOS screen asks you if you want to delete the old directories, press **Y**, then ENTER (if you have a bilingual system, you must type **Y** twice). The setup continues.



Timer: The setup may take several minutes, with nothing seeming to happen.

22. Two errors (Nuance database errors) will appear in the resulting DOS screen. This is normal, as this install creates a new database and removes old tables. If you are reinstalling the system, you may not see any errors. Press any key to continue.



Tip: Proceed to procedure “To configure NMS for Digital on the TS1404 server” on page 121 (if applicable), then “To verify that the services are automatic and active” on page 122.

Install the 6500 Attendant Software for IP Integration

You require:

- Windows NT Administration rights
- The IP address of the 3300 ICP



Note: Before you can install or enable the 6500 Unified Communications software, the security access module (SAM) must be installed on the parallel port of the server.

1. Login as the administrator on the 6500 server.
2. Insert the CD “6500 Unified Communications Application Software Disc 1” into the 6500 server. The 6500 Unified Communications Setup Disk 1 window opens.
3. Click **6500 UC Applications**. The installation starts. At the welcome window, click **Next**.
4. Read the Software Agreement License, then click **Yes**
5. In the Language Configuration window, select your language configuration. Ensure you select the language option that was purchased for your system (check your options sheet included with the system software).
 - For a unilingual system, click **Unilingual**, select your language, then click **Next**.
 - For a bilingual system, click **Bilingual**, select your primary and secondary languages, then click **Next**.
6. In the Hardware Configuration window, select **Mitel Networks 3300**, then click **Next**.
7. In the Mitel Networks 3300 configuration window, type the IP address of the 3300 ICP to which the 6500 attendant is connected, then click **Next**.
8. Select **Attendant**, then click **Next**.

9. In the Choose Destination window, select the folder in which 6500 Attendant will be installed.
10. In the Select Program Folder window, note the name of the default folder (recommended), or select a folder from the Existing Folders list. Click **Next**.
11. In the Start Copying Files window, review all your settings. To correct a setting, click **Back** until you reach the appropriate window, make the corrections, then click **Next** until you are back in this window.
12. Click **Next**. The installation program copies the required system and application files from the CD into the target directories on the server. This will take a few minutes.
13. When prompted, remove the CD and replace it with the CD "6500 Unified Communications Application Software Disc 2", then click **OK**. The installation continues.
14. When the LDAP Server Setup welcome window appears, click **Continue**.
15. In the Select Application Folder window, change the destination folder if needed, then click **Next**. If you get a message asking you if you want to create the new directory, click **Yes**.
16. At the Setup Was Successful window, click **Close**. The Mitel Phone Emulation window opens.
17. Select **3300** for the **Host Type**, and change the **IP address** to the 3300 ICP's IP address.
18. Right-click in the bottom frame (below **Phone DN** and **Phone ID**), and select **Insert**. For each port that the 6500 Attendant will use, type the port number, then click **Apply**. When you are done, click **Cancel**.



Note: These ports must already be configured as 5020 IP sets on the 3300 ICP.

19. Click **OK**. TAPI installs, then the Mitel Device Properties window opens.
20. Right-click in the large window, then click **Select from IP Phone List**. The Select IP Phone List opens.
21. Shift-select each Prime DN from the list (this list should match all DNs entered into the IP Phone Emulator), then click **OK** twice. A warning window opens.
22. Click **Yes to accept PBX confirmation**, then **OK**. The Mitel Remote Access Settings window opens.
23. Change the **Machine Name of Remote PBX Server** to the IP address of the 3300 ICP system.
24. Click **OK**. The log file window opens.
25. Click **Next**. The "InstallShield Wizard Complete" window opens. **DO NOT REBOOT**. Select **No, I will start my computer later**, then click **Finish**.

26. Program the Multimedia Settings.

- Open the Multimedia control panel (click **Start**, Settings, **Control**, then open **Multimedia**). The Multimedia Properties window opens.
- In the **Audio** tab, select **None** for **Preferred device** in both the **Playback** and **Recording** sections.
- Select **Use preferred devices only**.
- Click **Apply**, then **OK**.

27. Program the Windows Sound Systems.

- Open the Sounds control panel (click **Start**, **Settings**, **Control**, then open **Sounds**). The Sounds Properties window opens.
- In the Schemes section, select **No Sounds** from the drop-down list. The Save Scheme window opens.
- Click **No**, **Apply**, then **OK**.

28. Reboot your computer, and login as “Administrator”. The RunOnce DOS screen opens and two Microsoft Internet Explorer Pre-compilation windows open.



Tip: If you are launching Microsoft Internet Explorer for the first time, the Internet Connect Wizard window opens. For instructions on how to set up the internet connection, see , on page 166.

29. Each pre-compilation window opens a dialog window to tell you when the compiling is finished. Click **OK** to close these dialog windows when they appear.

30. When the RunOnce DOS screen asks you if you want to delete the old directories, press **Y**, then ENTER (if you have a bilingual system, you must type **Y** twice). The setup continues.



Timer: The setup may take several minutes, with nothing seeming to happen.

31. Two errors (Nuance database errors) will appear in the resulting DOS screen. This is normal, as this install creates a new database and removes old tables. If you are reinstalling the system, you may not see any errors. Press any key to continue.



Tip: Proceed to procedure “To verify that the services are automatic and active” on page 122.

Configuring NMS for Digital Integration



Note: Configuring NMS only applies to TS1404 Applications Servers for Digital integration.

This procedure ensures that the 6500 Unified Communications software will identify and install the AG-2000 card(s) into the system.

To configure NMS for Digital on the TS1404 server

1. Stop the **agmon** service (click **Start, Settings, Control Panel**, and open **Services**).
2. Open **Command Prompt** (click **Start, Programs**, then **Command Prompt**).
3. Type **blocate**. This example shows results with 2 boards.

```
Fri Nov 09 12:27:48      There was 2 NMS AG PCI card detected
BUS      SLOT      INTERRUPT
02       14       0x9 (Board 0)
02       12       0xa (Board 1)
```

4. Open Notepad (click **Start, Programs, Accessories**, then **Notepad**).
5. In the **File** menu, select **Open**, and navigate to **c:\Speakatease\Autoattendant\config**. Select **view all file types**.
6. Open the **ag2000.cfg** file.
7. Scroll down to "BOARDS section", and add the correct slot and bus numbers for Board 0, matching with what was found by blocate. Modify Board 1 if there is a second card (see the example below).

```
#----- BOARDS section -----
Board 0
PCIBUS = 2
PCISLOT = 12
ClockRef = MVIP # Change to OSC for standalone operation
EnableMvip = YES # Change to YES if there is an MVIP bus
# MVIP95slot = 1:0..7
End Board

# Uncomment for second board.
Board 1
PCIBUS = 2
PCISLOT = 14
ClockRef = MVIP # Change to OSC for standalone operation
EnableMvip = YES # Change to YES if there is an MVIP bus
# End Board
```

8. In the **File** menu, select **Save**, then close Notepad.
9. Close the Command Prompt window.
10. Open the file **agmon.bat** (click **Start, Run**, then **Browse**, and navigate to **c:\speakatease\batch\agmon.bat**. Click **Open**, then **OK**).
11. Verify all boards installed boot without error (see results example below).

```
Booting board 0...
Info:
Loading QSLAC file C:\NMS\AG\LOAD\a2usa.slc           458
(09/05/01 16:17)

Done.
Booting board 1...
Done
```

12. Press **F3** when finished, then any key to continue.

13. Start the **agmon** service (click **Start, Control Panel**, then **Services**).
14. Close **Services**, then the **Control Panel** windows.

Starting the Services

To verify that the services are automatic and active

1. Open Service Manager (click **Start, Programs, Mitel Networks, Speech Recognition**, then **Service Manager**).
2. Verify that all of the services have **Start Mode** set to **Automatic**.
3. Select **Start**, then **Shutdown**. At the message **Restart the computer?**, click **Yes**.
4. Press CTRL+ALT+DEL, and login as Administrator. Close any Welcome windows as they appear.
5. Open Service Manager (click **Start, Programs, Mitel Networks, Speech Recognition**, then **Service Manager**).
6. Verify that all the services are **Active** (may take a minute or two).
7. Close the Service Recovery Manager window.

Restoring the Customer Database



Note: Backing up and restoring a French/English bilingual system will result in a English/French bilingual system. To avoid this, adjust the language preference before you do the restore.



Note: If restoring a backup from a CD, move the backup to a local drive before proceeding.

To restore the customer database

1. Open **Backup and Restore** (click **Start, Programs, Mitel Networks, Speech Recognition**, then **Backup and Restore**). The Backup and Restore window opens.
2. Click the **Restore** tab.

In the **restore from:** field, specify the file folder that contains the backup files.

or

Click **Browse**, and navigate to the desired file folder.



Note: Ensure that you have selected the desired folder, and that you are not inside the folder that you want to restore.

3. Once you have chosen the directory that contains the backup files, the **Backup Version:** field displays the version you are currently running.
4. Click **Start**. The message on the lower left corner of the Backup and Restore window changes from Working to Ready.
5. Restart the system services (click **Start, Programs, Mitel Networks, Speech Recognition**, then **Service Manager**). The Service Recovery Manager window opens.

6. On the Service menu, click **Start All**, then **OK**. Verify that all the services are active, then close the Service Recovery Manager window.
7. Reboot the system after the restore.



Note: If you are adding new functionality, remember to update the license manager (click **Start, Programs, Mitel Networks, Speech Recognition**, then **License Manager**).

Installing the 6500 Unified Messaging Software

To install the 6500 Unified Messaging software, you must

- Create and add SpeakAdmin (for a 6500 Attendant system upgrading to 6500 Unified Messaging) (see page 125).
- Install the components for Active Directory and Exchange (see page 127, page 131).
- Install 6500 Unified Messaging software (see page 134).
- Run the Configuration Wizard (see page 136).
- Configure NMS for Digital Integration (for digital systems with TS1400/TS1404 Application Servers) (see page 156).
- Restore the Customer Database (see page 157).
- Customize Outlook Security (see page 158).
- Configure Fax, if applicable (see Chapter 1, Integrating Fax, on page 71).
- Configure VPIM, if applicable (page 160).
- Distribute the Multimedia Outlook Plug-in (page 162).



Note: Upgrading 6500 Unified Messaging systems does not require the creation of SpeakAdmin again, nor do you have to add SpeakAdmin to the Administrator Group. Those upgrade procedures apply only to a 6500 Attendant systems upgrading to a 6500 Unified Messaging system.



Tip: Whether you are installing a 6500 Attendant system or a system with 6500 Unified Messaging, configure the PBX exactly as outlined in this document, or the system will not function properly.



Note: To integrate the 6500 Unified Communications system with your network environment, you **MUST** use the System Properties folder to ensure your site-specific settings match the 6500 Unified Communications system settings. For example, use the categories in this folder to make changes to feature access codes, message waiting indicator codes, and certain Exchange 2000 Server settings (e.g. Exchange 2000 Server name, domain name, administration account name, etc.). To access the System Properties folder, navigate to the 6500 Unified Communications Administration main window, expand the System Configuration folder, click the System Properties folder and choose the category you want to edit.

Getting Prepared

There are three separate installations required for 6500 Unified Messaging to integrate with the Exchange and Active Directory servers:

- 6500 Unified Communications installation (application software)
- Active Directory Component (schema extension and 6500 Unified Communications interface)
- Exchange Component

To collect information for the configuration of the 6500 Unified Communications Server

Provide values for the following parameters:

- Windows NT Local Administrator Password (default is **mitel**)
- 6500 Administrator PIN (default is **1234567890**)
- User PIN (default is **1234**)
- Host Name
- Domain Name
- IP Address
- Subnet mask
- WINS Server
- DNS Server
- Default Gateway

To collect information for the configuration of the Active Directory Server (Domain Controller) and the Exchange 2000 Server

Provide values for the following parameters:

- Host Name
- Domain Name
- Administrator Account (SpeakAdmin)
- Account Password (for SpeakAdmin)
- E-mail Address (for administrator)
- Exchange Virtual Drive (drive M) folder name, for the Exchange server only



Note: Outlook 2000 multimedia extensions are installed by default when the Exchange 2000 Server is installed. The administrator must not disable VPIM conversion or Outlook web access.



Tip: Right-click the **My Computer** icon on the **Domain** machine. Click **Properties**, then **Network Identification**. If your computer name is **x.y.z**, you would fill in the fields in the following way:

- Full computer name: **x.y.z**
- Active Directory Domain: **y.z**
- Active Directory (Domain Controller) Host Name: **x**

Creating SpeakAdmin



Note: Upgrading 6500 Unified Messaging systems do not require the creation of SpeakAdmin again, nor do you have to add SpeakAdmin to the Administrator Group. These two procedures apply only to a 6500 Attendant system upgrading to a 6500 Unified Messaging.



Note: The 6500 Unified Messaging system will not function if the SpeakAdmin account becomes disabled.

If you are upgrading from a 6500 Attendant system to a 6500 Unified Messaging system

1. Log into the Active Directory server (Domain) as Administrator.
2. Open **Active Directory and Computers** (click **Start**, **Programs**, **Administrative Tools**, then **Active Directory Users and Computers**).
3. Right click on the **Users** folder, click **New**, then **User**.
4. When the New Object - User window opens, type **SpeakAdmin** in the **First name:** and **User logon name:** fields. The "SpeakAdmin" text should automatically copy into the "User logon name (pre-Windows 2000) field, if not, add the "SpeakAdmin" text to the field. Ensure the Active Directory domain name is selected in the drop-down menu, then click **Next**.
5. In the **Password:** field of the next window, type your administration password.
6. Choose your password setting preference (we recommend **Password Never Expires**), then click **Next**.
7. In the next window, ensure that the **Create an Exchange Mailbox** is selected.
8. In the **Server** field, select your Exchange server name.
9. In the **Mailbox Store** field, select your Exchange server name, then click **Next**.



Tip: If you are not asked for your Exchange server name, you are missing the Exchange system management tools (you can install these tools from the Exchange CD using the "Custom Installation" option).

10. When the next window appears, click **Finish**.
11. SpeakAdmin User appears in the Active Directory Users and Computers list. Right-click **SpeakAdmin User**, then select **Properties**.
12. Select the **Member Of** tab, then click **Add**.
13. When the "Select Groups" window appears, select **Administrators**, click **Add**, then **OK**.
14. On the "SpeakAdmin Properties" page, click **Apply**, then **OK**.

15. In the Exchange server, open the Exchange System Manager (click **Start, Programs, Microsoft Exchange**, then **System Manager**).
16. Right click on the root level of the Exchange folder titled "**First Organization (Exchange)**". Select **Properties**, click the **Security** tab, then **Advanced**.



Note: If your server does not have a Security tab, please consult with your system administrator to get it enabled via registry modification. Refer to the procedure Registry Modification below.

17. In the "Access Control Settings for First Organization" window, under the **Permissions** tab, click **Add**.
18. Scroll down the main drop-down menu in the "Select User, Computer, or Group" window until you find **SpeakAdmin**. Select it, then click **OK**.
19. The "Permission Entry for First Organization" window appears. In the main drop-down menu, select **Full Control** in the **Allow** column (first box). All of the permissions are automatically checked.
20. Click **OK**.
21. In the "Access Control Settings..." window, click the **Apply** button, then **OK**.
22. When the "First Organization Properties" window appears, click **Apply**, then **OK**.



Tip: You can verify that the "send as" and "receive as" permissions are allowed. Log in to the Exchange server as SpeakAdmin, use Windows Explorer to go into the Exchange Virtual Drive (M:), open the domain folder, MBX, and then SystemMailbox. An improper setup will show you an error message.

Registry Modification



Note: Perform this procedure only if there is no Security tab in step 16 above.

To access the Security tab

1. Open **Registry** (click **Start, Run**, type **regedit**, then click **OK**), then go to **HKEY_CURRENT_USER/Software/Microsoft/Exchange/ExAdmin**.
2. Right click on **ExAdmin**, select **New**, then **String Value**. Name this value **ShowSecurityPage**.
3. Press ENTER.
4. Double-click **ShowSecurityPage**, then enter value data **1**.
5. Click **OK**, then close the registry.
6. Reopen the Properties window in step 16, and the **Security** tab will appear.

Adding SpeakAdmin to the Administrator Group for the Exchange 2000 Server

If you are upgrading from a 6500 Attendant system to a 6500 Unified Messaging system

1. Open the Active Directory Users and Computers folder (click **Start, Programs, Administrative Tools**, then **Active Directory Users and Computers**).
2. Expand the **Computers** folder.
3. Right-click on the name of the Exchange computer, then select **Manage**.
4. In the **Computer Management** dialog box, expand **System Tools**. Click **Local Users and Groups**, then **Groups**.
5. Double-click on the administrators shown in the right-side window of the "Computer Management" window, then click **Add**. The dialog box "Select Users or Groups" opens.
6. Locate your domain in the **Look In:** drop-down menu. Scroll through the list box until you see "SpeakAdmin". Select **SpeakAdmin**, click **Add**, then **OK**.
7. In the "Administrators Properties" window, click **OK**.

Installing the Active Directory Components



Note: Ensure that you log in as administrator (with Schema Admin rights) of the root domain of the forest organization to complete this procedure. You can only update the schema on the domain controller which is the schema master. By default, the schema master is the first domain controller installed in the forest organization.



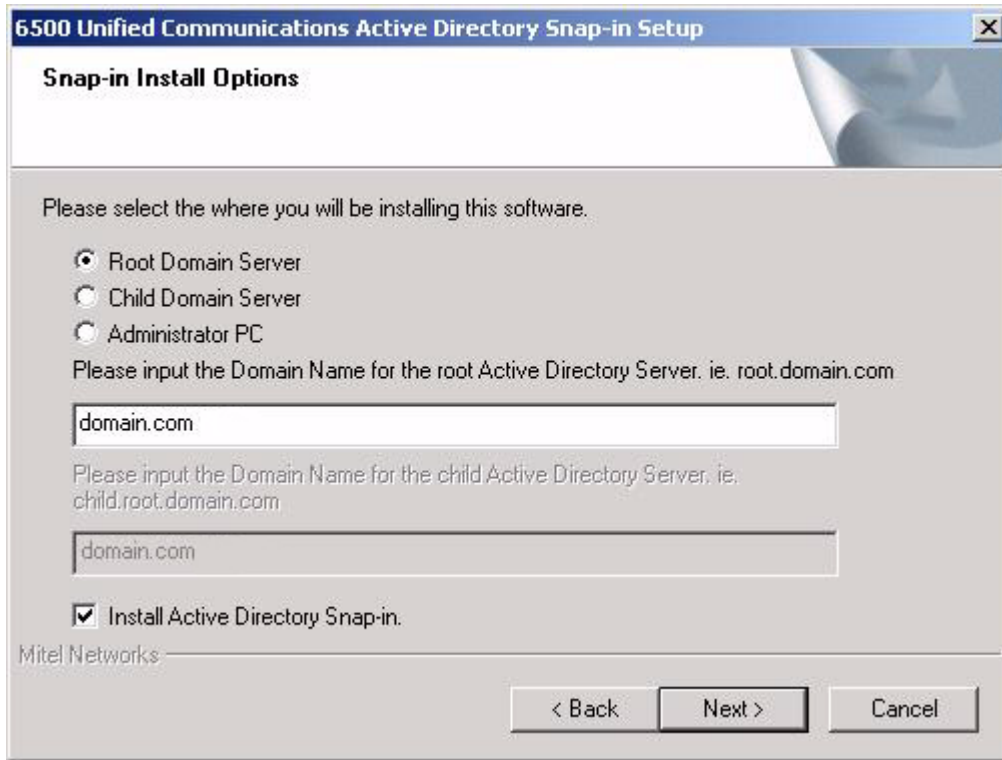
Note: If you are upgrading or reinstalling your system, the system uninstalls before allowing you to install or upgrade.

Before you start the installation, know your

- Active Directory hierarchy (root domain name and child domain name, if applicable)
- 6500 server name

To install the Active Directory components

1. Log into the root Active Directory server as administrator of the domain.
2. Insert the CD "6500 Unified Communications Installation Disc 2" in your Domain controller. The 6500 Unified Communications Setup Disk 2 window opens.
3. Click **Active Directory Snap-in**.
4. When the Install Welcome screen appears, click **Next**.
5. In the Snap-in Install Options window, select **Root Domain Server**, **Child Domain Server**, or **Administrator PC**.

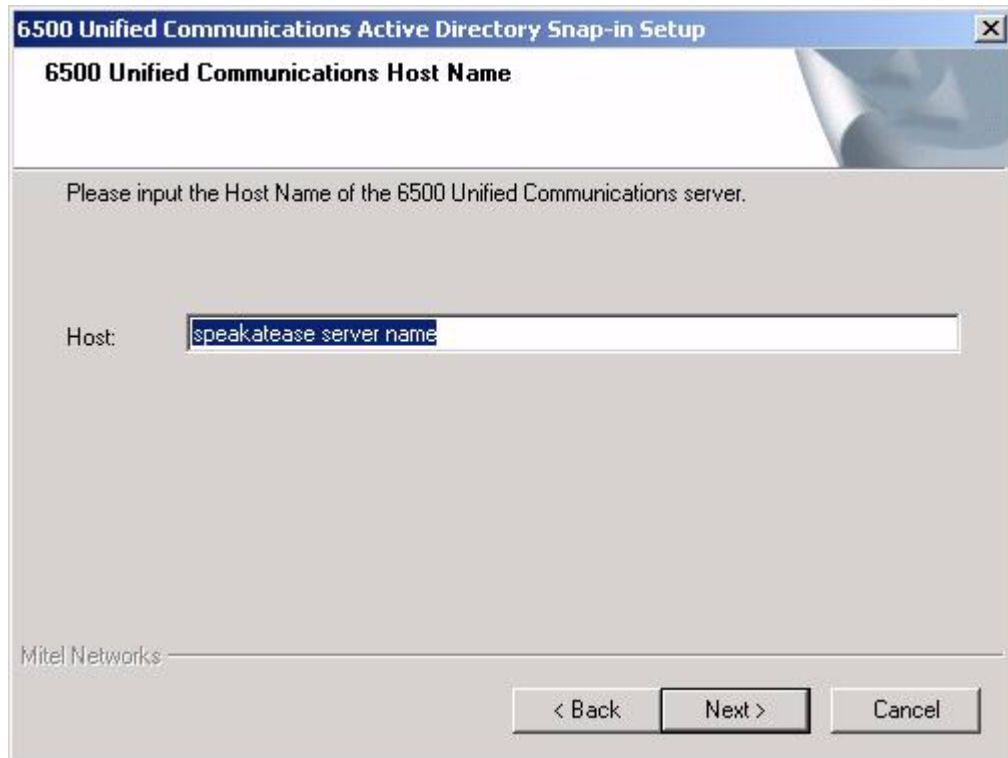


- If you selected Root Domain Server, enter the Domain name for the root Active directory server,
- If you selected Child Domain Server, enter the Domain name for the root Active directory server and enter the Domain name for the child Active Directory Server.

Note: Selecting Administrator PC, does not require you to enter Domain names.

6. Select the **Install Active Directory Snap-In** checkbox.
7. Click **Next**. The 6500 Unified Communications Host Name window opens.

8. Enter the host name of the 6500 server.



- Click **Next**. The Language Configuration window opens.



- In the Language Configuration window, select your language configuration. Select the language option that was purchased for your system (check your options sheet included with the system software).
 - For a unilingual system, click **Unilingual**, select your primary language, then click **Next**.
 - For a bilingual system, click **Bilingual**, select your primary and secondary languages, then click **Next**.
- When the Start Copying Files window appears, verify your settings. If any of the settings are incorrect, click **Back** to the appropriate window(s), correct the settings, then click **Next** to get back to this window. If all the settings are correct, click **Next**. The Setup Status window opens and a progress bar shows the installation taking place. When finished, the Setup Complete window opens.
- Click **Next**. The InstallShield Wizard Complete window opens.
- Click **Finish**.



Tip: To verify the install of the Active Directory component, open the Active Directory, Users and Computers window, select Properties for a user, and then select the SR Settings. Any errors are flagged with a template error window.

Installing the Exchange Server Component



Note: Ensure that you are logged into Exchange as “SpeakAdmin” on the Domain. Attempt to access the Exchange Drive:\domain\MBX\Systemmailbox folder. If the previous install section was done correctly you should be granted access.



Tip: Remain logged in as “SpeakAdmin” on the Domain as you will require an install from here. If this does not work correctly, see the procedure “Creating SpeakAdmin” on page 125.

Before you start the installation, know your:

- Exchange server administrator ID (SpeakAdmin)
- Exchange server administrator password (for SpeakAdmin)
- 6500 server name



Note: To confirm that your SpeakAdmin rights are verified, log into Exchange as “SpeakAdmin” on the Domain, and then attempt to access the “Exchange Drive:\domain\MBX\Systemmailbox” folder. The successful programming of SpeakAdmin rights will grant you access.

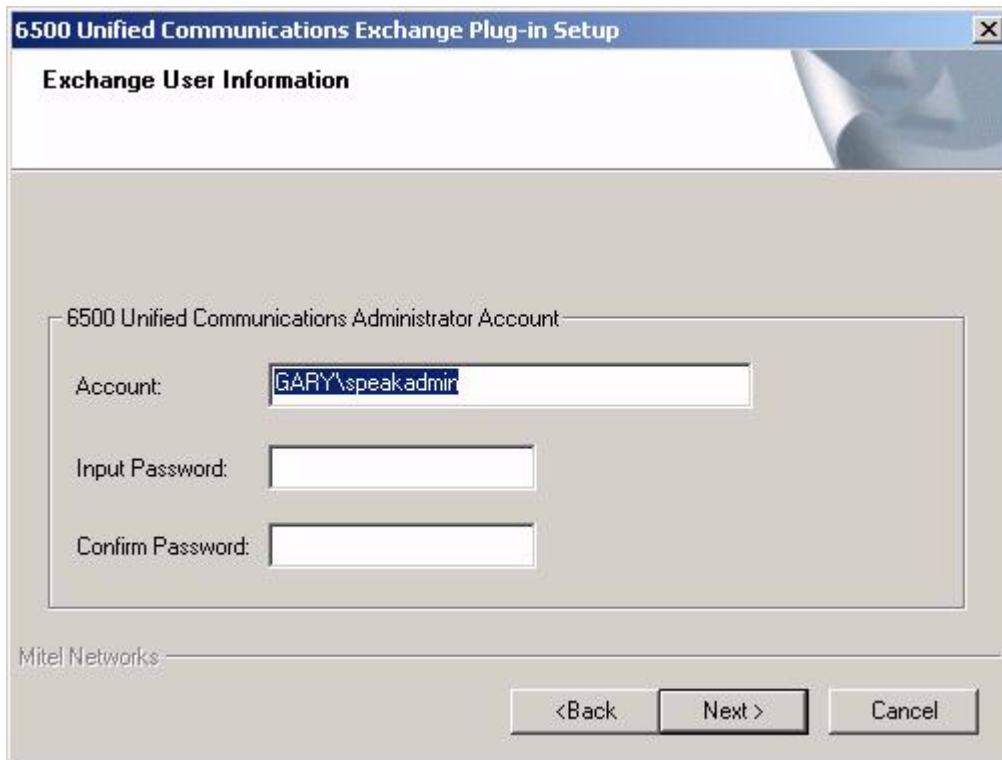


Note: The system requires you to uninstall the Exchange Server components in Add/Remove Programs before re-installing or upgrading. See the following procedure.

To install the Exchange server components

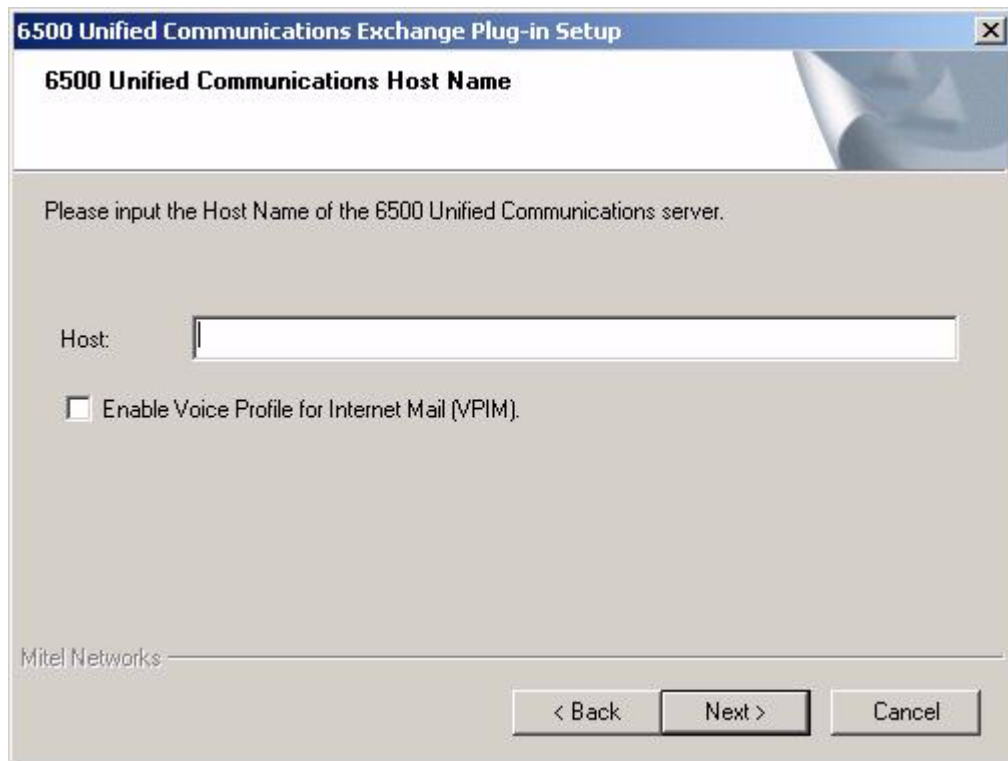
1. Open Add/Remove Programs (**Start, Settings, Control Panel, Add/Remove Programs**) in order to remove the current install of the Exchange Plug-in.
2. Select the **Exchange Plug-in** and click **Change/Remove**. The Exchange User Information window opens.
3. Ensure that the user name (Domain\SpeakAdmin) is present, type the SpeakAdmin password, confirm the password, and click **Next**. After the Exchange Plug-in software uninstalls, the Maintenance Complete window opens.
4. Click **Finish**.
5. In the Add/Remove Programs window, click **Close**.
6. Insert the CD “6500 Unified Communications Installation Disc 2” into the Exchange server. The 6500 Unified Communications Setup Disk 2 window opens.
7. Click **Exchange Plug-in**. A welcome screen opens. Check that you are logged in as SpeakAdmin.
8. Click **Yes** to confirm that you are logged in as SpeakAdmin. A welcome window opens.

9. Click **Next**. The Exchange User Information window opens.



10. Ensure that the user name (Domain\SpeakAdmin) is present, type the SpeakAdmin password, confirm the password, and click **Next**. The Input Exchange Drive Name window opens.

11. If necessary, browse for your Exchange Server domain name. Click **Next**. The 6500 Unified Communications Host Name window opens.



12. Type the name of your 6500 server, then click **Next**.
13. If VPIM is required, select the **Enable Voice Profile for Internet Mail (VPIM)** check box.
14. When the Start Copying Files window appears, verify your settings. If any of the settings are incorrect, click **Back** to the appropriate window(s), correct the settings, then click **Next** to get back to this window. If all the settings are correct, click **Next**. The Enable DCOM window opens.
15. Click **Yes** to install DCOM. Com+ installs silently.
16. If you selected VPIM, the Installing VPIM Proxy Gateway window opens. Select the location for the VPIM Gateway that is suitable for the Exchange server.
17. Click **OK**. A DOS window opens.
18. Wait until the InstallShield Wizard Complete window opens.
19. Select **Yes I want to restart my computer now**, then click **Finish**.



Tip: Without the reboot, MWI works immediately, but DCOM-related procedures such as paging, notification, calendar, and task will not work until the Exchange server is rebooted.



Tip: To verify that SAEEventNotifier exists, open up the component services. Click **Start, Programs, Administrative Tools**, then **Component Services**. Expand the Component Services folder, the Computers folder, the My Computer folder, then the Com+ Applications folder. Look for the SAEEventNotifier folder.



Tip: To verify that saeSink was installed, ensure that you are able to see all the operating files (Tools, Folder Options, View tab, deselect Hide Protected Operating System Files, click Apply and then OK) and then login as SpeakAdmin and navigate to saeSink.dll (m:domain\MBX\System Mailbox\storee159vents\globalevents\saeSink).

Installing the 6500 Unified Messaging Software

To Install 6500 Unified Messaging for Digital Integration

You require

- Windows NT Administration rights
- The VTG VB-2007/2009 card serial number (5-digit number printed on a label that is affixed to the VTG VB-2007/2009 card faceplate)
- Domain name for the Active Directory server
- Exchange server name
- Active Directory server name
- SpeakAdmin password
- E-mail Address of the SpeakAdmin account
- Drive M folder name on the Exchange server



Note: Before you can install or enable the 6500 Unified Communications software, the security access module (SAM) must be installed on the parallel port of the server.

1. Login as the administrator on the 6500 server.
2. Insert the CD "6500 Unified Communications Application Software Disc 1" into the 6500 server. The 6500 Unified Communications Setup Disk 1 window opens.
3. Click **6500 UC Applications**. The installation starts. At the welcome window, click **Next**.
4. Read the Software Agreement License, then click **Yes**
5. In the Language Configuration window, select your language configuration. Ensure you select the language option that was purchased for your system (check your options sheet included with the system software).
 - For a unilingual system, click **Unilingual**, select your language, then click **Next**.
 - For a bilingual system, click **Bilingual**, select your primary and secondary languages, then click **Next**.

6. In the Hardware Configuration window, select the type of system you have:
 - For an 8-port system, select **VTG/NMS - Low Capacity**, then click **Next**.
 - For a 16-port system, select **VTG/NMS - High Capacity**, then click **Next**.
7. Select the type of PBX connected to the 6500 (**Mitel** or **Nortel Networks**).
8. Enter the 5-digit serial number(s) of the system's VTG VB-2007/2009 card(s). The serial number is written on a label affixed to the faceplate of the card.
9. Click **Next**.
10. Select **Unified Messaging**, Enter the domain name for the Active Directory server and the folder name in drive M, (for example, vlad.com and vlad.com).

If you have a VPIM-enabled voice mail server, select **Enable Voice Profile for Internet Mail**.
11. Click **Next**. The Configure Unified Messaging Settings window opens.
12. Enter the following information for **Directory Server** in the appropriate fields:
 - Host name
 - Administrator account user name (**SpeakAdmin**)
 - Administrator account password (for SpeakAdmin)
 - Password confirmation
13. To use the same administrator account user name and password for the mail server, select **Use same admin account**.
14. If required, enter the following information for **Mail Server** in the appropriate fields, then click **Next**:
 - Host name
 - Administrator account user name
 - Administrator account password
 - Password confirmation
 - Administrator account e-mail address
15. In the Choose Destination window, select the default folder or select another folder in which 6500 Attendant will be installed. Click **Next**.
16. In the Select Program Folder window, note the name of the default folder (recommended), or select a folder from the Existing Folders list. Click **Next**.
17. In the Start Copying Files window, review all your settings. To correct a setting, click **Back** until you reach the appropriate window, make the corrections, then click **Next** until you are back in this window.
18. Click **Next**. The installation program copies the required system and application files from the CD into the target directories on the server. This will take a few minutes. The system reboots automatically.
19. Login as "Administrator". The installation continues.

20. When prompted, remove the CD and replace it with the CD "6500 Unified Communications Application Software Disc 2", then click **OK**. The installation continues.
21. When the LDAP Server Setup welcome window appears, click **Continue**.
22. In the Select Application Folder window, change the destination folder if needed, then click **Next**. If you get a message asking you if you want to create the new directory, click **Yes**.
23. At the Setup Was Successful window, click **Close**. The 6500 Unified Communications Log window opens.
24. Click **Next**.
25. When the "InstallShield Wizard Complete" window appears, select **Yes, I want to restart my computer now**, then **Finish**. The 6500 server reboots.
26. Login as "Administrator". The RunOnce DOS screen opens and two Microsoft Internet Explorer Pre-compilation windows open.



Tip: If you are launching Microsoft Internet Explorer for the first time, the Internet Connect Wizard window opens. For instructions on how to set up the internet connection, see , on page 166.

27. Each pre-compilation window opens a dialog window to tell you when the compiling is finished. Click **OK** to close these dialog windows when they appear.
28. When the RunOnce DOS screen asks you if you want to delete the old directories, press **Y**, then ENTER (if you have a bilingual system, you must type **Y** twice). The setup continues.



Timer: The setup may take several minutes, with no visible actions occurring.

29. Two errors (Nuance database errors) will appear in the resulting DOS screen. This is normal, as this install creates a new database and removes old tables. If you are reinstalling the system, you may not see any errors. Press any key to continue.
30. If you enabled VPIM, the DOS window shows an error that the SMTP port is not set for VPIM. The error reads "The service did not respond to the start or control request in a timely fashion". Ignore this error. The Configuration Wizard starts automatically and will fix this error.



Note: The Configuration Wizard automatically launches for all 6500 Unified Messaging installations.

31. Run the Configuration Wizard.

To apply the Configuration Wizard

The Configuration Wizard is a tool that automatically reconfigures the 6500 system to operate in a new environment for 6500 Unified Messaging.

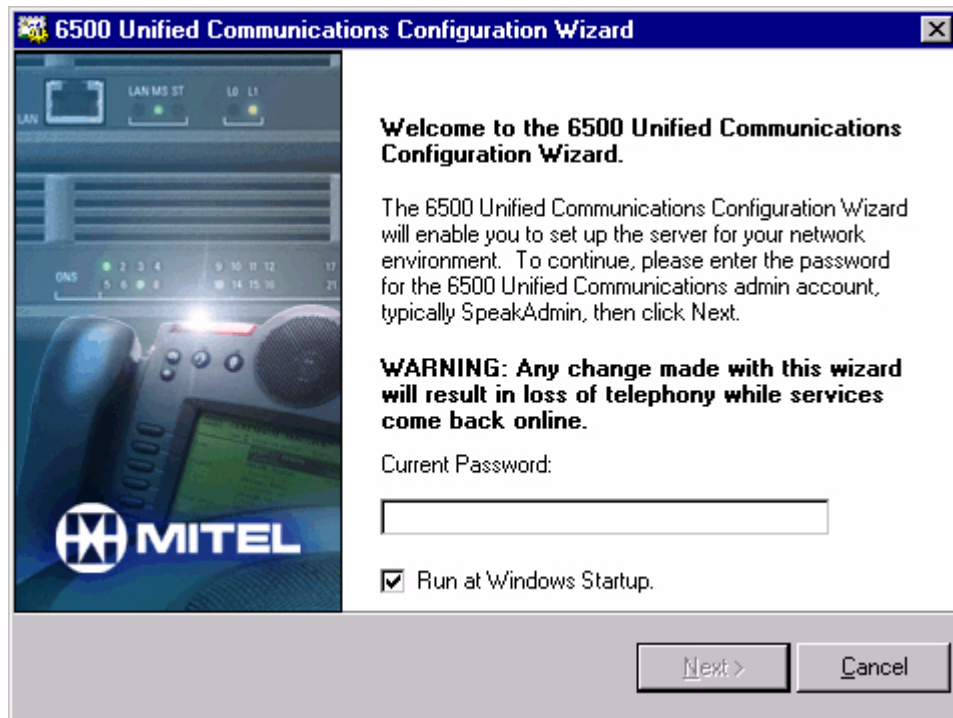


Tip: For extra information use the mouse-over feature on the entry for each field and use the help file with the Configuration Wizard. If you press F1, the system launches the help file.



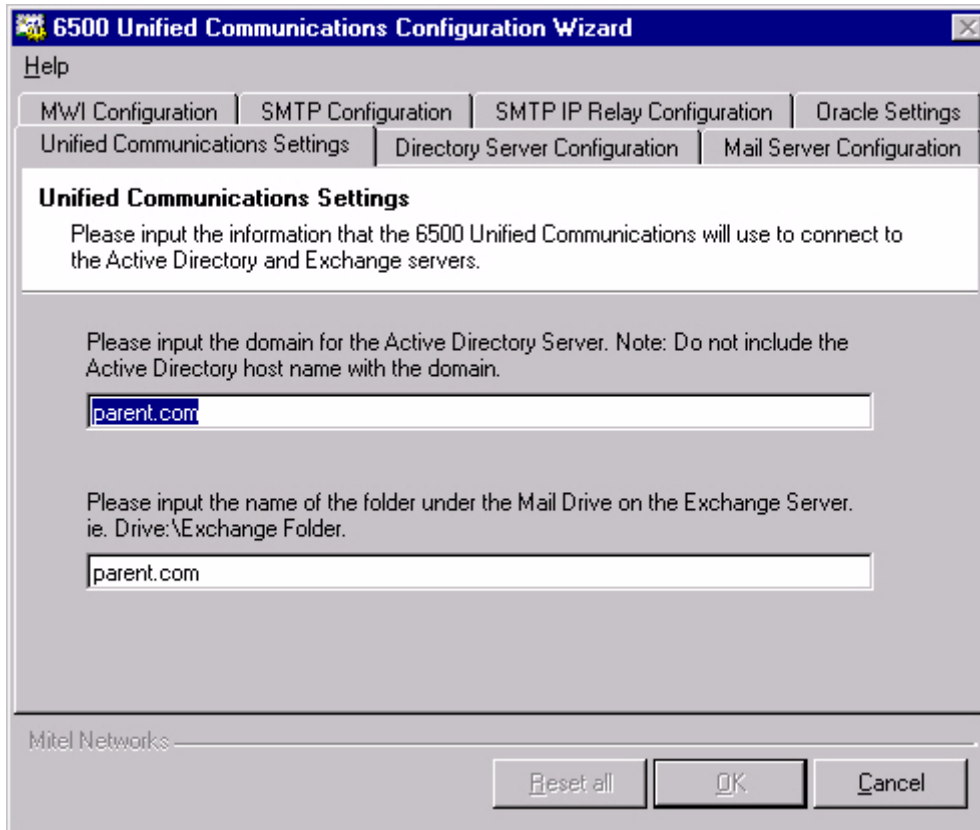
Note: Mitel Networks recommends using SpeakAdmin for the administrator account of the Active Directory server and the Exchange server. The default password for SpeakAdmin is admin. You have the option to change this password with the Configuration Wizard.

1. Launch the Configuration Wizard (click **Start, Programs, Mitel Networks, Speech Recognition**, then **Configuration Wizard**). A welcome screen opens.



2. In the **Current Password** box, type the administration password for SpeakAdmin (default is admin). SpeakAdmin is the administrator of the Active Directory account.
3. If you want the Configuration Wizard to open everytime you reboot the server, select the **Run at Windows Startup** check box.
4. Click **Next**.

5. Under the **Unified Communications Settings** tab (default), verify that the Active Directory domain name and Exchange server mail drive settings are correct (make the necessary changes if needed).



- Click the **Directory Server Configuration** tab, and verify that the **Host name** and **Admin Account** settings are correct (make the necessary changes if needed).

The screenshot shows the '6500 Unified Communications Configuration Wizard' window. The 'Directory Server Configuration' tab is selected. The window title is '6500 Unified Communications Configuration Wizard'. Below the title bar is a 'Help' button. The main area contains several tabs: 'MWI Configuration', 'SMTP Configuration', 'SMTP IP Relay Configuration', 'Oracle Settings', 'Unified Communications Settings', 'Directory Server Configuration', and 'Mail Server Configuration'. The 'Directory Server Configuration' tab is active, displaying the following content:

Configure Directory Server
Please input the Host Name, Account Name and Password that you will use to connect to the Active Directory Server.

Host Name:

Admin Account:

Update Admin Account Password

Update Password

New Password:

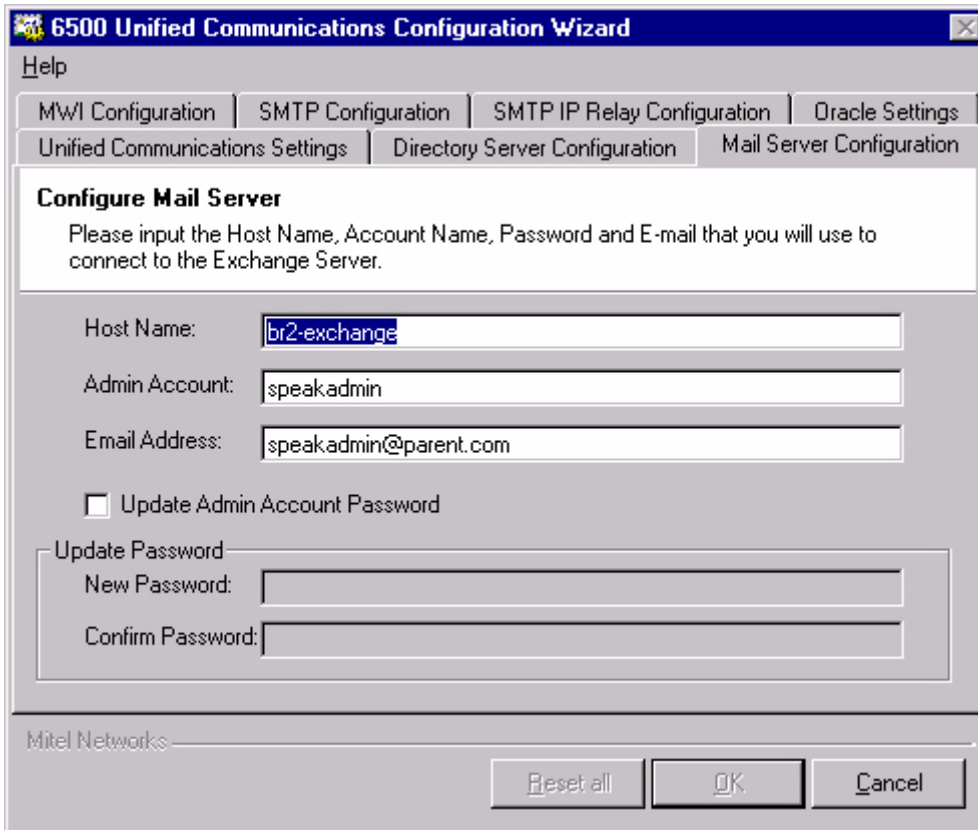
Confirm Password:

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Buttons: Reset all, OK, Cancel

To change the administrator password for the Active Directory account (speakadmin), select **Update Admin Account Password**, and type the new password in the **New Password** and **Confirm Password** boxes.

7. Click the **Mail Server Configuration** tab, and verify that the **Host name**, **Admin Account** and **Email Address** settings are correct (make the necessary changes if needed).



To change the administrator password for the Exchange account (speakadmin), select **Update Admin Account Password**, and type the new password in the **New Password** and **Confirm Password** boxes.

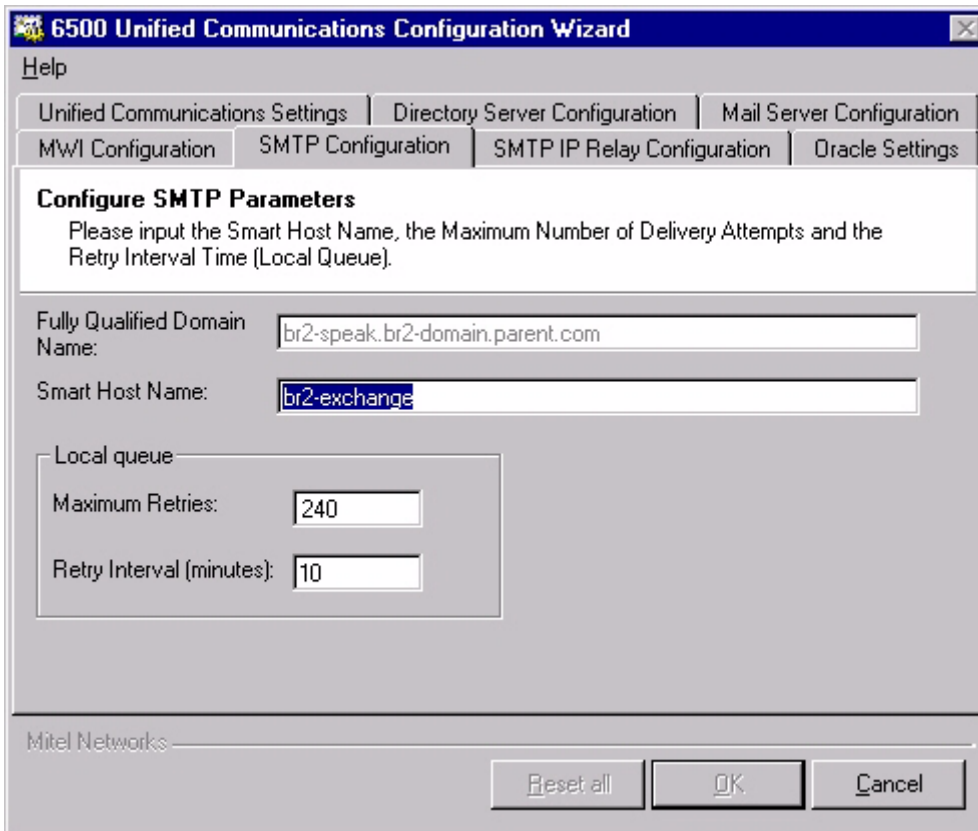
- Click the **MWI Configuration** tab, then configure the Message Waiting options for your system.



Note: If you want to reset all settings to their defaults, click **Reset All**.

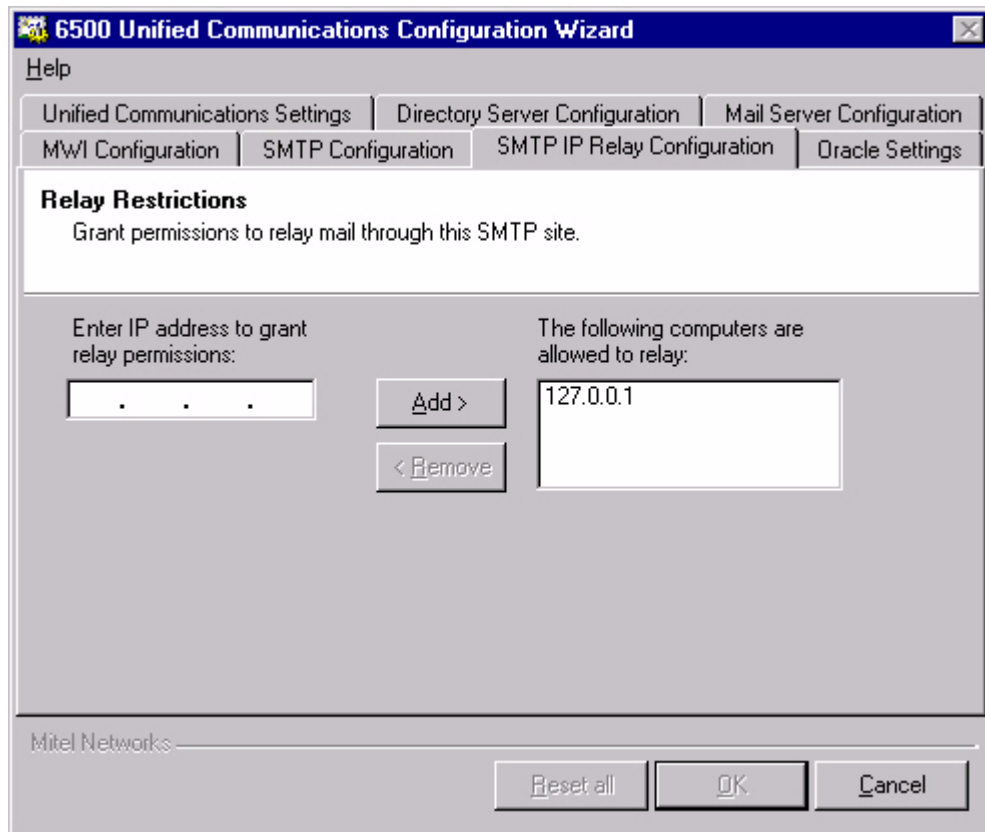
- Select the **MWI Control Mechanism** setting: **FeatureAccessCodes** (for SX-200, SX-2000, or Q.SIG systems), **VoiceBridge** (for Nortel Networks systems), or **MiTAI** (for 3300 ICP systems).
- Set the **Maximum Requeues** value.
- If applicable, set the **Routing Device #** (HCI hunt group for MiTAI).
- In **Feature Access Code Settings**, program the Message Waiting **On** and **Off** codes (for example, *88 and *89), and the **MWI Pause** value.
- In **Port Control Settings**, program the **Control Port ID(s)** (if you have more than one, separate them with commas), the **Port Hunt Mode** (**Terminal** or **Circular**), and the **Port Hunt Direction** (**HighToLow** or **LowToHigh**).

9. Click the **SMTP Configuration** tab, then configure the SMTP options:

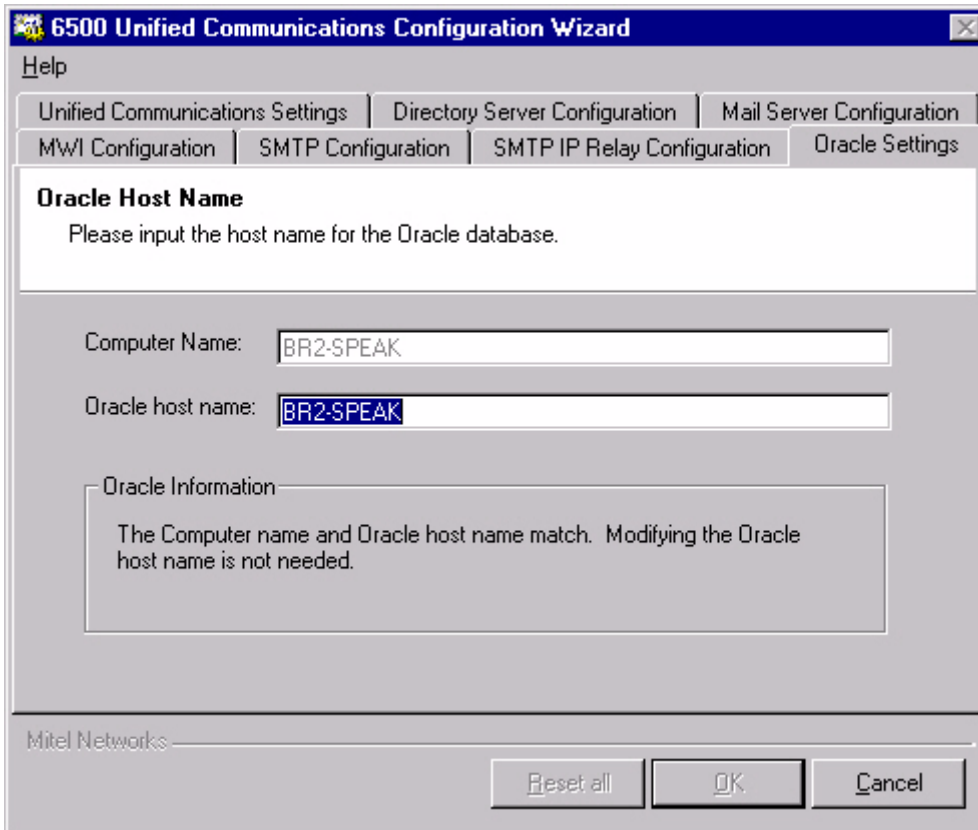


- Enter the **Smart Host Name** (the Exchange server name).
10. In **Local Queue**, enter the **Maximum Retries** and **Retry Interval** values.
- In Maximum retries, we recommend that you enter **240**. This number is the total number of message delivery attempts before the 6500 server considers the message undeliverable.
- In Retry Interval, we recommend that you enter **10** (minutes). The number for the Retry Interval defines the amount of time that the 6500 server will wait before attempting delivery of the voice mails to the Exchange server.
- In conjunction with the Retry Interval number, the 6500 server will attempt to deliver the message every 10 minutes. These settings are configurable on a per site basis, and should be discussed with the customer.


11. Click the **SMTP IP Relay Configuration** tab. Enter **127.0.0.1** in the **Enter IP address to grant relay permissions** box, click **Add**.



12. Click the **Oracle Settings** tab, check that the 6500 server name is in the **Computer Name** box and if the two name do not match, enter the 6500 server name in the **Oracle Host Name** box.




13. Click **OK**, and then **YES** to save all your changes. A progress bar opens and the 6500 Unified Communications Configuration Wizard Complete window opens when the configuration is complete.

 **Note:** If you want to see the configuration log file, select the **View Configuration Wizard Log File** check box before clicking **Close** in the next step.

14. Click **Close**.

 **Note:** The Configuration Wizard automatically stops and restarts all of the services.

 **Tip:** Proceed to the procedure “To configure NMS for Digital Integration” on page 156 (if applicable) and then “Restoring the Customer Database” on page 157.

To Install 6500 Unified Messaging for IP Integration

You require:

- Windows NT Administration rights
- Domain name for the Active Directory server
- Exchange server name
- Active Directory server name
- SpeakAdmin password
- E-mail Address of the SpeakAdmin account
- M: drive folder name on the Exchange server
- The IP address of the 3300 ICP



Note: Before you can install or enable the 6500 Unified Communications software, the security access module (SAM) must be installed on the parallel port of the server.

1. Login as the administrator on the 6500 server.
2. Insert the CD "6500 Unified Communications Application Software Disc 1" into the 6500 server. The 6500 Unified Communications Setup Disk 1 window opens.
3. Click **6500 UC Applications**. The installation starts. At the welcome window, click **Next**.
4. Read the Software Agreement License, then click **Yes**
5. In the Language Configuration window, select your language configuration. Ensure you select the language option that was purchased for your system (check your options sheet included with the system software).
 - For a unilingual system, click **Unilingual**, select your language, then click **Next**.
 - For a bilingual system, click **Bilingual**, select your primary and secondary languages, then click **Next**.
6. In the Hardware Configuration window, select **Mitel Networks 3300 ICP**, then click **Next**.
7. In the Mitel Networks 3300 configuration window, type the IP address of the 3300 ICP, and then click **Next**.
8. Select **Unified Messaging**, Enter the domain name for the Active Directory server and the folder name in drive M, (for example, vlad.com and vlad.com).

If you have a VPIM-enabled voice mail server, select **Enable Voice Profile for Internet Mail**.

9. Click **Next**. The Configure Unified Messaging Settings window opens.
10. Enter the following information for **Directory Server** in the appropriate fields:
 - Host name
 - Administrator account user name (**SpeakAdmin**)
 - Administrator account password
 - Password confirmation

11. To use the same administrator account user name and password for the mail server, select **Use same admin account**.
12. Enter the following information for **Mail Server** in the appropriate fields, then click **Next**:
 - Host name
 - Administrator account user name
 - Administrator account password
 - Password confirmation
 - Administrator account e-mail address
13. In the Choose Destination window, accept the default folder or browse to another folder. Click **Next**.
14. In the Select Program Folder window, note the name of the default folder (recommended), or select a folder from the Existing Folders list. Click **Next**.
15. In the Start Copying Files window, review all your settings.
16. Click **Next**. The installation program copies the required system and application files from the CD into the target directories on the server. This will take a few minutes. The system reboots automatically.
17. Login as "Administrator". The installation continues.
18. When prompted, remove the CD and replace it with the CD "6500 Unified Communications Application Software Disc 2", then click **OK**. The installation continues.
19. On the Disk 2 Setup screen, click **Finish**.
20. When the LDAP Server Setup welcome window appears, click **Continue**.
21. In the Select Application Folder window, change the destination folder if needed, then click **Next**. If you get a message asking you if you want to create the new directory, click **Yes**.
22. At the Setup Was Successful window, click **Close**. The Mitel Phone Emulation window opens.
23. Select **3300** for the **Host Type**, and change the **IP address** to the 3300 ICP's IP address.
24. Right-click in the bottom frame (below **Phone DN** and **Phone ID**), and select **Insert**. For each port that the 6500 Attendant will use, type the port number, then click **Apply**. When you are done, click **Cancel**.



Note: These ports must already be configured as 5020 IP sets on the 3300 ICP.

25. Click **OK**. TAPI installs, then the Mitel Device Properties window opens.
26. Right-click in the large window, then click **Select from IP Phone List**. The Select IP Phone List opens.
27. Shift-select each Prime DN from the list (this list should match all DN's entered into the IP Phone Emulator), then click **OK** twice. A warning window opens.
28. Click **Yes to accept PBX confirmation**, then **OK**. The Mitel Remote Access Settings window opens.
29. Change the **Machine Name of Remote PBX Server** to the IP address of the 3300 ICP system.

30. Click **OK**. The log file window opens.
31. Click **Next**. The “InstallShield Wizard Complete” window opens. **DO NOT REBOOT**. Select **No, I will start my computer later**, then click **Finish**.
32. Program the Multimedia Settings.
 - Open the Multimedia control panel (click **Start, Settings, Control**, then open **Multimedia**). The Multimedia Properties window opens.
 - In the **Audio** tab, select **None** for **Preferred device** in both the **Playback** and **Recording** sections.
 - Select **Use preferred devices only**.
 - Click **Apply**, then **OK**.
33. Program the Windows Sound Systems.
 - Open the Sounds control panel (click **Start, Settings, Control**, then open **Sounds**). The Sounds Properties window opens.
 - In the Schemes section, select **No Sounds** from the drop-down list. The Save Scheme window opens.
 - Click **No** to save the previous scheme, **Apply**, and then **OK**.
34. Reboot your computer, and login as “Administrator”. The RunOnce DOS screen opens and two Microsoft Internet Explorer Pre-compilation windows open.



Tip: If you are launching Microsoft Internet Explorer for the first time, the Internet Connect Wizard window opens. For instructions on how to set up the internet connection, see , on page 166.

35. Each pre-compilation window opens a dialog window to tell you when the compiling is finished. Click **OK** to close these dialog windows when they appear.
36. When the RunOnce DOS screen asks you if you want to delete the old directories, press **Y**, then **ENTER** (if you have a bilingual system, you must type **Y** twice). The setup continues.



Timer: The setup may take several minutes, with nothing seeming to happen.

37. Two errors (Nuance database errors) will appear in the resulting DOS screen. This is normal, as this install creates a new database and removes old tables. If you are reinstalling the system, you may not see any errors. Press any key to continue.
38. If you enabled VPIM, the DOS window shows an error that the SMTP port is not set for VPIM. The error reads “The service did not respond to the start or control request in a timely fashion”. Ignore this error. The Configuration Wizard starts automatically and will fix this error.



Note: The Configuration Wizard automatically launches for 6500 Unified Messaging installations.

39. Run the Configuration Wizard. Refer to the following procedure.

To apply the Configuration Wizard

The Configuration Wizard is a tool that automatically reconfigures the 6500 system to operate in a new environment for 6500 Unified Messaging.

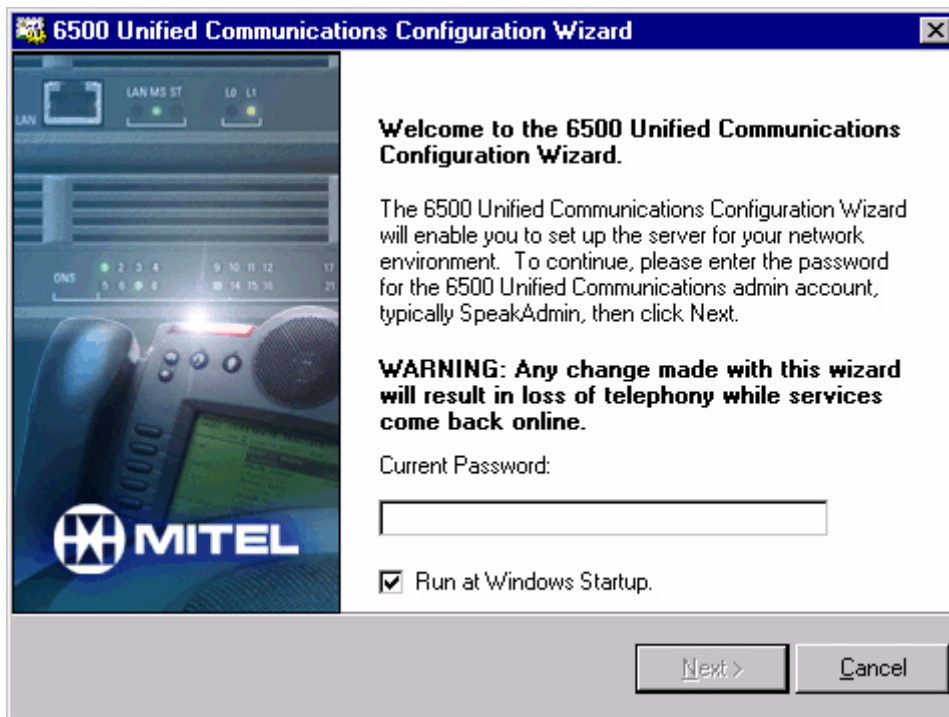


Tip: For extra information use the mouse-over feature on the entry for each field and use the help file with the Configuration Wizard. If you press F1, the system launches the help file.



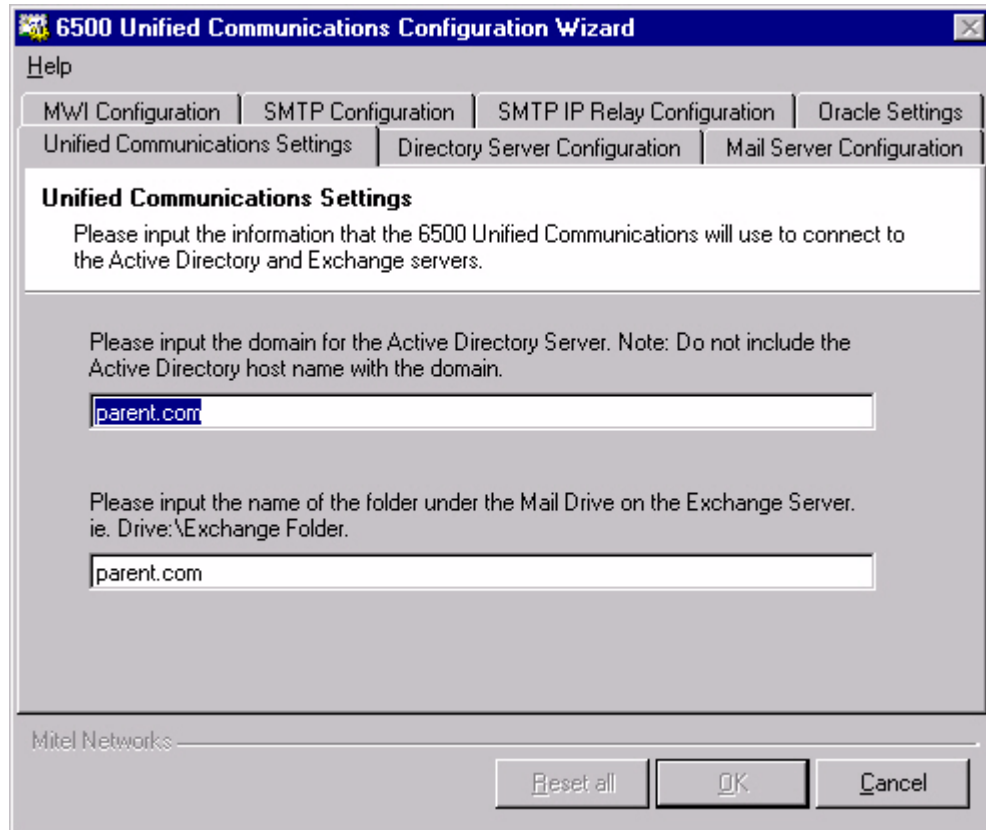
Note: Mitel Networks recommends using SpeakAdmin for the administrator account of the Active Directory server and the Exchange server. The default password for SpeakAdmin is admin. You have the option to change this password with the Configuration Wizard.

1. Launch the Configuration Wizard (click **Start, Programs, Mitel Networks, Speech Recognition, then Configuration Wizard**). A welcome screen opens.



2. In the **Current Password** box, type the administration password for SpeakAdmin (default is admin). SpeakAdmin is the administrator of the Active Directory account.
3. If you want the Configuration Wizard to open everytime you reboot the server, select the **Run at Windows Startup** check box.
4. Click **Next**.

5. Under the **Unified Communications Settings** tab (default), verify that the Active Directory domain name and Exchange server mail drive settings are correct (make the necessary changes if needed).



The screenshot shows a Windows-style dialog box titled "6500 Unified Communications Configuration Wizard". It has a "Help" button and several tabs: "MWI Configuration", "SMTP Configuration", "SMTP IP Relay Configuration", "Oracle Settings", "Unified Communications Settings" (which is selected), "Directory Server Configuration", and "Mail Server Configuration".

Unified Communications Settings

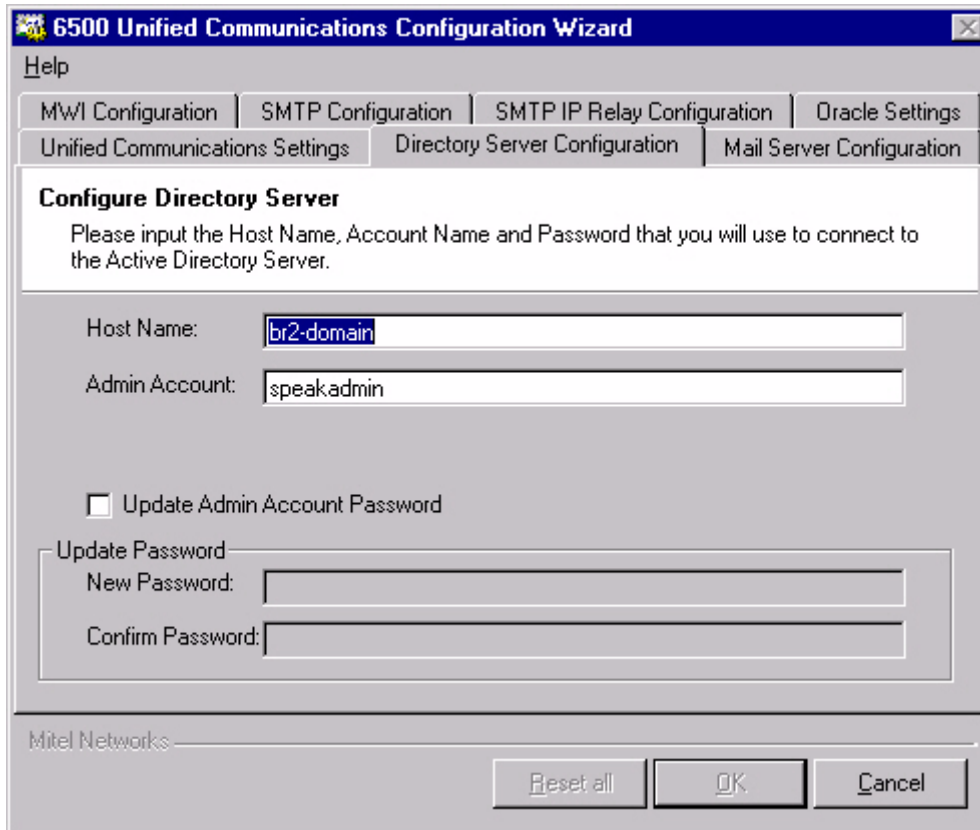
Please input the information that the 6500 Unified Communications will use to connect to the Active Directory and Exchange servers.

Please input the domain for the Active Directory Server. Note: Do not include the Active Directory host name with the domain.

Please input the name of the folder under the Mail Drive on the Exchange Server. ie. Drive:\Exchange Folder.

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6. Click the **Directory Server Configuration** tab, and verify that the **Host name** and **Admin Account** settings are correct (make the necessary changes if needed).



To change the administrator password for the Active Directory account (speakadmin), select **Update Admin Account Password**, and type the new password in the **New Password** and **Confirm Password** boxes.

7. Click the **Mail Server Configuration** tab, and verify that the **Host name**, **Admin Account** and **Email Address** settings are correct (make the necessary changes if needed).

The screenshot shows the '6500 Unified Communications Configuration Wizard' window. The 'Mail Server Configuration' tab is selected. The window title is '6500 Unified Communications Configuration Wizard'. Below the title bar, there are several tabs: 'MWI Configuration', 'SMTP Configuration', 'SMTP IP Relay Configuration', 'Oracle Settings', 'Unified Communications Settings', 'Directory Server Configuration', and 'Mail Server Configuration'. The main content area is titled 'Configure Mail Server' and contains the following text: 'Please input the Host Name, Account Name, Password and E-mail that you will use to connect to the Exchange Server.' Below this text are three input fields: 'Host Name' with the value 'br2-exchange', 'Admin Account' with the value 'speakadmin', and 'Email Address' with the value 'speakadmin@parent.com'. There is a checkbox labeled 'Update Admin Account Password' which is currently unchecked. Below the checkbox is a section titled 'Update Password' containing two input fields: 'New Password' and 'Confirm Password'. At the bottom of the window, there are three buttons: 'Reset all', 'OK', and 'Cancel'. The 'Mitel Networks' logo is visible in the bottom left corner.

To change the administrator password for the Exchange account (speakadmin), select **Update Admin Account Password**, and type the new password in the **New Password** and **Confirm Password** boxes.

- Click the **MWI Configuration** tab, then configure the Message Waiting options for your system.



Note: If you want to reset all settings to their defaults, click **Reset All**.

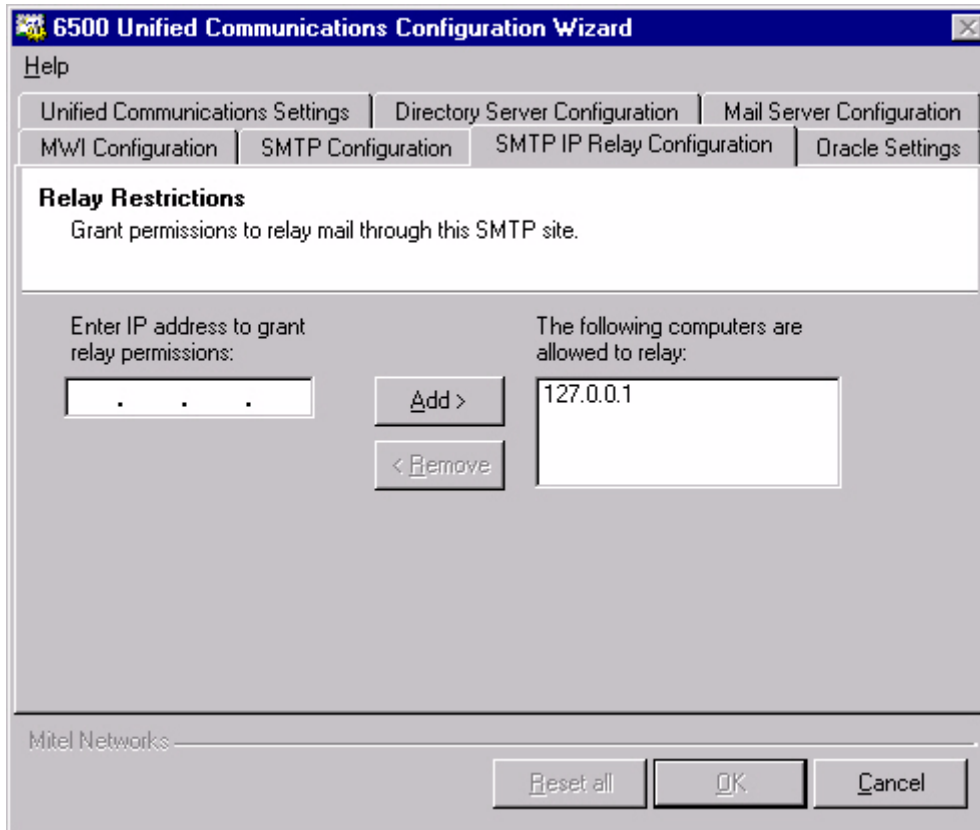
- Select the **MWI Control Mechanism** setting: **FeatureAccessCodes** (for SX-200, SX-2000, or Q.SIG systems), **VoiceBridge** (for Nortel Networks systems), or **MiTAI** (for 3300 ICP systems).
- Set the **Maximum Requeues** value.
- If applicable, set the **Routing Device #** (HCI hunt group for MiTAI).
- In **Feature Access Code Settings**, program the Message Waiting **On** and **Off** codes (for example, *88 and *89), and the **MWI Pause** value.
- In **Port Control Settings**, program the **Control Port ID(s)** (if you have more than one, separate them with commas), the **Port Hunt Mode** (**Terminal** or **Circular**), and the **Port Hunt Direction** (**HighToLow** or **LowToHigh**).

- Click the **SMTP Configuration** tab, then configure the SMTP options:

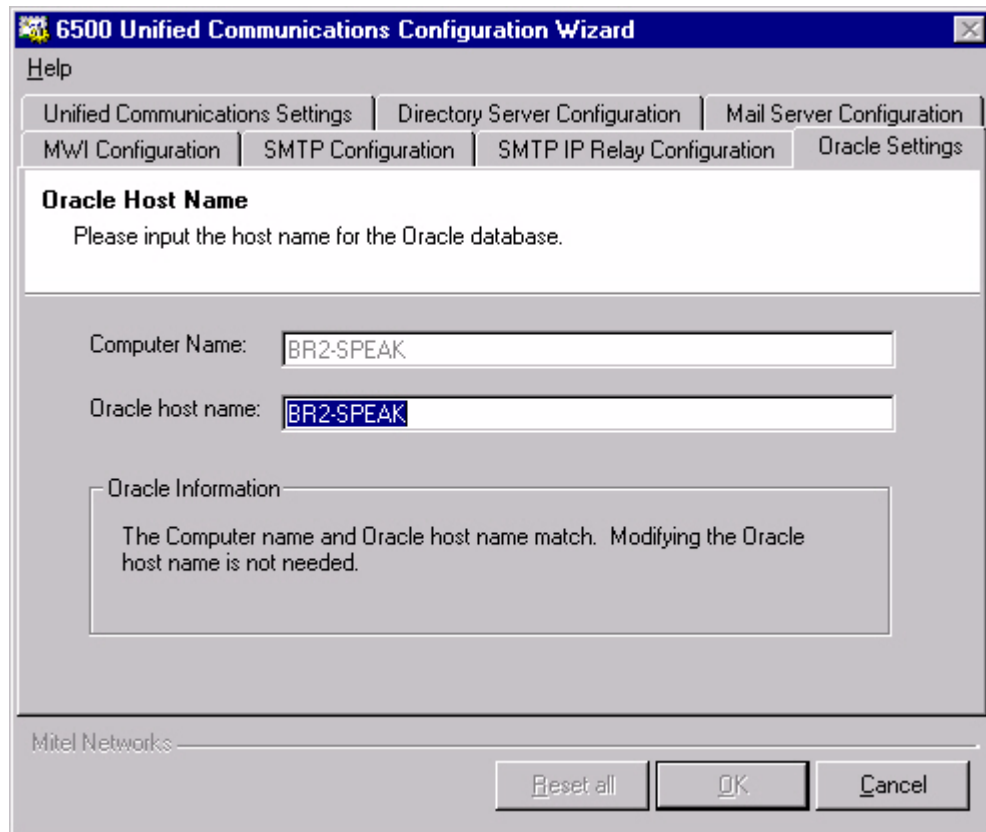
The screenshot shows the '6500 Unified Communications Configuration Wizard' window. The 'SMTP Configuration' tab is selected. The window title is '6500 Unified Communications Configuration Wizard'. The tabs at the top are: Unified Communications Settings, Directory Server Configuration, Mail Server Configuration, MWI Configuration, SMTP Configuration (selected), SMTP IP Relay Configuration, and Oracle Settings. The main content area is titled 'Configure SMTP Parameters' and contains the following text: 'Please input the Smart Host Name, the Maximum Number of Delivery Attempts and the Retry Interval Time (Local Queue)'. Below this text are three input fields: 'Fully Qualified Domain Name:' with the value 'br2-speak.br2-domain.parent.com', 'Smart Host Name:' with the value 'br2-exchange', and a 'Local queue' section containing 'Maximum Retries:' with the value '240' and 'Retry Interval (minutes):' with the value '10'. At the bottom of the window, there are three buttons: 'Reset all', 'OK', and 'Cancel'. The 'Mitel Networks' logo is visible in the bottom left corner.

- Enter the **Smart Host Name** (the Exchange server name).
- In **Local Queue**, enter the **Maximum Retries** and **Retry Interval** values.
In Maximum retries, we recommend that you enter **240**. This number is the total number of message delivery attempts before the 6500 server considers the message undeliverable.
In Retry Interval, we recommend that you enter **10** (minutes). The number for the Retry Interval defines the amount of time that the 6500 server will wait before attempting delivery of the voice mails to the Exchange server.
In conjunction with the Retry Interval number, the 6500 server will attempt to deliver the message every 10 minutes. These settings are configurable on a per site basis, and should be discussed with the customer.

11. Click the **SMTP IP Relay Configuration** tab. Enter **127.0.0.1** in the **Enter IP address to grant relay permissions** box, click **Add**.



- Click the **Oracle Settings** tab, check that the 6500 server name is in the **Computer Name** box and if the two name do not match, enter the 6500 server name in the **Oracle Host Name** box.



The screenshot shows the '6500 Unified Communications Configuration Wizard' window. The 'Oracle Settings' tab is selected. The 'Oracle Host Name' section contains the text: 'Please input the host name for the Oracle database.' Below this, there are two text input fields: 'Computer Name' with the value 'BR2-SPEAK' and 'Oracle host name' with the value 'BR2-SPEAK'. A message box titled 'Oracle Information' displays the text: 'The Computer name and Oracle host name match. Modifying the Oracle host name is not needed.' At the bottom of the window, there are three buttons: 'Reset all', 'OK', and 'Cancel'.

- Click **OK**, and then **YES** to save all your changes. A progress bar opens and the 6500 Unified Communications Configuration Wizard Complete window opens when the configuration is complete.



Note: If you want to see the configuration log file, select the **View Configuration Wizard Log File** check box before clicking **Close** in the next step.

- Click **Close**.



Note: The Configuration Wizard automatically stops and restarts all of the services.

Combining Administration Access (optional)

This procedure allows you to add the 6500 Unified Communications to the MMC console, giving you a single administration access point for Active Directory, the 6500 Admin Web Page, and the Exchange Server. This combined access point provides ease of use and is optional to the administrator.

To provide a single access point for administration

1. Open MMC on the Exchange Server or the Domain Controller (Active Directory Server). (click **Start**, **Run**, type **MMC**, then click **OK**).
2. From the main menu bar, select **Console**, then **Add/Remove Snap-in**.
3. In the Add/Remove Snap-in window, click **Add**, select **Active Directory Users and Computers**, then click **Add**.
4. Select **Exchange System**, then click **Add**. The Change Domain Controller window opens.
5. Select your Exchange Org name (for example, gexchange.dave.com) in the bottom window, then click **OK**.
6. Select **Link to Web Address**, then click **Add**.
7. In the Link to Web Address window, type the URL of the 6500 server in the Target box, using the format "http://your 6500server name/mmc.asp?pass=your admin password".
8. Click **Next**.
9. In the Select a name for the URL reference box, type **SpeakatEase Administration**.
10. Click **Finish**, **Close**, then **OK**. The Console Root window shows the Active Directory users and SpeakatEase Administration.

Configuring NMS for Digital Integration



Note: Configuring NMS applies only to TS1400 or TS1404 Applications Servers for Digital integration.

This procedure ensures that the 6500 Unified Communications software will identify and install the AG-2000 card(s) into the system.

To configure NMS for Digital Integration

1. Stop the **agmon** service (click **Start**, **Control Panel**, then **Services**).
2. Select **Start**, **Programs**, **Command Prompt**.
3. Type **blocate**. The example below shows results with 2 boards.

```
Fri Nov 09 12:27:48      There was 2 NMS AG PCI card detected
BUS      SLOT      INTERRUPT
02       14       0x9 (Board 0)
02       12       0xa (Board 1)
```

4. Open Notepad (click **Start**, **Programs**, **Accessories**, then **Notepad**).
5. In the **File** menu, select **Open**, and navigate to C:\Speakatease\Autoattendant\config. Select **view all file types**.

6. Open the **ag2000.cfg** file.
7. Scroll down to “BOARDS section” and add the correct slot and bus numbers for Board 0 matching with what was found by blocate. Modify Board 1 if there is a second card (see the example below).

```
#----- BOARDS section -----
Board 0
PCIBUS = 2
PCISLOT = 12
ClockRef = MVIP # Change to OSC for standalone operation
EnableMvip = YES # Change to YES if there is an MVIP bus
# MVIP95slot = 1:0..7
End Board

# Uncomment for second board.
Board 1
PCIBUS = 2
PCISLOT = 14
ClockRef = MVIP # Change to OSC for standalone operation
EnableMvip = YES # Change to YES if there is an MVIP bus
# End Board
```

8. Save the file and close Notepad. Close the Command Prompt window.
9. Open the file admon.bat (click **Start, Run, Browse**, navigate to **C:\speakatease\batch\agmon.bat**, click **Open**, then **OK**).
10. Verify all boards installed boot without error. The example below shows results with 2 boards.

```
Booting board 0...
Info:
Loading QSLAC file C:\NMS\AG\LOAD\a2usa.slc           458
(09/05/01 16:17)


Done.
Booting board 1...
Done
```

11. Press F3 when finished, then any key to continue.
12. Start the **agmon** service (click **Start, Control Panel**, then **Services**).
13. Close the **Services** and **Control Panel** windows.


Restoring the Customer Database

To restore the customer database


1. Open Backup and Restore (click **Start, Programs, Mitel Networks, Speech Recognition**, then **Backup and Restore**). The Backup and Restore window opens.
2. Click the **Restore** tab.
3. Click **Browse**, then navigate to the desired file folder.


 **Note:** Ensure that you have selected the desired folder, and that you are not inside the folder that you want to restore.

4. Click **Start**.
5. Reboot the system after the restore.

 **Note:** In the Admin Web page (on the 6500 server: **Start, Programs, Mitel Networks, Speech Recognition, Administration**. Default user name: **Administrator**, default password: **1234567890**), select **System Configuration, System Properties, Exchange 2000**, then scroll down to **SMTP Server**. Check to see that **localhost** is in the **Value** box. If it is not, type it in, then click **Save**.

If you are upgrading from a 6500 Attendant system to a 6500 Unified Messaging system, remember to go into the Admin Web Page to configure the system for MWI. (to set up Internet Explorer for the Admin Web Page, see the procedure “To set up Internet Explorer for the Admin Web Page” on page 82.

 **Note:** If you are adding new functionality, remember to update the license manager (Start/Programs/Mitel Networks/Speech Recognition/License Manager).

 **Note:** If you are adding fax integration, see “Customizing Outlook Security” on page 45.

Customizing Outlook Security

You must ensure that Microsoft Outlook security settings accept the Mitel Networks 6500 Multimedia Outlook Plug-in software and will not provide continuous security warnings. This requirement applies to Microsoft Outlook 2000 users with the security patch or Microsoft Outlook XP. The person that owns the Exchange folder on the Exchange server should set this up.

To customize the Microsoft Outlook security

1. On the Exchange server, open Exchange System Manager (click **Start, Programs, Microsoft Exchange**, then **System Manager**).
2. Open **Folders, Public Folders**, then **Outlook Security Settings**.
3. Right-click on **Outlook Security Settings**, and click **Properties**. The Outlook Security Settings Properties window opens.
4. Select **Permissions**, and click **Client Permissions**. The Client Permissions window opens.
5. Click **Add**. The Add Users window opens.
6. Select your name, and any other names that have permission to change the Outlook Security Settings from the list, click **Add**, then **OK**.
7. In the Client Permissions window, select the user(s) in the **Name and Role** list, and use the **Roles** drop-down menu to change the role from **Author** to **Owner**. Click **OK**, then **OK** again.

8. Use the computer of any of the users that you entered in the Client Permissions window, to quit and restart Microsoft Outlook. If the Folder List is not displayed, on the main menu click **View**, and then **Folder List**.
9. In the Folder list, open **Public Folders**, **All Public Folders**, then **Outlook Security Settings**.
10. In the top right pane, right-click on the file, **Default Security settings.off**.
11. Click **Open**. The Select Folder window opens.
12. Open **Public Folders**, **All Public Folders**, then **Outlook Security Settings**, and click **OK**. You may get a warning message asking you if you want to enable macros. Click **Enable Macros**. The Default Security Settings - Discussion window opens.
13. In the **Tools** menu bar, select **Forms**, then **Publish Form**. The Publish Form As window opens.
14. For both the **Display Name** and the **Form Name** boxes, enter **Outlook Security Form**, and click **Publish**.
15. If the system was customized for Outlook security before, a Microsoft Outlook Message opens stating "A form by this name already exists. Do you want to replace it? Click **Yes**. Close the window (with the **Close** (x) button in the top right corner). **DO NOT SAVE**. In the upper right pane of the Microsoft Outlook main window, open the published file, **Default Security Settings** (with the user name in the From column). The Default Security Settings - Outlook Security Form opens.

OR

If the system was not customized for Outlook security before, in the main menu, select **File, New, Choose form**. The Choose Form window opens. In the Look in drop-down menu, select **Outlook Security Settings**. Click **Open**.

16. Click on the **Programmatic Settings** tab, and select **Automatically approve** for **When accessing the address book via Outlook object model** and **When accessing address information via Outlook object model**.
17. Click **Close**, and save the changes.
18. Restart Microsoft Outlook.

Integrating Fax

Refer to the procedures in Chapter 1, Integrating Fax, on page 71.

Integrating VPIM

To integrate 6500 Unified Messaging and NuPoint Messenger, NuPoint Messenger must have the following options installed:

- NuPoint Messenger software version 7.0 RSD 3 or greater
- Network card
- TCP/IP software
- VPIM

NuPoint Messenger Configuration

Refer to the NuPoint Messenger documentation regarding VPIM configuration.

Keep the following points in mind when configuring the NuPoint Messenger to integrate with the 6500 server via VPIM:

- You must be able to ping by name the 6500 server from the NuPoint Messenger server.
- The 6500 server is the VPIM node, therefore use the fully qualified hostname of the 6500 server whenever a VPIM node hostname is required.
- Do not use prefixes for VPIM addresses arriving at the 6500 server. The 6500 user mailbox numbers must not include any prefix when leaving the NuPoint Messenger server. Enter "N" for no prefix when you are asked to "Select prefix to use [DNA]". This does not prevent you from using a prefix within the NuPoint Messenger server to group 6500 users under a particular Node Configuration and Digit Translation pair.
- The VPIM specification is for G.721 encoded audio. If you wish to use G.711 audio between the 6500 server and the NuPoint Messenger server, then program the NuPoint Messenger server as a "custom" node on the 6500 VPIM configuration screen and specify an "Encoding Format" of G.711.
- In "SMTP Receive Configuration", a "VPIM Speech Quality" lower than 32 results in noticeable audio degradation due to resampling artifacts. The default is 18, therefore by default you will hear a buzz in the background for VPIM messages. A quality vs. space savings tradeoff must be decided upon when adjusting this value.

6500 Unified Messaging Configuration



Tip: Configuring VPIM requires the VPIM Networking license.



Note: All VPIM users (including NuPoint Messenger users) must be identified with a VPIM address in the Active Directory Users and Computers window under the SR Settings tab. VPIM networking inter-works with 6500 users that are listed in a company directory on a 6500 Unified Messaging system. VPIM networking does not support the contacts that are in a personal directory.

Perform the following tasks on the 6500 Unified Messaging system to integrate the 6500 Unified Messaging system with NuPoint Messenger:

On the 6500 server

- In the Admin Web Page, provide the VPIM Configuration settings for each VPIM server (see page 161).

On the Active Directory server

- Set up a Mail Exchange (MX) record (see page 161).
- Provide a VPIM address for all of the VPIM users with the SR Settings tab in Users and Computers (see page 162).

On the Exchange server

- Ensure that you have selected the routing group for the VPIM Gateway during the procedure, To install the Exchange server components, on page 131.

To configure VPIM in the Admin Web Page

1. In the Administration frame, click **System Configuration**, and then **VPIM Configuration**.
2. Click **Add**.
3. Enter the fully qualified server name of the VPIM server, for example, *servername.mycompany.com*.
4. In the Server Type drop-down menu, select the type of server. Selecting **MN6500** or **NuPoint** tells the system to accept the default encoding type for that server.
5. If you selected **Other** as a server type, in the Encoding Type drop-down menu select **G.726**, **G.711 ulaw**, **G.711 alaw**, or **ASF/CELP**.
6. Click **Save**.
7. Repeat this procedure for each VPIM server in the voice mail network.



Note: To implement this configuration, you must stop and restart the VPIM Gateway service in Service Recovery Manager.

To set up a MX record for the Exchange Server

1. On the Active Directory server, click **Start, Programs, Administrative Tools**, and then **DNS**.
2. Select the domain in which the Exchange server resides. If the Exchange server does not have a host entry, right-click on the domain node, select **New Host**, provide the name and IP address, and click **Add Host**.
3. Right-click on the domain name of the Exchange server, and select **New Mail Exchanger**. The New Resource Record window opens.
4. Leave the **Host or domain field** blank so the system will use the Parent domain.
5. Enter or browse to the name of the mail server, for example *exchange.parent.com*.
6. Enter the Mail server priority, for example 10.

7. Click **OK**.
8. Restart **DNS** with **Services (Start, Programs, Administrative Tools, Services)** to apply the changes.

To define a VPIM address for the users in Active Directory

1. Log into the Active Directory Domain as Administrator.
2. Open the **Active Directory Users and Computers** window (click **Start, Programs, Administrative Tools**, then **Active Directory Users and Computers**).
3. Find the user in the list, right-click on their name, then select **Properties**.
4. Click the **SR Settings** tab.



Tip: Click on the Help button, to get more information about the SR Settings interface.

5. Define the Speech Recognition application for the user. A remote VPIM user is programmed with the Attendant application.
6. Select **General** in the pull-down menu.
7. In the VPIM Address field, enter the fully qualified host name, *servername.mycompany.com*. This name identifies the VPIM node that the user is assigned to. The same name is also entered in the Admin Web Page for the VPIM Configuration settings.
8. Click **Apply**, then **OK**.
9. Repeat this procedure for each VPIM user.

Distributing Multimedia Outlook Plug-in

The distribution and installation of the Mitel Networks 6500 Multimedia Outlook Plug-in involves copying the Outlook Plug-in folder to a shared folder, customizing the Outlook security, and distributing to the users an e-mail with the location of the shared folder and the name of the 6500 server name. To install the plug-in, the user must know their Personal Web Page login ID and password.



Note: The Mitel Networks 6500 Multimedia Outlook Plug-in requires the users to have Microsoft Outlook 2000 or Microsoft Outlook XP on their PC. The plug-in functions with the following operating systems: Windows 98, Windows 2000, Windows NT (with NT4 SP4 for greater), or Windows XP. Users must have a sound card and speakers. If they want to record voice messages, they should have a microphone connected to their PC.

To distribute the Multimedia Outlook Plug-in

1. Insert the CD "6500 Unified Communications Disc 2" into a server with a shared folder.
2. Click **Browse** on the welcome page, and locate the **Outlook Plugin** folder. Copy the files in the Outlook Plug-in folder into the shared folder.

3. Before your users install the 6500 Multimedia Outlook Plug-in, you must customize the security settings on the Exchange Server for Microsoft Outlook, so Microsoft Outlook accepts the plug-in software and does not give continuous security warnings. See the procedure “To customize the Microsoft Outlook security” on page 45.
4. Notify the users (must be using Microsoft Outlook 2000 or Microsoft Outlook XP) via e-mail that the plug-in is available at, and give them the address of the shared folder. Instruct them to double-click on the setup.exe file in the shared folder to install the plug-in. Give them also the name of the 6500 server. After the installation, the user must reboot their computer to activate the software changes. Tell them to open Outlook, and go into **Tools**, **Options**, then **Unified Messaging** to set their personal preferences. The user requires their Login ID and Password in order to program a link to their Personal Web Page.



Note: Audio playback with the Multimedia Outlook Plug-in is dependant on an audio card in the PC of the user and the PC connection to the Exchange Server.



Tip: The 6500 Multimedia Outlook Plug-in is not supported if the user launches 6500 Unified Messaging through Outlook Web Access (OWA). Mitel suggests that you install the Microsoft Outlook Multimedia Extension for the users so they have access to a playbar for their voice messages. For more information, see the Microsoft documentation.



Tip: For a simple local installation (for your personal use, or for anyone that has access to the 6500 Unified Communications Disk 2 CD), insert the Disk 2 into the server (the 6500 Unified Communications Setup window opens), click on the Multimedia Outlook Plug-in button, and follow the instructions.

Chapter | 3

General Maintenance

Setting up Internet Explorer

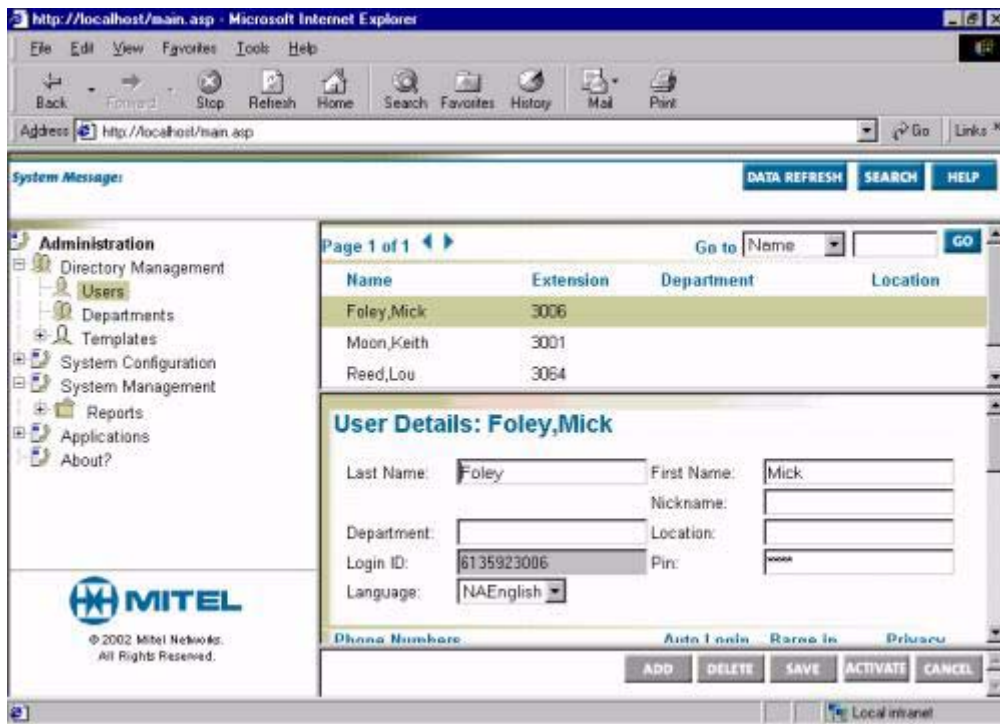
To set up Internet Explorer

1. Open **Internet Explorer**. The Internet Connect Wizard window opens.
2. Select **I want to set up my Internet connection manually, or I want to connect through a LAN**.
3. Click **Next**.
4. Select **I connect through a local area network**
5. Click **Next**.
6. Deselect **Automatic discovery of proxy server**.
7. Click **Next**.
8. Select **No** for setting up an Internet mail account now.
9. Click **Next**.
10. Click **Finish**.
11. In the **Tools** menu, select **Internet Options**.
12. In the **General** tab, click **Settings** in the **Temporary Internet Files** area.
13. Select **Every visit to the page**, then click **OK** twice.

Using the Admin Web Page

The Admin Web Page lets you

- Manage the directory
- Configure the system
- Manage the system
- Configure applications



For information on using the Admin Web Page, see the Admin Web Page help.

Opening the Admin Web Page

You can open the Admin Web Page from the Mitel Networks 6500 Unified Communications Server (click **Start, Programs, Mitel Networks, Speech Recognition**, then **Administration**), or from a user station with Microsoft Internet Explorer 5.5 or greater.

To access the Admin Web Page from a user station



Note: Only one administration session can be open at one time.

1. Go to a user station on the network (or to a telnet user).
2. Open Internet Explorer.
3. In the Address field, type **http://servername/default.asp**; where **servername** is the netbios name of the 6500 Server.
4. Press the ENTER key. The login page for the Admin Web Page opens.



Tip: Set a bookmark in your browser for this URL.

5. In the Login ID field, enter **administrator**.
6. Enter the administrator password (default administrator password is **1234567890**).
7. Click **Login** or press the ENTER key. The Admin Web Page opens.

Closing the Admin Web Page

1. Before you exit the 6500 Unified Communications Admin Web Page, ensure that you have applied and saved all your changes.
2. From the **File** menu in your browser, click **Close**.



Tip: If the Save function seems takes a long time, click **Save** again.

Managing Emergency Prompts

Unexpected situations require you to record emergency prompts and turn them on and off.

To record emergency prompts

If you set the 6500 Attendant in emergency mode, the emergency prompt is played to all calls that are placed to the 6500 Attendant.

1. From a touch tone (DTMF) telephone, call the 6500 Attendant.
2. After the 6500 Attendant answers, log into the system by saying "Login", then your login identification number (if you are calling from an auto login number, you will automatically be logged in).
3. Say "Administrative Function".
4. Dial the Administrator password (default is **1234567890**).
5. Say "Record emergency prompt".
6. Follow the system prompts to make your recording. The following is an example emergency prompt: "I'm sorry, Edwards Incorporated is closed because of the storm. Goodbye."
7. Say "Enable Emergency Mode".
8. Hang up.
9. To verify that you have recorded your emergency prompt properly:
 - Turn on the emergency prompt (see "To turn on/off the emergency prompt" below).
 - Call the 6500 Attendant from any number. The emergency prompt plays.
 - Turn off the emergency prompt (see "To turn on/off the emergency prompt" below).

To turn on/off the emergency prompt

During an emergency situation, you can set the 6500 Attendant in emergency mode. While in emergency mode, the 6500 Attendant plays a pre-recorded emergency prompt before the welcome greeting. The emergency prompt is played to all calls that are placed to the 6500 Attendant.

1. From a touch tone (DTMF) telephone, call the 6500 Attendant.
2. After the 6500 Attendant answers, log into the system by saying "Login", then your login identification number (if you are calling from an auto login number, you will automatically be logged in).
3. Say "Administrator Login".
4. Dial the Administrator PIN (default is **1234567890**).
5. Say "Enable Emergency Mode" to turn on the emergency prompt, or "Disable Emergency Mode" to turn it off.
6. Hang-up.
7. To verify that the emergency prompt is on, call the 6500 Attendant to hear the message.

Backing Up Data

A backup allows you to copy the 6500 Unified Communications database and file system to a directory or file folder. When naming a folder, do not use a space; use an underscore instead, for example back_up. Back up your database to your local drive C, and then copy it to a network drive. The system does not support restoring the database from a CD.

- The database includes report data, compiled grammars, company directory entries, personal list entries, enrollments, and system configuration settings.
- The file directory includes system recordings, prompts, greetings, and recorded names.



Note: When you perform a backup, all services are automatically stopped. Use Service Manager to restart the services after the backup is complete.



Note: Debug settings cannot be backed up and restored.

To perform a backup

1. Create a file folder for the backup.
2. Open **Backup and Restore** (click **Start, Programs, Mitel Networks, Speech Recognition**, then **Backup and Restore**). The Backup and Restore window opens. The default tab is the Backup window.
3. Click **Browse**, and navigate to the desired empty file folder.



Note: Ensure that you have selected the correct file folder, and that you are not inside the file folder that you want to back up.

4. Read the Current version field to see which version you are backing up.
5. Click the **Start** button. When completed, a log message states that the backup is done.
6. Restart the system services (click **Start, Programs, Mitel Networks, Speech Recognition**, then **Service Manager**). The Service Recovery Manager window opens. In the Service menu, click **Start All**. Close the Service Recovery Manager window.

To restore a backup



Note: Speaker verification is lost when restoring a unilingual system to a bilingual system. The users will have to re-enroll and provide their voiceprints.

1. Open **Backup and Restore** (click **Start, Programs, Mitel Networks, Speech Recognition**, then **Backup and Restore**). The Backup and Restore window opens. Click the **Restore** tab.
2. Click **Browse**, and navigate to the desired file folder.



Note: Ensure that you have selected the desired folder, and that you are not inside the folder that you want to restore.

3. Click **Start**. The message on the lower left corner of the Backup and Restore window changes from **Working** to **Ready**.
4. Restart the system services (click **Start, Programs, Mitel Networks, Speech Recognition**, then **Service Manager**). The Service Recovery Manager window opens.
5. On the **Service** menu, click **Start All**, then **OK**. Verify that all of the services are active. Close the Service Recovery Manager window.
6. Reboot the system after the restore.



Note: In the Admin Web page (on the 6500 server, click **Start, Programs, Mitel Networks, Speech Recognition**, then **Administration**. Use Login ID **Administrator** and password **1234567890**), select **System Configuration, System Properties, Exchange 2000**, then scroll down to **SMTP Server**. Check to see that **localhost** is in the **Value** box. If it is not, type it in, and click **Save**.

If you are upgrading from a 6500 Attendant system to a 6500 Unified Messaging system, remember to go into the Admin Web Page to configure the system for MWI.



Note: If you are adding new functionality, remember to update the license manager (click **Start, Programs, Mitel Networks, Speech Recognition**, then **License Manager**).

Enabling Software Options or Additional Ports

To purchase software options or additional ports, call the Mitel Networks Order Desk, provide them with your System ID code, and order the desired options or port upgrades. The Mitel Networks Order Desk will send you a password to enable the options.

You enter the options in the License Manager application.

License Info

System ID: 17951

Channels Allowed: 4

Personal List Entries: 55

Corporate List Entries: 50

Messaging Users: 25

TTS Ports: 2

Password: XXXXXX

Enterprise Voice Portal

Personal Voice Portal

Bilingual

Mobility

Messaging

Calendar / Task Management

Fax Gateway Integration

VPIM

Apply & Close Cancel



Note: The minimum RAM requirement of the 6500 server increases with the number of 6500 Unified Communications ports. If you increase the number of ports, you may need to upgrade the server RAM. Refer to the Configuration Tool or the 6500 FCI on Mitel Online.



Note: When enabling Bilingual or 6500 Unified Messaging, a full uninstall /install of the 6500 Unified Communications software is required.

To enable software options or additional ports

1. Record your system's identity code from the System ID field. The code is also on the SAM module.
2. Call the Mitel Networks Corporation order desk and request the new options and/or port upgrade.
3. Tell the operator your System ID.
4. The operator will give you a new options password. Record this password.
5. From the 6500 server, open **License Manager** (click **Start, Programs, Mitel Networks, Speech Recognition**, then **License Manager**). The 6500 Unified Communications License Manager window opens.



Note: The services in Service Recovery Manager must be started in order for you to use the License Manager window

6. Select the purchased option values (number of channels, personal list entries, text to speech ports, number of 6500 Unified Messaging users, enable 6500 Unified Messaging, enable Mobility, and company list entries) in the License Manager window. Note that these options are controlled by the new password.
7. Enter the password you received for the upgrade.
8. Click **Apply**, then **Close**. The **License Successfully Applied** dialog box opens.

If you selected an invalid configuration (that is, an option value not supported by your password), you will get the following error message: "Invalid License information. Not Updated".



Tip: Programming Mobility involves selecting Mobility for the system as well as selecting Mobility for the user. If you want all users to have Mobility by default, you must enable Mobility on a system-wide basis before you restart the server. Log into the Admin Web Page. Click **System Configuration, General Settings**, then **Mobility**.

To program Mobility settings on an individual user basis, open the Admin Web Page, click **Directory Management, Users**, then **Mobility**.

The Expert Mode and Call Restrictions functionality are also programmed system-wide, then on an individual basis. The system-wide setting for call restrictions contains the least amount of restrictions, for example: internal, local, toll, and international is programmed system-wide for a user with any of the previous restrictions.

9. Click **Start, Programs, Mitel Networks, Speech Recognition**, then **Service Recovery Manager**.
10. When the Service Recovery Manager window opens, right-click it, then select **Stop All**.
11. Once the services have stopped, right-click it, then select **Start All**. When the services have started, your system will be operational.

Selecting the Primary and Secondary Language



Note: Primary and secondary languages apply only to bilingual systems. Administrators can switch their primary and secondary languages with this tool, for example, English/French to French/English.



Note: Switching the primary and secondary languages, for example: English/French to French/English, results in a loss of all speaker verification. For example, voice prints will be lost.

To set the primary and alternate language

1. From the 6500 server, open **Language Selector** (click **Start, Programs, Mitel Networks, Speech Recognition**, then **Language Selector**).
2. Select the primary and secondary language from the drop-down menus, then click **Continue**.
3. When the system prompts you to reboot the server, click **Yes** (you must restart the server for your language selection to take effect). The server restarts.

Changing a Bilingual System to a Unilingual System

1. Backup your database (see page 171). Place your backup files on a network drive or on a CD. If using a CD, move the backup to a local drive before restoring the database.
2. Uninstall the 6500 Unified Communications software (see page 193).
3. Uninstall the Active Directory components (see page 195).
4. Re-install the Active Directory components (see page 127)
5. Perform the install procedure for the 6500 Attendant software (see page 116), or the 6500 Unified Messaging software (see page 134).
6. Restore your database (see page 171).
7. Select the correct license option in License Manager (see page 173).
8. Reboot the server.



Note: This procedure does not require the re-install of the supporting software or the re-install of the Exchange Server components.

Resolving Ambiguous Names

If two or more people have names that sound the same, the 6500 Attendant can be programmed to prompt callers to resolve the ambiguity based on the person's department or location. This option of resolving ambiguity is called **disambiguation**.

The 6500 Attendant will ask you to identify the department or location of the person that you are trying to call. After you identify the department or location of the person, the 6500 Attendant places the call.

The following conditions apply to this feature:

- disambiguation is enabled unless you perform the procedure below. The system settings are "Department then Location" or "Location then Department".
- disambiguation is only available for corporate directory entries; it is not available for department names or personal list entries
- depending on the size of your corporate directory, enabling disambiguation can double or triple the length of time that it takes for the system to locate any name in the corporate directory.



Tip: You may be able to use the Nickname field to allow users to differentiate two people who have the same first and last names. Also, if people who have similar sounding names record their own name confirmation, callers may be able to identify the correct person based on the person's voice

To enable or disable disambiguation

1. On the Mitel Networks 6500 server, start Notepad (click **Start, Programs, Accessories**, then **Notepad**).
2. Open the configuration file from Notepad.

For North America systems, open `c:/SpeakAtEase/AutoAttendant/config/upsConfig.cfg`
For United Kingdom systems, open `c:/SpeakAtEase/AutoAttendant/config/upsConfig.cfg.uk`
3. At the bottom of the file, set the `HOMONYM_DETECTION_OPTION` value to **1** to enable disambiguation, or to **0** to disable it.
4. Save and close the file.
5. Stop and then start the update-server service from Service Manager.

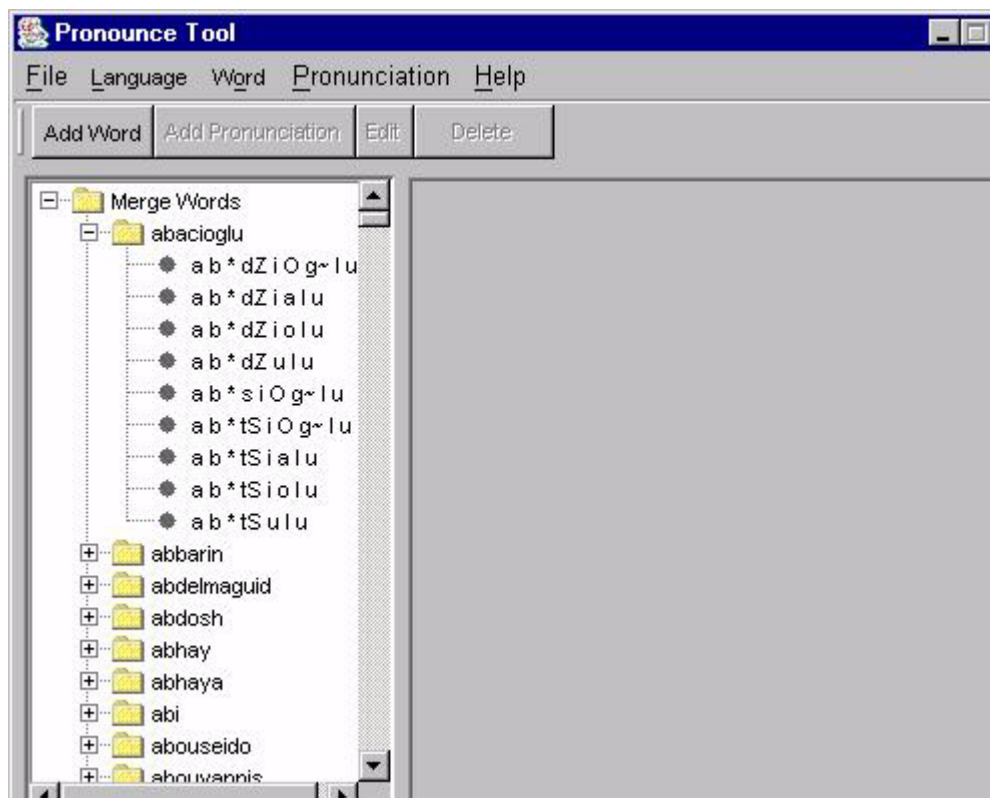
With disambiguation enabled, the 6500 Attendant will ask the user to identify the department or location of the person. After the user identifies the department or location of the person, the 6500 Attendant places the call.

To specify the disambiguation order (by department and then location, or by location and then department)

1. In the Admin Web Page, click **System Configuration**, and then click **General Settings**.
2. Select **Department then Location** or **Location then Department**. Set the disambiguation order based on what you expect callers will know. Are callers more likely to know a person's department or location?
3. Click **Save**.

Tuning Names

Use the Pronounce Tool to define the pronunciation of names that are unique or unusual so the system can direct calls to the correct destination



Defining the Pronunciation of a Name

To define the pronunciation of a name

1. On the 6500 server, open the Pronounce Tool (click **Start, Programs, Mitel Networks, Speech Recognition, then Pronounce Tool**).
2. In the **Language** menu, select the desired language.
3. In the **File** menu, select **Generate Missing** to create a list of unrecognized names. The system collects any unrecognized words from the corporate directory and displays them in the Merge Words frame.



Note: Make sure you save your changes before switching languages.

4. Add the pronunciation.

5. Edit the pronunciation for each unrecognized name (see the tables in "Mapping English Letters", "Mapping French Letters", "Mapping Spanish Letters" and "Mapping U.K. English Letters" below).
6. In the **File** menu, select **Commit** to save your changes.
7. To activate the changes, open **Service Manager** (click **Start, Programs, Mitel Networks, Speech Recognition**, then **Service Manager**), stop the **CompSvcPRI** and **Update Server** services, then start them again.
8. To test the changes, call into the 6500 auto attendant, then say **Enable Demonstration Mode**. Say the names in the unrecognized name list (see step 3) to verify that the system recognizes them. Say **Disable Demonstration Mode** to return to normal operation.

Querying the Phonetics of a Name

You can query the phonetics on the 6500 Unified Communications to determine how it phonetically spells names. You can type in a word in DOS that rhymes with the sound that you are trying to spell.

To query the phonetics

1. Open a DOS window (click **Start, Programs**, then **Command Prompt**).
2. For NA English users, at the C:\prompt, type `pronounce English.America.1.1 word1 word2`.
3. For French users, at the C:\prompt, type `pronounce EA.FC.mitel word1 word2`.
4. For Spanish users, at the C:\prompt, type `pronounce EA.SA.mitel word1 word2`.
5. For UK English users, at the C:\prompt, type `pronounce English.UK.1.6 word1 word2`.
6. If a change is required, add another pronunciation using the Pronounce Tool.

Mapping English Letters

The mapping is between the English letter and its pronunciation. The pronunciation (spoken sound) is represented by phonemes (symbols) for the spoken sound. The following table shows some typical mappings from English letters to phonemes.

Letter	Phonemes	Example	Letter	Phonemes	Example
a	e	able		O	bought
	A	father		u	shoe, loop
	a	apple, pan		U	book, would
	O	ball, caught, pawn		^	company
	*	alive, zebra (unstressed vowels)		*	carrot
b	b	ball		Oj	toy
c	k	cat, echo	p	p	pull
	tS	child		f	aphid
d	d	dogs	q	kw	quick
	!	bridle		k	Iraq
	t	asked, kissed	r	r	ring
e	i	even		*r	bird, rider, grammar
	E	echo	s	s	soup
	u	new		S	shell
	*	agent		z	dogs, wisdom
f	f	father		Z	vision
g	g	golf	t	t	time
	dZ	giant		!	butter, sanity
h	h	hotel		D	then
i	aj	ivory, time		T	thin
	l	India		tS	question
	i	Lisa, shield		S	nation
	*	sanity, aphid	u	^	under, putt
j	dZ	jump		U	put, would
k	k	key		u	lunar, rude
l	l	law		ju	usage, confuse
	*l	able		*	focus
m	m	Mike, thumb	v	v	very
	*m	Adam, wisdom	w	w	wisdom, which
n	n	new, knot	x	z	xenophobia
	*n	widen, nation		ks	axis
n+g	g~	ring	y	j	yes
o	o	open, coat, show		i	very
	A	olive		aj	cry
	aw	cow	z	z	zebra

Mapping French Letters

The following table lists an example of each phonetic sound and its character representation.



Note: In the Admin Web Page help, you can hear the pronunciation for each phoneme.

Phoneme	Example	Phoneme	Example
i	cri	b	beau
e	fée	d	dont
E	fait	k	coup
E:	fête	g	gant
a	patte	m	ma
A	pâte	n	non
u	toux	N	oignon
o	beau, côte	g~	camping
O	note, port	f	faut
y	vu	s	sot
%	feu	S	chapeau
&	beurre	v	vaut
*	petit	z	brise
e~	vin	Z	Gigi
a~	vent	i	pieux
O~	vont	w	oui
&~	brun	r	rit
p	pas	l	lampe
t	tant	H	lui

Mapping Spanish Letters

The following table lists an example of each phonetic sound and its character representation.



Note: In the Admin Web Page help, you can hear the pronunciation for each phoneme.

Phoneme	Example	Phoneme	Example
i	si	r	perro
e	bestia	m	mano
A	barro	n	no
u	buque	N	araña
o	botes	f	faja

Phoneme	Example	Phoneme	Example
p	pollo	s	sala, asnos
t	tasa	x	baja, egipcio
b	vaca, abajo	tS	chivo
d	dos, acceder	j	pollo
k	cabo	w	abuelo
g	gato, agachan	l	loco
!	pero		

Mapping U.K. English Letters

The following table lists an example of each phonetic sound and its character representation.



Note: In the Admin Web Page help, you can hear the pronunciation for each phoneme.

Phoneme	Example	Phoneme	Example
i	bean	k	cap
l	bin	b	bib
e	bane	d	did
E	bet	m	man
a	bat	n	no
aj	five	g~	sing
Oj	boy	f	fit
^	cut	T	thin
u	toot	s	so
U	book	S	she
o	go	v	vat
O	caught	D	then
@	cot	z	zoo
A	father	Z	vision
aw	cow	h	him
i*	beer	tS	chin
e*	bear	dZ	gin
3	bird	j	yell
u*	poor	w	will
*	alive, rider	r	run
p	pit	l	lamp
t	top		

Tuning Text-To-Speech

Use a Text-To-Speech (TTS) dictionary to define the pronunciation of text or acronyms that the system reads.

There are three dictionaries:

- North American English (NAE_userdict.txt)
 - North American French (NAF_userdict.txt)
 - United Kingdom English (UKE_userdict.txt)
1. In the C: drive of the 6500 server, click speakatease, bin, and then select the appropriate dictionary text file.
 2. Type in the word that you want to define and then type the word in the way that it is pronounced (for example, mitel my tell or TTS text to speech).



Note: Custom TTS pronunciations on systems with Release 3.6 UR1 or earlier are not restored when performing an upgrade. To keep the custom pronunciations, copy the userdict.txt file, rename it to NAE_userdict.txt for a North American system or UKE_userdict.txt for a UK system, and overwrite the existing file after the restore. For the changes to take effect, stop and start the appropriate TTS router; TTSRouterPRI if the dictionary is for the primary language or TSSRouterSEC if the dictionary is for the secondary language.

Preventing Toll Fraud

In the Admin Web Page ensure that you

- Set call restrictions on a system-wide basis
- Set call restrictions on a per-user basis
- Configure the dial plan to prevent users from placing calls to unauthorized destinations
- Enable AutoLogin for trusted numbers
- Change the default administration PIN

See the Admin Web Page help for more information regarding the above parameters.

Adding Users to the System

The process of adding users to the system differ for the 6500 Attendant system and the 6500 Unified Messaging system:

- You add users to the 6500 Attendant system from the Admin Web Page.
- You add users to the 6500 Unified Messaging system from the Active Directory.



Note: If the 6500 Attendant system is integrated with the 3300 ICP, the user list is obtained through User Authorization Profiles in the 3300 ICP System Administration Tool.

You require the following information for each user:

- First name
- Last name
- Extension number
- 10-digit (for NA) or 11-digit (for UK) Login ID
- PIN

Adding Users to the 6500 Attendant System

To add users to a Digital integrated system

Use the Admin Web Page (see the Admin Web Page help for more information).

To add users to an IP-integrated system



Note: The System Administration Tool must be on the 3300 ICP that is connected to the 6500 server.

1. Setup the Default User Template in the Admin Web Page.
2. In **Service Recovery Manager**, ensure that the **mn3300if** service is active.
3. Login to the 3300 ICP.
4. Click **System Administration Tool**.
5. Select **System Administration**.
6. Select **User Authorization Profiles**.
7. Click **Add**.
8. For each user, enter the first and last name for the **User Name**, enter the **User Profile Login ID**, **Desktop Extension**, **User Profile Language**, **User Profile Password**, and confirm the password.
9. Click **Save**. The new user will appear in the Admin Web Page for the 6500 Attendant system.



Note: Mobility users integrated with the 3300 ICP can have their mobility (call forwarding) handled by the 6500 system or the 3300 ICP. For 6500 Attendant systems, the default is the 3300 ICP, that means that calls directed by speech recognition or extension number are forwarded to the call forwarding extension. To have the 6500 system handle the call forwarding (calls by speech recognition only routed to the call forwarding extension), you must stop the mn3300if service in Service Manager.

Adding Users to the 6500 Unified Messaging System

To add users to the 6500 Unified Messaging System

1. Log into the Active Directory Domain as Administrator.
2. Open the **Active Directory Users and Computers** window (click **Start, Programs, Administrative Tools**, then **Active Directory Users and Computers**).
3. Find the user in the list, right-click on their name, then select **Properties**.
4. In the **General** tab, type the extension of the user in the "Telephone number" field.



Note: You may want to add numbers to a user's name to differentiate it from another user with an identical name. Do not add numbers to any of the name fields except the Display Name field, or 6500 Unified Communications will not recognize the name.

5. Click **Apply**.
6. Click the **Telephone** tab and type all of the other numbers the user wants to use with 6500 Unified Communications in the appropriate fields (users may also type these numbers from their Personal Web Page).
7. Click **Apply**.
8. Click the **SR Settings** tab.
9. In the **Speech Rec Applications** drop-down menu, select the application for the user. Remote VPIM users are programmed as Attendant.



Tip: For information about programming the SR Settings, click the Help button.

10. Enter the information required for each of the SR settings sections found in the drop-down menu: **General, Features, Phone Options**, and **Call Restrictions**.
11. Click **Apply**, then **OK**.
12. Repeat steps 3-11 for each user.
13. Verify that all of the users are selected, and then click the 6500 SR button (a red and white menu item at the end of the tool bar).
14. Click **Yes** on the Commit screen, and then **OK**.



Note: Mobility users integrated with the 3300 ICP can have their mobility (call forwarding) handled by the 6500 system or the 3300 ICP. For 6500 Unified Messaging systems, the default is the 6500 system. These Mobility settings are available in the SR settings of the Active Directory Computers and Windows application.

Changing the SpeakAdmin Password



Note: You require access to the Exchange, Active Directory, and 6500 servers.

To change the SpeakAdmin password

1. On the Exchange server, open EXAgent (click **Start, Programs, Administrative Tools, Services**, then open **EXAgent**). Click the **Stop** icon to stop the EXAgent service.



Note: If you do not stop the EXAgent service, it will not recognize the new password, and will lockout the SpeakAdmin user. As a result, the Update server will not start.

2. On the Active Directory server, change the SpeakAdmin password on the Active Directory server:
 - Log into the Active Directory server (Domain) as Administrator.
 - Click **Start, Programs, Administrative Tools, Active Directory Users and Computers**, then **Users**.
 - Right click on **SpeakAdmin**, and select **Reset password**. Enter the new password, confirm it, then click **OK**.
3. Log out of the Active Directory Server, then log back in as SpeakAdmin with the new password to verify that the Active Directory recognizes the new password.
4. On the 6500 server, open the Configuration Wizard (click **Start, Programs, Mitel Networks, Speech Recognition**, and then **Configuration Wizard**). In the welcome screen, type the old administration password for SpeakAdmin, and then click **Next**.
5. Click the **Directory Server Configuration** tab, select **Update 6500 Unified Communications Administrator password**, and type the new password in the **New Password** and **Confirm Password** fields.
6. Click the **Mail Server Configuration** tab, and select **Update 6500 Unified Communications Administrator password**, and type the new password in the **New Password** and **Confirm Password** fields.
7. Click **OK**, and **YES** to save your changes.
8. On the Exchange server, open the COM+ Applications folder (click **Start, Programs, Administrative Tools, Component Services, Computers, My Computer**, then **Com+ Applications**).
9. Right-click the SAEEventNotifier file, select **Properties**, then click the **Identity** tab.
10. Type in the new password, confirm it, then click **OK**.
11. Open EXAgent (click **Start, Programs, Administrative Tools, Services**, then open **EXAgent**). Click the **Start** icon to start the EXAgent service.
12. Open the 6500 Service Manager, and verify all the services are active.
13. Verify the operation of the services by sending then retrieving a voice mail, and checking that the message lights work properly.

Changing the Computer Name and TCP/IP Properties



Note: Log in to the 6500 Unified Communications server with the default user name "Administrator" and password "mitel".

To change the TCP/IP address and the computer name

1. Use Service Manager (click **Start, Programs, Mitel Networks, Speech Recognition, then Service Manager**) to stop and set all of the services except for LDAP and NLM to manual.
 - To stop the required services, press CTRL, select all of the services except for NLM and LDAP Server, right click on the selected services, select **Stop**, then click **OK**.
 - To set the services to manual, right click on the selected services, click **Start Mode**, then **Manual**.
2. From the **Start** menu, click **Settings**, then **Control Panel**. Double-click the Network icon.
3. In the Network window under the **Identification** tab, click **Change**. Change the Computer Name to the network name suitable for your environment.



Note: Do not use an underscore character in the computer name. Systems with Internet Explorer 5.5 SP2 or Internet Explorer 6.0 will prevent access to the Admin Web page and the Personal Web Page if the server name contains an underscore character.

4. Click **OK**.
5. Click the **Protocols** tab, then **Properties**.
6. Enter the required TCP/IP properties specific to your network.

To reconfigure TCP/IP, you will need the

- Internet Protocol (IP) address of the 6500 Unified Communications server. Each device on a network has a unique 32-bit number, for example: 192.135.2.32. Note that Dynamic Host Configuration Protocol (DHCP) is supported but not recommended.
 - Internet subnet mask that specifies the sub-network
 - Gateway address to which all packets that are destined for remote networks are sent
 - DNS and/or WINS server addresses, if used
 - IP addresses and host names for the Hosts file of the client stations (may be required if your network does not have a DNS server or WINS server).
7. Click **OK, Close**, then **No** to reboot the system.
 8. Change the computer name in the Oracle settings and then connect to the new computer name. Refer to the following procedures.

To change the computer name for the Oracle settings

1. Log in to the Admin Web Page (click **Start, Programs, Mitel Networks, Speech Recognition**, then **Administration**) with the Login ID "administrator" and the default PIN "1234567890."



Tip: You can also use <http://localhost/default.asp> to access the Admin Web Page.

2. Click **System Configuration, System Properties**, then **Oracle**.
3. Enter the new computer name.
4. Click **Save**, and close the window.
5. Reboot the server.

To connect the new computer name

1. Click **Start, Programs, Windows NT 4.0 Option Pack, Microsoft Internet Information Server**, then **Internet Service Manager**.
2. Right-click the **Internet Information Server** folder, select **Connect**, and enter the name of the 6500 server.
3. Reboot the system. Your IIS services will be properly configured after you restart the system.

Configuring IP Settings in Control Panel

IP integration requires specific settings within the Control Panel with the following applications:

- IP Phone Emulator
- Mitel Remote Access
- Telephony
- Multimedia
- Sounds

Configuring IP Phone Emulator

To configure IP Phone Emulator

1. In the Control Panel window, open **IP Phone Emulator** (click **Start, Settings, Control Panel**, then open **IP Phone Emulator**). The Mitel IP Phone Emulation Settings window opens.
2. In the Mitel Networks Host IP Settings, select **3300** as the Host Type, and change the IP Address to the IP Address of the 3300 ICP.
3. In the middle of the Phone DN/Phone ID frame, right click the mouse and select **Insert** from the pop-up menu. Add the port numbers that the 6500 Unified Communications system will use (these ports must already be configured as IP 5020 sets in the 3300 ICP), then click **Cancel** to exit the dialog.
4. Click **OK**.

Configuring Mitel Remote Access

To configure Mitel Remote Access

1. In the Control Panel window, open **Mitel Remote Access**. The Mitel Remote Access Settings window opens.
2. Change **Machine Name of Remote PBX Server** to the IP address of the 3300 ICP system.
3. Click **OK**.

Configuring Telephony

To configure Telephony

1. In the Control Panel window, open **Telephony**. The Dialing Properties window opens. If asked, enter the default country information (include area code), then click **Close**.
2. Select the **Telephony Drivers** tab.
3. Select **Mitel PBX TAPI Services Provider**, then click **Configure**.
4. In the MITEL Device Properties window, in the middle of the Prime DN frame, right click the mouse, and click **Select from IP Phone List**.
5. Shift-select each Prime DN from the list (this list should match all DNs entered into the IP Phone Emulator).



Note: Choose phone numbers that are not already assigned.

6. Click **Apply**, then **Close**.

Configuring Multimedia

To configure Multimedia

1. In the Control Panel window, open **Multimedia**. The Multimedia Properties window opens.
2. Click the **Audio** tab. In the Playback section and the Recording section, select **None** for the Preferred device.
3. Select the **Use preferred devices only** check box.
4. Click **Apply**, then **OK**.

Configuring Sounds

To configure Sounds

1. In the Control Panel window, open **Sounds**. The Sounds Properties window opens.
2. In the Schemes section, select **No Sounds** from the drop-down list. The Save Scheme window opens.
3. Click **No**.
4. Click **Apply**, then **OK**.

Uninstalling Software

Uninstalling 6500 Unified Communications Software

You should only uninstall the 6500 Unified Communications software in preparation for a software upgrade within Release 4.0 if the supporting software does not change, for a hardware configuration change from a low capacity to a high capacity, or for a software change from a unilingual system to a bilingual system.



Tip: We recommend that you have a backup of the database on a network drive or CD before you proceed. If you put the backup on a CD, move the backup to a local drive before doing the restore.

To uninstall 6500 Unified Communications software in a Digital Integration

1. Ensure all application windows are closed.



Note: Do not use the Microsoft Windows Add/Remove Programs program to uninstall 6500 Unified Communications software from the server.

2. Open the DOS Uninstall window (click **Start, Programs, Mitel Networks, Speech Recognition**, then **Uninstall**).



Note: Once start the batch file that stops and removes the services, you cannot cancel (back out of) the uninstall program.

3. Press any key to continue.
4. When the LDAP Server Setup window opens, click **Continue**, then **Close**.
5. If you receive the prompt, "Do you want to completely remove Voicebridge 2000 and all of its components?", click **Yes**. The Path Restore Aborted window opens.
6. Click **OK**. The Removed Shared File window opens.
7. Click **Yes to All**, then **Yes**.
8. When the uninstall is complete, click **OK** to close the Remove Program window. The 6500 Unified Communications window opens.
9. Click **Yes** to remove the 6500 Unified Communications system software. The InstallShield Wizard window opens.
10. When the uninstall is complete, click **OK**.
11. When prompted, press any key to close the DOS window. The system automatically reboots.

To uninstall 6500 Unified Communications software in an IP integration

1. Ensure all application windows are closed.



Note: Do not use the Microsoft Windows Add/Remove Programs program to uninstall 6500 Unified Communications software from the server.

2. Open the DOS Uninstall window (click **Start, Programs, Mitel Networks, Speech Recognition**, then **Uninstall**). The **Uninstall DOS** window opens.



Note: Once start the batch file that stops and removes the services, you cannot cancel (back out of) the uninstall program.

3. Press any key to continue.
4. When the LDAP Server Setup window opens, click **Continue**, then **Close**.
5. When the IP Phones Uninstall window opens, click **OK**.
6. When the Close Control Panel message box appears, ensure the control panel is closed then click **OK**.
7. When the Install Complete window appears, click **OK**.
8. When the MiTAI Telephony Drivers Uninstall window opens, click **OK**.
9. When the Close Control Panel message box appears, ensure the control panel is closed, then click **OK**.
10. When the Install Complete window appears, click **OK**.
11. Click **Yes** to remove the 6500 Unified Communications system software. The InstallShield Wizard window opens.
12. When the uninstall is complete, click **OK**.
13. When prompted, press any key to close the DOS window. The system automatically reboots.

Uninstalling the 6500 Multimedia Outlook Plug-in

To uninstall the Mitel Networks 6500 Multimedia Outlook Plug-in

- In the 6500 server, use the Add/Remove Programs (click **Start, Settings, Control Panel**, then **Add/Remove Programs**) to uninstall the software.

Uninstalling Exchange Server Components

To uninstall the Exchange server components

- In the Exchange server, use the Add/Remove Programs (click **Start, Settings, Control Panel**, then **Add/Remove Programs**) to uninstall the software.

Uninstalling Active Directory Components

To uninstall the Active Directory components

- In the Domain (Active Directory) server, use the Add/Remove Programs (click **Start, Settings, Control Panel**, then **Add/Remove Programs**) to uninstall the software.

Installing Software

Installing 6500 Unified Communications Software

Installing 6500 Attendant Software

- See “Installing the 6500 Attendant Software” on page 116.

Installing 6500 Unified Messaging Software

- See “Installing the 6500 Unified Messaging Software” on page 123.

Installing Supporting Software

- See “Installing Supporting Software” on page 112.

Installing 6500 Multimedia Outlook Plug-in

- See “Distributing Multimedia Outlook Plug-in” on page 162.

Installing Exchange Server Components

- See “Installing the Exchange Server Component” on page 131.

Installing Active Directory Components

- See “Installing the Active Directory Components” on page 127.

Installing Service Packs

Mitel Networks 6500 Unified Communications Service Packs are executable programs that provide fixes for the system software. You obtain service packs through the Mitel OnLine web site. Instructions for applying service packs are included with the specific service pack and also in the Field Change Instructions on Mitel OnLine.



Tip: You require a user name and password to access Mitel OnLine.



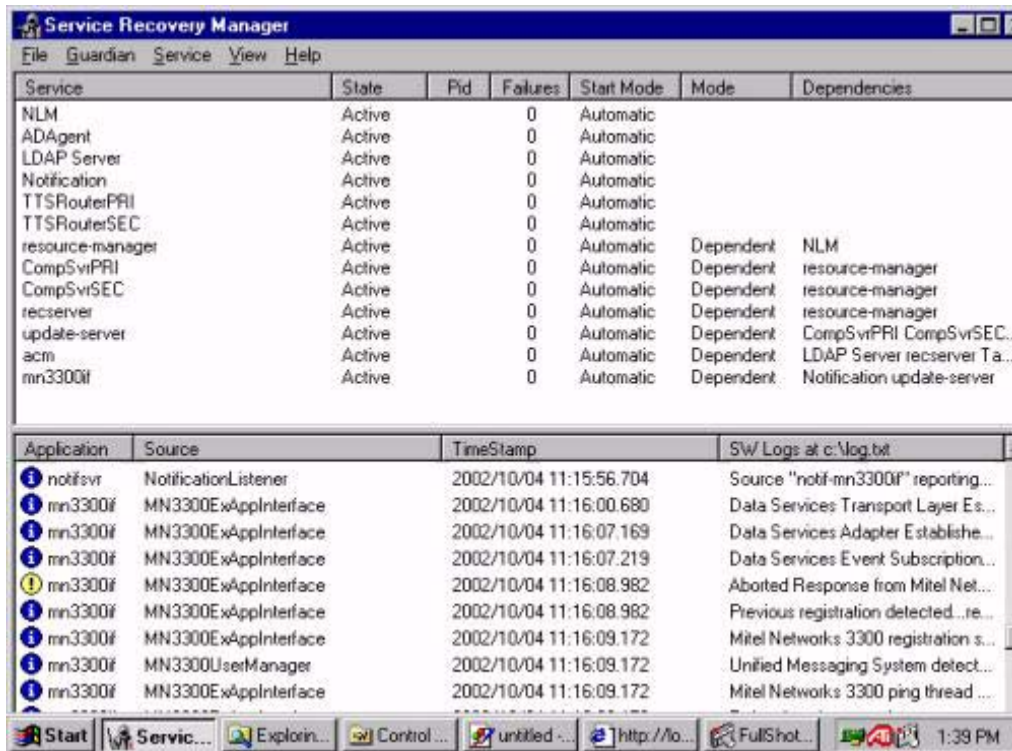
Tip: Read the read-me instructions before installing the service pack.

Checking the Services

About Service Recovery Manager

From the Mitel Networks Services Recovery Manager application, you can

- Check the status of the service
- Set the refresh interval (how frequently the window information is updated)
- Install and remove Service Recovery Manager configuration files
- Guard and unguard services
- Start and stop the guardian
- Configure the guardian
- Start and stop individual services
- Start and stop all services together
- Change the start mode



The Service Recovery Manager (SRM) application window lists the

- Services that are monitored by the SRM application
- State of each service (active, stopped, or starting)
- Process identifier (PID) for the services that the guardian is currently guarding
- Number of failures since the last time the guardian was started
- Start mode (automatic or manual)
- Mode of the service dependency (dependent or independent)
- Dependent service

To open the Service Recovery application

- Open **Service Manager** (click **Start, Programs, Mitel Networks, Speech Recognition, then Service Manager**). The Service Recovery Manager window opens and lists the status of all the 6500 Unified Communications services.



Note: Do not change any of the services through the Control Panel unless instructed by Product Support.

Service Dependencies

Dependent and independent services are restarted only after all services in their dependency list have been started. Dependent and independent services are stopped and recovered if any service in their dependency list fails.

If a service that is higher in the dependency list fails, the services that are dependent on it are not restarted unless they are set to Independent.

Setting the Refresh Rate

The refresh rate determines how frequently the information in the window is updated.

To set the Refresh Rate

1. Open **Service Manager** (click **Start, Programs, Mitel Networks, Speech Recognition, then Service Manager**). The Service Recovery Manager window opens. It lists the status of all the 6500 Unified Communications services.
2. In the **File** menu, select **Properties**.
3. Enter the refresh rate in seconds (integer between 5 and 30), then click **OK**.

Starting and Stopping Services

To start or stop a service



Note: If you stop a service that other services depend on, then those services will also be stopped. If you start a service that depends on other services, then those services will be started in the correct sequence.

1. Open **Service Manager** (click **Start, Programs, Mitel Networks, Speech Recognition, then Service Manager**). The Service Recovery Manager window opens. It lists the status of all the 6500 Unified Communications services.
2. Click on the service you want to start or stop.
3. In the **Service** menu, select **Start** or **Stop**.

To start or stop all services

1. Open **Service Manager** (click **Start, Programs, Mitel Networks, Speech Recognition, then Service Manager**). The Service Recovery Manager window opens. It lists the status of all the 6500 Unified Communications services.
2. In the **Service** menu, select **Start All** or **Stop All**.



Note: If you stop all services, the 6500 telephone service will be lost. If ACM is stopped, all telephone service will be lost.

Changing the Service Start Mode

When a service fails it can be restarted automatically by the SRM, or you can configure it to remain down until you manually restart it.

To make services start manually or automatically

1. Open Service Manager (click **Start, Programs, Mitel Networks, Speech Recognition, then Service Manager**).
2. Select the services.
3. In the Service/Start Mode menu, select the appropriate option.

To verify that the services are automatic and active

1. Open Service Manager (click **Start, Programs, Mitel Networks, Speech Recognition, then Service Manager**).
2. Verify that all of the services have **Start Mode** set to **Automatic**.
3. Select **Start**, then **Shutdown**. At the message **Restart the computer?**, click **Yes**.
4. Press CTRL+ALT+DEL, and login as Administrator. Close any Welcome windows as they appear.
5. Open Service Manager (click **Start, Programs, Mitel Networks, Speech Recognition, then Service Manager**).
6. Verify that all the services are Active (may take a minute or two).

Chapter | 4

Field Replaceable Units

Field Replaceable Units

The following tables show the part numbers for the field replaceable units.

6500 Unified Communications Field Replaceable Units

6500 Unified Communications Field Replaceable Units	
Hardware	Part Number
NMS AG-2000 DSP Resource Card	9190-993-001-NA
H.100-to-MVIP Connector (supports NMS AG-2000)	9190-994-001-NA
Intel/VTG VB-2007 SX2000/200 DNI Card	9190-995-001-NA
Intel/VTG VB-2009 Card Nortel Networks 2616	50000574
Security Access Module	9400-700-326-NA
Mitel DNI SX2K/SX200 DNI Intg, 8-port, UPG/SPARE (includes AG-2000 & VB-2007)	50001392
Nortel Networks 2616 Integration, 8-port, UPG/SPARE (includes AG-2000 & VB-2009)	50001393
Software	Part Number
6500 Unified Communications Software Rel 4.0 CD-ROM - Media only	50003274
Documentation	Part Number
6500 Quick Reference Cards (for the 6500 Attendant system) 25 pk - English	50003276
6500 Quick Reference Cards (for the 6500 Unified Messaging system) 25 pk - English	50003277
6500 Quick Reference Cards (for the 6500 Attendant system) 25 pk - French CDN	50003278
6500 Quick Reference Cards (for the 6500 Unified Messaging system) 25 pk - French CDN	50003279
6500 Installation and Maintenance Guide	50003280

TS800 Server Field Replaceable Units

TS800 General Field Replaceable Units	
Hardware	Part Number
Spare/upgrade 256 MB RAM DIMM	50000544
Power Supply	9145-550-508-NA
IDE Hard Drive	9145-550-505-NA
Chassis Fan Unit	9145-550-509-NA

TS1400/TS1404 Servers Field Replaceable Units

General Field Replaceable Units

TS1400/1400SR, TS1404/1404SR General Field Replaceable Units	
Hardware	Part Number
3-fan frame assembly, with card guide frame	50001352
Cooling Fan, 4U Rackmount	50002541
Keyboard/Mouse "Y" adapter cable	50002544

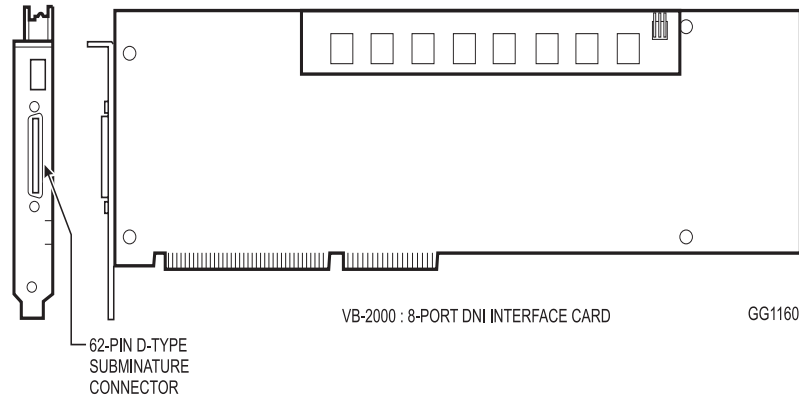
Specific Field Replaceable Units

TS1400/1404 Specific Field Replaceable Units	
Hardware	Part Number
Spare/Upgrade 256MB RAM DIMM (TS1400)	50000544
TS1400 non-redundant power supply unit, 300 W	50001334
TS1400 1-CPU support single board controller	50001340
TS1400/1404 10.2 GB IDE hard disk drive	50001346
TS1400 370 CPU socket heat sink fan	50001354
TS1400 server (no memory, application-specific hardware or software)	50001410
Spare/upgrade 512 MB ECC SDRAM DIMM (TS1404)	50002435
TS1404 Single Board Controller Pentium 4, 710VL	50002549
TS1404 4U Server Rackmount (no memory, application-specific hardware or software)	50002550
TS1404 Server Tower (no memory, application-specific HW or SW)	50002551
TS1400/1404 20 GB IDE Hard Disk Drive	50002942

TS1400SR/1404SR Specific Field Replaceable Units	
Hardware	Part Number
Spare/Upgrade 256 MB RAM DIMM (TS1400)	50000544
TS1400SR/1404SR redundant power supply unit, 300 W	50001335
TS1400SR/1404SR redundant power supply unit, 300 W, cartridge only	50001336
TS1400SR/1404SR 9.1 GB SCSI hard disk drive	50001345
Spare/upgrade 512 MB ECC SDRAM DIMM (TS1404)	50002435
TS1404SR 4U Server Rackmount (no memory, application-specific hardware or software)	50002552
TS1400SR/1404SR 18.4 GB SCSI Hard Disk Drive	50002941

Replacing the VB-2000 Card

A replacement VTG VB-2000 card is shipped from Mitel Networks configured with the required parameters. After installing the replacement card, however, you must update the server's configuration file with the card's serial identifier (serial number).



To replace the VB-2000 card

1. Power down the server.
2. Disconnect the digital interface cable from the faulty VB-2000 card faceplate. The VB-2000 card is located in:
 - TS800 server: ISA slot J5
 - TS1400 server: ISA slots ISA3 and ISA4. See page 208.
 - TS1404 server: first card in slot J10, and the second card in slot J12. See page 208.
3. Open the server cabinet.
4. Attach an anti-static strap to your wrist.
5. Unplug the MVIP cable from the faulty card.
6. Remove the screw that secures the card faceplate to the top of the expansion slot.



Note: Keep the screw: you will need it to install the replacement card.

7. Hold the edges of the card and, with a rocking motion, firmly pull the card from the interconnect board.
8. Remove the replacement VB-2000 card from the box and anti-static bag. Record the serial number of the card. The serial number is printed on a label attached to the card next to the card faceplate. The serial number is also labeled on the shipping box.



Note: Ensure that you record the serial number of the card. You will need to enter it in the server card configuration file.

9. Install the replacement card in the same slot from which you removed the faulty card. Press firmly to seat the card connectors. Secure the card with the screw you removed in step 6.



Note: You must install the replacement card in the same slot. The card was configured in the factory for that slot.

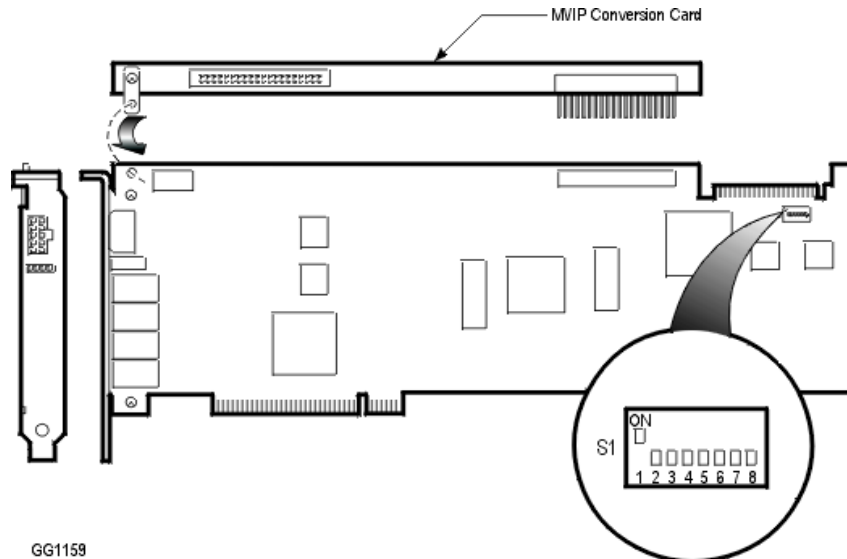
10. Plug the MVIP cable connector into the card. The connector is keyed to match the header on the card.
11. Connect the digital interface cable from the DNI ports in the PBX to the connector on the VB-2000 faceplate.
12. Replace the server cabinet panel.
13. Power up the server.
14. Open the VoiceBridge 2000 Configuration Manager (click **Start, VoiceBridge 2000**, then **Configuration Manager**). The VoiceBridge 2000 Configuration window opens.
15. In the **Action** menu, select **Configure**.
16. Select the **Board** tab. The VoiceBridge 2000 Board Configuration tab is displayed.
17. Enter the serial identifier of the new card, then click **OK**.
18. Close the VoiceBridge 2000 Configuration window, then restart the server.

Slot Designation for the TS1400/TS1404

TS1400			TS1404		
Slot ID	Slot Type	Backplane Slot Designation	Slot ID	Slot Type	Backplane Slot Designation
0	PCI	PPCI4	0	PCI	J26
1	PCI	PPCI3	1	PCI	J24
2	PCI	PPCI2	2	PCI	J25
3	PCI	SPCI4	3	PCI	J23
4	PCI	SPCI3	4	PCI	J22
5	PCI	SPCI2	5	PCI	J21
6	LPT/COM2	SPCI1	6	LPT/COM2	J20
7	ISA	ISA1/PCI4	7	SBC	J1/ J9
8	ISA	ISA2	8	ISA	J7
9	ISA	ISA3	9	ISA	J10
10	ISA	ISA4	10	ISA	J12
11	ISA	ISA5	11	ISA	J14
12	ISA	ISA6	12	ISA	J16
13	ISA	ISA7	13	ISA	J18

Replacing the AG 2000 Card

A replacement NMS AG 2000 card is shipped from Mitel Networks configured with the required software parameters. However, you must check to ensure that the hardware bus terminator dip switch is set correctly before you install the card.



GG1159

To replace the AG 2000 card

1. Power down the server.
2. Open the server cabinet. The AG 2000 card is located in:
 - TS800 server: PCI slot J7
 - TS1400 server: slots SPCI2 and SPCI4. See page 208.
 - TS1404 server: the first card in slot J21, and the second card in slot J23. See page 208.
3. Attach an anti-static strap to your wrist.
4. Unplug the MVIP cable from the MVIP Conversion card.
5. Remove the screw that secures the card faceplate to the top of the expansion slot.



Note: Keep this screw: you will need it to install the replacement card.

6. Hold the edges of the card and, with a rocking motion, firmly pull the card from the interconnect board.
7. Remove the screw that fastens the MVIP Conversion card to the faulty AG-2000 card. Unplug the MVIP Conversion card.
8. Remove the replacement AG-2000 card from the box and anti-static bag.

9. Ensure that the hardware bus termination dip switch is set correctly:
 - dip switch S1-1 must be set to **On**
 - all the other dip switches must be set to **Off**.
10. Plug the MVIP Conversion card into the connector on the top edge of the card and fasten it with the screw that you removed in step 5.
11. Install the replacement card in the slot from which you removed the faulty card. Press firmly to seat the card connectors. Secure the card with the screw.



Note: You must install the replacement card in the same slot. The card was configured in the factory for that slot.

12. Plug the MVIP cable connector into the card. The connector is keyed to match the prongs on the card.
13. Replace the server cabinet panel, then power up the server.

Replacing the MVIP Cable and Conversion Card

To replace the 6500 Attendant MVIP cable

1. Power down the server and remove the server cabinet panel.
2. Attach an anti-static strap to your wrist.
3. Unplug the MVIP cable connector from the VB-2000 card and from the AG-2000 card.
4. Plug the connectors on the new MVIP cable onto the VB-2000 card and the AG-2000 card. The connectors are keyed to match the application card.
5. Replace the server cabinet panel, then power up the server.

To replace the MVIP Conversion card (Swizzle Stick)

The MVIP Conversion card allows the MVIP cable to connect to the AG-2000 card. The MVIP Conversion card plugs into a connector on the edge of the AG-2000 card.

1. Power down the server.
2. Open the server cabinet. The AG-2000 is located in:
 - TS800 server: PCI slot J7
 - TS1400 server: slots SPCI2 and SPCI4. See page 208.
3. Attach an anti-static strap to your wrist.
4. Unplug the MVIP cable from the MVIP Conversion card.
5. Remove the screw that secures the card faceplate to the top of the expansion slot.



Note: Keep this screw: you will need it to install the replacement card.

6. Hold the edges of the card and, with a rocking motion, firmly pull the card from the interconnect board.
7. Remove the screw that fastens the MVIP Conversion card to the faulty AG-2000 card. Unplug the faulty MVIP Conversion card.
8. Take the replacement MVIP Conversion card out of the box and anti-static bag.



Tip: Do not touch the solder or components on the card.

9. Plug the replacement MVIP Conversion card into the connector on the top edge of the AG-2000 card, and fasten it with the screw that you removed in step 5.
10. Install the replacement card in the slot from which you removed the faulty card. Press firmly to seat the card connectors. Secure the card with the screw.



Note: You must install the replacement card in the same slot. The card was configured in the factory for that slot.

11. Plug the MVIP cable connector into the card. The connector is keyed to match the prongs on the card.
12. Replace the server cabinet panel, then power up the server.

Replacing the SAM

The SAM is programmed with a site-specific security code. The SAM unlocks your system software options when you enter your correct password in the 6500 Unified Communications License Manager.



Tip: Before replacing your SAM, ensure your options sheet has the correct System Identification number.

To replace a SAM module on the 6500 Unified Communications Server

1. Remove the faulty SAM module from parallel port on the server rear panel.
2. Contact the Mitel Networks Order Desk to obtain a replacement SAM and a new password. You will need to provide them with your System ID number.
3. Install the replacement SAM module.
4. Enable your software options in the 6500 Unified Communications Licence Manager window.
5. Restart the server.

Replacing the Turnkey Server Components

Refer to the manufacturer's documentation for instructions on how to replace the server hard drive or RAM.

Chapter | 5

Troubleshooting/Reference

Troubleshooting

Name Recognition Problems

Cause of Name Recognition Failure	Corrective Action
Missing or inaccurate name entries.	Ensure that the spoken name is entered in the 6500 Attendant database and that users are saying that exact name. For example, if the name is entered in the database as Ted Smith , ensure that users aren't saying Edward Smith .
Background noise, hands-free operation, echo, and speakerphone quality.	If the user is experiencing name recognition problems when calling from a speakerphone, get the user to try the name from a handset.
Failure of system to recognize first name or last name.	Add a nickname to the user profile and get the user to speak the nickname and last name. This will isolate whether the first or last name is being recognized. If this works, then the pronunciation of the first name could be the fault. As a temporary measure, exaggerate the spelling of the first name or nickname in the directory to tune the first name.
Mispronunciation, poor enunciation and accents.	Determine if the user's pronunciation is causing the recognition problem by checking if the system recognizes the name when other users try it.
High noise levels, high audio levels, or echo.	Determine if the problem is specific to the phone, that is, if the user is not recognized when dialing in remotely, get them to try locally.
Satellite calls sometimes introduce propagation delays. A bad trunk could exhibit noise, including cross talk, popping, static or audio level problems, which, in turn, could contribute to echo. If the remote user experiences intermittent cases where low confidence forces the user to repeat the spoken name, check the audio quality of the trunks or isolate whether only certain types of calls (for example, overseas calls) are affected.	If trunk audio quality is at fault, contact your Central Office. If the source of the problem cannot be determined, advise the user to use DTMF as an input to 6500 Attendant until it can be determined whether other remote users are also experiencing remote access recognition issues.
The dictionary contains 97% of North American English names. A pronunciation for an unusual name may not be programmed in the dictionary.	If multiple users are speaking a specific name that is not recognized, use the pronounce tool.
Speech recognition is poor.	<ul style="list-style-type: none"> • For serious system wide problems: enable token collection under the guidance of Product Support for Mitel Networks (see procedure below). • For individual names: use the pronounce tool to instruct the server how to pronounce individual words.

To enable Token Collection

Enable Token Collection if you are experiencing system-wide recognition problems.

For a release prior to 3.5.2 UR1:

1. Open the resources.site file (C:\Nuance\Version7.x\resources.site), and edit it to include the following...

```
client.WriteWaveforms=TRUE  
behavior.calllog.AutoSession=TRUE  
behavior.calllog.BasePath=c:\speakatease\autoattendant\logs  
ep.WriteWaveforms=TRUE
```

For release 3.5.2 UR1 and after:

1. In the Admin Web Site, select **System Config, System Properties**, then **Tuning and Diagnostics**.
2. Update the settings as follows:
 - Autosession Logging=True
 - Logging base path (for example, D:\Tokens)
 - Save Utterances=True
3. In the 6500 server, restart ACM in the Service Recovery Manager.



Note: Remember to monitor the hard drive space.

Powering Down/Up the Server

To power down the server

1. Ensure that you have an up-to-date backup of the 6500 Unified Communications database. Back up the database to a local drive, and then copy to a network drive. For instructions on how to perform a backup, refer to the 6500 Unified Communications Administrator's Help.
2. Close the 6500 Unified Communications and any other open applications.



Note: If you do not shut down properly, file corruption could occur, preventing you from starting up the system.

3. From the **Start** menu, click **Shut Down**.
4. Select **Shut down the computer?**
5. Click **Yes**. Wait for the prompt that instructs you to turn off the power.
6. Turn off the server power switch.
7. Unplug the power cord from the rear panel of the server.

To power up the server

1. Turn on the monitor power switch. (Note that a monitor is not supplied with the system).
2. Turn on the server power switch.



Tip: If you receive an error message that indicates that one of the services has failed, check the Windows NT Event Viewer to determine which service has failed. Power down the server and reseal the circuit card that provides the failed service.

Correcting Database Errors

To fix database corruption, restore the latest backup files to the server. You can restore the 6500 Unified Communications database and file system from backup files:

- the database includes report data, compiled grammars, company directory entries, personal list entries, and system configuration settings
- the file directory includes system recordings, prompts, greetings, and recorded names.

Providing you have made backups, you can restore the database and file system.

- To perform a restore, see “Restoring the Customer Database” on page 122.

Restarting the DNI Ports

To restart the DNI ports on the VTG VB-2007/2009 Card, you must restart the server. See Powering Down/Up the Server on page 216.

Correcting Low Volumes on Recordings

Volumes may be too low or too high on recorded names, prompts, greetings, and personal contact names. Recordings with software before Release 3.6 have the potential of being incorrect. The proper RMS value of all recordings should be 2200 RMS. This affects Mitel Networks™ 6500 Speech-Enabled Applications systems with software less than Release 3.5 upgrading to the current release.

The 6500 server stores the prompts in C:\speakatease\AutoAttendant\Prompts.

Company greetings - C:\speakatease\AutoAttendant\Prompts\Site

Department prompts - C:\speakatease\AutoAttendant\Prompts\Loc_Dept

User names and greetings - C:\speakatease\AutoAttendant\Prompts\Users

Personal list - C:\speakatease\AutoAttendant\Prompts\Personal List\LoginID of the user



Note: These procedures are written for the company greetings. You can use these procedures for the department prompts, the recorded names of the users and their greetings, and the recorded contact names in the personal lists. Adjusting the recordings in the personal lists may be very time consuming so it may be quicker to instruct the users to rerecord their personal contact names

To check the RMS value from the CMD prompt

1. Click **Start**, and then **Run**.
2. Type `cmd` and click **OK**.
3. Type `cd c:speakatease\AutoAttendant\Prompts\Site`.
4. Press ENTER.
5. Type `wavrms filename` (for example, `wavrms sodialerMainMenu_Welcome.wav`).
6. Press ENTER. The DOS window shows the RMS value of the wave file. The RMS value should be approx. 2200.

To adjust the RMS value

1. Backup the Prompts folder to the D: drive before proceeding.
2. In Windows Explorer, create a temporary folder named "temp" in the Site folder (the folder that contains the wave files that you want to adjust).
3. Click **Start**, and then **Run**.
4. Type `cmd` and click **OK**.
5. Type `cd c:speakatease\AutoAttendant\Prompts\Site`.
6. Press ENTER.
7. In the DOS window, type `wavnorm 2200 *.wav temp`.
8. Press ENTER. The system adjusts all of the wave files to 2200 RMS and copies them to the temp folder.
9. Check the RMS value of one of the adjusted files in the temp folder to make sure that the RMS value is correct.
10. In the DOS window, type `Exit`.
11. Using Windows Explorer, go the temp folder and copy and paste the adjusted wave files to the Site folder.

IP Integration Problems

Problem	Corrective Action
<p>Internet Explorer crashes. When launching Internet Explorer, a crash follows.</p>	<ul style="list-style-type: none"> • Disable System Sounds in Windows (open Control Panel/Sounds and select No Sounds in the Schemes field). • Set the Preferred Device to be "None" for Playback and for Recording in Multimedia (open Control Panel/ Multimedia, select the Audio tab), and select the 'Use preferred devices only' check box. • Verify that Microsoft Internet Explorer 5.5 is installed. Microsoft Internet Explorer 5.5 is required to access the pages for the 3300 ICP.
<p>Server slow and unresponsive. System very slow and unresponsive.</p>	<p>One of the services is running at 100% available CPU. Press Ctrl-Alt-Del and select the Task Manager button. Select the Performance Tab. If the CPU Usage box is full green, all available resources are being used. Click on the Processes Tab. Click the CPU column header to sort by CPU usage. The top process listed is the CPU hog. If it is running at 97% or so percent, you know this is the offending service. In the SRM, Stop and Restart the service who owns this process.</p>
<p>User List not synchronized. User List not synchronizing with the 3300 ICP User Web page.</p>	<ul style="list-style-type: none"> • This is a common problem with a first attempt to connect to the 3300 ICP after installing 6500 Auto Attendant with IP integration. Ensure the Default User template is configured. The Default User template MUST be configured with 6 (NA) or 7 (UK) numbers in the Login ID, and a default Password. This is required because the user synchronization uses the extension programmed in the 3300 in addition to the configured Default User Template number to create a valid login ID. • If the action above does not correct the problem, the work around is as follows: • Open the C:\\Speakatease\\ExAppIF\\mn3300if.ini file. • Change the following: MN3300UpdateTime = -1. • Stop and Restart the mn3300if service. • If the problem still exists, repeat the steps above, but reboot the switch instead of the Mn3300if service.
<p>Login error When attempting to login to the 3300 ICP administrative or user pages, you receive "Login Error" or Access Denied messages.</p>	<p>Shut down and restart the Internet Explorer session.</p>
<p>Vcommerce Exception errors When starting the ACM service, in the SRM output pane, you see Vcommerce Exception errors.</p>	<ul style="list-style-type: none"> • Check the IP Phone Emulator for properly configured port numbers. • Check the Mitel PBX TAPI Service Provider for properly configured Port Numbers.
<p>Ring No Answer Constant ringing when calling the port.</p>	<ul style="list-style-type: none"> • The TAPI Service or IP Phone emulation may have frozen. Reset the server.
<p>6500 Ports Out of Service (Fast Busy) When a 6500 Port is dialed, a fast busy tone is heard and the phone displays OUT OF SERVICE.</p>	<ul style="list-style-type: none"> • IP Phone Emulator is not running. Restart it.

Problem	Corrective Action
Ring Answer Silence When you dial a port, the call is answered but only silence is heard	<ul style="list-style-type: none">• Port is not configured in IP Phone Emulation (6500 server). Add it.• Port not configured in Mitel PBX TAPI Service Provider (6500 server). Add it, then restart IP Phone emulation and ACM Service (6500 server).
System sounds heard over phones. When on an IP phone call, you can hear Windows sounds, such as Exclamation sound.	<ul style="list-style-type: none">• In the 6500 server, set Multimedia settings to No Devices in the Multimedia control panel. In the Audio tab, select None for both instances of Preferred Device, and enable Use Preferred Devices Only.



Tip: For more information, check the FCI for the 3300 ICP and the FCI for the 6500. The FCI provides corrective actions for problem areas specific to software releases.

System Service Problems

Problem	Possible Cause	Corrective Action
NLM service will not start.	The user did not load the correct driver for the NIC card, or it has become corrupted.	Reload the correct NIC card driver.
ACM service will not start.	The TS800 platform has the cards hanging upside down and they can become dislodged.	Power off the system and reseat the cards making sure the MVIP cable is secure.
	The system is Release 2.0 or 2.1.1.14.	A patch is available that will fix the ACM startup problem. Fixed in Release 2.1.1.17.
	An incorrect VTG board identification number appears in the configuration settings.	Open Configuration Manager (click Start, Programs, VoiceBridge 2000 , then Configuration Manager). Compare the identification number with the number on the sticker on the VTG board. If it is wrong, change it in this screen. The stop sign should be red.
	For an upgrade, the previous version may not have been uninstalled first.	The only resolution is to uninstall and reinstall the software.
	The host name of the server was changed.	Access the Admin Web Page. Select System Configuration , then System Properties , and enter the new server name in the box for Oracle Host. Stop and restart all services in the SRM.
	NMS configuration file (ag2000.cfg) does not indicate correct PCISLOT and PCIBUS settings.	<ol style="list-style-type: none"> 1. Stop the agmon service 2. Use the command prompt c:blocate to show the proper slot #'s of the NMS cards. 3. Access the Admin Web Page. Select System Configuration, System Properties, VoiceBridge, then NMS. 4. Edit the fields at the bottom of the file to match the proper settings (PCISLOT= and PCIBUS=). 5. Save and close the file. 6. From c:Speakatease\batch, run agmon.bat, go to services, start the agmon service, then the ACM.

Problem	Possible Cause	Corrective Action
<p>Update service will not start. Update service won't start or an exclamation point appears beside the user name indicating the entry is not activated.</p>	<p>The license manager is not filled with the correct number of corporate list entries.</p> <p>The database is corrupted. The database will be corrupted if you use Wordpad or Microsoft Word to create the database file. Use Notepad or Microsoft Excel to create the database file.</p>	<p>Review the license and reapply the settings.</p> <p>To fix database corruption, you must default the database. Make sure that you have a copy of your license information before proceeding because the following procedure resets the license back to the default.</p> <ul style="list-style-type: none"> • Stop all services, then open NT Explorer. • Go to speakatease/batch and double-click restore default ldap.bat. • Start all services. The database should be blank now, and you should be able to create a user. Activate it, and it should work. <p>For a 6500 Attendant system, the user information will be lost. For the 6500 Unified Messaging system, all system settings go back to their default settings.</p>
<p>Update Server takes too long to start in Service Recovery Manager</p>	<p>Occurs when there are many (approx.. 10,000) users on the system and time is taken to recompile the company directory and all of the personal directories.</p>	<p>In the Admin Web Page, click Administration, System Properties, and Update Server. From the Compile at Start Up drop down menu, select False.</p> <p>Note that the system will not capture changes to the personal directories when the system restarts.</p>
<p>CompSvrPRI and recserver will not start up.</p>		<ol style="list-style-type: none"> 1. Set Startup Mode to manual for all services from resource-manager on down. 2. Restart Server. 3. Run C:speakatease\batch\Startserver.bat <p>If this corrective action fails to start CompSvrPRI, run the following line from an MS-DOS prompt:</p> <pre> compilation-server -package %JNUANCE%/data/English.America.mite 1.2.1/package -config_name NAE comp.Port=10101 comp.MergeDictionary=%DIALER_ROOT%\ batch\master_package\dict\unilingua 1.dict </pre> <p>Select Yes when prompted by the Runonce message.</p>
<p>Dr. Watson Errors Services within Service Recovery Manager do not restart while Dr.Watson error windows exist.</p>		<ol style="list-style-type: none"> 1. Click on Start, then Run. 2. Type drwtsn32. 3. In the Dr. Watson for Windows NT window, select <ul style="list-style-type: none"> - Dump Symbol Table - Dump All Thread Contexts - Append to Existing Log File 4. Deselect all the other choices. 5. Click OK.

System Hardware and Device Driver Problems

Problem	Possible Cause	Corrective Action
The System ID field in the License Manager displays 0.	<p>The Security Access Module (SAM) is not connected to the parallel port.</p> <p>The System ID is wrong.</p> <p>The SAM driver is corrupt.</p> <p>The SAM is defective.</p>	<p>Ensure that the SAM is connected to the correct port. Stop all services and re-install the SAM driver. The install file is in speakatease/autoattendant/dongledrv. Double-click the install.bat file. If all this has failed, the SAM is faulty. Contact Mitel Networks Order Desk for a replacement.</p>
Corrupt Security Access Module Drivers.		<p>If you open the 6500 Unified Communications License Manager window and the System ID is 0, ensure that the SAM is securely connected to the parallel port. If the SAM is attached, the SAM drivers may be corrupt.</p> <p>To re-install the SAM drivers:</p> <ol style="list-style-type: none"> 1. On the 6500 server, open SpeakAtEase/AutoAttendant/DongleDrv 2. Double-click on Install.bat. 3. Reboot the server. 4. Check the 6500 Unified Communications License Manager window to ensure that your System ID is present.
VTG card does not initialize.	BIOS must reserve IRQ5.	<ul style="list-style-type: none"> • Enter the BIOS and set IRQ 5 as reserved. Restart the server.

System Configuration Problems

Problem	Possible Cause	Corrective Action
Java script errors appear when entering general settings, or odd characters appear in the user name field.	<p>Internet Explorer is not configured correctly.</p> <p>This is most often seen when the technician has installed an application on the server that changes the browser default settings.</p>	<p>For Internet Explorer: open the View tab, go to Internet options, then click settings in the temporary internet files box, and select Every visit to the page under Check for newer versions of stored pages.</p>
	IIS is not configured correctly.	See the procedure "To configure IIS" on page 225.
Java script errors appear during an import of a CSV file.	The import CSV file is probably corrupted. This could be as little as one wrong character in one line.	Ensure the import file is clean. Note: Do not use Wordpad or MS Word to create a CSV file since they add invisible characters that will corrupt the file.

Problem	Possible Cause	Corrective Action
<p>Admin Password forgotten. Cannot remember the password to log into the Admin Web Page.</p>		<p>Perform a backup (which can be done without logging in) and send backup files to Product Support.</p>
<p>Failure to keep the database. When reinstalling the server software prior to Release 3.5.2.8 UR1, a prompt asks the installer to keep the existing database or to default the database.</p>		<p>If the installer does not select ALWAYS CLICK KEEP, the installer must reload Windows NT 4.0, Service Pack 5 and all three Mitel CD-ROMS prior to Release 3.5.2.8.</p>
<p>Access denied to Web pages. Cannot login to the Admin Web Page and the Personal Web Page.</p>	<p>The user has Internet Explorer 5.5 SP2 or Internet Explorer 6.0 and you have used an underscore in the PC name for the 6500 Unified Communications server.</p>	<p>Rename the PC without the underscore.</p>
<p>Problems with the Personal Web Page interface, and interfaces within the Admin Web Page (Multi-level Menu interface, and reports for MLM, Paging and Port Usage)</p>	<p>Apache Tomcat is not installed or configured properly.</p>	<p>In System Recovery Manager, check that the Apache Tomcat service is running. Check your IIS administration to ensure that you setup the "jakarta redirect" during the installation. Open the Internet Service Manager, select Properties for your server, select "Edit" for the "WWW Service". On the "ISAPI Filters" tab you should see "jakarta redirect" . If not there, repeat the procedure, Updating IIS Administration, on page 115.</p>
<p>Barge-in Problems Analog trunk issue 1: Echo</p>	<p>The BargeInInitialNoiseFloor value is too low, which can cause self-barge-in during the initial prompt.</p>	<p>In the Admin Web Page, select System Properties, then Tuning and Diagnostics. Set BargeInInitialNoiseFloor to 80.</p> <p>This value is used at the beginning of the first utterance of a call; during the call, the noise floor estimate is adapted to the noise actually measured in the call. You can increase this value to keep the noise floor above initially large residual prompts, which can result when the echo canceller is converging (learning the feedback path). If you set this parameter too high, the application may be deaf to barge-in during the first part of the first prompt.</p> <p>For most applications you should not need to change the default setting. In general, the range of usable values is 20–100.</p>

Problem	Possible Cause	Corrective Action
<p>Prompt files clipped. Prompt files sound clipped.</p>	<p>Prompt files were re-recorded and the normalization is too high (should be 2200 RMS).</p>	<p>To confirm:</p> <ol style="list-style-type: none"> 1. Open up a DOS window. 2. Change the directory to C:\speakatease\AutoAttendant\Prompts\site. 3. Type <code>wavrms [filename]</code>. This will show the RMS value. <p>To change normalization: see "To normalize all department recordings" below.</p>

To configure IIS

1. Open Internet Service Manager (click **Start, Programs, Windows NT 4.0 option pack, MS Internet Information Server, then Internet Service Manager**).
2. Expand the internet information server. You should see your computer name there.
3. Double-click on your computer name, then:

For release 3.5 and previous, double-click the default web site. A list of files appears. Right click on the **speakatease** file and go to **Properties**.

For release 3.5 UR-1 and up, right click on the default web site and go to **Properties**.

4. On the first tab that appears, make sure **Run in separate memory space** is selected. If it is grayed out, click **Create**, then select it
5. Click **Settings**.
6. In the new screen, click the **Process options** tab at the top, then select **Do Not Cache ASP files**. Click **Apply**, then **OK** all the way out.
7. Exit the console, saving the console upon exit. Reboot the server.

To normalize all department recordings

1. Open up a DOS window.
2. Change the directory to `c:\speakatease\AutoAttendant\Prompts\Loc_Dept`.
3. Make a new directory (**mkdir newdirname**).
4. Type in the following command:

```
wavnorm 2200 *.wav temp
```
5. This creates a normalized copy of all of the department prompts in the temp subdirectory. Copy these files back into `c:\speakatease\AutoAttendant\Prompts\Loc_Dept`.

System Performance Problems

Problem	Possible Cause	Corrective Action
Users experience slowdowns in Outlook.		In SAEEventNotifier, change Server Process Shutdown to Leave Running When Idle (see procedure below).

To change Server Process Shutdown property of SAEEventNotifier

1. Open Component Services (click **Start, Programs, Administrative Tools**, then open **Component Services**).
2. In the Component Services dialog box, expand the **SAEEventNotifier** folder, the **Computers** folder, the **My Computer** folder, then the **Com+ Applications** folder. Right-click **SAEEventNotifier**, then select **Properties**.
3. Click the **Advanced** tab. Under **Server Process Shutdown**, select leave **Running When Idle**.

Unified Messaging Problems

Problem	Possible Cause	Corrective Action
Call transfer causes system to hang up. System hangs up immediately on attempt to transfer a call to a user who has set forwarding to 6500 Unified Messaging.	Wrong LDAP configuration.	<ol style="list-style-type: none"> 1. Open the file C:\Speakatease\java\com\mitell\speakatease\shared\shared.properties. 2. Verify that the domain name is correct, as well as the speakadmin account, so the LDAP connection can function. 3. In the Admin Web Page, select System Properties, VTG/NMS, then Port/Extension Associations, and verify that the Digital ports match Bounce ports defined under System Properties -- VTG/NMS -- Port/ Extension associations in Admin Web Page.
Access denied to Admin Web Page. Access is denied when trying to login to the Admin Web Page.	<ul style="list-style-type: none"> • LDAP service is stopped. Check Service Recovery Manager (SRM). • The LDAP password was changed and the user could no longer login to the Admin Web Page or access any of their personal contacts. 	<ul style="list-style-type: none"> • Edit SharedProperties Admin password and restart IIS • Ldap.Config.AdminPassword=password <p>Note: IIS relies on a valid password for the LDAP Admin User that is set in shared properties. IIS also relies on the LSAP services</p>

Problem	Possible Cause	Corrective Action
<p>Access denied to Personal Web Page. Users cannot login to their Personal Web Page (http error 403) No permissions.</p>	<p>The Default Web Site settings in IIS are not configured correctly.</p>	<ol style="list-style-type: none"> 1. Verify that http://hostname/login.html (Release 3.5 or greater) appears in the browser address field. 2. Prior to Release 3.5, the URL should indicate http://hostname/speakatease/login.html. 3. Confirm the Documents tab of the Default Web Site includes Login.html, Default.asp, and Default.htm, in order. 4. Verify the Run in separate memory space and Do not cache ASP files settings.
<p>System cannot access mailbox. User logs into Messenger and the system responds that it cannot access the user's mailbox.</p>	<p>The Exchange server could be offline or inaccessible, or the speakadmin account doesn't have the correct permissions to access the MBX accounts.</p>	<ul style="list-style-type: none"> • First make sure the Exchange server can be seen from the 6500 server (use ping). • If this is OK make sure the Assign speakadmin account is a member of Administrators and Domain Users group and the permissions "Send as" and Receive as" are allowed. • Verify the permissions for SpeakAdmin.
<p>Problem with Active Directory template. When clicking on Users in AD Users and Computers, a template error occurs and the properties are grayed out.</p>	<p>AD Schema did not install properly. Either incorrect domain name or incorrect rights.</p>	<p>Must be logged in onto the root Domain Controller with Schema admin rights when installing AD Schema snap-in.</p>
<p>DCOM error message when installing the Exchange Server Components</p>	<p>DCOM did not install properly.</p>	<p>Manually configure the DCOM settings. See page 230.</p>
<p>SAEEventNotifier error message when installing the Exchange Server Components</p>	<p>SAEEventNotifier does not exist. SAEEventNotifier components did not install properly.</p>	<p>Create SAEEventNotifier, see page 230. Create components for SAEEventNotifier, see page 231.</p>
<p>No channel available for recording prompts. After upgrading from Release 3.0 to 3.5 or greater, you cannot record prompts (no channel available).</p>	<p>The Default Web Site settings in IIS are not configured correctly. The 6500 virtual server is not deleted.</p>	<ol style="list-style-type: none"> 1. Verify that http://hostname/default.asp (Release 3.5 or greater) appears in the browser address field. Prior to Release 3.5, the URL should indicate http://hostname/speakatease/default.asp. 2. Verify Run in separate memory space and Do not cache ASP files settings.
<p>Red Exclamation marks appear next to user names (3.5.2.8 UR1 SP3 and SP6)</p>	<p>Caused by entering a user in Active Directory without the phone extension in the general tab.</p>	<p>Use ADSI edit to set saeerror flag to false or delete user and recreate. Fixed with Release 3.5.2.8.</p>

Problem	Possible Cause	Corrective Action
<p>System is not reading messages “You have X new messages. . . reading message . . . message from” Nothing else is said.</p>	<p>The TTS engine has probably failed.</p>	<p>Check the service recovery manager to make sure the TTS router service is running, then restart.</p>
<p>Calendar and Task features do not function.</p>	<p>DCOM Settings are not programmed correctly. Exchange was not restarted after the install of the Exchange components.</p>	<p>Follow the instructions for Configuring the DCOM Settings in the topic, Install the Exchange Server Component (see page 41). The Exchange server must be restarted for DCOM to work.</p>
<p>MWI and Notification Faults</p>	<p>Exchange components are not installed when logging in as SpeakAdmin. Wrong drive M entered during the install of the Exchange components.</p>	<p>You may need to isolate MWI and Notification faults (see “To isolate MWI and notification faults” on page 229).</p>
<p>Caller cannot complete a voice mail. Callers are receiving prompts while trying to leave a voice mail.</p>	<p>Message threshold needs adjusting</p>	<p>Edit the file C:\Nuance\v7.0.4\data\nuance-resources.site. In this file set the field ep.ThresholdSnr=5. This must be typed exactly as shown or the ACM will crash.</p>
<p>Unable to install Outlook Plug-in. System is having problems installing the 6500 Multimedia Outlook Plug-in.</p>		<ul style="list-style-type: none"> • Check the Windows software version. The minimum requirement is Windows 98 with Outlook 2000. • If there are registry problems due to Microsoft Office 97 and/or Microsoft Outlook 2000/XP, uninstall and reinstall Microsoft Outlook, then re-attempt the install of the Outlook Plug-in. <p>If the InstallShield script reports that a specific user has no administrator privileges to proceed with the installation, delete the user account. This problem was probably due to a conflict between a domain user account and a local user account with the same name, and the local user</p>

Problem	Possible Cause	Corrective Action
<p>Messages not sent to contacts. The user is not able to send messages to contact names entered in their personal directory. Voice mails are lost.</p>	<p>The network connection to the Exchange server is down.</p> <p>The Exchange Relay is not setup for the 6500 Unified Communications server.</p>	<ul style="list-style-type: none"> • Use SMTP commands to determine if a network connection with the Exchange server exists. SMTP is an asymmetric request-response protocol. By default, SMTP uses port 25 for transferring messages between two servers or for sending mail from a messaging user to a messaging server. See the SMTP Commands and Reply Codes table on page page 233. • Verify that the Exchange server can relay to the 6500 Unified Communications server. If the server says cannot relay, then set up the Exchange server correctly (Open Exchange Server Manager, Protocols, SMTP -Default SMTP Properties, Access Relay Restrictions, add the S@E server IP). • Configure IIS for local voice mail queue, see page 231.
<p>System hangs after giving the summary. User logs into Messenger, the system gives the proper summary but then hangs after the user says "Play".</p>	<p>Communication with MAPI service not functioning. The 6500 Unified Communications uses MAPI access to get the messages for Exchange.</p>	<p>Open Outlook Express and set up a MAPI user account. Use the Speakadmin account and password to connect. If that fails to connect, check the Exchange MAPI Service, and restart the Exchange server.</p>

To isolate MWI and notification faults



Note: Use the MWI tool for Rel. 3.6 and greater.

1. On the Exchange Server: Verify that when an e-mail, contact update, or voice mail is sent, that there is a log file created at C:speakease\bin\exagent.log.



Note: Build 37 bug: if the log file is full (Approx 987 kB), only the first line is overwritten. To reinitialize the log file, stop the EXAgent service, rename the logfile, then restart EXAgent service.

2. Verify that when logged in as Speakadmin, you can access
`M:ExchangeServerName\MBX\SystemMailbox\StoreEvents\GlobalEvents\saeSink`

If SAESink is not in the directory...

- Verify that your view options are not set to hide .dll files
- Stop EXAgent
- Run Delsave
- Delete Com+ Application (SAEEventNotifier)
- Recreate Com+ Application
- Run Addsave (verify no errors)
- Restart EXAgent

If there is no access to the system mailbox, the user was not logged in as Speakadmin when the EXAgent component was installed. Access to the system mailbox is required as the saeSink component notifies EXAgent of any changes to the Exchange mailbox.

3. On the Exchange Server: Verify that `c:speakatEase\bin\ addsave,delsave` and `debug.dat` have the correct drive M folder, and that you can perform an addsave correctly (that is, without errors)
4. Use a telephone connected to the MWI port to verify it has the correct COS privileges to activate message waiting.

To manually configure the DCOM settings

1. Start the DCOM Configuration Tool (click **Start, Run**, type "dcomcnfg", then click **OK**).
2. In the Distributed COM Configuration Properties window, under the **Applications** tab, find **ocxhost** and double-click on it.
3. In the ocxhost Properties window, select **Connect**.
4. Open the **Security** tab, and click on the **Edit** button in the **Use Custom Access Permissions** box.
5. "System" and "SpeakAdmin" (or the name of the 6500 Unified Communications user) should both appear in Registry Value Permissions. If one or both fail to appear, click **Add**.
6. In **Add Users and Groups** dialog box, click on the **Show Users** button. If System is missing, find "**System**," select it, then click **Add**. If SysAdmin is missing, find "**SysAdmin**," select it, then click **Add**.
7. Click on the **Edit** button in the **Use Custom Launch Permissions** box.
8. Click **OK** four times to close all windows.

To create SAEEventNotifier

1. Right-click the Com+ Applications folder. Click **New**, then **Application**.
2. When the Welcome window appears, click **Next**.
3. When the Install or Create a New Application window appears, click **Create an empty application**.

4. In the **Enter a name for...** dialog box, type **SAEEventNotifier**, ensure that **Server Application** is selected, then click **Next**.
5. Ensure the radio button **This user...** is selected, then click **Browse**.
6. In the Select User or Group window, select the local domain in the **Look in** box .
7. Scroll to **speakadmin** and click **OK**. Type the SpeakAdmin password, then again in the **Confirm Password Information** box. Click **Next**.
8. When the Thank you for using... window of the installation wizard appears, click **Finish**.

To create components for SAEEventNotifier

1. Expand the SAEEventNotifier folder in the **Component Services** dialog box.
2. Click, then right-click the Components folder, select **New**, then **Component**.
3. When the COM Component Install Wizard Welcome window appears, click **Next**.
4. Click on the **Import Component(s) that are already registered** button.
5. In the Choose Components to Import window, browse for ExEvents.ExEx.1, highlight it, and click **Next**.
6. In the Thank you for using... window, click **Finish**.
7. Confirm you have a new component under the Components folder. Get back the **Com+ Creation** dialog box that you set aside when you were installing the Exchange components, and click **Yes**. This will install EXAgent as a service and start this service. To confirm this step has been successful, click **Start, Control Panel, Administrative Tools**, then **Services**. Scroll to find EXAgent. The EXAgent should be started, and be in Automatic startup type mode.

To configure IIS for local voice mail queue

1. Verify that the Microsoft SMTP Server has started with the automatic setting (click **Start, Settings, Control Panel**, then **Services**).
2. Open Internet Service Manager (open **Programs, Windows NT 4.0 Option Pack, Microsoft Internet Information Server**, then **Internet Service Manager**). The Microsoft Management Console window opens.
3. Navigate to **Default SMTP Site** (click **Internet Information Server**, your computer name, then **Default SMTP Site**). Right click **Default SMTP Site**, then select **Properties**. The Default SMTP Site Properties window opens. If the Default SMTP Site does not exist, see page 232.
4. Click the **Delivery** tab.
 In the Local Queue section, we recommend that you enter **10** (minutes) for the Retry Interval. The number for the Retry Interval defines the amount of time that the 6500 server will wait before attempting delivery of the voice mails to the Exchange server. In Maximum retries, we recommend that you enter **240**. This number is the total number of message delivery attempts before the 6500 server considers the message undeliverable. In conjunction with the Retry Interval number, the 6500 server will attempt to deliver the message every 10 minutes. These settings are configurable on a per site basis, and should be discussed with the customer.
 In the Remote Queue section, we also recommend that you enter **10** (minutes) for the Retry Interval.

5. Ensure that the entry in the **Fully Qualified Domain Name** box is correct. The entry should have the format *6500 computer name.domain name.com* (for example, sae.mitel.com).



Tip: To make sure that the Domain Name Server (DNS) is set up correctly, ping the two names (the computer name and the domain name) that you entered in the previous step.

6. In the **Smart Host** box, enter the Exchange server name.
7. If your system is for VPIM networking, confirm that **Attempt Directory Before Sending to Smart Host** is selected, otherwise, ensure that this checkbox is de-selected.
8. If your system is for VPIM networking, click the **SMTP Site** tab. Under **Incoming Connections**, confirm that the **TCP port** field reads **25000**.
9. Click the **Directory Security** tab. In the Relay Restrictions section, click **Edit**. The Relay Restrictions window opens.
10. Select **Not Allowed to Relay**, and click **Add**. The Grant Access On window opens.
11. Select **Single Computer**, and enter the IP Address **127.0.0.1**. Click **OK** twice to close the two sub-windows.
12. Click **Apply**, then **OK**.
13. In the Admin Web page, select **System Configuration, System Properties**, then **Exchange 2000**, and scroll down to **SMTP Server**. Check to see that **localhost** is in the Value box. If it is not there, type it in, and click **Save**.
14. Reboot the server.

If the Default SMTP site does not exist by default

1. Ensure that the Microsoft SMTP server is installed on the 6500 server. This can be verified by checking "Services" in Control Panel. If not, it can be installed from the WinNT 4.0 Option Pack 1 CD.
2. Ensure the Snap-in for controlling the service is installed.
3. Run Programs/Windows NT 4.0 Option Pack/Microsoft Internet Information Server/Internet Service Manager
4. Use the "Add/Remove Snap-In" command from the "Console" menu.
5. Select the tab pane "Extensions".
6. In the pop-up "Snap-ins that can be extended:", select the "Internet Information Server" option.
7. In the list of "Available extensions:", check the "Mail-SMTP" item.
8. Modify the property sheet of the "Default SMTP site" item
9. Select that item in the tree view:
 - + à IIS Server
 - + à <Your machine name>.

Reference

Refer to these SMTP commands and reply codes to verify the SMTP connection to the Exchange server.

SMTP Command Codes

Command	Description
HELO <i>fqdn</i>	Identifies the sending SMTP host.
MAIL FROM:< <i>sender</i> >	Identifies the sender of the message.
RCPT TO:< <i>recipient</i> >	Identifies the recipient of the message. This command is used for each recipient of the message.
DATA	Indicates that the sending host is ready to send the message.
RSET	Aborts the current mail transaction.
VERFY <i>string</i>	Allows the sending host to verify that the recipient is valid before sending the message.
HELP< <i>string</i> >	Lists the SMTP commands
QUIT	Disconnects the TCP session.
TURN	Triggers the recipient server to send queued messages destined to the sending server. Used in dial-up environments to poll a host for queued messages.

SMTP Reply Codes

Reply Code	Description
220 <i>fqdn</i>	Service is ready.
221 <i>fqdn</i>	Service is closing transmission channel.
250	Requested action is okay, and has been completed.
354	Start message input; end with <CRLF>.<CRLF>.
450	Requested action not taken: mailbox busy.
451	Requested action aborted: local error in processing.
452	Requested action not taken: insufficient system storage.
500	Syntax error, command unrecognized.
550	Requested action not taken: mailbox unavailable or not found.
552	Requested action aborted: exceeded storage allocation.
554	Transaction failed.

Using SMTP Commands

To verify the SMTP connection between the 6500 server and the Exchange server

1. From the 6500 server, telnet to the Exchange server (click **Start, Run**, type **telnet ExchangeServerName 25** (for example, telnet exchserver 25), then click **OK**).
2. In the Telnet window, type **helo**. The Exchange server sends an acknowledgement message.
3. Type **mail from:me@here.com**. The Exchange server sends an acknowledgement message.
4. Type **rcpt to:ValidEmailAddress.com** (for example, rcpt to:Jane_Doe@mitel.com). The Exchange server sends an acknowledgement message.

If the Exchange server is not functioning properly, you will get an error message stating that the Exchange server is unable to relay. To change the Exchange server relay settings, see "Setting the Relay Permissions on the Exchange Server" on page 44.

5. Type **data**. The Exchange server instructs you to start your mail input and end with <CRLF> and <CRLF>.
6. Type the text of your e-mail (for example, "This is a test.").
7. Press ENTER twice. The Exchange server sends a transfer confirmation message.

Regulatory Notices

Notice to North American Customers

Industry Canada Notice

This Class A digital apparatus meets all requirements of the Canadian Interference-causing Equipment Regulations.

Federal Communications Commission (FCC) Notice

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy. If not installed and used in accordance with the technical documentation, this equipment may cause harmful interference to radio communications.

Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

North American Warranty and Service Information

There are no user-serviceable parts within this equipment. Refer all servicing to a Mitel Networks-authorized repair facility. If you require a Mitel Networks return authorization number, or information on obtaining service or repairs, please contact Mitel Networks at the following telephone number:

1-800-SXMITELE (1-800-796-4835)

A Mitel Networks return authorization number must be obtained before sending equipment to the Mitel Networks repair facility. The Mitel Networks repair facilities are located at the following addresses:

Mitel Networks Corporation
350 Legget Drive
Kanata, Ontario
Canada K2K 2W7

Mitel Networks Incorporated
120 Chimney Point Drive
Ogdensburg, N.Y.
U.S.A. 13669

Notice to European Customers

Conformance to EC Directives

The "CE" mark is affixed to this product to demonstrate conformance to the R&TTE directive (99/05/EC) (Radio Equipment and Telecommunications Terminal Equipment Directive).

Warning: The Standalone Server configuration is a Class A product. In a domestic environment this product may cause radio interference, possibly requiring the user to take adequate measures.

Declaration of Conformity

We, Mitel Networks Ltd.
Mitel Business Park
Portskewett
Monmouthshire
NP26 5YR
U.K.

Declare under our sole responsibility that the product:

Mitel Networks 6500 Unified Communications and all associated peripherals manufactured by Mitel Networks

To which this declaration relates is in conformity with the essential requirements specified in Article 3.1 (a) and 3.1 (b) of:

Directive 99/05/EC (Radio Equipment and Telecommunications Terminal Equipment Directive)

For a copy of the Original Signed Declaration (in full conformance with EN45014) please contact the Regulatory Approvals Manager at the above address.

Warranty Information

There are no user-serviceable parts within this equipment. Refer all servicing to a Mitel Networks-authorized repair facility or to Mitel Networks Corporation. If you require a Mitel Networks return authorization number, or information on obtaining service or repairs, please contact Mitel Networks at the following telephone number:

0870 909 2020 (UK only)
01291 430000 (non-UK callers)

Mitel Networks return authorization number must be obtained before sending equipment to the Mitel Networks repair facility. The Mitel Networks repair facility is located at the following address:

Mitel Networks Limited
Mitel Business Park
Portskewett
Monmouthshire
NP26 5YR
U.K.

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