

**Installation Guide** 

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# 1. Introduction

This chapter describes the purpose of this guide, provides an introduction to the OnePoint Messenger<sup>TM</sup> unified messaging system, including its components and supporting documentation. It also discusses skills required of installers. It contains these sections:

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#### **About This Guide**

This guide covers the installation of line cards and software on two Windows NT Servers to create a OnePoint Messenger 2.0 unified messaging environment. To set up the turnkey Telephony Server (the system shipped from the factory with OnePoint Messenger already installed), see the *Getting Started Guide*.

The installation procedures here for the essential components supplied by other vendors are meant only to supplement the manufacturers' documentation for products not on the OnePoint Messenger CD-ROM. This guide contains a general introduction to the tasks involved in integrating OnePoint Messenger with a PBX. For information on a specific PBX integration, see the list of integration guides at the end of this chapter. For more on finding information in this guide, see "Organization of This Guide" on page 13.

#### **About OnePoint Messenger**

Unified messaging is the combination of telephone messages, faxes, and e-mail in each mailbox. The mail server delivers those messages to end users through a common user interface. OnePoint Messenger software is a set of software applications that provide unified messag-

ing through the Microsoft Exchange mail server, Microsoft Outlook©, and Web browsers. The OnePoint Messenger server software is installed on two Microsoft Windows NT Server 4.0® systems:

- The OnePoint Messenger Exchange Extension is installed on the computer running Microsoft Exchange® ("the Exchange Server") to support unified messaging on Exchange.
- A large suite of software components providing messaging and maintenance services are installed on the Telephony Server, which handles communication between the telephony network and Microsoft Exchange.

See Chapter 1 in the *OnePoint Messenger Administrator Guide* for a detailed system overview, a summary of each of the hardware and software components, and an overview list of tasks. Chapter 1 in the *OnePoint Messenger User Guide* also has a basic system overview and a summary of what you can do with OnePoint Messenger clients.

## **Required Skills**

The OnePoint Messenger software product should be installed by a certified Microsoft Certified Systems Engineer (MCSE) technician, certified on NT Server 4.0 and Exchange. Although the OnePoint Messenger documentation covers the basic Windows NT and Exchange tasks needed to configure and manage a OnePoint Messenger environment, installers and administrators should use other sources of information, including Windows NT and Exchange guides, and guides from the other vendors whose products complete your OnePoint Messenger unified messaging environment.

To provide Web browser access to mailboxes by users, you must install and manage Internet Information Server© (IIS). To do so, you must obtain IIS training.

While installing and managing Windows NT and Exchange, you must perform NT administrator functions, including setting up domains, creating administrator accounts, and performing software maintenance and backups. Generally, these are simple functions. All OnePoint Messenger applications all use common Windows interfaces and interoperate with NT system utilities, to minimize your learning effort. Nevertheless, unified messaging is a complex process, which you cannot learn to administer by trial and error.

#### **Organization of This Guide**

This guide contains five chapters and three appendixes, with hyperlinks signalled by blue text for use in the electronic version of the documentation:

- This chapter, Chapter 1, introduces you to OnePoint Messenger and its documentation.
- Chapter 2, "Preparing to Install" on page 19, summarizes the installation process, lists the components you need to complete it, and discusses your installation options.
- Chapter 3, "Installing Telephony Server and Exchange Server Software" on page 31, contains the detailed OnePoint Messenger software installation sequence. The instructions are organized in three levels: main procedures (for example, Procedure 1), task lists, and numbered steps within the task lists.
- Chapter 4, "Integrating the Telephony Server with a PBX" on page 77, completes the installation procedure sequence. It covers how to integrate the OnePoint Messenger Telephony Server line cards and the telephony switch (PBX), including assigning telephony applications to particular ports. Additional annotated screen illustrations show various configurations.
- Chapter 5, "Making Changes to OnePoint Messenger" on page 111, contains information on reinstalling, removing, and upgrading OnePoint Messenger, with information about System Service Tool, backups, and details on the License Install utility.
- Appendix A, "Supported Hardware and Software" (page 163), contains details on required and optional hardware and software.
- Appendix B, "Adding Line and Fax Cards" (page 175), contains notes on installing line and fax cards in the Telephony Server.
- Appendix C, "Installation Checklist" (page 207), contains a
  checklist of the procedures in Chapters 3 and 4 that you can use to
  record your progress and note assigned names and passwords. In
  electronic format, the items in the checklist are hyperlinks to the
  associated task lists in the chapters.

#### The Meaning of Special Terms Used in This Guide

To provide quick semantic clues to what you should expect to see onscreen, the procedures in this guide use "select," "clear," "click," and "choose" in specific situations:

- "Select" is used where you open and use property pages (tabs) and dialogs, such as for items in a field or for a group of options.
- "Clear" or "deselect" is used where you remove a check from a check box or an entry in a field. For example, while you "select the radio button for xxx to enable xxx," you "clear the radio button for xxx to disable xxx."
- "Choose" is used to indicate that you are to invoke a menu item from the Windows Start menu and program menus.
- "Click" indicates graphical buttons, including icons and toolbar buttons, because, although you can generally use the Tab key to access buttons, typically you click buttons with the mouse.

Each procedure describes the full sequence of opening its application, usually from the Windows Start button. The consistent form should allow you to quickly recognize the intent so that you do not need to read the complete instruction. Look for the terms in bold type, which signal the selections that you need to make.

#### The Meaning of Formats in This Guide

This guide presents information using consistent formats to help you more quickly recognize the intent of the presentation.

#### Lists

**Numbered** lists present the steps of procedures that you must follow in the order given.

**Bulleted** lists present options for which the order is not important.

#### **Notes and Cautions**

A "**NOTE**:" presents information that is of special importance or is relevant only to some users or in some situations.

A "CAUTION!" alerts you to choices with potentially problematic results.

"WARNING!" is more serious than a caution, alerting you to a choice that could cause a failure of the system.

#### **Other Text Styles**

*Italic* type is used to introduce terms and for the titles of publications.

In this guide, **boldface** type is used to emphasize tasks and key words, such as buttons, tab, and menu items, to make them easier for you to spot. For example, a task is presented with the purpose in a separate bold line, followed by the steps, with key words in bold.

#### Type in Commands and Screen Output

For statements in command syntax format, small mono-spaced bold type like this indicates the characters you should type. Brackets like these < > designate the variables that you are to replace with other information. For example, in the following command, you type the word INSTALL but replace "drive" and "directory" with the names of the drive and directory you are using:

#### <drive>\<directory>\INSTALL

The same font in regular weight (not boldface) presents screen output.

#### **Acrobat Hyperlinks**

This guide is included on the OnePoint Messenger CD-ROM in Acrobat 3.0 PDF format. Acrobat Reader version 4.0 is also included on the CD-ROM to view and print the document. This guide contains extensive hyperlinks, indicated on-screen by blue text. The Acrobat bookmark list and thumbnail views also provide hyperlinks. See the Acrobat online help for details.

#### **Supporting Documentation**

The focus of this guide is the installation and basic configuration of OnePoint Messenger software on the Telephony Server and Exchange Server. This guide does not replace the third-party manufacturer documentation for products supporting OnePoint Messenger, such as line cards, fax cards, the PBX, NICs, computers, Show N Tel, and Microsoft software (Outlook, Windows, Exchange, and Microsoft Management Console). Appendix B of the *OnePoint Messenger Administrator Guide* provides a list of vendor contact information.

In addition to this guide, the documentation on the OnePoint Messenger CD-ROM in Acrobat PDF format includes:

- OnePoint Messenger Administrator Guide (summarized below)
- OnePoint Messenger Getting Started Guide (for turnkey installations)

- OnePoint Messenger User Guide (summarized below)
- PBX integration guides for:
  - Centrex switches
  - Fujitsu 9600
  - Lucent Definity G3
  - Mitel SX-200
  - Mitel SX-2000
  - NEC NEAX 2400, all versions
  - Nortel Meridian
- From Brooktrout Technology:
  - Getting Started with Show N Tel (installing and using software bundled with Show N Tel)
  - Show N Tel System Administrator Guide (using Show N Tel Manager)

The *OnePoint Messenger Administrator Guide* contains a system and task overview and component details:

- Chapter 1 provides an overview of the unified messaging system and a task list at the end of the chapter that summarizes installation, configuration, maintenance, and performance tuning.
- Chapter 2 discusses configuring Exchange to provide unified messaging services for users. It shows how to edit a user profile, which you do during the installation.
- Chapter 3 details how to use the Unified Messaging Snap-in to Microsoft Management Console (also known as TSAdmin) to set the operation of the telephone interface. The elements that you need to configure to complete the basic installation, including the Message Center pilot and PBX settings, are detailed in Chapter 4, here (see "Using MMC to Create a Data Link Integration" on page 81).
- Chapter 4 details the fax services, which are not needed to get the
  basic answering services running, but you make choices about
  assigning fax resources during the installation, so you should
  understand what services the fax resources support.
- Chapter 5 provides an overview of the operation and maintenance of OnePoint Messenger, summarizing the available utilities.
- Chapter 6 covers system validation, and Chapter 7 covers process tracing. These tools are the best for troubleshooting.

- Chapter 8 covers performance reporting.
- Chapter 9 discusses software upgrade and licenses (See Chapter 5 here (page 124) for a more detailed explanation.)

The appendixes in the *OnePoint Messenger Administrator Guide* that can help you diagnose and correct problems include:

- Appendix B—lists sources of information for the third-party components required for OnePoint Messenger (Appendix A here (page 163) also lists some of those contacts.)
- Appendix C—discusses the Windows NT Event Viewer and Telephony Server event messages.
- Appendix F—discusses the post office processes of Telephony Server, and provides tests and alternative configuration procedures for troubleshooting a failed installation.

The *OnePoint Messenger User Guide* describes how to use OnePoint Messenger client features, including on Outlook additions, fax features, Web Client, and the Telephone User Interface. The chapters most relevant to installation and troubleshooting are:

- Chapter 2—creating an Outlook profile and installing OnePoint Messenger on the client
- Chapter 3—using OnePoint Messenger client components in Outlook
- Chapter 7—using the Telephone User Interface (TUI)
- Appendix A—testing and using sound recording and playback functions on a PC

#### **Contacting Mitel Technical Publications**

The Mitel Technical Publications and Media Development Group maintains this document. We welcome your questions and suggestions—notes on spelling and grammatical errors, comments on readability, and suggestions for improvements. Please reference the document number that appears on the back of the cover page. Send your comments to:

techpubs@mitel.com

Access the most recent versions of the documentation through Mitel Online from the Mitel home page at:

#### http://www.mitel.com

# 2. Preparing to Install

This chapter lists the hardware and software necessary to create a unified messaging environment with OnePoint Messenger version 2. It summarizes the installation process and components. For details on software and hardware requirements and options, see Appendix A (page 163). This chapter contains these sections:

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# What You Need for a OnePoint Messenger System

To create a OnePoint Messenger environment, you need two computers running Windows NT Server 4.0 (any version) with Service Pack 5, one for Microsoft Exchange and the other for Telephony Server, and both on the same LAN segment. The other necessary components are listed below. For details, including optional hardware and software, see "Appendix A. Supported Hardware and Software" on page 163.

### **Hardware Requirements**

The following minimum requirements apply to both the Exchange Server computer and the Telephony Server computer to support 24 line card ports. For details, see the section "Server Sizing" on page 165 in Appendix A, "Supported Hardware and Software".

- 256 MB
- 550 MHz Pentium III CPU (dual CPU is also allowed)
- 3GB disk space
- Network interface card (NIC)

The Telephony Server also requires the following:

- NMS line card(s) (up to 24 ports) to provide voice messaging
- Sufficient clearance above the motherboard to place the number of desired line and fax cards in the backplane
- Fax card if you want to provide fax messaging

## **Software Requirements**

To create the unified messaging network with Telephony Server on one computer and Exchange on the second computer, you need:

- For the Exchange Server:
  - Windows NT Server 4.0 with Service Pack 5
  - Windows NT Server Option Pack 4 to install Internet Information Server (IIS) 4.0
  - Exchange 5.5 with its Service Pack 1 or 2
- For the Telephony Server:
  - Windows NT Server 4.0 CD-ROM with Service Pack 5
  - Outlook 98 with Service Pack 1 (Outlook 97 is no longer supported)
  - OnePoint Messenger version 2.0 CD-ROM, which contains both the server and client components. Install all software on the Telephony Server. You then move certain components to the Exchange Server and client PCs.
  - Internet Explorer 4.01 with Service Pack 1 or later
  - OnePoint Messenger license on floppy diskette—See "Upgrading OnePoint Messenger Feature Licenses" on page 152 in Chapter 5.

#### **OnePoint Messenger Desktop Clients**

End-user PCs can run Windows 95, 98, or NT. To access unified messaging through Outlook, users need the OnePoint Messenger client components, which are on the OnePoint Messenger CD-ROM. During the installation of OnePoint Messenger on the Telephony Server, a client folder is created on the Telephony Server. Then the installation instructions guide you through sharing that folder, so that you can install the client to users' computers over the LAN.

You can provide users access to their mailboxes through supported Web browsers. Currently, those supported browsers are Netscape 4.0 or higher and Internet Explorer 4.0 or higher. To provide Web access, install Exchange 5.5 with Service Pack 1 or 2, Internet Information Server 4.0 (with Active Server Pages), and Outlook 98 (Outlook 97 is no longer supported.) To access mailboxes, a user can use any supported Web browser and any computer with a network or Internet connection to the Exchange Server. For details on user functionality, see Chapter 4 in the *OnePoint Messenger User Guide*.

#### **Administrator Rights**

The installation instructions in Chapter 3 contain several tasks for setting up administrator accounts, including:

- Exchange NT administrator: Set up an Exchange administrator NT account (page 37).
- Exchange forms author: Set permissions for the forms author in Exchange (page 38).
- **Telephony Server NT administrator:** Set up an NT Administrator Account with local rights and Outlook on the Telephony Server (page 40).

To create these administrator accounts, you log on to the domain as a domain administrator. Later in Procedure 3, you log on as the Exchange administrator and give account permissions to the Telephony Server administrator. You also log on to the local Exchange and Telephony Server computers as their local administrators to give local administrator rights to the Telephony Server administrator.

You do not need to set up the accounts in exactly this way, but you need to have NT and Exchange training to understand your options.

## **Choosing a Network Topology**

What administrative accounts you create depends on how you design your network and how you divide responsibilities. The accounts and permissions described in Chapter 3 are based on these presumptions:

- You divide responsibilities between at least two administrators.
- You give author access to both computers to the administrators.
- The Exchange Server is the Primary Domain Controller (PDC).
- The Telephony Server is a member server in the same NT domain as its *primary Exchange Server*. "Primary Exchange Server" means that the Exchange Server is the one that you designate during the OnePoint Messenger installation as the Exchange Server with which the Telephony Server will directly communicate.

It is not necessary that you create your network hierarchy and permissions in exactly the way described. For example, you can set up the Exchange Server as a member server. If you do so, follow the installation directions here, but set up the administrative rights at the local level instead of the domain level. The critical condition for OnePoint Messenger is that installers and administrators have rights to manage Telephony Server and Exchange.

The factors that you must consider when designing your network topology are beyond the scope of this document. The one benefit not usually considered in making the Exchange Server the Primary Domain Controller (PDC) is that users have easier access to Exchange when logging in through the Web. With Exchange as a domain controller, users can simply enter their names and passwords at the logon screen. Otherwise, they must preface their names with the domain name that administers their accounts.

#### **Choosing Exchange Server Options**

OnePoint Messenger supports and benefits from Microsoft Exchange multi-server functionality. Through its primary Exchange Server (see the definition above), Telephony Server collects information from all OnePoint Messenger mailboxes on the Exchange site. The Exchange Server also supports all mailbox replication functionality utilized in the Exchange enterprise topology. For details on these concepts, see your Exchange documentation.

#### **Call-Me/Meet-Me Conditions**

Call-Me and Meet-Me are two ways that users can hear and record voice messages through their telephones while controlling the messages from their PCs. This is accomplished from Outlook by invoking a link to the telephone from the PC through the Telephony Server. To provide this facility, the client computer must be either in the same NT domain as the Telephony Server, or in a domain that has a two-way trust relationship with the Telephony Server domain. Follow the directions in Chapter 4 ("Assigning Applications to Lines" on page 104) to enable the applications and ports that provide the Call-Me/Meet-Me service.

For details on client Call-Me/Meet-Me features, see Chapter 3 of the *OnePoint Messenger User Guide*. To enable Call-Me on the Telephony Server, you must assign the telephony application "Notifications" to a port. See Chapter 4 (page 104) in this guide for details.

## **OnePoint Messenger Server Components**

Review the roles and uses of the following OnePoint Messenger components, which appear during installation. For details on these applications, see the *OnePoint Messenger Administrator Guide*:

- Directory Initialization provides manual directory updates on the Telephony Server. Directory Access Service (DAS), an automated update service, caches Exchange directory information on the Telephony Server, so you only need to invoke Directory Synchronization once. The application is called automatically by the OnePoint Messenger Installation Program. For details, see Appendix A of the OnePoint Messenger Administrator Guide.
- License Install manages feature license installation and monitoring. For details, see Chapter 5 of this guide and Chapter 9 of the OnePoint Messenger Administrator Guide.
- Telephony Server Monitor (TSMon) and WinFT Watchdog manage OnePoint Messenger services. For details, see Chapter 5 of the OnePoint Messenger Administrator Guide.
- Show N Tel Runtime, from Brooktrout Technology, provides call processing, PBX integration, and other functions. For details, see Appendix G of the *OnePoint Messenger Administrator Guide*, or the Brooktrout *Show N Tel Manager User's Guide*, stored on the OnePoint Messenger CD-ROM as sntmgrguide.pdf.

• The Telephone User Interface (TUI) provides routing menus and prompts, and a messaging interface to callers. You choose which of the available prompt languages to install—one or more of U.S. English, U.K. English, and Latin American Spanish (the use of up to two languages is bundled into the cost of the base system; using a third requires purchasing a license.) If you install more than one prompt language, the Telephony Server administrator can set which language to use for system prompts and which to use as the default for user mailbox menus. Users can override the default mailbox prompt set. For details, see Chapter 3 of the OnePoint Messenger Administrator Guide.

Other OnePoint Messenger components on the Telephony Server include:

- Post Office Network Gateway (PONG). PONG Server and PONG Client both reside on the Telephony Server. They run transparently as services, providing the messaging interface between the telephone system and Exchange.
- OnePoint Messenger RAS components, including OnePoint Messenger Trace Manager, SNT Trace, System Alert Report, System Reporting Program, System Service Tool, cvNotify, and Version Reader.
- TruVoice® Text-to-Speech, with Text-to-Speech Pronunciation Manager® and TTS Dictionary Editor, for editing the pronunciation of words spoken by the TUI during e-mail Text-to-Speech conversion

OnePoint Messenger includes several software components that are installed on each end-user client PC to add unified messaging to Outlook. These components also provide fax services and Web access to mailboxes on Exchange. By default, they are stored in \OnePoint Messenger\Staging.

## **Installation Summary**

This section contains a summary of the procedural sequence and an installation overview from the perspective of each system—Telephony Server, Exchange Server, and client. Chapter 3 (page 31) presents a step-by step description of the installation of all necessary software for the Exchange Server and Telephony Server. The instructions in Chapter 3 are written for the installer who is starting with two bare PCs (network cards should be installed), without installed oper-

ating systems. The instructions do this in order to ensure that you install the operating system options critical to OnePoint Messenger. Variations on the theme include:

- If you already have Windows NT installed, you do not need to reinstall. Compare the recommended Windows NT configuration with yours to make sure that you have what you need. If you need to update the operating system to support OnePoint Messenger, do so before you install OnePoint Messenger unless otherwise noted in the OnePoint Messenger release notes.
- If you have a system with OnePoint Messenger 2.0 already installed and simply need to set it up, see the *Getting Started Guide* for that system.
- If you have a system with OnePoint Messenger installed that you want to upgrade, see "Preparing for Service" on page 114 in Chapter 5. When upgrading from OnePoint Messenger 1.1 to OnePoint Messenger 2.0, you must remove OnePoint Messenger 1.1, install Windows NT Service Pack 5 on both the Telephony Server and Exchange Server, and replace Outlook 97 with Outlook 98 on the Telephony Server.

This guide does not detail the installation of Windows NT or Exchange beyond noting the critical components. For details on those products, see your Microsoft documentation. See sources of information for supporting software in Appendix B of the *OnePoint Messenger Administrator Guide*.

Install all OnePoint Messenger software components from the CD-ROM to the Telephony Server. The OnePoint Messenger software installation is automated using Installshield <sup>TM</sup>. You are probably very familiar with the Installshield interface, consisting of a series of dialogs, on which you make choices, then usually click **Next** to proceed. Most dialogs contain a **Back** button, so you can back up through the installation to make changes in your choices.

If, after you finish the installation, you need to add an option, such as another prompt language, start the CD-ROM installation again. See "Using SmartUpdate for Backing Up and Restoring Configuration Files" on page 126 of Chapter 5. The OnePoint Messenger installation program does not reinstall components that are already installed, so the process is quick. When you complete the part of the installation you need, you can cancel out of the program.

## **Installation Sequence Summary**

This section provides an overview of the installation procedures. See also the hyperlinked lists at the beginning of Chapters 3, 4, and 5, the complete hyperlinked procedures list in Appendix C (page 207), and the form containing names and passwords in "Names and Passwords" on page 33 in Chapter 3.

• Procedures 1, 2, and 3—These procedures cover the installation of Microsoft components, including Windows NT, Internet Information Server, Microsoft Exchange, and Microsoft Outlook. If you already have Windows NT and Exchange installed, read this section to make sure you have the necessary optional components, including service packs. For details, see Appendix A, "Supported Hardware and Software" (page 163).

Installing line cards is not critical at this time, but it is the best time to do, so you know what software to install in Procedure 4. See Appendix A, "Supported Hardware and Software" (page 163) and Appendix B, "Adding Line and Fax Cards" (page 175).

Here, you also create Windows NT administrator accounts and set authoring permissions in Exchange Administrator. For details, see "Administrator Rights" on page 21 in this chapter.

- Procedure 4—This is the installation of OnePoint Messenger on the Telephony Server. The OnePoint Messenger Installation Program includes installing other vendor components bundled on the OnePoint Messenger CD-ROM, such as Show N Tel Runtime, which itself includes configuration tools for NMS and Brooktrout linecards.
- **Procedure 5**—The Configuration Wizard integrates Telephony Server with Exchange. Here, you identify the primary Exchange Server, then the program copies necessary files from the Telephony Server to the Exchange Server.
- **Procedure 6**—Run Directory Initialization manually once to synchronize Telephony Server and Exchange directories.
- **Procedure 7**—WinFT is installed, the last step in the automated OnePoint Messenger installation.
- **Procedure 8**—Share Telephony Server directories for Exchange and client setup.

- **Procedure 9**—Set the Telephony Server security level. Configure line and fax cards, if installed.
- **Procedure 10**—Install the Web Client server application on Exchange.
- **Procedures 11 through 13**—Install a test user and run user and system tests. For details on testing, see "Testing and Troubleshooting" on page 28 in this chapter.
- Procedures 14 through 19—Chapter 4, "Integrating the Telephony Server with a PBX" on page 77, contains procedures for integrating the telephone switch with the Telephony Server using Show N Tel Manager. It includes the assignment of telephony applications to individual lines. The examples are for a Mitel SX-2000. For other PBXs, see the specific OnePoint Messenger integration guide.

Chapter 5, "Making Changes to OnePoint Messenger" on page 111, includes a discussion of feature licenses and the use of the License Install utility, used during the OnePoint Messenger installation sequence in Chapter 3.

#### **Installation Overview by Basic Component**

This section reviews the installation from the perspective of the basic components.

Microsoft Exchange: Procedure 1 covers installing Windows NT Server 4.0 and Exchange, creating administrator accounts, and setting Exchange author permissions. In Procedure 5 covers running the Configuration Wizard on the Telephony Server to set the integration between the Telephony Server and the Exchange Server, including adding programs and mailboxes onto the Exchange Server. Procedure 10 covers configuring a test user on Exchange.

**Telephony Server**: Procedure 2 covers installing Windows NT Server 4.0 on the Telephony Server. Procedure 3 covers installing and setting up the Telephony Server administrator account. Procedures 4–7 cover installing OnePoint Messenger on the Telephony Server, including Show N Tel and other subsystems. The Show N Tel files include configuration software for Brooktrout fax cards and NMS line cards. Procedure 5 integrates Telephony Server with Exchange.

In Chapter 4, you assign telephony applications to lines using Show N Tel Runtime on Telephony Server.

OnePoint Messenger Client: Procedure 4 includes automatically copying client setup files to the Telephony Server. Procedure 8 covers sharing the client directory on Telephony Server, so that you can install client components over the network. Procedure 10 covers creating a test user account on Exchange. Procedure 11 covers installing test user software and running messaging tests. Chapter 5 covers uninstalling client components. Chapter 2 in the *OnePoint Messenger User Guide* also covers installing the Desktop Client software.

Line and Fax Cards: Review and fulfill at least the minimum requirements in Appendix A for the computers, switch, and cards. Follow the installation directions provided with the telephony hardware that you purchased. Appendix B contains installation notes on NMS, and Mitel AFC with NMS DSP cards.

Chapter 3 covers the installation of OnePoint Messenger software, but it also contains two procedures on hardware configuration.

- **Procedure 4** includes line card and fax card hardware and software installation.
- **Procedure 9** provides another opportunity to configure cards.

**Telephone Switch (PBX)**: Follow the instructions in the OnePoint Messenger integration guide for your PBX. Chapter 4 here provides a generalized version of the instructions. To enhance the telephone user interface, see Chapter 3 of the *OnePoint Messenger Administrator Guide*.

## **Testing and Troubleshooting**

Depending on whether and from where you plan to manage the messaging system remotely, you should consider setting up a telephone connection to the Telephony Server through a modem early in the installation process. If you plan to use the modem to manage the system, you lose no time by installing it immediately. Then, if you encounter problems during installation, you can get more help from offsite vendor support, enabling them to take over remote control of the Telephony Server to diagnose problems. You would set up a program like pcAnywhere that provides remote control. pcAnywhere is included with the turnkey version of the Telephony Server. It comes with its own installation and user guide.

When you complete the installation in Chapter 3, you have automatically validated the integration between Telephony Server and Exchange, because the Configuration Wizard requires communica-

tion with Exchange and produces error messages if the integration process is incomplete. If the Configuration Wizard fails to complete its task, one way to diagnose the problem is to simplify the number of potential points of failure. First, test the network connection. Make sure that your Telephony Server logon account has the correct write permissions by testing to see if you can save files on the Exchange Server from the Telephony Server. Then try connecting the Telephony Server directly to another Exchange Server that is running a validated setup, possibly even one that already has the OnePoint Messenger components installed.

Procedures 11 and 12 cover setting up a test user ("client") and sending OnePoint Messenger unified messages to and from the client. This tests correct installation, unified messaging functionality, and communication between users through Exchange.

Procedure 13 discusses software validation testing on the Telephony Server and on Exchange, and communication between systems. For details on testing and tracing, see Chapter 6 in the *OnePoint Messenger Administrator Guide*.

If the tests in Chapter 3 indicate problems with the installation, check the Telephony Server Event Log. Even when the installation seems to go well, it is easy and useful to inspect the Event Viewer of both the Exchange and Telephony Server computers to see what messages are generated by the installation. Checking the Event Log before proceeding to the telephony setup in Chapter 4 can save you from needlessly going through those procedures if the setup is already flawed. Historically, problems at this stage have been the result of incorrectly assigning permissions to administrative accounts or not following special installation notes in the release notes.

If you find error messages in the Event Log that you cannot easily remedy, consider reinstalling, which you can do without removing OnePoint Messenger. However, to be absolutely sure of a clean installation, you might want to reformat your drives and start over. See Chapter 5 ("Reinstalling OnePoint Messenger" on page 125) in this guide for more discussion on this subject.

Once you have completed the telephony configuration in Chapter 4, the potential for encountering operational problems escalates, because of the interdependence of computers, software, peripherals, LAN, and telephony components. After starting the system for the first time, the Show N Tel error log (click the "dynamite" icon in Show N Tel Manager) is usually the best place to look, because incorrect IRQ and I/O address settings on the line cards, a common prob-

lem, generate error messages here. Communication processing errors that appear in the NT Event Log are often simply symptoms of the problems more accurately reflected in the Show N Tel Error Log.

Troubleshooting the full array of potential problems is beyond the scope of this manual. For details on individual components, refer to their manufacturers' documentation. For issues with software components, refer to the chapter that addresses the particular component in the *OnePoint Messenger Administrator Guide*. Chapter 1 in that guide provides an overview of the tools and their chapters. See also "Supporting Documentation" on page 15 in Chapter 1 of this guide.

## **Uninstalling Components**

You **cannot** install OnePoint Messenger 2.0 over OnePoint Messenger 1.1 on the Telephony Server and clients, but you can install version 2.0 over the version 1.1 Exchange Extension. Other than upgrading from version 1.1 to 2.0, you can generally install over existing versions of OnePoint Messenger server software. You cannot install client upgrades over existing versions.

For details on removing components, reinstalling, and upgrading OnePoint Messenger components and licenses, see Chapter 5 (page 111).

If you start with a fresh installation and discover that you made a wrong entry, you can usually back up several screens in the installation sequence, or reinstall with the same version, entering the information that you want to change. The reinstallation process requires that you go through the same sequence, but changed files are overwritten, so the process goes much faster. You might get alerts from the Show N Tel installation about the license and the directory path, which you can ignore.

# 3. Installing Telephony Server and Exchange Server Software

This chapter covers installation of all software used on the Exchange and Telephony Servers and client PCs. It contains these sections:

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#### **Chapter Overview**

This chapter contains summary procedures for installing supporting software and detailed procedures for installing OnePoint Messenger software and for testing communication between systems. See the section "Installation Summary" on page 24 in Chapter 2 in this guide for an overview of the installation, including the necessary administrator accounts and components.

The installation sequence in this chapter notes opportunities to install line and fax cards. It also notes the installation of configuration software for the supported cards. See Appendixes A for required and optional components and Appendix B for notes on installing cards.

You must remove OnePoint Messenger 1.1 software from the Telephony Server and client PCs before installing OnePoint Messenger 2.0 on them. You do not need to remove the OnePoint Messenger Exchange Extension 1.1 from Exchange. See "Removing OnePoint Messenger" on page 119 in Chapter 5 for instructions on removing OnePoint Messenger.

## What You Need to Complete Chapter 3

In addition to the necessary hardware (see "Hardware Requirements" on page 20 in Chapter 2 for a summary. See Appendix A, "Appendix A. Supported Hardware and Software" on page 163, for details), you need the following software:

- For the Exchange Server:
  - Windows NT Server 4.0 and Service Pack 5
  - Windows NT Option Pack 4 (installs Internet Information Server for client mail access through the Web, if desired)
  - Exchange 5.5 with Service Pack 1, 2, or 3
- For the Telephony Server:
  - Windows NT Server 4.0 and Service Pack 5
  - Internet Explorer 4.01 with Service Pack 1 or later
  - Microsoft Outlook 98 with Service Pack 1, or Outlook 2000 (Outlook 97 is no longer supported)
  - OnePoint Messenger version 2 (includes Show N Tel Manager, WinFT, Microsoft Management Console, ADO, and line and fax card software)
  - OnePoint Messenger/Show N Tel license floppy diskette (unless you have made other arrangements—see below)

#### Client PC:

- Windows 95, 98, or NT
- Outlook 98 or Outlook 2000 (Outlook 97 is no longer supported)
- OnePoint Messenger client software (automatically copied to the Staging directory of the Telephony Server from the OnePoint Messenger CD-ROM during the OnePoint Messenger installation sequence.)
- You must install DCOM95 1.2 on Windows 95 systems and configure the security level on both Windows 95 and 98. See "Software Requirements" on page 169 in Appendix A.

#### **OnePoint Messenger Software License**

In Procedure 4, you load the OnePoint Messenger CD-ROM, both to start the installation and, if necessary, to generate a server code that you use to order a OnePoint Messenger license. The license includes the use of bundled third-party runtime software and levels of access to purchased OnePoint Messenger features. See Chapter 5 for details on licensing. If you do not have the license diskette, you can install up to Procedure "4G. To install the OnePoint Messenger and Show N Tel licenses on the Telephony Server:" on page 57.

#### Names and Passwords

Before starting the installation process, complete the reference list of computer names, account names, and passwords shown in Table 3-1. Ideally, if an installer is coming from offsite, the list should be completed by the onsite systems administrator and sent to the installer so that the installer can be assured that he has the information he needs when he arrives.

**CAUTION!** If you change the computer name of the Telephony Server when using versions of OnePoint Messenger previous to the official release of OnePoint Messenger 2.0, System Service Tool will not operate. If you must change the name, get OnePoint Messenger vendor assistance.

To change the computer name of the Telephony Server when running the official release of OnePoint Messenger 2.0, see "Renaming Servers" on page 118 in Chapter 5.

This guide uses "TSAdmin" for the logon name of the Telephony Server administrator and "Exchange\_Admin" for the Exchange administrator that have Domain Administrator rights. You can have multiple Exchange and Telephony Server administrators to whom you can grant different access levels. If you set up other administrator accounts, you should maintain a record of those names, passwords, rights, and the people that can use those accounts.

**Table 3-1 Names and Passwords** 

1		Exchange Server computer name
2		Exchange Server local administrator name
2		Exchange Server local administrator password
3		Microsoft Exchange Site name
4		Organization name (entered for Exchange, Outlook, and OnePoint Messenger)
5		Exchange administrator logon name ("Exchange_Admin" is used here)
6		Exchange administrator password
7		Internet domain (e.g., mycompany.com)
8		Intranet domain (e.g., http://mycompany_intranet/)
9		IP Address of Telephony Server (acquire static IP address)
10		IP Address of Exchange Server
11	(see CAUTION)	Telephony Server computer name ("onepoint" is entered at the factory)
12		Telephony Server local administrator name ("administrator" at factory)
13		Telephony Server local administrator password (factory uses "rmx250")
14		Telephony Server administrator name ("TSAdmin" is used here)
15		Telephony Server administrator password
16		Exchange/TServer network domain name
17		Exchange/TServer network subnet mask
18		Exchange/TServer network default gateway
19		DNS IP address
20		Exchange/TServer network primary WIN Server
21		Exchange/TServer network secondary WIN Server
22		Telephony Server Message Center pilot number, as set on PBX
23		Telephony Server Automated Receptionist pilot number, as set on PBX
24		Telephony Server Fax on Demand pilot number, as set on PBX
25		Windows NT domain in which Exchange Server resides

#### **Installation Instructions**

These instructions assume that you are performing a complete installation on empty boxes. If you are installing a turnkey system (a Telephony Server with OnePoint Messenger installed at the factory), see the *Getting Started Guide*. If OnePoint Messenger is already installed, and you are simply upgrading, see "Upgrading OnePoint Messenger Software" on page 124 in Chapter 5.

If other necessary components are already installed, such as Windows NT Server 4.0 with its Service Pack 5 and Microsoft Exchange with its Service Pack, you do not need to reinstall those components. Read the procedures to make sure the necessary features have been included in the installation and the correct permissions have been set. If you are not sure that SP 5 is installed, check the **Version** tab in Windows NT Diagnostics (in the Administrative Tools group).

Consider removing any software from the Telephony Server and Exchange Server computers that is not related to the operation of the messaging function. The quality of the messaging services is very sensitive to loss of system resources. However, you might first install remote control software such as pcAnywhere so that you have remote control access to the Telephony Server.

# <u>Procedure 1</u>. Installing Exchange Server Software, and Creating an Exchange Administrator Account

**NOTE:** See Appendix A in this guide, "Supported Hardware and Software" (page 163), for Microsoft software information and sources.

This procedure has these sub-procedures:

- 1A. To install Windows NT 4.0 with SP 5, IIS 4.0, and Internet Explorer on the Exchange Server:
- 1B. To set up an Exchange administrator NT account:
- 1C. To install Microsoft Exchange Server 5.5:
- 1D. To set permissions for the forms author in Exchange:

# 1A. To install Windows NT 4.0 with SP 5, IIS 4.0, and Internet Explorer on the Exchange Server:

1 Follow the directions on the NT Server CD-ROM to install NT Server 4.0. Choose **NTFS** as the file system.

Do **not** select Internet Information Server (IIS) at this time.

During the NT Server installation, you must choose the NT domain role for the Exchange Server from these options:

- Primary Domain Controller (PDC)
- Secondary Domain Controller ("backup server" or BDC)
- Stand Alone Server (to become a "member server")

For OnePoint Messenger, you can select any one of the domain roles listed above for the Exchange Server, but the directions in this guide assume that you make Exchange the Primary Domain Controller. Alternatively, to set up Exchange as a member server, set up the administrator accounts at the local level. See the discussion in the section "Choosing a Network Topology" on page 22 of Chapter 2, and see your Windows NT Server documentation for a full discussion of the options.

- 2 Shut down. Reboot with NT **Service Pack 5** in the CD-ROM drive.
- 3 Install NT Server 4.0 Service Pack 5.

You have the option of providing Web browser access to mailboxes. To enable Web access, you must install Internet Information Server 4.0 (IIS) and Internet Explorer 4.01 or above (IE).

- Insert the Windows NT 4 **Option Pack 4** CD-ROM. From the setup screen:
  - a. Choose **Custom** Installation.
  - b. Select **IIS 4.0**. Deselect **Index Server**.
  - c. Under IIS 4.0. deselect FTP and SMTP.
  - d. Click Next in all other windows (the other Option Pack components, such as NNTP and the WWW sample files, are not required for OnePoint Messenger, but you can install them if you want).
  - e. For the Unified Messaging Player and recorder to appear in the Web Client, set up IIS with the default security setting "Basic Authentication on the Exchange Virtual Directory." This guide does not otherwise discuss IIS setup and management.

2 Install Internet Explorer 4.01 with Service Pack 1, or any version above, through Internet Explorer 5.01. You can download Internet Explorer from the Microsoft Web site at:

http://www.microsoft.com/windows/ie/download/default.asp

You can also install Internet Explorer from the Outlook CD-ROM or from its own CD-ROM.

**NOTE:** To support Web access, you also need to install Outlook Web Access on the Exchange Server from the Exchange Server CD-ROM (see page 38), and purchase and install the OnePoint Messenger Web Client site license and software on the Exchange Server (see "Procedure 10. Installing Web Client on the Exchange Server" on page 68.)

### 1B. To set up an Exchange administrator NT account:

**NOTE:** For details, refer to the directions in *Exchange Server Getting Started* from Microsoft.

- 1 Log on to any NT Server in the Exchange domain as a Domain Administrator.
- 2 From the Windows **Start** button, choose **Programs**, **Administrative Tools**, and **User Manager for Domains**. The User Manager for Domains application appears.
- 3 From the **User** menu, choose **New User**.
- 4 In the **User Name** field, type Exchange\_Admin or whatever name you chose for the Exchange Server administrator account. See your notes in the section "Names and Passwords" on page 33.
- 5 In the **Password** field, enter the password for the administrator. See "Names and Passwords" on page 33.
- 6 Confirm the password.
- 7 Deselect User Must Change Password at Next Log On.
- 8 Select **Password Never Expires**.
- 9 Click Groups.
- 10 In the **Groups Membership** dialog, select **Domain Admins** in the **Not member of** list, then click **Add** to move **Domain Admins** to the **Member of** list.
- 11 Click OK.
- 12 In the **New User Properties** dialog, click **Add**, then click **Close**.

### 13 Log off.

### 1C. To install Microsoft Exchange Server 5.5:

**NOTE:** If you are upgrading Exchange, installing more than one Exchange Server, or installing an Exchange language version other than English, see *Exchange Server Getting Started*. If Exchange is already installed, you do not need to reinstall it.

- 1 Log on to the Exchange Server as Exchange\_Admin.
- 2 Install Microsoft Exchange 5.5. To provide Web browser access to mailboxes, select the option to install the **Outlook Web Access** component (other optional components can be installed but are not required for OnePoint Messenger).

**NOTE:** Exchange must be shut down while you install Outlook Web Access.

3 Install Exchange 5.5 **Service Pack** 1, 2, or 3.

### 1D. To set permissions for the forms author in Exchange:

- 1 From the Windows **Start** button, choose **Programs**, **Microsoft Exchange**, and **Exchange Administrator**. The Exchange Administrator application appears.
- 2 From the **Tools** menu, choose **Forms Administrator**.
- In the list, select **Organization Forms**. If Organization Forms is not in the list, click **New**. In the dialog, click **OK** to add Organization Forms to the Forms Administrator list.
- 4 Click **Permissions**.
- 5 In the list box, select **Default**.
- 6 In the **Permissions** area, select **Owner** in the **Roles** list/text box. Click **OK**.
- 7 Click **Close** to close the Forms Administrator dialog.

Do not quit Exchange Administrator. After you set up the Telephony Server Administrator account on the Telephony Server in Procedure 3, you will come back to Exchange Administrator to give that administrator the right to manage Exchange.

# <u>Procedure 2</u>. Installing Microsoft Software on the Telephony Server

This procedure has these sub-procedures:

- 2A. To install Windows NT Server 4.0 on the Telephony Server:
- 2B. To install Windows NT Server 4.0 Service Pack 5 or Service Pack 6a on the Telephony Server:
- 2C. To install Internet Explorer 4.01 with Service Pack 1 on the Telephony Server:

#### 2A. To install Windows NT Server 4.0 on the Telephony Server:

**NOTE:** If Windows NT 4.0 with Service Pack 5 is already installed, you do not need to reinstall it.

- Install Windows NT Server 4.0 on the computer used as the Telephony Server.
- 2 During the NT Server installation sequence, you must choose an NT domain role for the Telephony Server. To become a "member server" in the Exchange domain, select **Stand Alone Server**.
- In the section of the installation sequence called "Installing WindowsNT Networking":
  - Deselect Internet Information Server.
  - For Network Protocols, select **TCP/IP Protocol Only**.
  - For TCP/IP Setup, select NO for "Do you wish to use DHCP?"
  - For IP Address, specify a static **IP address**.

**NOTE:** To use VPIM messaging, ensure that your domain name server (DNS) lists the Telephony Server IP address.

4 Select **NTFS** for the hard disk file system.

**NOTE:** After the operating system installation is complete, to verify that the disk is NTFS, you can type, in a **Command Prompt** window:

chkdsk c:

#### CHKDSK should respond:

The type of filesystem is NTFS.

5 Recently manufactured computers (such as the TS800) use network cards/chips and video cards/chips that can use upgraded **drivers** that are not on the Windows NT CD-ROM. If you have the newer driver on a floppy disk, when the Windows NT installation sequence prompts for a network driver to install, select the option to install the driver from the floppy disk.

Similarly, to install the video driver from a floppy disk, during the reboot after Windows NT is installed, select the **VGA** video mode. Then go into the **Control Panel**, **Display**, **Settings** tab, click **Display Type**, and install the new driver.

### 2B. To install Windows NT Server 4.0 Service Pack 5 or Service Pack 6a on the Telephony Server:

- 1 After Windows NT is installed on the Telephony Server, and the system reboots, log on as the local administrator.
- 2 Install Windows NT Server 4.0 Service Pack 5 or Service Pack 6a.
- 3 Click **Yes** at the prompt to restart the system.

## 2C. To install Internet Explorer 4.01 with Service Pack 1 on the Telephony Server:

- 1 Log on to the Telephony Server as the local administrator.
- 2 Install **Internet Explorer 4.01 with Service Pack 1** or later on the Telephony Server.

**NOTE:** If you need to install cards, this is a good time to record available IRQs and I/O base addresses from Windows NT Diagnostics. Then instead of rebooting, shut down and install the cards, setting any jumpers and switches on the cards with the available IRQs. See Appendixes A (page 163) and B (page 175) for details.

3 Reboot.

## <u>Procedure 3</u>. Setting Up an Administrator Account and Outlook on the Telephony Server

This procedure is divided into these sub-procedures, which, from scanning the titles of the tasks listed below, you can see creates a Telephony Server administrator account (using the name "TSAd-

**min**." here) with broad powers on both the Telephony and Exchange Servers:

The account creation process is similar to the one you used to create the Exchange administrator account (see page 35.) Here, TSAdmin is given Domain Administrator rights, which is necessary if you set up the Exchange Server as a Primary or Secondary Domain Controller. Otherwise, TSAdmin needs only Domain User rights.

- 3A. To create a Telephony Server administrator account ("TSAdmin") in the NT domain:
- 3B. To give Telephony Server Local Administrator rights to TSAdmin:
- 3C. To give TSAdmin "Act as Part of the Operating System" right:
- 3D. To install Outlook on the Telephony Server:
- 3E. To give Exchange Server Local Administrator rights to TSAdmin:
- 3F. To give Service Account Administrator rights to TSAdmin in Exchange Administrator:

**NOTE:** You can use any NT Server that is in the Telephony Server NT domain to set up the Telephony Server administrator account.

### **3A.** To create a Telephony Server administrator account ("TSAdmin") in the NT domain:

- 1 Log on to any NT Server in the Exchange domain as a Domain Administrator.
- 2 From the Windows **Start** button, choose **Programs**, **Administrative Tools**, and **User Manager for Domains**. The User Manager for Domains application appears.
- 3 From the **User** menu, choose **New User**.
- 4 In the **User Name** field, enter **TSAdmin** (or the Telephony Server administrator account name that you entered in Table 3-1, "Names and Passwords" on page 34).
- 5 In the **Description** field, type:
  - Telephony Server administrator
- 6 In the **Password** field, enter the password for TSAdmin (or equivalent). See Table 3-1.

- 7 Confirm the password.
- 8 Deselect User Must Change Password at Next Log On.
- 9 Select Password Never Expires.
- 10 Click Groups.
- 11 If the Exchange Server is a Primary or Secondary Domain Controller, follow these substeps:
  - a. In the Group Memberships dialog, double-click Domain
     Admin in the Not member of list to add it to the "Member of" list.
  - b. Click **OK** in the **Group Memberships** dialog, then click **Add** in the **New User** dialog to accept the new user and return to the User Manager for Domains main screen.
- 12 Alternatively, if the Exchange Server is a member server (that is, a standalone server in the domain, not a domain controller), in the **Group Memberships** dialog, make sure that TSAdmin is listed as a **Domain User** in the **Member of** area. If not:
  - a. Double-click **Domain User** in the **Not Member of** list to add Domain User to the **Member of** list.
  - b. Click OK in the Group Memberships dialog and Add in the New User dialog to accept the new user and return to the User Manager for Domains main screen.
- 13 Close the User Manager for Domains application.
- 14 Log off.

### **3B.** To give Telephony Server Local Administrator rights to TSAdmin:

- 1. Log on to the Telephony Server locally (log on as the Local Administrator, not the Domain Administrator, and select the name of the computer in the **Domain** field of the logon screen).
- 2. Click the Windows **Start** button, then choose **Programs**, then **Administrative Tools**, then **User Manager for Domains**.
- 3. On the bottom pane of the User Manager for Domains main screen, double-click **Administrators**. The Local Group Properties dialog appears.
- 4. In the Local Group Properties dialog, click Show Full Names.
- 5. Click **Add**. The Add Users and Groups dialog appears.

- 6. In the Names area, select TSAdmin Add.
- 7. Click **OK** to close the **Add Users and Groups** dialog, then click **OK** again to close the **Local Group Properties** dialog.

Keep User Manager for Domains open.

### 3C. To give TSAdmin "Act as Part of the Operating System" right:

- 1. On the **User Manager** main screen, choose **User Rights** from the **Policies** menu.
- 2. In the **User Rights Policy** dialog, select the **Show Advanced User Rights** box.
- 3. In the **Right** list, click the down arrow, locate and select **Act as Part of the Operating System**.
- 4. Click **Add**. The **Add Users and Groups** dialog appears.
- 5. Click Show Users.
- 6. Select **TSAdmin**.
- 7. Click Add.
- 8. Click **OK** in the **Add Users and Groups** dialog, and again in the **User Rights Policy** dialog.
- 9. On the User Manager main window, choose **Exit** from the **User** menu.
- 10. Log off.

### 3D. To install Outlook on the Telephony Server:

- 1 Log on to the Telephony Server as **TSAdmin** in the domain (In the **Domain** field of the logon screen, select the NT domain where Telephony Server resides).
- Insert the Outlook CD-ROM. If the CD-ROM does not auto-run, use NT Explorer to find the 32-bit version of the Outlook setup program. This is typically \Outlook.w32\Setup.exe. Double-click Setup.exe.
- 3 For **Name** and **Organization**, enter your choice of user name and organization name. These entries do not relate to the name and organization fields used elsewhere in OnePoint Messenger. A confirmation screen appears, then click **OK**.

#### 4 For Outlook 98:

- At the **Installation Option** dialog for Outlook 98, select **Minimal Installation**, then click **Next**.
- When installing Outlook 98 for the first time, on the E-Mail Upgrade Options screen that appears at this time, click None of the Above.
- At the E-Mail Service Options dialog box, select Corporate or Workgroup Option, then click Next.
- At the option to update components or reinstall all components, select **Update Only Newer Items**.
- 5 At the reminder screen, to close any open applications, then click **OK**. The system reboots.

### **3E.** To give Exchange Server Local Administrator rights to TSAdmin:

- 1 Log on to the Exchange Server locally (as the local administrator). If the Exchange Server is the primary domain controller, this account is the same as the Domain Administrator. Otherwise, if you set up the Exchange Server as a Stand Alone Server, select its computer name account in the **Domain** field. In any case, if Exchange is live and supporting e-mail users, logging off and on does not impede that function.
- 2 From the Windows **Start** button, choose **Programs**, then **Administrative Tools**, and **User Manager for Domains**.
- In the bottom pane of the User Manager for Domains main screen, double-click **Administrators**. The **Local Group Properties** dialog appears.
- 4 Click **Show Full Names** in the **Local Group Properties** dialog.
- 5 Click Add. The Add Users and Groups dialog appears.
- 6 In the **Names** pane of the Add Users and Groups dialog, select **TSAdmin**, then click **Add**.
- 7 Click **OK** to close the **Add Users and Groups** dialog, then click **OK** again to close the **Local Group Properties** dialog.
- 8 Choose **Exit** from the **User** menu to quit User Manager.

### **3F.** To give Service Account Administrator rights to TSAdmin in Exchange Administrator:

- 1 Start Exchange Administrator (Start, Programs, Exchange).
- 2 Select the **Exchange Site name** in the Exchange tree view (left pane).
- 3 From the **File** menu, choose **Properties** (or click the **Properties** button in the toolbar.)
- 4 On the **Properties** dialog, click the **Permissions** tab, as shown in Figure 3-1, below.
- 5 Click **Add**. The **Add Users and Groups** dialog appears.
- 6 Select the **User Account** "TSAdmin," then click **Add**, then **OK**. The **Add Users and Groups** dialog closes.
- 7 On the **Permissions** tab, select **Service Account Admin** from the list in the **Roles** field, then click **OK**.
- 8 In the tree view of the main screen of Exchange Administrator, select the **Configuration** level, then repeat steps 3 through 7 above.
  - The Properties dialog for the Configuration level appears slightly different, as shown in Figure 3-2, below.
- 9 Quit Exchange Administrator.

Figure 3-1 Exchange Administrator, Site Properties



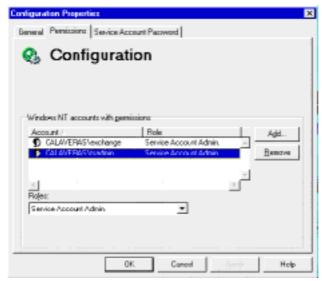


Figure 3-2 Exchange Administrator, Configuration Properties

#### This is a good time to install line and fax cards:

The OnePoint Messenger Installation Program installs Show N Tel. The Show N Tel installation guide requires that you have already installed your line cards.

If you are installing an AFC card for integrating with a Mitel SX-2000 PBX, you can run its setup at this time, or after Procedure 9, or after installing OnePoint Messenger. Appendix B contains setup notes for the AFC and other line cards ("Installing the AFC Card" on page 202) and MiTAI ("Configuring Show N Tel for MiTAI" on page 205).

### **Procedure 4.** Installing OnePoint Messenger

**NOTE on PC hardware:** If you have not yet installed the line cards on the Telephony Server, this would be a good time, while the system is shut down. Install line cards (NMS, AFC, or TalkTo cards, if using a Mitel PBX; Brooktrout fax cards are optional.) Be sure you have the correct cards for the ISA bus. Some installation notes are provided in Appendix B (page 175); refer to the manufacturers' documentation for most current instructions. You can delay installing the cards until the end of this chapter, if necessary.

In Procedure 4, you run the OnePoint Messenger Installation Program, which first installs software on the Telephony Server, then installs software from the Telephony Server to the Exchange Server.

Procedure 4 is divided into these sub-procedures:

- "4A. To register OnePoint Messenger and select components:" on page 47
- "4B. To install Show N Tel 4.4 SR 2 on the Telephony Server:" on page 49
- "4C. To configure Brooktrout fax cards:" on page 51
- "4D. To set up Natural MicroSystems (NMS) line card AG Access:" on page 53
- "4E. To install the Mail Transport Agent (MTA):" on page 55
- "4F. To install Active Call, the SNT Patch, Borland Database Engine (BDE), and Active X:" on page 56
- "4G. To install the OnePoint Messenger and Show N Tel licenses on the Telephony Server:" on page 57

### 4A. To register OnePoint Messenger and select components:

- 1 Log on to the Telephony Server in the domain as TSAdmin.
- 2 Insert the OnePoint Messenger CD-ROM.
- 3 If the CD-ROM does not auto-run, click the Windows **Start** button, then choose **Run**. Type:

[CD-ROM drive letter]:\installsplash.exe Click OK.

The Install Screen appears, as shown in Figure 3-3.

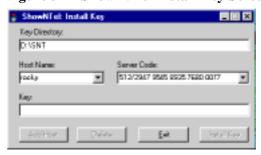
**Do not** click Install until you have the license file (see Step 4.)

Figure 3-3 OnePoint Messenger Install Screen



4 If you need to order license files for this computer hardware, click **Display Server Code** to display a code in the Server Code field on the Install Key screen, shown in Figure 3-4. For details, see "Upgrading OnePoint Messenger Feature Licenses" on page 152 in Chapter 5 of this guide.

Figure 3-4 Show N Tel Install Key Screen



- 5 Click **Exit** to return to the OnePoint Messenger Install screen.
- 6 To install OnePoint Messenger, click **Install** on the **OnePoint Messenger Install** screen.
- 7 Accept the defaults for:
  - The **Welcome** screen (Click **Next**.)
  - The **Software License Agreement** screen (Click **Yes**.)
  - The **Information** screen (Click **Next**.)
- 8 On the **Register User** screen, enter your name and organization, then click **Next**.

**NOTE:** Enter the same name and organization on the Vintra screen later in this sequence.

- 9 On the Choose Destination Location screen, click Next to accept the default installation target directory, or select another directory. The default is C:\Program Files\<vendor>\OnePoint Messenger.
- 10 On the first **Select Components** screen, select the telephone user interface (TUI) language(s) that you want to use, then click **Next**.

**NOTE:** The program installs all three languages, **UK English**, **US English**, **Latin American Spanish**, but the basic OnePoint Messenger license allows you to choose only two of them to use. If you have purchased the third language, you can select all three languages. If you purchase the third language later, run the Installation Program at that time to enable the language. For details, see "Upgrading OnePoint Messenger Feature Licenses" on page 152 in Chapter 5. (For other feature upgrades, you simply get the new license file, then run License Install.)

The Telephony Server administrator chooses, from the languages that you install, which language to use for system and default mailbox languages. The Exchange Administrator can override the default mailbox language for individual profiles, and users can override the Exchange Administrator setting for their own mailbox TUI languages.

- 11 On the <u>second</u> **Telephony System Type** screen, select **Natural MicroSystems**, then click **Next**.
- 12 On the **Select Program Folder** screen, click **Next** to accept the default **OnePoint Messenger** folder in which to install the Telephony Server program icons, or select another folder.
- 13 On the **Information** screen noting "Preparing to run Show N Tel NMS setup," click **OK**.

### 4B. To install Show N Tel 4.4 SR 2 on the Telephony Server:

The Show N Tel installation runs within the OnePoint Messenger Installation Program. It includes fax and line card software. The installation sequence depends on which boards you have. For example, if you have neither a Brooktrout nor an NMS board, the Show N Tel installation sequence ends with Procedure 4B, and the procedure that follows it is the one labelled "Procedure 4E" here.

1 On a fresh installation, the first screen of the Show N Tel sequence says:

"Before proceeding with the installation, check existing system settings using Windows NT Diagnostics utility. Failure to check existing settings may result in conflict errors. See the Getting Started Guide for more information."

The referenced guide is *Getting Started with Show N Tel* from Brooktrout Software. It is available on the OnePoint Messenger CD-ROM as "sntgetstart.pdf." For information on using Windows NT Diagnostics, see also "Using Windows NT Diagnostics" on page 179 in Appendix B here.

To access Windows NT Diagnostics without quitting the Installation Program, press [Ctrl-Esc] (or press the Windows-symbol key on your keyboard, if there is one.)

2 After **Welcome to the Show N Tel for Windows NT Setup**, if a previous version of Show N Tel is on your system, the Installation Program gives you a chance to cancel out of the installation. Otherwise, the Installation Program overwrites the old version, except for custom application files, RLLs, prompts, language tables, and custom or modified database files.

If the version is previous to SNT 4.4 SR2, click **Yes**. Otherwise, you can leave it installed and skip the Show N Tel installation sequence by clicking **Abort**.

Accept the defaults on the next two screens, **Select Show N Tel Software Components** and **Select Program Folder**.

**CAUTION!** For OnePoint Messenger to work, you must accept the **C:\SNT** default directory.

- 4 On the Hardware Service Components screen, select NMS AG-ISDN, and, if you have installed a Brooktrout fax card, select Brooktrout Fax Support, then click Next. The other options are not relevant to OnePoint Messenger.
- 5 If Show N Tel is already installed, the **Found Show N Tel** dialog appears. Select one of the following two options, then click **Next**.
  - a. "Let Setup rename the database files first" (Show N Tel puts the files in \SNT\BACKUP with a ".bak" extension.)
  - b. "Let Setup overwrite the database files."

The Show N Tel Setup screen appears with progress bars that show the status of the Show N Tel installation as it continues. Message boxes note the installation of Btrieve and fax services.

- 3 At the **Acrobat Reader 3.01** installation screen, you can the reader if you want to access the Show N Tel documentation from the Telephony Server.
  - a. If you click **Next**, the **Acrobat License Agreement** screen appears. Click **Yes**.
  - b. The **Destination Location** screen appears. Click **Next** if you want to accept the default directory c:\Acrobat3\Reader.
  - After Acrobat installs, the **Setup Complete** screen appears.
     Click **Finish**.
  - d. At Setup is Complete, click OK.

The next step that appears depends on what line and fax cards you have selected in the setup program.

### 4C. To configure Brooktrout fax cards:

Skip this section if you have not installed a Brooktrout fax card. For details on linecards, see Appendixes A and B ("Installing and Uninstalling Fax Cards" on page 182). If you are installing a card for use *outside* Canada or the United States, you can use this procedure, but, after installation is complete, you must also run the Brooktrout Fax Configuration Wizard from the Windows Start menu in order to select the line encoding as A-Law.

- 1 On the Configure ISA Board screen, select ISA or ISA/PCI.
- 2 In the **Brooktrout Fax Setup** dialog, select the following settings (see Figure 3-5), then click **Next**:
  - Autostart at Boot: Select this.
  - **Interrupt Line:** Enter the Brooktrout fax board interrupt (IRQ) that you set on the board. The default is IRQ 5.
  - DMA Channel: None, unless you have a sound card installed that conflicts with the default setting. For details, see the Brooktrout documentation.



Figure 3-5 Brooktrout Fax Setup Dialog

3 To change any of the default values for the settings shown in Table 3-2, click **Advanced** to access the second screen of the Brooktrout Fax Setup dialog. Otherwise, click **Next.** 

The only setting that you are likely to need to change is the default of 16 for **Total channels**; your fax board probably has four or eight ports. On the Advanced screen, click **Back**.

Table 3-2 Brooktrout Fax Setup, Advanced Tab Fields

Field Name	Description	Default
Total Channels	The total number of fax ports that are available on your fax board(s)	16
Kernel Buffer	Sets the size of the board driver buffer. The Kernel Buffer size determines the amount of voice or fax data that can be transferred from the board to the computer.	8192
Interrupt Queue	Number of interrupts placed in queue that the driver can support.	10
Enable debug code	Enables the dump history utility for troubleshooting purposes. This feature brings up its own setup screen. Do not enable this feature unless instructed by Show N Tel Technical Support.	No
Faxinit arguments	If you have set up nonstandard I/O port addresses enter the name of the configuration file that contains this information. (See the applicable Brooktrout Hardware Guide provided with the board for further information.)	none

### 4D. To set up Natural MicroSystems (NMS) line card AG Access:

To install a Natural MicroSystems (NMS) linecard:

- 1 The CT Access installation runs as part of the OnePoint Messenger Installation Program. You can accept the defaults on these screens:
  - a. Welcome to the CT Access Setup Program
  - b. Choose Destination Location (default is C:\NMS)
  - c. Setup Type (default is Typical)
  - d. Select Program Folder (default is Natural Microsystems CT Access 2.1)

A progress screen tracks the copying of files. The sequence completes by creating and showing an NMS program group.

2 On the **Please Select an Option** screen, select **Let Setup modify the Windows NT registry**, then click **Next**.

A progress message appears: "Installation is proceeding...."

On the **Setup Complete** screen, deselect **View Readme** if you want, then click **Finish**.

#### To install NMS AG-CAS:

On the **Select Components** screen, select **Loop Start Protocols**, as shown in Figure 3-6, then click **Next**.

Figure 3-6 AG-CAS Setup Dialog



- 2 For **Country specific files**, select the option appropriate for your country, then click **Next**.
- 3 At "Would you like to select another protocol," click **No**.

Progress screens track the installation.

A message appears: "NMS AG and CT drivers not detected."

#### To install NMS AG-ISDN:

- 1 Select the defaults through the **Welcome**, **AG-ISDN Setup**, **Destination**, and **Setup Type** (select "**Typical**") screens.
- 2 On the **Select Components** screen, select the option appropriate for your country, then click **Next**.
- At "Would you like to select another protocol," click No.
   A Setup message appears. A DOS screen appears briefly.
- 4 On the **Setup Complete** screen, deselect **View Readme** if you want, then click **Finish**.
  - A setup message appears noting the installation of the NMS Service.
- 5 The DAO 3.5 installation screen appears. If it does not give way to progress bars in less than 20 seconds, click the **Close** (**X**) button at the top right of the window. On the quit verification dialog,

click **Resume**. DAO installs. Then many language files install. Progress bars appear.

**NOTE:** Service Pack 1 makes the DAO installation transparent and removes the delay problem.

6 When the Warning message appears: "The system must reboot now", click **OK**.

### **4E.** To install the Mail Transport Agent (MTA):

The Mail Transport Agent manages the transfer of messages through the Internet between the Telephony Server and voice mail systems that support the Voice Profile for Internet Mail (VPIM) protocol.

- 1 After the Telephony Server reboots, log on to the domain as TSAdmin.
- 2 The OnePoint Messenger Install screen appears briefly, then an MMC setup screen appears briefly.
- 3 On the Vintra Systems Mail Server MTA Setup **Welcome** screen, click **Next.**
- 4 On the **User Information** screen, enter the same user and organization name that you entered for the installation of OnePoint Messenger. See "Names and Passwords" on page 33.
- 5 Accept the defaults for:
  - Choose Destination Location (C:\..\Vintra\Systems\servers\mta)
  - **Setup Type** (Typical)
  - Select Program Folder (VintraServer)
  - Start Copying Files

Progress bars appears. A program folder appears.

- 6 At the **installservice** screen, note the defaults but do not change them or enter a password:
  - The Admin Server TCP port default is **1967**.
  - The Administrator User Name is **tsadmin**.
- 7 If you have not launched Internet Explorer since it was installed on the Telephony Server, the **Internet Connection Wizard** appears:

- Click Next.
- b. Choose your connection method on the **Setup Options** screen, then click **Next**.
- c. On the final screen in the sequence, click **Finish**.
- 4 At the **Enter Network Password** screen:
  - a. Enter the administrator name, port, and password that you entered on the **installservice** screen (defaults: name is **admin**; port is **1967**, no password).
  - b. This screen appears three times. The first time, click **Next**. Click **Cancel** the final two times.
  - c. An error message appears in Internet Explorer: "Authorization Required...." Close Internet Explorer.
- 4 A Vintra Server program group (the MTA) appears. Close it.
- 5 At the **Setup Complete** screen, click **Finish**.

### 4F. To install Active Call, the SNT Patch, Borland Database Engine (BDE), and Active X:

- 1 Accept the defaults for Active Call Server Update Setup:
  - Information
  - Welcome
  - Choose Destination Location (C:\Active Call)
  - Select Program Folder
  - Confirm File Replace
- 2 At Setup Complete, select No, I will restart later. Click Finish.

**CAUTION!** If you select Yes, the system might freeze, and you will need to restart the installation.

Progress bars appear.

- 3 The Show N Tel for Windows NT v4.4SR2 Build 106 AC Patch 2 screen appears:
  - a. Accept the defaults for the **Readme Information** and **Choose Destination Location** (C:\SNT).
  - b. Progress bars appear. At **Setup Complete**, click **Finish**.

Progress screens note the installation of **Borland Development Engine (BDE)**.

A message appears noting the registration of **ActiveX** controls.

4 A RegSrv32 message notes that the installation of **CVUMailServerps.dll** was successful. Click **OK**.

### 4G. To install the OnePoint Messenger and Show N Tel licenses on the Telephony Server:

**NOTE:** The SNT license is bundled in the OnePoint Messenger license. This sequence presumes that you have the OnePoint Messenger license file that you need for this procedure on a diskette. For details on acquiring a OnePoint Messenger license and for details on the License Install program, see "Upgrading OnePoint Messenger Feature Licenses" on page 152 and "Using License Install to Inspect and Install Licenses" on page 156 in Chapter 5.

1 The OnePoint Messenger Installation Program continues to run, and the main screen of the License Install utility appears. Click Install New License. The Select License File Name screen appears, as shown in Figure 3-7.

Figure 3-7 OnePoint Messenger License Installation Dialog



- 2 Insert the diskette that contains the license files.
- 3 In the navigation window of the **Select License File Name** screen, navigate to and open the diskette.

Or

If the license files are already in the SNT directory on the hard disk, click **Cancel** to jump to the SNT license screen. Proceed from Step 6.

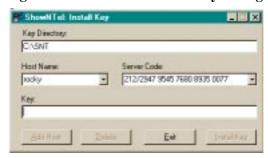
- 4 Double-click the license (**.CRP**) file name.
- 5 The following "licenseinstall" message appears. Click **OK**:

When the 'Install Key' program is displayed, press 'Ctrl-v' to setup key data in the KEY field.

Then press 'Install Key'.

6 The **Show N Tel: Install Key** window appears, as shown in Figure 3-8.

Figure 3-8 ShowNTel Install Key Dialog



- a. In the **Key** field, press [**Ctrl-v**] to display the key data in that field (the license program automatically copies the key to the clipboard when you open the key file.)
- b. In the **Key Directory** field, verify the directory as C:\SNT.
- c. Click **Install Key**.
- d. A Show N Tel message appears noting the Feature name ("99"), number of licenses, start date, and expiration date. Click **OK**.
- e. When the following message appears, click **OK**:

Succesfully installed key in C:\SNT\99.lic.

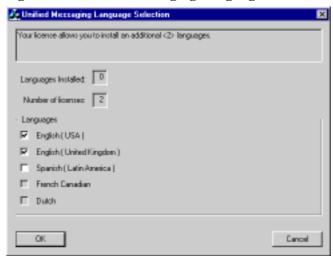
- f. Click **Exit** to close the Install Key window.
- 9 When the following message appears, click **OK**:

License values will be automatically updated following reboot.

The main **License Install** screen appears. The Refresh Display button is unavailable (dimmed) until you restart the system.

- 10 Click **Close** to quit License Install.
- 11 The **Unified Messaging Language Selection** screen appears, as shown in Figure 3-9.

Figure 3-9 Unified Messaging Language Selection Dialog



The number the dialog reports in "<xx> languages" should be equal to 2 plus the number of extra languages that you purchased.

From the list of languages, select those that you wish to have available, up to the number of purchased licenses.

Click OK.

The first Configuration Wizard screen appears.

# <u>Procedure 5</u>. Running Configuration Wizard to Integrate Telephony Server with Exchange Server

To complete this procedure, the Telephony Server needs a network connection to its primary Exchange Server so that the OnePoint Messenger Configuration Wizard (Config Wizard) can move the OnePoint Messenger Exchange software from the Telephony Server to the Exchange Server, create an administrator mailbox, and perform other integration tasks.

**CAUTION!** Before Config Wizard runs, stop **Internet Information Server** and the **WWW Publishing service** (all other Exchange services can run). The Exchange Administrator program must not be open on any system. After the Config Wiz-

ard concludes, you can restart those services and open Exchange Administrator.

You must stop those services and exit Exchange Administrator whenever you run Config Wizard. You can run Config Wizard whenever you need to modify the integration, such as to direct Telephony Server to a new primary Exchange Server, or if you change the computer name of the primary Exchange Server, or to upgrade OnePoint Messenger software on the Exchange Server. Config Wizard is installed in the OnePoint Messenger program group.

When the previous procedure concludes, OnePoint Messenger automatically starts Config Wizard. You provide system mailbox information so that Config Wizard can create several OnePoint Messenger configuration mailboxes on Exchange and copy Exchange extensions to the Exchange Server.

- On the **first screen** of Config Wizard, **Configuration Reminder**, verify that you have completed the listed tasks, then click **Next**:
  - TSAdmin has Local Administrator rights on the Exchange Server if it is set up as a member server. If the Exchange Server is set up as a Primary or Secondary Domain Controller, TSAdmin must have Domain Administrator rights, which includes the Exchange Server Local Administrator right.
  - TSAdmin has Service Account Administrator rights on the Exchange Server at the Site and Configuration level.
  - The Exchange Organization Forms Folder is created and the default name has the Owner role.
- 2 At **Exchange Server Name** (second screen of Config Wizard), enter:
  - a. The computer name of your Telephony Server's primary Exchange Server in the **Server Name** field.
  - b. Enter your organization's Internet second-level domain name. The *Internet second-level domain name* is that which follows the first dot in the full Internet address. For example, the second-level part of "www.bayptin.com" is "bayptin.com."
  - c. Click Next.

- 3 At **Exchange Server Information** (the third screen of Config Wizard), verify the following are the names entered on the primary Exchange Server:
  - Server Name is the Exchange Server.
  - Server Site is the Exchange Site.
  - **Server Organization** is the Organization listed in the Exchange tree.

If the information is correct, click **Next**. If the information is not correct, click **Back** to select the correct server or click **Cancel** to close Config Wizard.

- 4 At **TS Administrator Account** (fourth screen of Config Wizard), verify the displayed Telephony Server administrator name that you used to log in and the Telephony Server domain name. Enter your domain administrator password, then click **Next**.
- 5 At **Mailbox Configuration** (the fifth screen of Config Wizard), note that Config Wizard creates an Exchange mailbox profile for the Telephony Server administrator alias that you have designated previously, then click **Next**:
  - Mailbox Display Name: The name appears in the Exchange directory. You might use this address as a reception box for support requests.
  - **Mailbox Alias Name:** Shortcut name entered when addressing e-mail to the Telephony Server administrator.
  - **Mailbox Profile Name:** Mail transport profile created on the Telephony Server to communicate with Exchange.
- On the **sixth** screen of the Config Wizard, the **Configuration Summary** shown in Figure 3-9, review the entries for accuracy, then click **Next**.

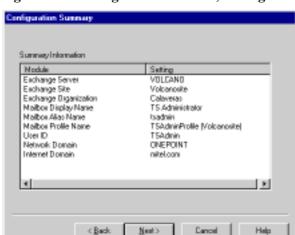
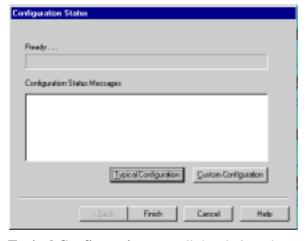


Figure 3-9 Configuration Wizard, Configuration Summary

7 On the **seventh** screen of the Config Wizard, titled **Configuration Status**, shown in Figure 3-10, click **Typical Configuration** to start the full configuration operation. Alternatively, to select configuration options, click **Custom Configuration**. At this point, the transfer of programs to the Exchange Server begins. Exchange Admin must not be running or some files will not be transmitted.

Figure 3-10 Configuration Wizard, Configuration Status, Start



**Typical Configuration** uses all the choices that you have made to create a mail transport profile on the Telephony Server and several mailboxes on Exchange. The mailboxes include one for the Telephony Server administrator, a test user, and an "Outside Caller." The

Outside Caller mailbox closes the double-entry loop in Outlook by collecting in its Sent folder messages sent by outside callers.

Choosing **Custom Configuration** lets you choose which items to modify, then click **Yes** or **No** to each question:

- Create/update registry items on the Telephony Server?
- Write the Telephony Server name in the Exchange Server registry?
- Give local "log on as a service" right to the TSAdmin account?
- Configure controls with administrator account information?
- Create a Telephony Server mailbox?
- Create Telephony Server administrator transport profile?
- Install the Exchange Extension on the Exchange Server?
- Set the organizational folder role to publish client forms?
- Install VPIM Gateway?
- Install Fax Gateway?

**NOTE:** VPIM Gateway transfers messages between OnePoint Messenger and other voice messaging systems (such as NuPoint Messenger) using the Internet. It receives VPIM messages and, when the VPIM Send option is purchased, sends VPIM messages. Fax Gateway sends messages from Outlook to a fax machine. If you use another fax tool such as RightFax that you want to continue using, do not to install this Fax Gateway.

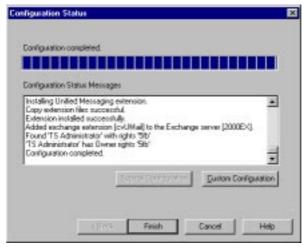
Each of the last two features—the VPIM and Fax Gateways, when installed, create log files—*VPIMConfigLog.doc* and *FAXConfigLog.doc*—in the OnePoint Messenger \bin directory. The log files contain details, including any error numbers, from the installation of these features.

When you complete the questions associated with **Custom Configuration**, the configuration proceeds.

- 8 A "Question" dialog appears: "Are you sure you want ot install the Fax Gateway. Click Yes or No, depending on whether you have another fax gateway installed.
- 9 At the **Choose Profile** screen, click **OK**.

- 10 When "Warning: Opening Untitled" appears, click **Disable Macros**. Another warning appears. Click **Disable Macros** again.
  - The **Configuration Status** screen displays the configuration progress status and lists both success and error messages as they occur. A beep is a signal that the installation is going well.
- 11 If the window displays an error message that you can remedy by revising a field entry, click **Back** to revise the entry on the appropriate screen. If you cannot remedy the error, click **Cancel**.
- 12 When the **Configuration Status Messages** window displays that the configuration is complete, as shown in Figure 3-11, click **Finish**. Config Wizard returns control to the OnePoint Messenger Installation Program.

Figure 3-11 Configuration Status Screen after Completion



### **Procedure 6.** Running Directory Initialization

The OnePoint Messenger Installation Program automatically launches Directory Initialization, which must run once to start the synchronization between the Exchange directory and the directory cache on Telephony Server. The synchronization process is then automatic.

To complete the initialization, the Telephony Server needs a network connection to its primary Exchange Server.

1 On the **Directory Initialization** screen, click **Start**.

- When synchronization is complete, Directory Initialization reports "Done!" and lists the number of accounts examined and synchronized.
- 2 Click **OK** to quit Directory Initialization. The OnePoint Messenger Installation Program continues to run.

### **Procedure 7.** Completing the Software Installation

The OnePoint Messenger Installation Program invokes the WinFT Watchdog installation. Progress messages appear noting the updating of System Service Tool and installation of WinFT. A DOS box briefly appears.

- 1 When a program group of WinFT icons appears, close it.
- 2 If a screen appears asking if you want to reboot, choose to restart later.

#### To install the Show N Tel update patch:

- 1 Accept the defaults for Welcome, Readme, Destination. Progress bars flash and files are decompressed in C:\SNT\bin and C:\SNT\brookwiz.
- When the **Read Only File Detected** message appears, select "Don't display this message again", then click **Yes**.
- 3 At the **Setup Complete** message, click **Finish.**
- 4 At the InstallShield Self-extracting EXT message, click Yes.
- 5 Select the defaults for the following succession of screens:
  - The Show N Tel for Windows NT v4.4 SR2 Patch BYPT-NMS Update
  - Welcome
  - Readme Information
  - Destination Location
  - Setup Complete
- 6 At the Information screen, click **Yes** to reboot the machine.
- 7 This completes the automated script component of the OnePoint Messenger installation. *Congratulations!*
- 8 After the Telephony Server reboots, log in to the domain on the Telephony Server as TSAdmin.

### **Procedure 8. Sharing Telephony Server Directories**

In this procedure, you share directories on the Telephony Server:

- \OPM\cv\_tts: Enables you to edit the TTS dictionary on a remote multimedia computer
- \OPM\Staging\UMClient: Enables you to load the OnePoint Messenger Outlook client onto client computers over the network from the Telephony Server

**CAUTION!** Do not install the OnePoint Messenger client on the Telephony Server. Doing so will overwrite NT registry entries, requiring reinstalling OnePoint Messenger.

• \OnePoint Messenger\Staging\WEBInstall: Enables you to install the Web Client server component on Exchange

**NOTE:** You cannot put spaces in a shared path.

### 8A. To share the TTS dictionary directory:

**NOTE:** Currently, the TTS is not editable on remote machines, so this procedure might be irrelevant.

- In Windows NT Explorer, open the **OnePoint Messenger** directory.
- 2 Select the **cv\_tts** subdirectory.
- From the Windows NT Explorer **File** menu, choose **Properties**.
- 4 Select the **Sharing** tab.
- 5 Select **Shared As**, then set the access permissions only for those people who need access.
- 6 Click OK.

### 8B. To share the Outlook client staging directory:

Share this directory if you want to be able to install the OnePoint Messenger client for Outlook over the network from the Telephony Server.

Repeat the sharing steps listed above for the path \OnePoint Messenger\Staging\UMClient.

**NOTE:** See Procedure "12C. To install the OnePoint Messenger Outlook client on the client PC:" on page 72.

### 8C. To share the Web Client staging directory:

You only need to share this directory if you are running Exchange 5.5 and want to provide browser access to unified messages.

- 1 Repeat the steps for sharing listed above for the path \OnePoint Messenger\Staging\WEBInstall
- 2 Share the directory as "WEBInstall."

**NOTE:** See "Procedure 10. Installing Web Client on the Exchange Server" on page 68.

### Procedure 9. Setting Telephony Server Security Level

This procedure is necessary for the Telephony Server to provide Call-Me services to client computers. For details on Call-Me, see Chapter 3 in the *OnePoint Messenger User Guide*.

- 1 In Windows Explorer, go to \WINNT\system32.
- 2 Double-click **dcomcnfg.exe** (or **dcomcnfg**, if you do not have .exe file extensions set to display.
- 3 Select the **Default Security** tab.
- 4 Click **Edit Default** for **Default Access Permissions**.
- 5 Add "Everyone" to the access list.

### **Configuring the Line Card(s)**

If you have installed one or more line cards, and you have not yet configured them, now is the time to do so. Follow the manufacturers' directions for line card configuration. Some basic line card configuration notes appear in Appendix B of this guide for Brooktrout fax cards (page 182), Natural MicroSystems (NMS) line cards, and the Mitel AFC card ("Installing the AFC Card" on page 202) and MiTAI software ("Configuring Show N Tel for MiTAI" on page 205), along with instructions on setting up the cards in an MVIP array (page 176). Recommended IRQs, I/O addresses, and slot mappings for the turn-key Telephony Server 800 (TS800) appear in Appendix A of the *OnePoint Messenger Getting Started Guide*.

If you choose the Brooktrout or NMS line cards in the OnePoint Messenger Installation Program setup dialog, their configuration and management applications and configuration template files are installed. AG Config, the GUI version of the NMS configuration application, is added to the OnePoint Messenger program group. You

can edit the AG.cfg NMS configuration template file with a text editor or use AG Config.

**NOTE:** although you can complete the rest of this chapter without a configured line card, you need one to complete the PBX integration described in Chapter 4.

## <u>Procedure 10</u>. Installing Web Client on the Exchange Server

Do this procedure if you want to provide Web browser access to unified messages. This procedure installs the Web Client server component on the Exchange Server. To install it, you must have installed Exchange 5.5 and its Outlook Web Access component, Internet Information Server, and Internet Explorer on the Exchange Server, as described in "Procedure 1. Installing Exchange Server Software, and Creating an Exchange Administrator Account" on page 35. You must also have shared the Telephony Server \WEBInstall directory, as described in "Procedure 8. Sharing Telephony Server Directories" on page 66. Telephony services must not be running during this installation, and they are not if you have followed these directions. For details on controlling services, see "Using TSMon to Start and Stop Telephony Server" on page 114 in Chapter 5.

### To install the Web Client components on the Exchange Server:

- 1 From the Exchange Server Windows **Start** button, choose **Run**.
- 2 In the Run dialog, enter:
   \\<Telephony Server>\WEBInstall\setup
- 3 Click **Next** through the Welcome, License, and Information dialogs.
- 4 In the Select Components dialog, select either Exchange Service Pack 2 or Service Pack 3, depending on which service pack you have installed.
- 5 If a -115 error displays during the installation, the Web Client application is already installed. To reinstall, see Chapter 5.
- After installation is complete, verify in the **cvInstall.log** on the **C:\Temp** directory that there are no notices of installation errors.

### <u>Procedure 11</u>. Configuring the Test User in Exchange Administrator

This procedure and the next provide a means of testing unified messaging functionality. Procedure 5 (see page 59) entailed running the OnePoint Messenger Configuration Wizard, which creates the TS Test User account in Exchange for testing purposes. That account does not impact available licenses for unified messaging clients. For more on assigning unified messaging permissions to Exchange users, see Chapter 2 in the *OnePoint Messenger Administrator Guide*.

### To assign unified messaging privileges to TS Test User:

- On the Exchange Server, from the Windows **Start** button, choose **Programs**, then **Microsoft Exchange**, and **Microsoft Exchange Administrator**.
- 2 In the **Recipients** list, double-click **TS Test User**.
- 3 Select the **Unified Messaging** tab.
- 4 In the **Telephony Server** list, click the down arrow and select the name of the Telephony Server computer (from Table 3-1).
- 5 In the **Extension** field, enter the phone number for the test client as programmed on the PBX. The **Mailbox Number** field is typically the same number as used for the extension.
- 6 In the **Password** field, enter 2468 (the default passcode is set in the Security tab of Telephony Server Administrator).
- 7 In the next field, confirm the passcode.
- 8 Click OK.
- 9 **Exit** Exchange Administrator.

### Procedure 12. Setting Up and Running the Test User

This procedure installs a unified messaging desktop client and tests unified messaging functionality through Exchange and the LAN. Use this procedure to install Outlook and the OnePoint Messenger desktop client on any user PC. You can also test basic messaging by sending a standard e-mail message from Outlook on the Telephony Server.

**CAUTION!** Do not install the OnePoint Messenger Desktop Client on the Telephony Server. Doing so overwrites settings in the NT registry that will require reinstalling OnePoint Messenger.

#### 12A. To install Outlook on the test PC:

On a Windows 95, 98, or NT client, install Outlook 2000 or Outlook 98 (Outlook 97 is no longer tested for conformance).

**NOTE:** Outlook is available as a stand-alone product or as a component of Microsoft Office. Outlook is not supplied with OnePoint Messenger for user PCs.

- 2 To support the Call-Me and Meet-Me features for Windows 95 and Windows 98 clients, set the Network Access Control to the user's domain:
  - a. Right click the **Network Neighborhood** icon on the desktop, then choose **Properties**.
  - b. Select the **Access Control** tab.
  - c. Select User-level access control.
  - d. In the edit box, type the user's LAN domain name.
  - e. Click OK.
- 6 Set up the Exchange transport profile on the client. Briefly, use **Mail and Fax** in Control Panel to name the Exchange Server and transport services for the test user.

**NOTE:** See Chapter 2 in the *OnePoint Messenger User Guide* for more on setting up a client transport profile. For a full discussion of setting up users on Exchange, see your Microsoft documentation, then see Chapter 2 in the *OnePoint Messenger Administrator Guide* for setting up unified messaging permissions.

- 7 Test communication with the Exchange mailbox from the client:
  - a. Open Outlook and determine if you have access to Exchange folders by opening them in the Folder View.
  - b. Create a standard Outlook message and send it to the same client. The message goes to Exchange and is returned to the same Inbox.

### 12B. To install DCOM and set the security level on the user's PC:

For Windows 95 and Windows 98 clients, you must set the DCOM security level to "The World" in order for the user to use Call-Me in Outlook. As a prerequisite, you must set directory sharing to user-level security rather than password access, as described next.

**NOTE:** For details on Call-Me/Meet-Me, see Chapter 3 in the *OnePoint Messenger User Guide* or Chapter 1 in the *OnePoint Messenger Administrator Guide*.

**NOTE:** On Windows 95 systems, first install DCOM95. For Windows 98 systems, you may also need to install DCOM98.

You can download DCOM for a Windows 95 or Windows 98 system from this URL:

### http://www.microsoft.com/com/resources/downloads.asp

Download and install both the administrative application and DCOM itself. For both Windows 95 and Windows 98, dcom95cfg.exe is the administrative application. Put both in a temporary directory, and double-click each to install them.

See "Software Requirements" on page 169 of Appendix A.

- If file sharing is at the file level, it must be set to the user level before using dcomcnfg. Select User-level access control on the Access Control tab of the Network applet in Control Panel. Changing file sharing from file to user level removes all existing shares. You must reboot for the changes in sharing to take effect.
- 2 In Windows Explorer, go to the \Windows\system subdirectory and double-click dcomcnfg.exe. The Distributed COM Configuration Properties dialog appears.
- 3 Select the **Default Security** tab.
- 4 Click **Edit Default** for Default Access Permissions. The Registry Value Permissions dialog appears.
- 5 Click **Add**. The Add Users and Groups dialog appears.
- 6 Select **The World** in the Names list.
- 7 Click Add.
- 8 Click **OK** to close the Add Users and Groups dialog.
- 9 Click **OK** to close the Registry Value Permissions dialog.
- 10 Click **OK** to close the Distributed COM Configuration Properties dialog.

### 12C. To install the OnePoint Messenger Outlook client on the client PC:

This procedure guides you through installing the OnePoint Messenger desktop client over the LAN from the shared Telephony Server client directory (see "Procedure 8. Sharing Telephony Server Directories" on page 66). You can also install the client from the OnePoint Messenger CD-ROM.

Before installing, the user PC must have Outlook 98 or Outlook 2000 installed and associated with a mailbox on Exchange. For details on installing Outlook, see your Outlook documentation. A summary is provided in Chapter 2 of the *OnePoint Messenger User Guide*.

If any OnePoint Messenger client components have been previously installed on the test client, first uninstall them. For details, see the section "Removing OnePoint Messenger" on page 119 in Chapter 5.

**NOTE:** In order to install the software over the network to a Windows NT computer, the login account must have local administrator rights.

- 1 From the Windows **Start** button, choose **Run**.
- 2 On the **Run** screen, type the client setup share path that you created earlier (see page 66), as:

```
\\[server]\UMClient\setup.exe
```

For example, if the installation files are on a computer with the name "TServer," enter:

```
\\TServer\UMClient\setup.exe
```

- 3 At the prompt for the target directory, set the drive and directory on the client computer where you want to install the OnePoint Messenger program files.
- 4 At the final screen, click **Yes** to restart the computer and enable the OnePoint Messenger application.

### 12D. To send test messages from the test user PC:

Inspect Outlook to see if OnePoint Messenger is fully installed:



- Are the unified message buttons located at the right-hand end of the Outlook toolbar?
- Does the bottom of the **Tools** menu contain OnePoint Messenger menu items?

- If you installed Unified Fax Printer, does it appear in the printer list in the print setup dialog?
- 2 If the items above do not appear in Outlook, check the *CVInstall.log* file in the temp directory. This file contains the installation sequence, noting files installed, registry keys read and modified, and any installation errors.
- 3 If the installation failed, remove all components by using the **Add/Remove** applet in **Control Panel**, then reinstall.
- 4 If all components are in place, create and send a test voice message in Outlook. For details on creating unified messages, see Chapter 3 in the *OnePoint Messenger User Guide*.
  - a. Click the New Unified Message button (the telephone). If the New Unified Message form (containing a recorder toolbar) does not open, check the Organizational Forms library: Choose New from the File menu, then Choose Form. In the Choose Form dialog, select Organizational Forms Library in the Look In list. Unified and Unified.Fax should appear in the list. Select either, then click Open.
  - b. Enter the test user address in the **To** field.
  - c. Enter a subject in the **Subject** field.
  - d. Record a message using a microphone attached to the PC: Click **Record**. Record a message, then click **Stop**, then click **Attach**. Does a Unified Message1 icon appear in the message body?
  - e. Click **Send**. The message should go into Exchange and appear immediately in the same mailbox from which you are sending the message.
- 6 If you cannot open a OnePoint Messenger mail form, check CVInstall.log, as described above, for notes on installation errors.
- 7 In the Outlook message list, double-click the incoming voice message. QuickPick should open, and the voice attachment should play.
- 8 If the voice message does not play, check for the existence of cvSound.dll in the OnePoint Messenger default directory.
- 9 To test Web connectivity, access and play the voice message through WEB Client. See Chapter 4 of the *OnePoint Messenger User Guide*.



10 Using Unified Fax Printer, create and send a fax message. Select it from the Printer list, as explained in Chapter 5 of the *OnePoint Messenger User Guide*, or from the Organizational Forms library, as described above.

You can begin to add OnePoint Messenger options to user profiles in Exchange Administrator. After you set Full Unified Messaging for a user profile, you can install OnePoint Messenger client components on the user's PC, as you did above. See Chapter 2 in the *OnePoint Messenger Administrator Guide* for details. Also, Chapter 2 in the *OnePoint Messenger User Guide* contains more detailed client installation and testing procedures.

# **Procedure 13. Pinging and Checking the Event Log**

This section is a brief introduction to system validation. For details, see Chapter 6 in the *OnePoint Messenger Administrator Guide*. This section briefly describes the use of Event Viewer for noting installation problems and other errors. You can use the Event Viewer now and as you validate the telephony setup performed in Chapter 4. While you use the Event Viewer, consider setting a file size limit for the Event Log so that it does not impact disk space. Generally, both the Telephony Server and the Exchange Server perform in direct proportion to the amount of free memory:

# 13A. To limit the Event Log file size:

- 1 From the Windows **Start** button, choose **Programs**, then **Administrative Tools**, and then **Event Viewer**.
- 2 From the **Log** menu, choose **Log Settings**. The **Event Log Settings** dialog appears.
- 3 Set the **Maximum Log Size** acceptable for the size of your hard disk.
- 4 Select Overwrite Events as Needed.
- 5 Choose **Exit** from the **File** menu to quit Event Viewer.

#### 13B. To test the network connection:

On both the Exchange Server and Telephony Server, log on to the domain:

- 1 Click the drop-down arrow by the **Domain** field on the log-on screen, and select your domain name from the list.
- 2 Enter your Domain Administrator network user name.

- 3 Enter your Domain Administrator password.
- 4 Click **OK**.

The fact that your computer is able to log on to the domain constitutes a test of network connectivity.

#### To further test connectivity:

- 1 From the Windows **Start** menu, choose **Programs**, and then **Command Prompt**.
- 2 In the **Command Prompt** window, enter:

#### ping <IP address>

where <IP address> is the IP address of another computer running on the LAN.

or type the computer name of a computer on the network.

3 On the screen you should see the following display:

```
C:\>ping <server name>
```

```
Reply from <IP Address>: bytes=32 time=20ms TTL=128
Reply from <IP Address>: bytes=32 time=1ms TTL=128
Reply from <IP Address>: bytes=32 time=44ms TTL=128
Reply from <IP Address>: bytes=32 time=2ms TTL=128
```

4 Enter Exit to quit the Command Prompt window.

#### Conclusion

After successfully completing the installation in this chapter and setting up desktop clients, you can send unified messages between desktop clients over the LAN.

Telephony Server begins to play more of a role in your OnePoint Messenger system when you use a telephone to communicate through Exchange mailboxes. To bring telephones into the unified messaging environment, complete the procedures in Chapter 4.

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# 4. Integrating the Telephony Server with a PBX

This chapter contains a general discussion of the procedures for integrating the Telephony Server with a telephone switch. It discusses using Show N Tel Manager to identify the phone system, lines, and trunks, and assign telephony applications to ports. It discusses using TS Admin, the Unified Messaging Snap-in to MMC, for performing data link integrations. For specific instructions for integrating your PBX, see its specific OnePoint Messenger integration guide. This chapter contains these sections:

Section	Page
What Do You Get with PBX Integration?	78
Integrating the Telephony Server with a Switch (PBX)  • Using MMC to Create a Data Link Integration	<b>79</b> 81
<ul> <li>Using Show N Tel Manager for the PBX Integration</li> <li>Configuring Show N Tel for a Mitel PBX</li> <li>Editing the SNT Parameters Tab</li> <li>Overview of Telephony Applications</li> <li>Assigning Applications to Lines</li> </ul>	94 88 92 94 104
Configuring the Telephone User Interface	108
Configure, Start, and Monitor Telephony Server	110

**CAUTION!** Before powering up the Telephony Server, connect a grounding strap, as described in "Important Safety Information—Earth/Ground" on page 176 in Appendix B.

# What Do You Get with PBX Integration?

Providing complete PBX integration to the Telephony Server means that you dedicate at least one extension on the PBX to the Telephony Server Message Center, set up software on the Telephony Server that can interpret calling line information (CLI) sent by the PBX, and set up the Message Center to use that CLI to respond appropriately to the caller. Typically, CLI includes the caller's phone number (and name if Caller ID is set up), the called party's extension, and the reason why the caller has been routed to the Message Center. Those reasons include:

- The called party did not answer his or her phone.
- The phone of the called party was already in use when the call arrived.
- The called party had set up a request to the PBX that calls be automatically routed to voice mail.
- The called party received the call and transferred it to voice mail, for example, so the caller can leave a fax in the mailbox.
- A OnePoint Messenger user is calling the Message Center to retrieve messages.

The Message Center uses CLI to automatically associate the called telephone number with a particular mailbox, retrieve the appropriate user's greeting from that mailbox, and play it to the caller.

For example, the most common kind of call routed to the Message Center is from a caller routed to a mailbox when the associated telephone is not answered. The Message Center would play the user's greeting created for that condition. Consider Joe User. He has recorded a greeting for that condition:

"This is the mailbox of Joe User. I'm sorry he was too lazy to pick up the phone, but, if you wait for the beep after this long-winded greeting finishes, you can record a message for him that I'll be happy to play when he calls me to retrieve his messages."

If CLI is not available, the Message Center does not know why the caller has been routed there or for what mailbox the call is intended, so the Message Center answers generically:

"Welcome to the Message Center. Please enter a mailbox number."

# Integrating the Telephony Server with a Switch (PBX)

Using the Mitel SX-2000 as a model for screenshots, this chapter provides a general discussion of the PBX integration procedures that appear in the OnePoint Messenger integration manual for your PBX. A list of those guides appears in "Supporting Documentation" on page 15 in Chapter 1. See also the manufacturer documentation that accompanies your PBX and the Telephony Server line cards. Appendix B in this guide contains setup notes for Brooktrout fax cards, NMS line cards, and the Mitel AFC card with MiTAI.

The general sequence involved in integrating a Telephony Server with a PBX is:

- 1 Complete the required procedures in Chapter 3 (page 31), including the installation and configuration of line and fax cards. See Appendix A (page 163) for a list of compatible cards and Appendix B (page 175) for summary installation instructions for line cards—fax cards, NMS voice cards, and Mitel AFC cards.
  - If necessary, you can defer the setup of Microsoft Exchange until after you perform the PBX integration procedures, but the unified messaging system will not operate until you set up OnePoint Messenger on Exchange.
- 2 Install and configure your PBX to communicate with the Telephony Server as a voice mail system. See the manufacturer documentation that accompanies your PBX and associated components, and see the OnePoint Messenger integration guide for your PBX.
- 3 Get a list of the trunks, lines, and pilot numbers set up on your PBX for the OnePoint Messenger services:
  - One or more trunks for Message Waiting notifications from the Telephony Server (optional), including pager notifications. These trunks may also be used for outgoing faxes and Call-Me.
  - A pilot number and associated trunk number for the Telephony Server Message Center. The Message Center answers calls to users' extensions that are rerouted to voice mail, and it provides user access to mailboxes.
  - A pilot number for the Telephony Server Automated Attendant (automated receptionist) (optional).

• A pilot number for the Telephony Server Fax on Demand service (optional).

**NOTE:** On your PBX, you might want to dedicate more than one trunk to the Message Center. Your PBX might or might not require dedicated trunks for Automated Attendant, Fax on Demand, and/or the Message Center. The Telephony Server allows each of those three services to share the same trunks.

- Give those pilot numbers created on the PBX to the Telephony Server administrator to enter in the Automated Attendant, Message Center, and Fax on Demand pages of TS Admin (Unified Messaging Snap-in to MMC). See "Configuring the Telephone User Interface" on page 108. For integration with a Mitel PBX, you also edit the Telsrvr.ini and Hosts files, as described in "Configuring the Mitel SX-2000 and Notification Server MWI for Mitel MiTAI B-Channel" on page 102 and in the Mitel integration guides.
- Edit the appropriate interfaces on the Telephony Server for providing the integration to your PBX, as described in your specific OnePoint Messenger PBX integration guide. In summary:
  - For PBX integrations using the Enhanced Data Link Integration software (SMDI protocol for integration data—Centrex, Cisco CallManager, Fujitsu, Mitel Ipera, Lucent, NEC, Nortel)—edit the **Templates** and **PBX Configuration** nodes in TS Admin (the Unified Messaging tree in Microsoft Management Console). See "Using MMC to Create a Data Link Integration" on page 81 below. For details on the use of TS Admin, see Chapter 3 in the *OnePoint Messenger Administrator Guide*.
  - For Mitel PBXs, edit the **Switch/CTI** and **Device Map** tabs in Show N Tel Manager (SNT). See "Configuring Show N Tel for a Mitel PBX" on page 88.
- On the **Runtime** tab (see "Assigning Applications to Lines" on page 104), you assign telephony applications on the Telephony Server to lines and select a phone system.
- You select a phone system definition on the **Phone System** tab.
   For instructions on selecting and editing the definition (if necessary), see "Modifying the Phone System Definition in SNT" on page 97.

For more on Show N Tel Manager, see the *Show N Tel System Administrator Guide* from Brooktrout Software, stored as sntmgrguide.pdf on the OnePoint Messenger CD-ROM.

When you complete the procedures in this chapter, your system is capable of providing communication between telephones and the Exchange Server. You then need to use Exchange Administrator to configure individual mailboxes (see Chapter 2 of the *OnePoint Messenger Administrator Guide*), and use the Unified Messaging tree in Microsoft Management Console to set the behavior of the TUI (see Chapter 3 in the *OnePoint Messenger Administrator Guide*).

# **Using MMC to Create a Data Link Integration**

The Simple Message Desk Interface (SMDI) is a protocol and string format used by the PBX to provide to voice mail systems the calling line information (CLI)—caller number, called party number, and the reason why the call has been forwarded to voice mail. SMDI was originally designed to provide information from phone company central office Centrex systems.

Many PBX brands provide CLI data in proprietary variations of that standard SMDI format. OnePoint Messenger *Enhanced Data Link Integration (EDLI)* software translates data packets from both standard SMDI and from some of those customized CLI types into information that OnePoint Messenger can use to access the mailbox of the called party and play the appropriate greeting. For that reason, EDLI and SMDI are used almost interchangeably in OnePoint Messenger documentation. SMDI is a subset of EDLI.

Included in the EDLI software are template sets that parse the strings into their component data fields. OnePoint Messenger includes template sets that have been tuned for specific PBXs. You can make copies of those template sets in order to use the copies to create modified templates that more precisely fit your needs.

For PBX integrations that use EDLI:

- You assign an integration template set in TS Admin (in the Datalink node of the Unified Messaging Snap-in in Microsoft Management Console). If you need to modify a template, you use the Templates node, as described next.
- You also use the **SNT Device Mapping** page of TS Admin to map PBX lines to Show N Tel lines. See "Using the SNT Device Mapping Page for Data Link Integration" on page 85.

# **Providing a Data Link Template Set**

To integrate the Telephony Server with PBXs other than Mitel, use the EDLI configuration method optimized for your PBX. You must assign the appropriate PBX integration templates in Microsoft Management Console (MMC) on the Telephony Server.

The following discussion presents the general template assignment procedure for SMDI data link integrations. See the OnePoint Messenger integration guide for your PBX for specifics.

First, review the available templates under the **Templates** node in the Unified Messaging Snap-in to MMC. If necessary, edit an existing template, or edit a copy, or create a new one in that node. Then, in the **PBX Configuration** node, assign the templates and further set integration parameters.

# To edit or create a new PBX Data Link template:

- In the Scope pane of MMC, expand (double-click) the Unified Messaging node, then the Templates node, then select the PBX Datalink node.
- 2 From the toolbar or the context menu, click **New**. The New PBX Datalink dialog appears.

Or

To edit an existing PBX Datalink template, select it in the **Result** pane, then click **Properties**.

- In the **Name** and **Description** fields, enter a name and description for this template, such as the specific PBX model used with this template page. The name and description appear in the Result pane of MMC.
- 4 The first column in the table contains the series "T1" through "T50," representing templates numbered 1 through 50. Edit the remaining fields in the table to match the data string information sequence used by your PBX.
  - **Text:** This field specifies the data string expected from the PBX starting from the point in the string that the template receives it from the preceding template (in the case of T1, from the PBX). The data is composed of ASCII characters in a series of fixed strings, variable strings, and special characters.

- Next: This field specifies the next templates invoked if particular data is received.
- Command: This field specifies the action to take associated with particular data that is received. Some templates extract data that require no action, such as Template 1 (T1) capturing the packet header. Commands are represented by characters, such as "S" for "Stop sending MWI requests to the PBX."
- Comment: Use this field to make notes about the associated template. For example, for a template that interprets a data string "/M/J..." as the packet header and then forwards the string to templates 2 and 3, the comment might be "Packet Header".

#### 5 Click **OK**.

After optimizing a template in the PBX Datalink Templates node, use the **Configuration** page under the **Datalink** node, as described below, to choose and edit the appropriate PBX datalink template for the PBX integration with the Telephony Server.

Also use this **Configuration** page to set the data flow configuration between this Telephony Server and the PBX.

## To edit the Configuration page:

- In the Scope pane of MMC, expand (double-click) the Unified Messaging node, then Telephony Server Groups, then Group One, then Telephony Servers, then TServer One, then PBX Configuration, then Datalink.
- 2 In the **Results** pane, select **Configuration**.
- From the toolbar or the context menu, click **Properties**. The Datalink Configuration Properties page appears.
- 4 Click the down-arrow by the **Template** field to select the appropriate Datalink template from those available at the PBX Datalink Templates node. There are preconfigured SMDI integration template sets for basic Centrex, the Fujitsu 9600, Lucent Definity G3, NEC 2400, and the Nortel Meridian.
- 5 Select Local. In this version of OnePoint Messenger, clustered Telephony Servers are not supported, so the Remote option is not available.

- 6 Set the I/O configuration by clicking the down-arrow by each of the following six fields to select the appropriate value to match the settings to those used by your PBX:
  - **Port:** COM 1 is typically used.
  - **Stop Bits:** 1 is typically used.
  - **Baud Rate:** 9600 is typically used.
  - **Parity:** No parity is typically used with 9600 baud.
  - **Data Bits:** 8 is typically used.
  - **Flow Control:** Xon/Xoff is typically used.
- 7 Under Message Waiting Indicator, click Use keep alive, then click the spin control by Interval to set a polling interval for how often to check if your PBX is accepting MWI requests. Telephony administrators also recognize this feature as Link Alive.
- 8 Click the spin control by **Data Timeout** to set how long (in milliseconds) the Telephony Server should wait after receiving a call for the associated call data from the PBX before answering the call with a general greeting.
- 9 Click **OK** to accept your edits and close the page, click **Apply** to save edits without closing the page, or click **Cancel** to close the page without saving.

#### **Configuration Page Fields**

**Template:** Name of the PBX datalink template used for the PBX integration

**Port:** The physical port on the Telephony Server used for the data link to the PBX

**Stop Bits:** The interval at the end of each character that indicates the end of the character; always set to 1 or off.

**Baud Rate:** The rate, in number of bits per second, at which the port can receive data

**Parity:** The type of bit error checking that the Telephony Server data link server should use, if any

Data Bits: Number of bits that should comprise the character

**Flow Control:** Which data flow control method to use (inherent hardware control or a particular software control)

**Interval in seconds:** Polling time interval for the Telephony Server to test whether the PBX is processing MWI requests

**Data Timeout:** How long the Telephony Server should wait for data about the incoming call from the PBX before answering the call with a general greeting

## **Buttons on the Configuration Page**

**Remote:** Connection to the PBX from another server (option not available)

**Local:** Direct connection to the PBX from this Telephony Server

**Use keep alive:** Enables polling of the PBX to test whether the PBX is accepting message waiting indicator requests

**OK:** Accepts changes and closes the page

Cancel: Rejects changes and closes the page

Apply: Accepts changes and keeps the page open.

# **Using the SNT Device Mapping Page for Data Link Integration**

For SMDI data link integrations, use the SNT Device Mapping page in TS Admin to map PBX terminals to Show N Tel lines through numbered physical Telephony Server linecard ports.

# To edit the SNT Device Mapping page:

- In the Scope pane of MMC, expand (double-click) the Unified Messaging node, then Telephony Server Groups, then Group One, then Telephony Servers, then <TServer Name>, then PBX Configuration, then Datalink.
- 2 In the **Results** pane, double-click **SNT Device Mapping**. The Properties dialog appears, as shown in Figure 4-1. The figure shows a partially completed page—six Show N Tel lines set up for a Telephony Server named "OnePoint", Message Desk 001, and a series of terminal numbers from 0001 through 0006.

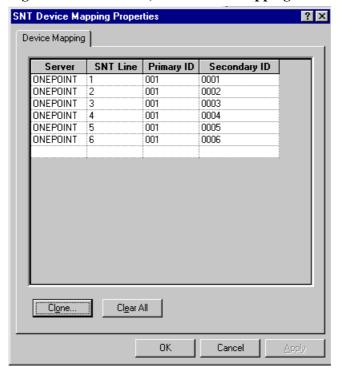


Figure 4-1 TS Admin, SNT Device Mapping

You can set each line individually or set a whole range at once using the Clone button.

- 3 To set the connections for an individual port:
  - a. Select the **Server** field for the line, then click its arrow to select the name of your Telephony Server.
  - b. Select the neighboring **SNT Line** field, then click its spin control to select the Show N Tel line to associate with the port.
  - c. In the **Primary ID** field, enter the Message Desk number you got from the PBX technician.
  - d. In the **Secondary ID** field, enter the Logical Terminal Number connected to that port (see your PBX Integration Worksheet in Appendix A of your integration guide.

For example, using the example in Figure 4-1, to assign LTN 0005 to Show N Tel Line 5 on Port 5 of the linecard, you would set **SNT Line** to 5, enter **001** for the Message Desk num-

ber in the **Primary ID** field, and enter **0005** for the LTN in the **Secondary ID** field.

- 4 To use the Clone button to quickly populate the dialog:
  - a. Click **Clone**. The **Clone a Device Entry** dialog opens, as shown in Figure 4-2.

Figure 4-2 TS Admin, SNT Device Mapping



- b. Click the arrow by the **Server** field and select your Telephony Server name.
- c. Set the range of SNT lines to populate by either clicking the spin control or entering the beginning and ending range values. In the figure, the range is 1 to 24.
- d. Enter the Message Desk number in the **Primary ID** field.
- e. In the **Starting Secondary ID** field, enter the terminal number for the starting SNT line number. If you have non-sequential LTNs, you can still the clone feature to create more than one sequence.
- f. Click **OK**. The dialog closes and the SNT Device Mapping page displays a set of populated lines in the range you set.
- 5 Click **OK** to accept your edits and close the page, or click **Apply** to save edits without closing the page, or click **Cancel** to close the page without saving.

**NOTE:** For Enhanced Data Link Integrations (EDLI), the SNT Device Mapping page described above performs the function otherwise managed by the Device Map tab in Show N Tel Manager, so you do not need to edit the SNT Device Map tab for EDLI (Fujitsu, Centrex, Cisco, Ipera, Lucent, NEC, and Nortel).

# **Using Show N Tel Manager for the PBX Integration**

Show N Tel Manager (SNT Manager) is part of Show N Tel Runtime, installed by OnePoint Messenger. SNT Manager plays a role in integrating the Telephony Server with the PBX. For the Mitel PBX integrations, SNT Manager provides an interface to match the trunks and extensions on the PBX with the ports on the line card. SNT Manager manages the Telephony Server line card ports. For each port, you associate a telephony application and a phone system. You can also use Show N Tel's Operate and Monitor interface to monitor the status of each port. For details on Show N Tel Manager, see the *Show N Tel Manager System Administrator Guide* on the OnePoint Messenger CD-ROM, stored as sntmgrguide.pdf.

# **Configuring Show N Tel for a Mitel PBX**

To integrate the Telephony Server with a telephone switch (PBX), your PBX should be set up first, with appropriate trunks, hunt groups, and lines.

- 1 Get a list from your PBX administrator of the trunks and extensions that are configured in your PBX for OnePoint Messenger.
- Start Show N Tel Manager From the Show N Tel program group on the Telephony Server. Click the Windows Start button, choose Programs, then Show N Tel Setup, then Show N Tel Manager.
- 3 From the **Tools** menu, choose **Configure CTI**.
- 4 Select the **Switch/CTI** tab, shown in Figure 4-3.

Show N Tel Manager File Server Iools Window Help 🗩 🐚 💹 🖀 💊 2 0 × Telephony Server Switch / CTI Link Device Map Configure CTI Link Select Switch (PBX) & link type Mikel with MiT at 2000 Series Service Tirrecut INFO Logging Transfer with Canoultation Call True Use Complete Transfer False Go On-Hook to complete transfer True Go Off-Hook before making new calls Redirect Callo with Anomer and Transfer False Pauce after Transfer 250 Pauxe after Abort Transfer 250 Check CTI Data Link Devise to check (Device ID) Check Data Link <u>Cancel</u> Help CTI Configuration Forn Loaded 12/30/99 11:59 AM

Figure 4-3 Show N Tel Manager, Switch/CTI Tab

5 From the "Select Switch (PBX) & link type" list (see Figure 4-3), choose your PBX. For a Mitel SX-2000, select "Mitel with MiTAI 2000 Series," then set these fields to the values shown:

Service: PBX\_A

• Timeout: 5

• Logging: INFO

• Transfer with Consultation Call: TRUE

• Use Complete Transfer: FALSE

• Go Onhook to Complete Transfer: TRUE

• Go Offhook before Making New Calls: **TRUE** 

• Redirect Calls with Answer Transfer: FALSE

6 Set the **Pause after Transfer** and **Pause after Abort Transfer** fields to the values specified by the PBX manufacturer. For the Mitel SX-2000, the values are:

Pause after Transfer: 250

Pause after Abort Transfer: 250

7 To verify a trunk or line, enter a trunk line or extension device ID in the **Device to check** (Device ID) edit box, then click **Check Data Link**. A message box appears to verify the link.

For example, if a PBX trunk ID is T100, type 100 in **Device to check**, then click **Check Data Link**.

Show N Tel help describes Device ID as "a unique identifier associated with a telephone device or route point. Although it is frequently a number that can be dialed, some switches provide a translation table to associate logical names with the device numbers."

8 Select the **Device Map** tab, shown in Figure 4-4.

Use this tab to map PBX lines and trunks to Show N Tel (SNT) lines. Later, on the **Runtime** tab, you will attach the appropriate telephony application to each line. In other words, if you assign a series of trunks on the PBX to the Message Center, use this tab to associate each of those trunks with a separate SNT line. Later, on the **Runtime** tab, assign the "Telephony Server" application to each of those SNT lines. If you assign a trunk on the PBX to Message Waiting, you will assign the "Notification Server" application to the SNT line that you map here to the Message Waiting trunk.

Typically, for a 24-port setup, installers have all the incoming messaging ports grouped together starting from SNT Line 1, usually through Line 18. Then, they might assign a couple of lines to Message Waiting, a couple to Send Fax, and a couple to Call-Me. How you allocate lines depends on your needs. You can revise the allocation later.

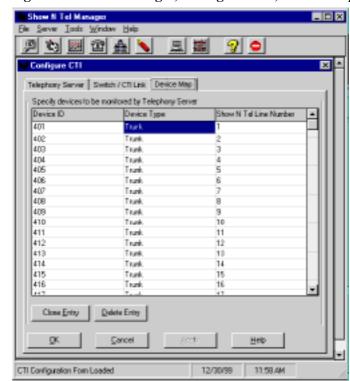


Figure 4-4 SNT Manager, Configure CTI, Device Map Tab

## 9 For each line you plan to run:

- a. In the **Device ID** column, select an empty row, then enter the Device ID for the line or trunk from your PBX to the Telephony Server. Now, in Show N Tel version 4.4, you enter a trunk number only as a number (such as T501 becomes "501.") You can click **Clone Entry** to assign a series of trunks to a series of SNT lines.
- b. Click the **Device Type** column, then select **trunk** from the drop-down list.
- c. In the **Show N Tel Line Number** column, enter the line number of the line number to which you want to map.
- d. Click **OK** to accept your changes and close Configure CTI.

**NOTE:** You do not need to edit the **Telephony Server** tab.

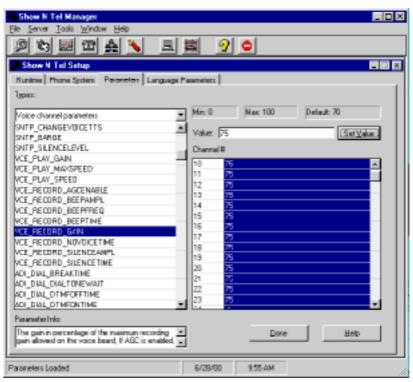
# **Editing the SNT Parameters Tab**

Use this interface to set the default volume of message playback through the telephone. You must also edit the Parameters tab to note the presence of an AG-0 card (AG-8 DSP) or an AG-T1. For details on setting up those cards, see Appendix B (page 186).

**NOTE:** Do not use the Languages tab in Show N Tel. Use the Unified Messaging Snap-in to Microsoft Management Console to choose languages for system prompts (use the System Information page) and default mailbox prompts (use the Mailbox Defaults page). For details, see Chapter 3 in the *OnePoint Messenger Administrator Guide*. In OnePoint Messenger 2, you can use U.S. English, British English, or Spanish prompts. Use the OnePoint Messenger Installation Program to install languages.

- 1 From the **Tools** menu of Show N Tel Manager, choose **ShowN-Tel Setup**. The **Show N Tel Setup** dialog appears.
- 2 Select the **Parameters** tab, shown in Figure 4-5.

Figure 4-5 Show N Tel Manager, Parameters Tab



- 3 From the **Types** pull-down box, select **Voice channel parameters**, then scroll down the list of voice channel parameters and select for **VCE\_Record\_Gain**.
- 4 In the **Channel** window of the screen, click the field to the right of **Channel 1**, then press [**Shift**], then click the mouse on the highest voice line you have installed so that all of the fields between Channel 1 and the highest channel are highlighted.
- 5 In the Value field, enter 75, then click Set Value.
- 6 Click Done.

#### To edit the Parameters tab to note the presence of an AG-0 card:

- 1 From the **Types** drop-down list, select **Voice Board parameters**.
- 2 The **System** area changes to display a list of Show N Tel line numbers. Select the lines supported by voice ports on your line card(s). For example, if you have two AG-0 cards, a total of 16 lines, highlight 1 through 16.
- 3 In the **Value** field, set the value to **1**, then click **Set Value**. All of the values for the highlighted lines change to 1.
- 4 Click Done.

# **Editing the Parameters Tab for the AG-T1 Card**

If you use the NMS AG-T1 card, you must edit the Parameters tab of Show N Tel Manager, as you did above, to select the TCP protocol. For details on the AG-T1, see "Installing an AG-T1 Card" on page 190 in Appendix B.

# To edit the SNT Parameters tab for an AG-T1 card:

- 1 In the **Types** drop-down list, select **Voice channel parameters**.
- 2 Scroll the list of voice channel parameters and select **SNTP PROTOCOL**.
- 3 In the right pane, select **Channel 1** through **24**.
- 4 In the **Value** field, enter **3**, then click **Set Value**.
- 5 Click **Done**.

# **Overview of Telephony Applications**

OnePoint Messenger provides telephony applications that run through Show N Tel Manager to provide line card services. They are:

- Active Call Handler: Supports the Active Call CTI system on the Mitel SX-2000, including detecting port hang-ups
- AutoRecep (Automated Attendant, also called Automated Receptionist): The general purpose "Telephony Server" application routes calls to the Automated Attendant. However, you can dedicate a line to AutoRecep if you want to ensure that calls to the Automated Attendant do not need to wait for a port.
- Fax on Demand: As with AutoRecep, the "Telephony Server" application handles Fax on Demand calls, but you can assign the Fax on Demand application to a port to provide more dedicated service to those callers. Faxes sent to those callers who are not receiving the requested fax at the online number must be delivered from a port running the SendFax application.
- Message Delivery: Message Delivery supports the QuickFax feature and Post Office Resiliency (caching telephone messages temporarily on the Telephony Server when Exchange is off-line, a feature that will be available in a future release). Assign Message Delivery to a Show N Tel line not associated with a physical port. By default, Message Delivery is assigned to SNT line 50.
- **Notification Server:** There are four versions of Notification Server, detailed below, supporting the Call-Me service or some form of notification of incoming unified messages.
- SendFax: SendFax sends faxes to Fax on Demand recipients, to users who download e-mail to fax machines, and supports OuickFax.
- **Telephony Server**: This is a general purpose application that supports messaging into and from mailboxes, Automated Attendant, Fax on Demand calls, Meet-Me, TTS, and sending faxes to online fax machines.

Functions supported by the "Telephony Server" application request and release ports dynamically. For example, when a fax arrives, the Receive Fax function dynamically requests a port from any port using the Telephony Server application. Receive Fax releases the port when the fax operation is done. TTS and Meet-Me sessions also work this way.

# **Configuring and Testing Notification Server**

Notification Server is a telephony application that you assign to Show N Tel lines in Show N Tel Manager. There are four versions of Notification Server:

- **Notification Server (CM)**—supports Call-Me sessions.
- Notification Server (Paging)—sends alerts to pagers of users receiving unified messages.
- **Notification Server (MWI):** dedicates a port to controlling the message waiting indicators on users' telephones.
- Notification Server (Full)—provides all three of the services provided by Notification Server—MWI, Paging, and Call-Me.

You have the following options in assigning Notification Server to perform the following three functions:

• MWI: If your PBX provides message waiting indicators (MWI) on extensions, you can assign Notification Server in one of two ways to support that function. You can assign Notification Server (MWI) to a physical port or a virtual port (SNT line not assigned to a physical port) to dedicate that line to MWI. Alternatively (or in addition), you can assign Notification Server (Full) to a physical port. Notification Server (Full) provides all three of the services provided by Notification Server—MWI, paging, and Call-Me.

**NOTE:** MWI signals the recipient through the telephone when a telephone message arrives, typically by turning on an indicator light on the telephone, sometimes by using a stutter dial tone, then turns off the indicator when the user has retrieved the message.

 Paging: If you assign permission to some or all users to receive notification on their pagers or remote telephones of the arrival of unified messages, Notification Server sends MWI alerts to those designated pagers. Assign either Notification Server (Paging) or Notification Server (Full) to a physical port in Show N Tel.

See Chapter 2 of the *OnePoint Messenger Administrator Guide* for details on setting up user accounts to accommodate various paging modes.

**NOTE:** A unified message is either a telephone call or a message created in a Unified Message form through Outlook or Web Client.

• Call-Me: Users initiating a combined telephone-computer mailbox session using Call-Me require a Notification Server port.

**NOTE:** For details on the purpose of Call-Me, see Chapter 3 in the *OnePoint Messenger User Guide*.

#### To enable Notification Server:

- 1 To allow long distance pager dialing, the PBX line connected to the port associated with Notification Server (Full) or Notification Server (Pager) must have a service level that allows long distance dialing and message delivery. The PBX must have the MWI feature code defined.
- 2 Modify the Phone System Definition in Show N Tel Manager to conform with your PBX data integration—DTMF, SMDI, or CTI. See "Modifying the Phone System Definition in SNT" next.
- 3 Perform the procedure in "Assigning Applications to Lines" on page 104 in the Show N Tel Manager **Runtime** tab, to assign versions of Notification Server to Show N Tel lines. The line that is assigned to Notification Server must be allowed to turn MWI on and off.

**NOTE:** For Mitel MiTAI with the SX-2000, assign a special hunt group number to the line supporting Notification Server, and edit the Telsrvr.ini file. See "Configuring the Mitel SX-2000 and Notification Server MWI for Mitel MiTAI B-Channel" on page 102.

**NOTE:** Finally, to support unified message notification through pagers, the Telephony Server administrator must configure, in TS Admin (also known as the Unified Messaging Snap-in to Microsoft Management Console) the **Pager Settings** page, and set paging permissions in each **Class of Service** on the Class of Service node. The Exchange administrator must assign paging permissions to individual users by selecting for the user one of the 10 Classes of Service, and set pager settings. For details on assigning permissions, see Chapters 2 and 3 of the *OnePoint Messenger Administrator Guide*.

Notification Server has a testing utility called "cvNotify" that tests whether Notification Server generates pages to a particular user when

a message arrives for that user and whether a message waiting signal is sent to a user's telephone when a message arrives. See "Testing the Operation of Notification Server" in Chapter 6 of the *OnePoint Messenger Administrator Guide*.

# Modifying the Phone System Definition in SNT

The Notifications telephony application supports three methods to move data between the Telephony Server and the PBX—DTMF, CTI, and SMDI. Use the method required by your PBX. For specific instructions on performing this task, see the OnePoint Messenger PBX integration for your PBX.

In general, Mitel PBXs use CTI, while the other PBXs supported by OnePoint Messenger 2.0 use SMDI. Each PBX requires specific settings in the **Phone System** tab of Show N Tel Manager Setup, and data link integrations also require specific settings on the Feature Definitions tab for the particular PBX.

# To select the phone system definition for your PBX:

- In Show N Tel Manager, choose **Show N Tel Setup** from the **Tools** menu.
- 2 Select the **Phone System** tab, as shown in Figure 4-6.
- 3 In the **Phone System List** area, double-click the template set that you have chosen for your PBX (see "Using MMC to Create a Data Link Integration" on page 81).

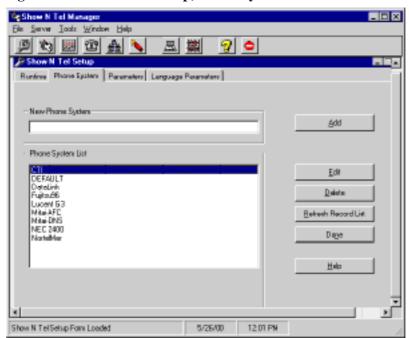


Figure 4-6 Show N Tel Setup, Phone System Tab

4 In the **Phone System Definition** window that appears, select the appropriate tab to view or edit your settings:

If your PBX integration uses *SMDI or DTMF*, select the **Feature Definitions** tab, as shown in Figure 4-7.

or

If your PBX integration uses *CTI*, select the **Configure CTI** tab. See **Step 7**.

5 If you have an SMDI integration, the Call Information Handler field must display cvPBXDatalinkSNTHookObjClass and Transfer should be selected.

Before editing the settings, click the **Help** button on the dialog for more details on the fields and options. A selected field indicates to Show N Tel that the feature is available on the PBX. An ampersand (&) in a field that is not grayed out indicates that depressing the phone hook briefly (flashhook) will signal the PBX to perform the selected function. A comma represents a 2-second pause.

Edit the other fields to conform with the features of your PBX.

Phone System Definition Ediling Phone System: DataLink Feature Definitions: Tone Falsie Date On Asswer CTI Feature Supported Supported Hold Msg. Light On F Mag Light Df Pickup ₽ Use SMDI For Message Light Transfer Transfer External Pak Transfer Complete Park Pickup Transfer Abort E Call Information Handler - Default Transfer Type @ Blind cvPBXDatalinkSNTHook0bj Class C. Attended ✓ Message Waiting Indicator Prefect Internal International 011 Uses Delined 1 Long Distance User Defined 2 DK. Cancel **BPP**b Het-

Figure 4-7 Show N Tel Setup, Phone System Definition, SMDI

- 6 If you have DTMF:
  - a. On the Feature Definition tab, select **Supported**.
  - b. Enter \*97 in the **Sequence** field next to **Message Light On** and \*98 in the **Sequence** field next to **Message Light Off**, as shown in Figure 4-8.

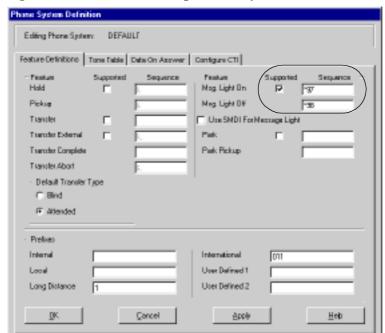


Figure 4-8 Show N Tel Setup, Phone System Definition, DTMF

7 If you have CTI (used for Mitel MiTAI), in the **Configure CTI** tab, select **Enable CTI** and **Message Lamp**, as in Figure 4-9.

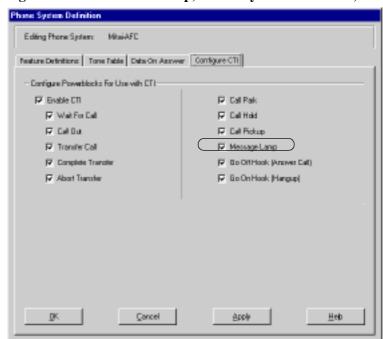


Figure 4-9 Show N Tel Setup, Phone System Definition, CTI

8 Click **OK** to accept your entries and close the window.

# **Editing the Phone System Tone Table**

Default.ton is one of the default settings in the Tone Table tab of SNT for all PBX integrations using Enhanced Data Link Integration (EDLI) software. In some cases (found, so far, only with the Fujitsu 9600), the default.ton file does not provide the correct PBX "clear down" tone (indicates that the caller has gone on-hook, i.e., ended the call) to the Telephony Server, so messages left from the TUI for OnePoint Messenger users include a long dial tone at the end.

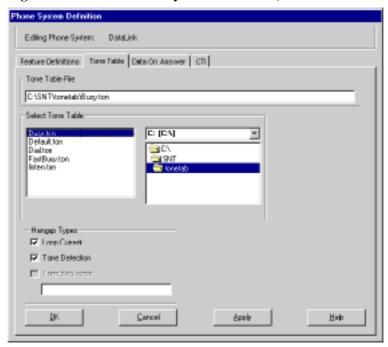
#### To select the correct tone detection file:

- 1 Get information about the PBX clear down signal from the PBX technician.
- 2 In the **Phone System Definition** window, select the **Tone Table** tab, shown below.
- 3 In the **Select Tone Table** area, select the tone table to match your PBX signalling. Select:
  - **Busy.ton** if the switch provides a busy tone as the clear down indicator

- **Fastbsy.ton** if the switch provides a fast busy tone as the clear down indicator
- Do not select Dial.ton for a normal dial tone. Select
   Default.ton instead.

#### 4 Click **OK**.

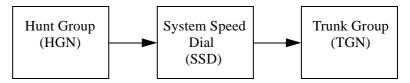
Figure 4-10 SNT Phone System Definition, Tone Table



# Configuring the Mitel SX-2000 and Notification Server MWI for Mitel MiTAI B-Channel

- 1 On the Mitel SX-2000:
  - a. Assign a special hunt group number to the line supporting the Notification Server telephony application.
  - b. Set up a System Speed Dial number to dial into the Telephony Server's trunk group.
  - c. Set up an HCIReroute hunt group.
  - d. Using the Call Reroute feature of the SX-2000, assign the System Speed Dial number as the rerouted number for the HCIReroute hunt group. Figure 4-11 shows the assignment sequence.

Figure 4-11 PBX Configuration for MiTAI MWI



- 5 Publish the System Speed Dial number as the Message Center number.
- 6 Enter the Message Center number in the **Telsrvr.ini** file:
  - a. Using Windows NT Explorer on the Telephony Server, navigate to C:\SNT\TelSrver\Telsrvr.ini, and double-click it to open it in Notepad.
  - b. Append the message center extension number to the line "**MWIPilotNumber**=," as shown in Figure 4-12.

Figure 4-12 Edited TelSrvr.ini File with the MWI Pilot Number

```
[Telephony]
Driver=SNTCTC.DLL
SwitchType=1
UseConsultationCall=1
UseCompleteXfer=1
UseOnHookAfterXfer=1
UseOffHookBeforeMakeCall=1
RedirectWithAnswerXfer=0
PauseAfterXfer=250
PauseAfterAbort=250
MITAIDeviceType=
MITAIService=
MITAITimeout=0
                          Mitai MWI Pilot
                          set to 1234
MITAILogging=
MWIPilotNumber=1234
MitaiReconnectRetries=-1
PostHungupAll=0
```

- c. Save the file.
- 4 Give the Message Center pilot number to the Telephony Server administrator, along with the Fax on Demand and Automated Attendant pilot numbers to enter in the Message Center, Auto-

mated Attendant, and Fax on Demand pages of the Unified Messaging Snap-in to Microsoft Management Console, described in Chapter 3 of the *OnePoint Messenger Administrator Guide*.

- 5 Create an entry in the Hosts file for MiTAI:
  - a. With a text editor, open the Hosts file, located in \WINNT\system32\drivers\etc
  - b. Read the instructions in the file header, then add an entry in the form:

```
<IP address> "<HostName>" MiTAI
```

(where <IP address> corresponds to the IP address of the Telephony Server, and "HostName" is the computer name of the Telephony Server.)

c. Save the file.

# **Assigning Applications to Lines**

This section describes how to assign OnePoint Messenger telephony applications to individual Show N Tel lines that are associated with real and virtual ports connected to the telephone switch.

The OnePoint Messenger Installation Program automatically adds the telephony applications to the Program Information area of the Runtime tab (see Figure 4-13) of Show N Tel Manager, and assigns the *Telephony Server* general purpose telephony application to the first line in the Lines Information list. For details on the applications, see "Overview of Telephony Applications" on page 94.

**NOTE:** While adding the applications to the Program Information area is not necessary for initial installation, you might need to manually add new or revised applications at a later date. For details, see the *Show N Tel System Administrator Guide*, stored as sntmgrguide.pdf on the OnePoint Messenger CD-ROM.

In a 20-line setup, you might dedicate several lines to SendFax, one or two to Fax on Demand, and two lines to Notification Server (see "Configuring and Testing Notification Server" on page 95) depending on your priorities. If you encounter strained resources using one configuration, you can easily reassign the applications. See "Reassigning Lines to Other Applications" on page 107.

## To assign applications to ports (lines):

For details on this procedure, see the section "Lines Information" in Chapter 6 of the *Show N Tel User's Guide*, reproduced in Appendix G of the *OnePoint Messenger Administrator Guide*.

- 1 From the **Show N Tel** program group, run **Show N Tel Manager**.
- 2 From the **Tools** menu, choose **ShowNTel Setup**.
- 3 Select the **Runtime** tab, as shown in Figure 4-13, which shows how the Runtime tab appears after OnePoint Messenger is installed, with all the OnePoint Messenger telephony applications appearing in the Program Information list, and the general purpose "Telephony Server" application assigned to SNT Line 1.

SelShow N Tel Manager Server Ioolo Window Help 🔊 🐚 💹 🍙 🔌 📏 🔑 Show N Tel Setup Runfred Phone System | Parameters | Language Parameters | Program Path Program ID C:\SNT\TSVR\bir\cvMySvr.RUN Notifications (Full) Notifications [MWT) C:\SNT\Tovr\bir\cv\NtySvr.RUN Notifications (Page) | CASNTATov/SinAcvNitySvs.RUN CASn/ATSVR/bin/cvSendFax.RUN Delete Program Edit Program. Add Program. Behesh Programs Assign Program Line Information PhoneSus Line# Program ID Program Pati Enabled 4 5 Enable Lines | Disable Lines Clear Lines Refresb Lines Set Phone Sus Help Show N Tel Setup Form Loaded 2/3/00 6:03 PM

Figure 4-13 Show N Tel Manager, Runtime Tab

- In the **Program Information** area, select an application that you want to assign (In Figure 4-13, Telephony Server is selected.)
- 5 In the **Lines Information** area, select the line(s) to which you want to assign that application. For example, Line # 1 is selected in Figure 4-13. You can select only contiguous lines.

- 6 Click Assign Program.
- Repeat the steps to assign an application to each line supported by a physical port.
- 8 Assign **Message Delivery** to Show N Tel line 50 if it is not already assigned there. On some turnkey systems, Message Delivery is preassigned to another line.
- 9 If you have a Mitel PBX, assign **Active Call Handler** to a line not associated with a physical port.
- 10 For a Mitel SX-2000, select all the assigned lines in the **Lines**Information area, click **Set Phone Sys**, then select **Mitel-AFC**from the drop-down list, as shown in Figure 4-14. For other PBX integrations, select the appropriate phone system.

A Show N Tel Setup Burling Phone System | Parameters | Language Parameters Program Information Program ID Program Path CASNT\uprog\ActiveCall\_Evf-Indlt.RUN ActiveCalHandler decelectura CASMATSVR/bir/kovisRecep.RLN FasOnDemand CAShfATSVF/Nin/LovFieldD\_FILIN Notification Server | ICASHTNTSVF VainApvNrjSvt RU1 Sendfae CAShATSVR/bin/cySendFacRUN CASMATSVPYbirAcvT9MCB.PUN TelephonyServer Edit Program. Delete Program Add Program. Refresh Programs Assign Program Lines Marrietian Line # Program D Program Path Evabled PhoneSyo. TelephanyServer C:\Snt\T5VR\bin\avT5MCB.RUN MAHAFE TelephonyServer 10 DIVENN'T SV PODING VT SMCB, RUN MAMAPE TelephonyServer TelephonyServer 11 C:\Snt\TSVR\bin\cvT\$MCB.RUN ManaFC 12 DAShtATSVR\binAcvTSMCB.RUN MasiAFC 13 Telephony5erver C: \Snt\TSVR\bin\avTSMCB.RUN MANAFO TelephonyServer C:\Snt\TSVR\bin\cvT\$MCB.RUN MANAFE Telephoru/Server C: \Swk\TSVR\bin\cvT\$MCB.RUN MASSAFE Miltoi-AFC Enable Lines | Disable Lines | Clear Lines Set Phone Suo Refresb Lines MRE-ONS

Figure 4-14 SNT Runtime Tab, Assign Phone System

A line is enabled as soon as you assign an application to it. An enabled line is identified by a checkmark in its **Enabled** field in the **Lines Information** area.

#### To deactivate one or more lines:

Select the line(s) in the **Lines Information** area, then click **Disable Lines**. Make sure that the "X" is gone from the **Enabled** field.

#### To reactivate one or more lines:

Select the line(s) in the **Lines Information** area, then click **Enable Lines**.

#### To remove an application assignment from one or more lines:

Select the line(s) in the **Lines Information** area, then click **Clear Lines**.

# To replace a line application assignment with another application:

Select the line to remove in the **Lines Information** area, then select the new application in the **Program Information** area with the right mouse button held down and drag it over the old application.

# **Reassigning Lines to Other Applications**

You can reallocate resources quickly if your resource needs change. For example, if you are running a faxback system and temporarily need more lines for Fax on Demand, you can reassign some Telephony Server line assignments to Fax on Demand. If you add another line card, you can append the new line assignments to the current assignments.

# To reassign a line:

- 1 Run Show N Tel Manager.
- 2 From the **Tools** menu, choose **Operate and Monitor**. The Operate and Monitor window opens, as shown in Figure 4-15.
- 3 Select the lines that you want to reassign, then click **Stop Lines**.
- 4 From the **Tools** menu, choose **ShowNTel Setup**.
- 5 Select the **Runtime** tab, as shown in Figure 4-13.
- 6 In the **Lines Information** area, select the line(s) to reassign.
- 7 In the **Program Information** area, select the application to assign, then click **Assign Program**.
- 8 Switch to the **Operate and Monitor** window.
- 9 Select the lines that you reassigned, then click **Start Lines**. Watch the "Application Status" field to make sure that the line records begin to reflect their operational status, as shown in Figure 4-15.

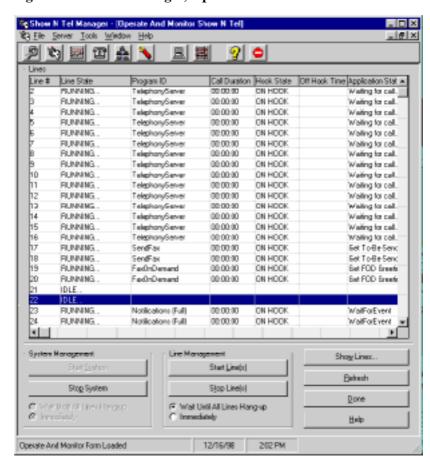


Figure 4-15 SNT Manager, Operate and Monitor Window

# **Configuring the Telephone User Interface**

There are many elements of the telephone interface that you can modify. Most of the elements are installed with defaults that you can manage by exception. For details, see Chapter 3 in the *OnePoint Messenger Administrator Guide*. Those elements that do not have defaults are the pilot numbers of the dialed services.

Enter the Message Center pilot number in the **Unified Messaging Snap-in** to Microsoft Management Console.

- 1 In the Scope pane of MMC, click the UM tree root, then Telephony Server Groups, then Group One, then Group Configuration, then Applications.
- 2 Select **Messaging** in the **Results** pane and choose **Properties** from the context menu or toolbar.
- 3 In the Messaging Properties dialog, select **Enable Messaging** to activate the Message Center interface.
- 4 In the **Pilot Number** field, enter the phone number that acts as the pilot number of the Message Center hunt group, the number that users can call to access the Message Center.
- 5 On that page you can also select a **fax cover page** that accompanies faxes and e-mail that users download from their inboxes, and you can select the **system greetings** for the Message Center.
- 6 Click **OK** to accept changes and close the page.

If you activate the following optional features, you should enter pilot numbers for them:

- Automated Attendant (Receptionist): Ideally, the Automated
   Attendant should have a pilot number set up on the switch with its
   own hunt group. Enter that pilot number in the Automated
   Attendant page of the Unified Messaging Snap-in, located
   under the Applications node, as described above.
- Fax on Demand: Create a Fax on Demand pilot number and hunt group on the switch, then assign that pilot in the Fax on Demand page in the Applications node of MMC, as described above. See Chapter 4 in the OnePoint Messenger Administrator Guide for details on setting fax delivery parameters, creating and assigning fax cover pages and fax documents, and creating Single Digit Routing (SDR) menus that include access to faxes and Fax on Demand

Other telephone interface settings that you might modify now are:

- **Dial Plan**: To modify the dial plan, see "Dial Plan" in Chapter 3 in the *OnePoint Messenger Administrator Guide*.
- **System Attendant Mailbox**: To route messages to a general collection mailbox when a caller does not enter a mailbox, set the System Attendant's mailbox number on the System Information page of the Unified Messaging Snap-in. For details, see Chapter 3 in the *OnePoint Messenger Administrator Guide*.

### Configure, Start, and Monitor Telephony Server

Follow these steps to perform a simple Telephony Server validation test. If this is successful, the system is ready to configure the telephone user interface settings and user mailboxes. For details, see Chapters 2 and 3 in the *OnePoint Messenger Administrator Guide*.

#### **Testing Telephony Server Start and Stop**

- 1 Reboot the Telephony Server.
- 2 From the Windows **Start** button, choose **Programs**, **OnePoint Messenger**, and **Telephony Server Monitor**.
  - Alternatively, open the OnePoint Messenger desktop icon group, then double-click **Telephony Server Monitor.**
- 3 Click the Telephony Server Monitor (TSMon) **Start** button.
- 4 Check that Telephony Server services appear in the task monitor window and that they change from Stopped to Running.

Figure 4-16 Telephony Server Monitor (TSMon)



- 5 To stop services, click either **Stop** or **Stop Immediately**. The difference between the commands is that Stop waits until current calls are completed.
- 6 Check that Telephony Server services change to Stopped.

**CAUTION!** Do not use the Windows Service Control Manager to stop telephony services, because WinFT automatically restarts them unless they are shut down through TSMon.

# Making Changes to OnePoint Messenger

This chapter describes how to remove, reinstall, and upgrade OnePoint Messenger components and licenses, and how to rename the Telephony Server or move it to another Windows NT domain. This chapter contains the following sections:

Section	
<b>Upgrading from OnePoint Messenger 1.1</b>	
Preparing for Service  • Using TSMon to Start and Stop Telephony Server	<b>114</b> 114
<ul> <li>Revising the Network Configuration</li> <li>Moving the Telephony Server to a New Domain</li> <li>Renaming Servers</li> </ul>	<b>116</b> 116 118
Removing OnePoint Messenger	119
<ul> <li>Upgrading OnePoint Messenger Software</li> <li>Preserving Settings when Upgrading</li> <li>Reinstalling OnePoint Messenger</li> <li>Using SmartUpdate for Backing Up and Restoring Configuration Files</li> </ul>	124 125 125 126
System Service Tool (SST) Overview	
Using System Service Tool (SST)	
Managing Service with System Service Tool	
Installing OnePoint Messenger Licenses	
Replacing Telephony Server Hardware	
Preparing for Contingencies	

# **Upgrading from OnePoint Messenger 1.1**

Upgrading from OnePoint Messenger version 1.1 to version 2.0 typically entails installing a new Telephony Server with upgraded hardware components, as discussed below.

To install OnePoint Messenger 2.0 on a Telephony Server running OnePoint Messenger 1.1 that does not need upgraded hardware components:

- 1 Record the configuration data and back up system greetings and Fax on Demand documents, as detailed in Appendix B in the *OnePoint Messenger Getting Started Guide*.
- 2 Remove OnePoint Messenger 1.1, as described in "Removing OnePoint Messenger", on page 119.
- 3 Install Windows NT Service Pack 5 or 6a.
- 4 Replace Outlook 97 with Outlook 98.
- 5 Install OnePoint Messenger 2.0 and a new license, as described in "Procedure 4. Installing OnePoint Messenger", on page 46 in Chapter 3.
- 6 You must also install new software components on your Exchange Server, first removing version 1.1 components, as described below in "Upgrading the Exchange Server".

For updates on upgrading, see the *OnePoint Messenger Release Notes*, Part # 56000301.

# **Upgrading the Telephony Server**

OnePoint Messenger version 2.0 requires a Telephony Server with more processing power than does version 2.0, including at least a 550 Mhz CPU and at least 256 MB of RAM. The turnkey TS800 Telephony Server replacement system comes preinstalled with OnePoint Messenger 2.0. Use the *OnePoint Messenger Getting Started Guide* to set up that system. For details on the components in the new turnkey TS800, see Appendix A in that guide.

If you have received the turnkey replacement system, you must move your linecards from the old system to the new system. For detailed directions on moving the linecards, Telephony Server configuration data, system greetings, and system fax documents, see Appendix B in the *OnePoint Messenger Getting Started Guide*.

If you have an upgraded Telephony Server, but you have installed OnePoint Messenger 1.1 on it, you must uninstall version 1.1 before installing version 2.0. See "Removing OnePoint Messenger", on page 119.

**License**: When installing from OnePoint Messenger version 1.1 to 2.0, you must install a new license, not only because the new hardware has a new server code, but also because there are new licensed features in OnePoint Messenger 2.0. When you receive a new turnkey system, the license comes with it.

### **Upgrading the Exchange Server**

**Exchange Server hardware**: The Exchange Server hardware used to support OnePoint Messenger version 1.1 is adequate for version 2.0.

**Exchange Server software**: OnePoint Messenger 2.0 has only been tested with Microsoft Exchange 5.5, so support for Exchange 5.0 has been discontinued. Install Windows NT Service Pack 5 or 6a.

It is necessary to install new OnePoint Messenger 2.0 software on the Exchange Server, which you install, as before, with the Configuration Wizard and the Web Client Installation Program. You must uninstall the OnePoint Messenger 1.1 components from the Exchange Server before installing version 2.0 components, including removing the Outside Caller, TS Test User and TS Admin mailboxes. For details, see Appendix B in the *OnePoint Messenger Getting Started Guide*. Removing OnePoint Messenger extensions from Exchange is also covered in "Removing Server Components", on page 119.

User profile data and messages recorded in OnePoint Messenger 1.1 are used without change by version 2.0. To ensure availability, back up the Exchange data store before upgrading to OnePoint Messenger 2.0. Since OnePoint Messenger 2.0 adds more options to the Classes of Service (COS), you must review your users' COS assignments and modify them if you want to assign them different feature levels than those provided by the default COS settings. For details, see Appendix B in the *OnePoint Messenger Getting Started Guide*.

# **Upgrading User Systems**

To upgrade client systems from OnePoint Messenger version 1.1 to version 2.0, first install OnePoint Messenger 2.0 on the servers, then uninstall version 1.1 from a desktop client before installing version 2.0. See Chapter 2 in the *OnePoint Messenger User Guide* for details on removing and installing the client. In this guide, see

"Procedure 12. Setting Up and Running the Test User", on page 69, for details on installing a client.

## **Preparing for Service**

To install a new version of OnePoint Messenger, or to apply hot fixes and service packs, it is generally not necessary to first remove the previous version. However, to install OnePoint Messenger 2.0, you must first remove OnePoint Messenger 1.1 software from both the Telephony Server and from client PCs. You do not need to remove the OnePoint Messenger Exchange Extension from the Exchange Server. Follow the directions in the section "Removing OnePoint Messenger", on page 119.

Follow the directions that come with the service. However, even if the service directions indicate that you do not need to remove the previous version, there are reasons why you might want to start fresh. If your Telephony Server is failing for some mysterious reason, or because you know that the current configuration is hopelessly flawed, you might first remove the existing Telephony Server software before reinstalling or installing a new version. See "Removing OnePoint Messenger", on page 119. The same is true for the Exchange Extension or client software.

In all cases, before upgrading the Telephony Server, it is wise but not absolutely necessary to do a full system backup. During some installations of base software, you can save configuration information and the Service History database through the SmartUpdate utility (see page 126) that is incorporated into the OnePoint Messenger installation program. That utility is not available for installing OnePoint Messenger 2.0 over previous versions, but it is available for reinstalling OnePoint Messenger 2.0 or installing it over a beta version of OnePoint Messenger 2.0.

OnePoint Messenger does not include a utility for full system backups. You can use the backup utility included with Windows NT or a third-party utility. See "Base Release Application and Removal", on page 138 for details on SmartUpdate.

# **Using TSMon to Start and Stop Telephony Server**



Before performing software service or changing the network configuration, use TSMon to stop Telephony Server services.

Generally, restarting is accomplished either automatically during a system reboot, or by Watchdog when a service quits. You can use TSMon to change the startup mode to manual so that you can test Telephony Server in manual mode after a service reboot.

When you use TSMon to stop Telephony Server services prior to software service, TSMon first stops Watchdog, because Watchdog would otherwise restart services as soon as TSMon stops them. Then TSMon stops the other services.

**CAUTION!** Do NOT use the NT Service Control Manager to stop or start Telephony services. Also, do not use the SmartUpdate utility when using System Service Tool to apply service.

When installing or servicing software on Telephony Server, follow the directions that come with the software. Often it is necessary to reboot in order for the applied service to take effect. In such cases, use TSMon to restart Telephony Server in manual mode. After you test start, operate, and stop Telephony Server in manual mode, you can configure TSMon to have Telephony Server restart automatically after unscheduled interruptions.

# To use TSMon to stop and start Telephony Server services for servicing:

- 1 Change the Telephony Server startup mode to manual:
  - a. Start TSMon from the OnePoint Messenger program group.
  - b. From the TSMon File menu, choose Set TServer Start Mode Manual.
- 2 To stop Telephony Server tasks, in TSMon, click **Stop** or **Stop Immediately**.
  - **Stop Immediately** interrupts open calls. **Stop** waits for open calls to complete.
- When the TSMon TaskMonitor displays that all tasks have stopped, quit TSMon and apply service using SST ("Managing Service with System Service Tool", on page 137).
  - If you attempt to quit TSMon before the display indicates that all tasks have stopped, a warning appears that quitting TSMon will stop the shutdown process. You can cancel the quit at that point.

- 4 After applying service with SST, start TSMon. The status bar should display "TServer Start Mode...Manual...Ready." The TaskMonitor should display that all services are stopped.
- 5 To test Telephony Server in manual mode, click **Start**.
- 6 After the TaskMonitor displays that all services are running, click **Stop Immediately** or **Stop**.
- 7 After the TaskMonitor displays that all services are stopped, to change startup mode to automatic: From the TSMon **File** menu, choose **Set TServer Start Mode Automatic**.

### **Revising the Network Configuration**

**CAUTION!** You can move a Telephony Server from one Windows NT domain to another, but do not change the computer name of the Telephony Server on versions previous to OnePoint Messenger 2.0. If you must change the name, contact OnePoint Messenger customer support. See "Renaming Servers", on page 118.

### Moving the Telephony Server to a New Domain

To move a Telephony Server from one Windows NT domain to another, use the Configuration Wizard (see page 59).

When you change the domain, account and registry data update automatically with two exceptions—the Message Notification Service and the Directory Polling Service.

#### To move the Telephony Server to another NT domain:

- 1 Use Telephony Server Monitor (TSMon) to stop Telephony Server services, changing start mode to manual. For details, see "Configure, Start, and Monitor Telephony Server", on page 110.
- 2 Quit TSMon and reboot.
- 3 Use the **Network** applet in the **Control Panel** to assign the computer to the new NT domain:
  - a. Right-click the **Network Neighborhood** icon on the desktop.
  - b. On the **Identification** tab of the Network dialog, click **Change**.
  - c. On the **Identification Changes** dialog:

- d. Click the **Domain** radio button.
- e. Enter the NT domain name where the Exchange Server resides.
- f. Click Create a Computer Account in the Domain.
- g. In the **User Name** field, enter the domain administrator name.
- h. In the **Password** field, enter the domain administrator password.
- i. Click **OK**.
- j. When the Network Configuration screen displays Welcome to the <domain name> Domain. click OK.
- k. When the **Network** screen appears, click **Close**.
- 1. On the **Network Settings Change** screen, click **Yes** to restart the computer.
- 4 From the Windows **Start** button, choose **Programs**, then **Command Prompt**. The Command Prompt window appears.
- 5 Enter the OnePoint Messenger directory path. The default is:
  cd \Program Files\Mitel\OnePoint Messenger\bin
- 6 In a Command Prompt window, type:

cvMWI -r
cvDXService -r
exit

This removes those services from the NT Services list.

- 7 Run **Configuration Wizard** to integrate the Telephony Server with the Exchange Server. For details on running Configuration Wizard, see page 59 in Chapter 3.
- 8 Use TSMon to start Telephony Server services (see page 110).

**NOTE:** For details on installing a substitute Telephony Server, see "Preparing for Contingencies", on page 160.

#### **Renaming Servers**

**CAUTION!** If you change the computer name of the Telephony Server when using versions of OnePoint Messenger previous to the official release of OnePoint Messenger 2.0, System Service Tool will not operate. If you must change the name, get OnePoint Messenger vendor assistance.

# To change the computer name of the Telephony Server when running OnePoint Messenger 2.0:

- 1 Stop Telephony services (see "Using TSMon to Start and Stop Telephony Server", on page 114).
- 2 Have the domain administrator use a Primary Domain Controller to remove the old name of the Telephony Server from the domain in Server Manager. You must do this even if you use the same computer name when you replace a Telephony Server.
  - a. In **Server Manager**, select the old name of the Telephony Server.
  - b. From the **Computer** menu, choose **Remove from Domain**. The name continues to appear in the computer list on the main window of Server Manager until the database update occurs (every 15 minutes).
  - c. From the Computer menu, choose Add to Domain.
  - d. In the Add to Domain dialog, select **Windows NT Worksta- tion or Server**, and enter the new Telephony Server name by **Computer Name**.
  - e. Click Add, then Close.
- 6 Right click on the **Network Neighborhood** icon on the desktop of the Telephony Server, then choose **Properties** from the context menu.
  - Alternatively, open the **Network** applet in **Control Panel**.
- 7 Change the name in the **Identification** tab of the Network dialog that appears, then click **OK**.
- 8 Navigate in Windows Explorer to \OnePoint Messenger\bin, then double-click **cfgdbsetup.exe**, which updates the OnePoint Messenger configuration database.
- 9 Restart the Telephony Server.

- 10 Run Config Wizard. For details, see "Procedure 5. Running Configuration Wizard to Integrate Telephony Server with Exchange Server", on page 59.
- 11 Identify the new Telephony Server name on each unified messaging user profile in Exchange. For details, see Chapter 2 in the *OnePoint Messenger Administrator Guide*.
- 12 Restart Telephony services.
- 13 Test integration by dialing the extension of a OnePoint Messenger user from the Automated Attendant. If the Attendant replies that the extension is unknown, some element of the revised integration is not complete.

#### Renaming the Exchange Server

If you rename the primary Exchange Server (change the computer name, as described above), run Configuration Wizard on the Telephony Server to identify the new name. For details on running Configuration Wizard, see page 59 in Chapter 3.

### **Removing OnePoint Messenger**

You must remove OnePoint Messenger 1.1 from the Telephony Server and client PCs before installing OnePoint Messenger 2.0. It is not necessary to remove the related programs, such as Show N Tel.

OnePoint Messenger programs are installed in several directories and program groups on the Telephony Server, Exchange Server, and individual client PCs To completely remove OnePoint Messenger, remove OnePoint Messenger from each machine, as described below.

# **Removing Server Components**

#### To remove Telephony Server components:

- 1 On the Telephony Server, use TSMon to stop Telephony Server services (see page 110), then quit TSMon and quit any other open programs.
- 2 From the Windows **Start** button, choose **Settings**, then **Control Panel**, then **Add/Remove**.
- 3 In the Add/Remove Programs Properties tab, select Mitel OnePoint Messenger, then click Add/Remove.

- 4 Using that interface, you can also remove the related program groups. For OnePoint Messenger 2.0, they are Active Call, Data Access Objects (DAO), Borland, Show N Tel, Brooktrout fax support, Vintra Mail Transport Agent, WinFT, and Greenleaf Commx. When upgrading from OnePoint Messenger 1.1, it is not necessary to first remove the related programs.
- 5 When the removal confirmation appears, click **OK** on the **Add/ Remove Programs Properties** tab.
- 6 Close **Control Panel**.
- 7 In Windows Explorer, remove the Mitel directory. If you have removed the related software in Control Panel, you can delete the companion directories. At the root, those include Acrobat, NMS, and SNT. Within the Program Files directory, they include Borland, Brooktrout, Greenleaf, and Vintra.

#### To remove Exchange Server components:

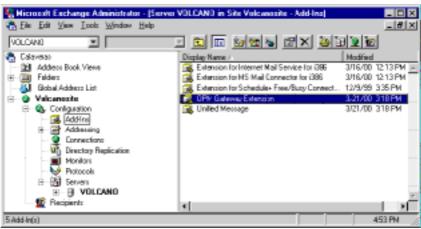
**NOTE:** Typically, you do not need to remove the OnePoint Messenger Exchange Extension and other Exchange components if you are installing a OnePoint Messenger upgrade, but you must do so when upgrading from OnePoint Messenger 1.1 to version 2.0.

- 1 On the Telephony Server, use TSMon to stop Telephony Server services (see page 110).
- 2 On the Exchange Server, start Exchange Administrator in the Raw Properties mode by opening a DOS window and entering:

C:\exchsrver\bin\admin /r (put a space between admin and /)

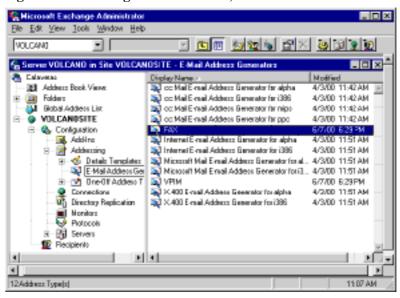
- In the Exchange Administrator main screen tree view, click the plus sign by your **Site Name**, then the plus sign by **Configuration**, then click **Add-Ins**.
- 4 Select **OPM Gateway Extension** under **Display Name**, as shown in Figure 5-1, then press [**Delete**]. To confirm the deletion, click **OK**.
- 5 Select **Unified Message** under **Display Name** in the right pane. Press [**Delete**]. To confirm the deletion, click **OK**.

Figure 5-1 Exchange Administrator, Add-Ins



- 6 In the Exchange Administrator main screen tree view, select Configuration, then Addressing, then E-Mail Address Generators.
- 7 In the **Display Name** panel, select **Fax**, as shown in Figure 5-2.

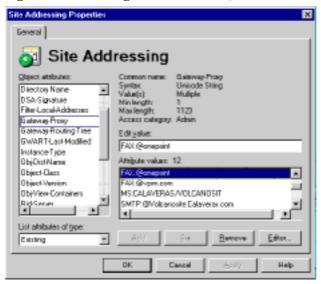
Figure 5-2 Exchange Administrator, E-Mail Address Generators



- 8 From the **Edit** menu, choose **Delete Raw Properties**. To confirm the deletion, click **OK** in the first alert window, then **Yes** in the second alert window.
- 9 In the **Display Name** panel, delete **VPIM** as you did Fax, above.

- 10 In the Exchange Administrator main screen tree view, select Configuration, then select Site Addressing in the Display Name panel.
- 11 From the **File** menu, choose **Raw Properties**. The Site Addressing Properties dialog appears, as shown in Figure 5-3.
- 12 In the **Object attributes** list, select **Gateway-Proxy**.
- 13 In the **Attributes values** list, select any value that begins with either **FAX:**@ or **VPIM:**@, then click **Remove**. Do this with each such value in the list.

Figure 5-3 Exchange Administrator, Site Addressing Properties



- 14 In the Exchange Administrator main screen tree view, select **Configuration**, then **Connections**.
- 15 Select **Fax Gateway** in the **Display Name** panel, press [**Delete**], then click **OK** to confirm deletion.
- 16 Select **Unified Message VPIM Gateway** in the **Display Name** panel, press [**Delete**], then click **OK** to confirm deletion.
- 17 In the Exchange Administrator main screen tree view, select **Recipients**.
- 18 From the **File** menu, choose **Raw Properties**.
- 19 In the **Recipients Properties** dialog, select **Extension-Name-Inherited** from the **Object attributes** list, as in Figure 5-4.

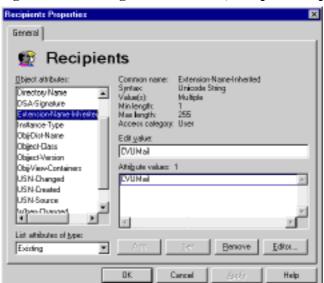


Figure 5-4 Exchange Administrator, Recipient Properties

- 20 Select **CVUMail** in the **Attribute values** list, then press [**Delete**].
- 21 Again, select **Recipients**.
- 22 In the **Display Name** list in the right pane, select **Outside Caller**, then press [**Delete**].
- 23 Do the same as in step 21 to remove **TSTest User** and the **Telephony Server** mailboxes.
- 24 In Windows NT Explorer, go to \exchsrvr\Add-ins.
- 25 Select the **cvUMail** directory, then press [**Delete**].

**NOTE:** If Explorer cannot delete the directory, open the **Services** applet in **Control Panel**, and stop **IIS Admin Services**.

#### **To remove Web Client server components:**

- 1 Use the **Add/Remove** applet in the **Control Panel** to select and remove the "**Mitel Web Client**."
- 2 After the applet completes, click **OK** to close the dialog and confirm deletion.
- 3 Remove the \Mitel directory.
- 4 Verify that all OnePoint Messenger components are removed by using the Windows **Find** utility to search for "**cv\*.\***".

**NOTE:** You must remove the Web Client server components before reinstalling.

# To prepare the Exchange forms author permission for reinstalling OnePoint Messenger:

If you have removed the OnePoint Messenger components from Exchange as a prerequisite to installing a new version of OnePoint Messenger, you must now set up the forms author permission as Owner, as you do in Procedure "1A. To install Windows NT 4.0 with SP 5, IIS 4.0, and Internet Explorer on the Exchange Server:" (Chapter 3) when installing OnePoint Messenger on a bare system:

- 1 From the Windows **Start** button, choose **Programs**, **Microsoft Exchange**, and **Exchange Administrator**. The Exchange Administrator application appears.
- 2 From the **Tools** menu, choose **Forms Administrator**.
- 3 In the list, select **Organization Forms**. If Organization Forms is not in the list, click **New**. In the dialog, click **OK** to add Organization Forms to the Forms Administrator list.
- 4 Click **Permissions**.
- 5 In the list box, select **Default**.
- 6 In the **Permissions** area, select **Owner** in the **Roles** list/text box. Click **OK**.
- 7 Click **Close** to close the Forms Administrator dialog.

## **Removing Client Components**

When upgrading OnePoint Messenger client software, remove any older version first. Use the Add/Remove applet in Control Panel to remove the OnePoint Messenger client from a client PC.

# **Upgrading OnePoint Messenger Software**

Upgrading OnePoint Messenger software can be accomplished in several ways—through base releases, through service packs, or through individual hot fixes.

• To install a new base release or reinstall a base release, see "Reinstalling OnePoint Messenger", on page 125. For details on upgrading from OnePoint Messenger 1.1 to OnePoint Messenger 2.0, see "Upgrading from OnePoint Messenger 1.1", on page 112.

 To install hot fixes and service packs, or to remove a service pack or hot fix, see "System Service Tool (SST) Overview", on page 129.

## **Preserving Settings when Upgrading**

Performing a full system backup before upgrading the Telephony Server is the best way to ensure that you can recover quickly if an installation fails. SmartUpdate is generally available from the Installation Program to preserve and reinstall telephone user interface configuration settings, but it cannot be used during an upgrade from OnePoint Messenger 1.1 to OnePoint Messenger 2.0.

To save system greetings that you have recorded or to save fax documents in the Fax on Demand list, back them up before uninstalling OnePoint Messenger.

Class of Service (COS): OnePoint Messenger 2.0 has the same 10 default COS names and settings as OnePoint Messenger 1.1, with the exception that the category "Enable VPIM Addressing" is added to each COS. VPIM is enabled in every COS except Student. All user accounts and settings are preserved in Microsoft Exchange. When you install OnePoint Messenger 2.0, any account that has a COS using one of the 10 default COS names will keep the same settings. Any account with a renamed COS will have the permissions assigned to the COS as originally named. To preserve settings, you should note all 1.1 COS names and settings, then edit the 2.0 COS settings to conform with them.

# **Reinstalling OnePoint Messenger**

Generally, you can reinstall over an existing version of Telephony Server. However, as mentioned in "Upgrading OnePoint Messenger Software", on page 124, before installing OnePoint Messenger 2.0, you must first remove OnePoint Messenger 1.1. If you are starting with a fresh installation and discover that you made a wrong entry, you can either back up in the sequence, or reinstall with the same version, entering the information that you want to change. Reinstallation requires that you go through the same sequence, but only changed files are overwritten, so the process goes fast.

If you change Telephony Server hardware components before you reinstall, you might need to get a new license diskette. See "Installing OnePoint Messenger Licenses", on page 149.

# Using SmartUpdate for Backing Up and Restoring Configuration Files

SmartUpdate is a OnePoint Messenger utility that runs as an option in the OnePoint Messenger Installation Program. When invoked and when possible, it backs up, on the Telephony Server, previously installed OnePoint Messenger configuration files and databases. Zipped files are created, which you can inspect and archive to another drive. When the Installation Program completes, SmartUpdate restores those configuration files.

**CAUTION!** Do not use SmartUpdate to replace one branded version of OnePoint Messenger with a different branded version.

SmartUpdate updates software for OnePoint Messenger itself, Show N Tel for WindowsNT, and NMS line card support software. Alternatively, you can do a full system backup.

SmartUpdate restrictions include:

- SmartUpdate is not available for upgrading from OnePoint Messenger 1.1 to 2.0.
- All OnePoint Messenger components must reside on the same physical partition (that is, drive letter).
- A OnePoint Messenger file must have been installed in its default directory.
  - ShowNTel for Windows NT must be installed in \SNT.
  - NMS line card support must be installed in \NMS.

SmartUpdate backs up databases from:

- Show N Tel
- Statistics Reporting Program
- System Service Tool
- Unified Messaging Snap-in to Microsoft Management Console
- TTS dictionary

In detail, when you run the OnePoint Messenger Installation Program on an existing OnePoint Messenger Telephony Server, SmartUpdate guides you through a software update process that allows you to:

- Preserve the current system configuration in a Zip file
   (...\Bin\SmartUpdate.zip) when updating from one release to a
   newer release.
- Restore the configuration files from the Zip file after the version update has been carried out by the OnePoint Messenger Installation Program.
- Create a runtime log (...\Bin\SmartUpdate.log) detailing the progress of SmartUpdate operations.

#### To use SmartUpdate during installation:

- 1 Use Telephony Server Monitor (**TSMon**) to **stop** telephony services on the Telephony Server. In TSMon, change the telephony services start mode to **manual** until the update is completed. See "Using TSMon to Start and Stop Telephony Server", on page 114.
- 2 Insert the OnePoint Messenger CD-ROM. The OnePoint Messenger Installation Program starts and checks for OnePoint Messenger on the system.
- If the Installation Program finds OnePoint Messenger on the system, it invokes SmartUpdate, which offers to back up the configuration files. If you do not accept, SmartUpdate skips the backup. If you accept, SmartUpdate backs up the files. If Smart-Update cannot find a file, it displays an alert. The backed up files are stored in "SmartUpdate.zip." SmartUpdate also creates the SmartUpdate.log file, listing the backed up files. Both files are stored in \OnePoint Messenger\bin.
- 4 When the installation is complete, SmartUpdate restores the configuration files, with SmartUpdate.zip as a permanent backup.
- 5 If you did not previously set up the Mail Transport Agent (MTA), as described in "4E. To install the Mail Transport Agent (MTA):", on page 55 in Chapter 3, and you now want to do so, or if you want to revise your Internet gateway address:
  - a. Click the Windows **Start** button, then choose **Programs**, **Vintraserver**, then **installservice**.

Alternatively, start **Internet Explorer**. In the **Address** field, enter:

http://localhost:1967/mta.html

Press [Enter].

- b. If an **Enter Network Password** screen appears, for **User Name**, enter **TSAdmin** (use the same case as you used to log in), and for **Password**, enter the TSAdmin password.
- c. Optionally, click Save password in your password list.
- d. Click **OK**. The **Mail Transport Agent Administration** Web page appears.
- e. Click **Internet MTA Config**. The main MTA Configuration page appears.
- f. For line 1.1, "VPIM Domains for which you wish to receive mail", enter your Telephony Server computer name and your Internet domain name in the form:

<Telephony Server machine name>.<Internet domain name>

For example, if your Telephony Server computer name is "TServr" and your Internet domain name is "bluescreen.com," then enter:

#### TServr.bluescreen.com

The address above appears on the Configuration Wizard Status Summary screen (see Figure 3-11 on page 64.)

- g. Optionally, select the checkbox for line 1.9, "Enable Delivery Log".
- h. Click Create sendmail.cf.
- i. On the success screen that appears, click **MTA Administra**tion **Main Page**. The MTA main page reappears.
- j. Click **Stop MTA**. A success page appears.
- k. Click **Back** to return to the MTA main page.
- 1. Click **Start MTA**. A success page appears.
- m. Click Back to return to the MTA main page.
- n. Click Get Current Status. A success page appears with:

ServiceStatus - mta: RUNNING

- o. Click **Back** to return to the MTA main screen, then close Internet Explorer.
- 5 You must run the **Configuration Wizard** if there is software to update to the Exchange Wizard, or you want to make other changes in the Exchange integration. Follow the same steps as described in "Procedure 5. Running Configuration Wizard to

Integrate Telephony Server with Exchange Server", on page 59 in Chapter 3.

5 Run **Directory Initialization**, as described in "Procedure 6. Running Directory Initialization", on page 64 in Chapter 3.

### System Service Tool (SST) Overview

System Service Tool (SST) is a OnePoint Messenger utility that you use to manage the installation and removal of hot fixes and service packs on the Telephony Server, except those requiring a full installation of OnePoint Messenger. See the release notes that accompany the service for specific directions.

SST maintains and presents an interface to the OnePoint Messenger Service History database, which records all servicing, including all base releases installed on the Telephony Server. SST makes the installation history available to offsite technical support. It is augmented by a notification record that you as the administrator can enter about yourself in SST, so that offsite personnel have a quick reference for how to contact you. For details on SST information interfaces, see "Viewing Information in SST", on page 134.

SST manages the application and removal of hot fixes and service packs by:

- Controlling the sequence of application and removal of service levels to conform with version numbers
- Compressing and archiving replaced files, so SST can roll back multiple levels of service if necessary
- Replacing obsolete files with those of the new service level
- Updating the Windows registry with the settings of the current service level
- Managing rollbacks of service

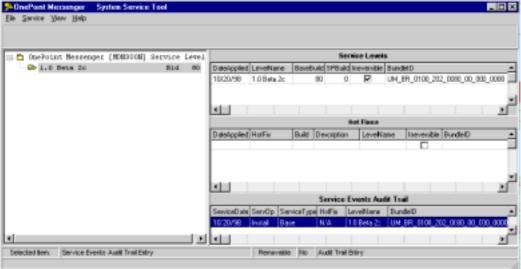
SST provides service tracking through its Service History database, which records these operations:

- Base level server software upgrades
- Application of hot fixes for specific base levels
- Application of service packs for specific base levels
- Removal of hot fixes, service packs, and base levels

#### A Quick Tour of System Service Tool

SST uses standard Windows GUI controls, including a typical menu bar, window controls, status bar, and dialogs. The user interface of SST appears in Figure 5-5. It has a main window displaying the Service History database. There are secondary dialogs for adding and removing software and for printing service logs and service history.

Figure 5-5 System Service Tool Main Window



The SST menus in the main window menu bar are:

- File menu: The five commands on this menu are Clear Service Log Window, Print Setup, Print Service History, Print Service Log, and Exit.
  - For Clear Service Log Window and Print Service Log, see "SST Service Log Output Window", on page 147.
  - For **Print Setup**, **Print Service History**, and **Print Service Log**, see "Printing SST Output", on page 136.
- Service menu:
  - **Apply Service**: Opens the dialog shown in Figure 5-9.
  - **Remove Service**: Opens the dialog shown in Figure 5-14.
- View menu:
  - **View/Edit Site Info**: Opens the dialog shown in Figure 5-6.
  - View/Edit Site Log: Opens the operator's personal notepad.

- **View Selected Bundle Info Files**: Opens the dialog shown in Figure 5-10.
- **View Service Log Window**: Opens the dialog shown in Figure 5-15.
- **View Current Level**: Resets the main window view to the current service level.

#### • Help menu:

- **Contents**: Opens the comprehensive administrator's online help at the topic for using SST
- **About**: Opens an About message box with SST version and copyright information.

You can get information about each menu command and dialog in the OnePoint Messenger administrator's online help. SST has contextual help for all menu commands; move the cursor over a command and press [F1]. Windows appear as you set them when you restart SST.

**Table 5-2 SST Accelerator Keys** 

Ct 1: S	- D 4 G4
Ctrl+S	Invokes Printer Setup dialog
Ctrl+F2	Invokes Apply Service dialog
Ctrl+F3	Invokes Remove Service dialog
Ctrl+F4	Invokes Print Service Log dialog
Ctrl+F5	Invokes Print Service History dialog
Ctrl+F6	Displays Service Log Output window
Ctrl+F7	Invokes View/Edit Site Log dialog
Ctrl+F8	Invokes View/Edit Site Info dialog
Ctrl+F9	Invokes View Selected Bundle Info Files dialog
Ctrl+F10	Returns tree view & database grids to current service level
Ctrl+F11	Invokes Help Contents
Ctrl+F12	Invokes Help About dialog

**Main Window**: The main window is divided into a left pane, the Service tree view, and a right pane, containing three grid views. The splitter bar between the left and right panes allows you to choose how much space is used by the right and left panes of the window. Also,

you can size each of the record fields. Although a nearly full-screen view is necessary to show all the fields in the window, you generally only need to see a couple of the leftmost fields in the right pane.

The Service tree view in the left pane of the main window contains a hierarchical tree view like that used by Windows Explorer. The view shows you levels of detail about the Service History database (sstDB.mdb), which is at the core of SST. At the highest level, the view shows you all service levels. In Figure 5-5, you can see by the single branch in the tree view that only the base release is currently installed on "LACOF" (the host name).

**Status Bar:** The status bar tells you more about the selected service level—what grid view is selected and whether the item is removable from the database. **Removable No** means that the selected service is not immediately removable. However, it might be removable if two conditions are satisfied:

- Its **Irreversible** field is not checked.
- Subsequent dependent services are removed.

All items selected in the Audit Trail view display **Removable No** in the status bar, because no items are removable from the audit trail. The same item, when selected in the Hot Fix view, might display "Removable Yes" in the status bar.

**Logging Base Releases:** While SST does not control the installation of base releases, it records them in its database, and it records in the database subsequent installations of hot fixes and service packs against the currently installed base release. If only one service level has been installed, as in the case shown in Figure 5-5, the left pane will show the root and one branch. Subsequently added service levels become new branches.

Interpreting Release Numbers: Figure 5-1 shows that the listing "1.0 Released" in the tree view has a "Bld 42" next to it, which translates to "Build 42," meaning that the 42nd build of the software was released as Release 1.0. You see that same information in the top pane on the right side of the screen. You can also deduce the build number from the Bundle ID number by parsing it. Here is an example: "UM\_BR\_0100\_301\_0042\_00\_000\_0000." The UM\_BR stands for Unified Messaging\_Base Release, and you see the Build 42 represented by 0042. You can see in the Audit Trail area that a hot fix has the prefix "UM\_HF." A service pack has the prefix "UM\_SP."

The right side of the screen consists of three views of the Service History database:

- Service Levels view: The Service Levels view, at the top of the screen, displays information about the selected base release or service pack.
- 2 **Hot Fixes view**: The Hot Fixes view, in the middle of the screen, displays information about installed hot fixes associated with the service level selected in the tree view.
- 3 Service Events Audit Trail: The Service Events Audit Trail, the bottom pane of the right side of the main window, displays information about the sequence of servicing on the computer associated with the selected service level.

In Figure 5-5, you can see in the Audit Trail that a hot fix was applied and then removed. So, in the Hot Fix view, there is nothing listed, because the hot fix that was applied is no longer on the system.

You can see if a service release can be removed by looking at the **Irreversible** field in the Service Levels and Hot Fixes views. A check mark in that field means it is not removable. However, the lack of a check mark does not mean that the service level can be immediately removed. There still is a possibility that there are other service dependencies that you must remove first. When you run the SST Remove Service process, SST will alert you.

**CAUTION!** You can see in the Service tree view in Figure 5-5 that the Telephony Server host name is critical in maintaining the service history sequence. If you change the host name of the Telephony Server computer, the service history thread will be broken, and SST will refuse to run.

## **Using System Service Tool (SST)**

Use System Service Tool to manage the installation of hot fixes and service packs, except those requiring a full installation of OnePoint Messenger. See the release notes that accompany the service for specific directions.

SST is installed on the Telephony Server as part of the OnePoint Messenger installation. Start SST from the OnePoint Messenger folder on the desktop or from the **Start** menu in the OnePoint Messenger group.

# **Applying and Removing Service**

The primary function of the System Service Tool (SST) is to manage and record software service operations. "Managing Service with System Service Tool", on page 137 details the adding or removing of hot fixes and service packs. In brief, follow the directions in the instructions that accompany the service. Note whether you should edit other files or run the Configuration Wizard after the service is complete.

Use the SST **Service** menu to invoke changes. Choose **Apply Service** to apply service. Choose **Remove Service** to roll back service levels.

#### **SST Restrictions**

It is important to back up executable and configuration files and the system registry before running a service operation. SST includes recovery processes for an interrupted service; Remove Service restores earlier service levels. However, SST does not reset configurations to the support level of the earlier service level. As time passes between when you install and remove a service level, a backup becomes more important.

#### **CAUTION: SST Restrictions**

- Do not edit fields in the SST main window.
- Do not attempt to install hot fixes or service packs by opening and installing them directly. They are compressed and encrypted. SST needs to manage the process.
- Do not rename a service bundle file. SST uses the bundle file name to determine how to process the bundle.

# **Viewing Information in SST**

SST has several windows that allow you to inspect data about current and past service operations, and about site information, operator notes, and what is contained in each service bundle. You can view information about what service has been run on your Telephony Server by inspecting the Service History database in the SST main window. You can see details about individual operations, by date, viewing service logs. The current operation appears in the Service Log window.

#### **Service History Database**

The history of service operations is displayed in the main program window, which contains a view of the OnePoint Messenger Service History database. The Service History database is a record of all base software releases and associated servicing on your Telephony Server.

#### To view information files for a particular service bundle:

- 1 Select the service bundle in any view on the main window.
- 2 Choose **View Selected Bundle Info** from the **View** menu. An Open dialog displays the text information files associated with the selected bundle.
- 3 Select the text file to read from the list. Click **Open**.

You can see the same information when you apply or remove service following the sequence in "Managing Service with System Service Tool", on page 137 of this chapter. You select a bundle and then select a file within the bundle to read.

Current Release Level View: As your main window view of the Service History database becomes crowded with information about many releases, you might need to inspect a series of older releases, which might clutter the view even more. To quickly get back to the view that shows the currently installed service level, choose View Current Level from the View menu.

**CAUTION!** Do not move, rename, or otherwise touch files in the RAS directory structure. OnePoint Messenger RAS tools depend on exact placement and integrity of these files in order to perform their functions.

#### **Service Log**

The **sstLogs folder** stores the output logs written by System Service Tool. A shortcut icon to the sstLogs folder is created in the OnePoint Messenger desktop folder at installation.

You can view a real-time log for the current session in the **Service Log Output** window. It appears automatically when you apply or remove service. You can also open the window by choosing **View Service Log Window** from the **View** menu. If you run one service operation and then want to clear the log window before running the next, you can shut down and restart SST, but the easier way is to choose **Clear Service Log Window** from the **File** menu.

A process log chronicles each service operation. A file shows all service that occurred on a specific day. The file name has the prefix "sst" followed by the service date in the form YYMMDD. If you run two servicing sessions using SST on the same day—starting SST, then running a service operation, closing SST, then restarting SST and applying another service on the same day—the **Service Log** window will display only the service that you performed since you restarted SST. To see all the service performed that day, use Notepad to open and view that day's log stored in the sstLogs directory.

#### Site Log Personal Notepad

SST provides a Site Log text file in which you can make freeform notes, such as notes about service bundles that you stored but have not yet installed, or the names and responsibilities of administrators, if you divide responsibilities among many people. To access the log, choose **View/Edit Site Log** from the **View** menu, or double-click the file name in the \sstLogs subdirectory. The file name is "<host name>\_sstSiteLog.txt".

#### Site Info Dialog

SST provides a dialog box in which you can enter site and operator identification information. See "SST Remote Management", on page 137 of this chapter.

# **Printing SST Output**

Using the print options in the **File** menu, you can print the Service History, and the contents of the **Service Log Output** window. The Service History printouts also contain the information that you enter in the **Site Info** dialog.

To print service history information, first choose **Print Setup** from the **File** menu, and select the **Landscape** format. To print information about a particular service level, select the service level in the Service tree view on the main window and choose **Print Service History** from the **File** menu.

#### To print everything on the main window:

Select the root in the **Service** tree view, then choose **Print Service History** from the **File** menu.

#### To print the Service Log from the current session:

Choose **Print Service Log** from the **File** menu.

#### To print older service logs:

Use Notepad. The service logs are in the sstLogs subdirectory in the OnePoint Messenger directory.

# **SST Remote Management**

To access SST remotely or to provide remote access to the Telephony Server to offsite support personnel, install pcAnywhere or equivalent remote control software on both the Telephony Server and the remote computer.

If you enter the information in the **Site Info** dialog, as shown in Figure 5-6, offsite technical support and others in your organization can know who is responsible for managing SST. This is especially useful if administration responsibilities are divided among many people. The information entered in the View/Site Info dialog also appears in the header of service history database printouts.

#### To view and edit the Site Info dialog:

Choose View/Edit Site Info from the View menu.

Figure 5-6 SST, View/Edit Site Info Dialog



# **Managing Service with System Service Tool**

This section discusses the core functionality of SST, applying and removing software service. To "apply service" means to install a service pack or hot fix. SST does not manage the installation of base releases (version levels), but it records them in its database, and it displays their existence on the Telephony Server in its main window. The OnePoint Messenger installation program installs base releases and then alerts SST. The OnePoint Messenger installation program plays no role in the application of hot fixes and service packs beyond the fact that base releases overwrite all previously applied hot fixes and service packs.

SST only allows service on the current service level. Attempting to use SST to apply hot fixes or service packs that do not belong to the current service level will generate an error message. Hot fixes and service packs can be applied only against the specific service level for which they are issued. When you invoke service, SST verifies that there is a valid relationship between the currently installed service level and the service that you are about to apply. SST also provides the ability to roll back multiple services in their correct sequence.

#### **Base Release Application and Removal**

While SST does not manage base releases, it does provide a command line interface for use by the OnePoint Messenger Installation Program to log base installs to the SST Service History database. When you use the OnePoint Messenger Installation Program to reinstall a base release, it overwrites the existing software, including the Service History database, so be sure to back up that database before reinstalling, if you want to save the service history. For details on installing a base release, see "Reinstalling OnePoint Messenger", on page 125. For details on removing OnePoint Messenger first, see "Removing OnePoint Messenger", on page 119.

**CAUTION!** If you manually delete the OnePoint Messenger directory, you will remove SST and the Service History database.

#### **Preparing for Application or Removal of Service**

Generally, it is a good idea to first do a full backup of your system. Even though SST provides some service rollback functionality, sometimes it can be quicker and more comprehensive simply to restore a backup rather than use SST. The most obvious example would be a rollback of several large service operations. When you restore the backup, be sure to include the Service History database, so it is consistent with the installed service level.

**Service Pack**: A service pack can be applied only if it is at a level greater than or equal to the currently installed service pack (a base release is Service Pack 0). Application or reapplication of a service pack at a level previous to the current service pack can only be accomplished by removing all intervening service. A service pack may be removed only if all subsequent service is removed first.

For example, if you have Service Pack 2 installed and want to remove Service Pack 1, you must first remove Service Pack 2.

Hot Fix: A hot fix has parallel characteristics to a service pack—it may be reapplied only if no greater build level of that hot fix has been applied subsequent to the hot fix. A hot fix may be removed only if no greater build level of that hot fix has been applied subsequent to the hot fix. SST will recognize these situations and prompt you regarding continuation of the reapplication or removal. It will do no archiving.

**Self Service**: In order to apply or remove service to itself, SST implements the Self-Service Utility (SSU) which it runs when SST determines that a service bundle contains itself or one of its parts. After applying or removing service which affects SST, SSU will run the newly serviced SST to complete the service operation and enter it in the Service History database. In the event that SST cannot be run, SSU provides a command line interface which can be used to apply service to SST.

# **Applying Service**

**CAUTION!** A hot fix or service pack is delivered in a compressed, encrypted file with a .csb extension. Use only SST to decompress and extract individual files.

#### To apply a hot fix or service pack:

1 Follow the directions that come with the service bundle. Note whether and when you should edit other files or run the Configuration Wizard.

While a service pack is generally large enough to warrant delivery on a CD-ROM, a hot fix might be small enough to transfer on the support website or by e-mail. In lieu of other directions accompanying the Service Bundle, place the Bundle file in the **BundleFiles** subdirectory, as shown in Figure 5-9, the **Apply Service** dialog.

SST disallows the application of service from any of the following directory trees:

- InstallPath\RAS\Service\Bundles\Base
- InstallPath\RAS\Service\Bundles\HotFix
- InstallPath\RAS\Service\Bundles\ServicePack
- 2 Before running SST, it is generally a good idea to do a full system backup.
- 3 Use Telephony Server Monitor (TSMon) to stop Telephony Server services ("Using TSMon to Start and Stop Telephony Server", on page 114) and set startup to manual until you finish testing the new service level.
- 4 Quit TSMon.
- In the **Service** menu, choose **Apply Service**. A message appears suggesting that you first back up the system. Then the **Apply Service** dialog appears, as shown in Figure 5-9.

If you have not stopped Telephony Server services, a warning message appears, as shown in Figure 5-7. If you have used TSMon to stop Telephony Server services, but have not quit TSMon, a similar warning message appears.

Figure 5-7 Stop Telephony Server Warning

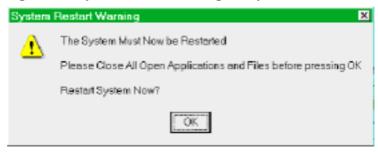


6 Select the drive and directory in the dialog directory tree view that contain the service to be applied.

**CAUTION!** If applying a service bundle directly from removable media (such as a floppy or ZIP disk), do not attempt to remove the media from the drive until the completion of the Service Operation. If no specific directions on file placement are contained in the bundle instructions, place the bundle in the \BundleFiles subdirectory, as that is the default directory in which SST looks for service bundles.

- When you select a service bundle, the **Apply Service** dialog displays a description of that bundle by parsing its part number.
- 8 Click the **View Info Files** button to view the information files bundled with the service. The **Open** dialog, shown in Figure 5-10, displays the text files associated with the bundle. Follow the directions in those files.
- 9 Click the **Apply Service** button to start the automatic installation process, which includes the archiving of outdated files. The Service Log window appears, as shown in Figure 5-11, detailing the progress of the application of the hot fix.
- 10 After a successful service application or removal, a success/reboot message appears, as shown in Figure 5-8.

Figure 5-8 System Restart Message in System Service Tool



You can move the reboot message out of the way temporarily while you inspect the Service Log and close other applications.

- 11 Click **OK** to reboot.
- 12 If the service directions instruct you to edit other configuration files or run the Configuration Wizard, do so now.

#### To cancel a service operation:

Click **Cancel** in the **Apply Service** dialog before the service starts. If you do not stop the service before it starts and want to remove it, you can roll back the service after the service process is complete.

A successful installation of a base release or a service pack is noted three times in the main window—in the Service tree view, the Service Levels grid view, and the Audit Trail view. A successfully installed Hot Fix is noted twice in the main window—in the Hot Fix grid view and in the Audit Trail view.

Figure 5-12 shows the SST main window after applying the hot fix selected in Figure 5-9. Note that the status bar says "Removable No" for the selected item, which is the hot fix that was just installed. The hot fix is actually removable, as you can see from the blank **Irreversible** check box of the hot fix record in the Hot Fix view. The "No" appears because the hot fix is selected in the Audit Trail view; it simply means that you cannot delete entries from the Audit Trail.

Figure 5-9 SST Apply Service Dialog

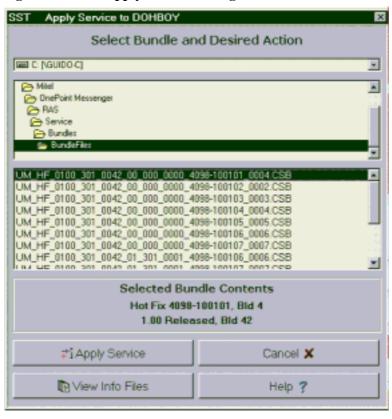


Figure 5-10 Apply Service, View Info Files, Open Dialog

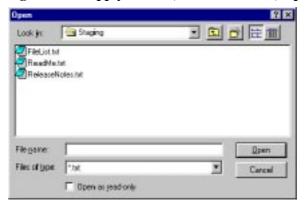


Figure 5-11 SST Service Log Window, Applying Hot Fix

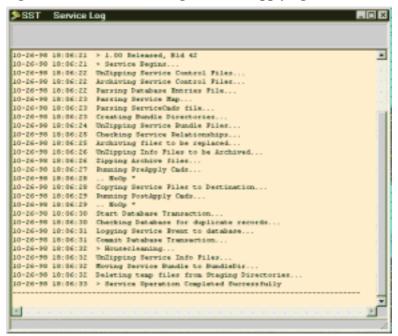
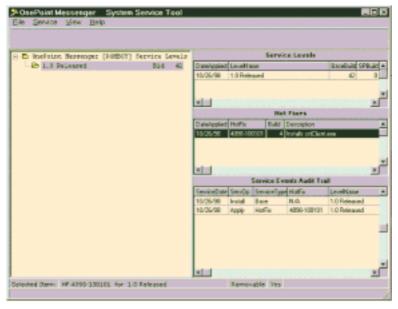


Figure 5-12 SST Main Window, Hot Fix Applied



## **Applying a Service Pack**

To apply a service pack, follow the same process discussed in "Applying and Removing Service", on page 134. If the service pack includes a hot fix that contains the same file date as one already installed, SST issues an alert asking if you want to overwrite that hot fix. Unless you have a good reason for overwriting a file when SST issues an alert, do not select the option to overwrite the file. If you attempt to install files that are backdated or have unfilled dependencies, SST will disallow the operation.

When the service has completed successfully, the Service Pack appears as a new branch in the Service History tree view in the main window, as shown in Figure 5-13. Note that, with the Service Pack selected in the Service History tree view, the grid views display only information associated with the selected Service Pack. If you select another branch in the tree, the grid views show information about the other branch.

Equivalently, when you choose **Service History** from the **File** menu, the printout shows information about only the selected branch.

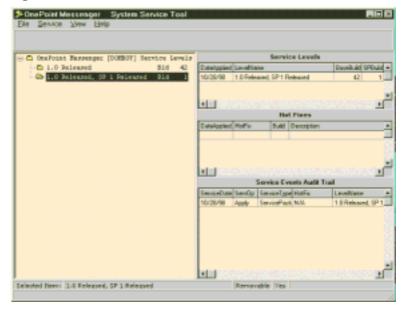


Figure 5-13 SST Main Window, Service Pack Selected

#### Removing a Hot Fix or Service Pack

Occasionally a fix might cause problems that are not discovered before the fix is distributed. In that case, you might want to remove the fix after you have installed it. You can use SST to roll back multiple service levels. You must roll back only one service level at a time and do so in the correct reverse sequence. For large or complex rollbacks, but it might be easier simply to restore the backup tape of the equivalent target service level.

#### To remove a hot fix or service pack:

(The Remove Service procedure is essentially identical to the procedure described in "Applying and Removing Service", on page 134.)

- 1 Select **Remove Service** from the **Service** menu. The **Remove Service** dialog appears, as shown in Figure 5-14.
- 2 From the list in the dialog, select the bundle that you want to remove. If the bundle that you want to remove is not in the list, you might still be able to remove it if two conditions are present:
  - You must first remove any dependent bundles.
  - The Irreversible field of the record for the service level must not be checked in the main window.
- 3 Read the detailed bundle identification that the **Remove Service** dialog displays about the selected bundle. Confirm from the information that it is the bundle that you want to remove.
- 4 Click **View Info Files** to display the informational text files associated with the bundle, then read the files to determine what conditions exist, such as if there are particular files that will be removed by the Remove Service operation that you need to restore from another hot fix or backup.
- 5 Click **Cancel** to quit or **Remove Service** to proceed.
- 6 After a successful removal, you will be prompted to close all other applications and files. You can move the reboot message out of the way temporarily while you inspect the Service Log and close other applications.
- 7 Click **OK** to reboot.

Select Bundle from list of Removable Service

UM\_HF\_0100\_301\_0042\_00\_000\_0000\_4098-100101\_0004

UM\_HF\_0100\_301\_0042\_00\_000\_0000\_4098-100104\_0004

Selected Bundle Contents

Hot Fix 4098-100104, Bld 4
1.00 Released, Bld 42

TRemove Service Cancel X

We View Info Files Help ?

Figure 5-14 SST Remove Service Dialog

A successful removal of a hot fix is noted in the Service Events Audit Trail view in the main window. The record of its prior installation is removed from the list of currently active software.

# **SST Service Log Output Window**

The **Service Log Output** window, shown below in Figure 5-15 as SST removes a hot fix, displays a running trace of the service operations from the current session. The window has two status bars that display runtime status and information messages. The trace log of the first service operation of the day is written to a new trace file in the sstLogs directory. The file name is constructed from the date in the form sst<YYMMDD>.txt. Traces of every subsequent service operation during the day are appended to the SST trace log for that day.



Figure 5-15 SST Service Log Output Window

# **Recovering from Interrupted Service**

10-26-98 18:11:40 > Service Operation Completed Successfully

There are two failure conditions from which SST is designed to recover:

- The service operation fails to complete successfully.
- SST or the system crashes during service.

If a service operation aborts, SST launches a recovery process at its first opportunity and displays an alert dialog. Click **OK** for the recovery process to proceed. If SST cannot fully install the bundle, it notes the failure and any known reason in the Service Log. You can also quickly tell if a service operation succeeded by noting if it is recorded in the Service History database on the main window.

If the service is not recorded in the database and the failure of the service operation is not recorded in the Service Log, call OnePoint Messenger Technical Support. Your other choice is to restore a backup.

# **Installing OnePoint Messenger Licenses**

OnePoint Messenger license files must be installed when you:

- Change Telephony Server hardware components: OnePoint
  Messenger develops a profile of your Telephony Server hardware
  components. During installation, if you replace or add components, OnePoint Messenger will not run if the license is invalid.
  If so, you must get a replacement license. See "Changing Telephony Server Hardware Components" below.
- Install or reinstall a OnePoint Messenger base release: Generally, you can use the original (or a backup of the original) license diskette, unless you are also changing the hardware components or upgrading the feature licenses. To install a base release, follow the instructions in Chapter 3.

**NOTE:** Upgrading from OnePoint Messenger 1.1 to OnePoint Messenger 2.0 requires a new license, both because upgrading generally entails installing a new Telephony Server and because the OnePoint Messenger 2.0 license key covers more features.

• Install upgraded OnePoint Messenger feature licenses: See "Upgrading OnePoint Messenger Feature Licenses", on page 152.

If you purchase OnePoint Messenger already installed in a Telephony Server, your sales representative provides a backup license diskette. Use that license diskette if you need to reinstall OnePoint Messenger or install a new base release.

If you purchase OnePoint Messenger as software only and need to install it on your computer, you need to create a license diskette to complete the installation. The license key on this diskette must be based on the server code from your Telephony Server, so you or your sales representative must first get that code, as described next.

# **Displaying the Server Code**

The server code application obtains the server code by analyzing the hardware components in your Telephony Server. You use the code to get a OnePoint Messenger license. Every time OnePoint Messenger starts, it looks at the server code to see if it matches the assigned computer. If not, OnePoint Messenger warns you that the license is invalid, then stops.

#### To get the server code from your Telephony Server:

- Insert the OnePoint Messenger Installation CD-ROM in the Telephony Server. If it does not auto-run, see "To register OnePoint Messenger and select components" on page 47.
- 2 On the installation main screen, shown in Figure 5-16, click **Display Server Code**. The server code appears in the **Server Code** field on the **Install Key** screen, as shown in Figure 5-21 (your code will differ from the sample shown.)





3 Save the server code in a text file on a diskette for easy reference.

# **Changing Telephony Server Hardware Components**

You might need to get a new license diskette if you change hardware components (see "Replacing Telephony Server Hardware", on page 159) or upgrade feature licenses ("Upgrading OnePoint Messenger Feature Licenses", on page 152). Replacing or upgrading hardware does not require purchasing the new license.

There are three ways to see if you need to get a new license diskette:

- Use the OnePoint Messenger Installation CD-ROM to view the server code, as described above ("Displaying the Server Code", on page 149). Compare the code to the code in your license.txt file. If they differ, you need a new license key.
- Run License Install, as described below in "Using License Install
  to Inspect and Install Licenses", on page 156. If License Install
  shows 0 licenses, then the license probably does not support the
  new hardware (server code has changed).
- Wait for OnePoint Messenger to issue an invalid license warning.

#### **Getting a New Base License**

If you need to install a new OnePoint Messenger license, you need a new license diskette that contains two files—a text file that displays your license key, server code, and license ID, and a license file (".crp" extension) that enables the feature licenses that you have purchased. Use the new license diskette with License Install, as described in "Using License Install to Inspect and Install Licenses", on page 156.

#### To get a new permanent license key:

- 1 If you have the original or backup license diskette, and it contains a file with a ".wri" extension (the "license report" file), note its file name.
  - Alternatively, from your original invoice, get the purchaser's organization name, location, and the license ID number.
- 2 Display the server code, as described in "Displaying the Server Code", on page 149.
- 3 Report the "wri" file name (or license information from that file) and server code to your sales representative.
- 4 Allow at least two days for the new license to be issued. When it is issued, your sales representative will e-mail you a new license file (".crp" extension) and text file with a new license ID number.

#### **Getting an Emergency Temporary License**

In some cases, such as replacing a hard disk after a disk crash, you will need an emergency license. For that license, report the same license information as above to your technical support representative.

If you are directed to the Baypoint Innovations website to download the license files, see "Using the Web Licensing Application to Create a License Diskette", on page 154.

You might also be able to use your original diskette as a temporary solution. This will give you a 14-day license. Contact your support representative for information.

# **Upgrading OnePoint Messenger Feature Licenses**

Some OnePoint Messenger features are licensed individually. The license types are summarized here, with more details below:

- **Number of Fax Ports**—Fax port software is used to send faxes in conjunction with the physical fax port resources.
- Number of Languages—A choice of any two TUI languages comes in the base package. Other languages can be purchased.
- Number of TTS Ports—Text-to-Speech (TTS) is used primarily for reading e-mail over the telephone to Full UM users. It is also used by the TUI to announce the name of a mailbox owner by reading the owner's name from the mailbox Name field when the owner does not record a name.
- Number of Voice Ports—These licenses allow voice and fax transmission through the line card ports. To enable a port for fax, you need both a voice port license and a fax port license.
- Number of Unified Messaging Users—These licenses are assigned to users who are set up with the Full Unified Messaging (Full UM) option on the Unified Messaging tab of Exchange Administrator.
- **Web Access**—This is a site license that gives users Web access to their mailboxes.
- **VPIM**—This is a site license that gives users the ability to send messages to remote voice mail systems.

You can purchase more licenses at any time, as your needs require. Your sales representative has a software tool that helps you to predict your license needs. Here are more details on the license types:

**Unified Messaging Users:** When you set up a user in Exchange and choose the Full UM option, the number of available licenses in this category decrements by one. When there are no more licenses available, you must purchase another block of licenses in order to assign Full UM to another user, or remove Full UM from a current user. For details on assigning licenses, see Chapter 2 in the *OnePoint Messenger Administrator Guide*.

**Fax and TTS Ports:** Both Voice and Fax licenses are automatically dedicated to ports to which you assign the Fax on Demand or Send-Fax telephony applications. If you assign fax applications to more lines than there are licenses available, the lines without licenses will not operate.

TTS licenses can be used by any voice port application. There must be a Voice and TTS license available for each concurrent TTS session. TTS licenses are dynamically allocated and released so that they can be shared among Voice applications.

Fax and TTS licenses are not assigned to specific users, although you can set up individual users so that their access to fax and TTS is limited. You might limit access, not only because the fax and TTS features require licenses, but also because various other system resources are necessary for fax and TTS, and using those resources for TTS and fax could impact other functions.

When callers use fax or TTS, impacted resources include CPU, disk storage (storage of text and fax messages), RAM (session data cache and running applications), board slots (both for line and fax cards), and ports. Faxing requires ports on both a fax board and a line card.

**NOTE:** If you install additional TTS licenses while Show N Tel applications are running, use Show N Tel Manager to stop and restart the lines so that the new TTS licenses are enabled.

**Voice Ports:** Each license supports voice telephony through one line-card port. You can purchase more or fewer Voice Port licenses than you have ports on your line cards. However, for example, if you purchase 25 voice licenses but have only a 24-port card, one Voice license is unusable.

Web Access: The Web Access site license enables OnePoint Messenger users to create unified messages through a Web browser. Web browser access requires that Exchange 5.5, Internet Information Server, Outlook Web Access, and the OnePoint Messenger Web Client server component be installed on the Exchange Server. Web Client users must have Full Unified Messaging set in their Exchange profiles. See Chapter 2 in the *OnePoint Messenger Administrator Guide* for details.

**VPIM:** A message transport agent application on the Telephony Server receives and transfers to Exchange messages from remote voice mail systems. To give users the ability to reply or create new messages to remote voice mail systems, install the VPIM license.

Languages: The base OnePoint Messenger license includes your choice of two TUI prompt languages. Currently, the available prompt sets are in British English, American English, and Latin American Spanish. Other prompt sets are in the test phase and will be made available both in the base software and as add-on options. You can select from any combination of the languages that you install for sys-

tem prompts and mailbox prompts. For example, if you install all three of the currently available languages, you might select Latin American Spanish for system prompts and set up mailboxes in any of the three languages, depending on user preferences. See Chapter 3 in the *OnePoint Messenger Administrator Guide* for details.

To install a third language, you must purchase a license that enables you to select an extra language during the installation. If you purchase the license after installation, you can run the OnePoint Messenger Installation Program again to install it. Use the SmartUpdate option of the OnePoint Messenger Installation Program to back up your current settings and to select the new language to install. For details on SmartUpdate, see "Using SmartUpdate for Backing Up and Restoring Configuration Files", on page 126.

# Using the Web Licensing Application to Create a License Diskette

To create a new license diskette, first provide the server code from your computer (see "Displaying the Server Code", on page 149.) to your support representative, who might either send you a new license diskette or ask you to help expedite the process by creating one yourself from the licensing website. You download two files to a diskette—the license text file and the encrypted license (".crp") file. The website also provides a Licensing Report file, which provides useful reference information that you can save in another file.

#### To create a new license diskette from the licensing website:

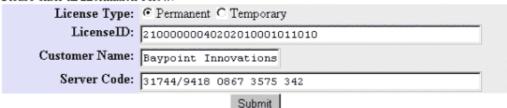
- 1 Generate and record the **server code** (see "Displaying the Server Code", on page 149.)
- 2 If you are getting a feature upgrade or have changed your hardware, contact your sales representative for a new **license ID** and **website logon password**.
  - If you need an emergency license (for example, after a hard disk crash and replacement) call your technical support person for the password. Use your original license ID (see the license.txt file on your license diskette).
- 3 Using a Web browser, access the licensing website:

#### http://www.bayptin.com/

- 4 Click **Log-on**, then **Support**, then **Logon**, then the link to the licensing database.
- 5 Fill out the application form in the database, as shown in Figure 5-17.

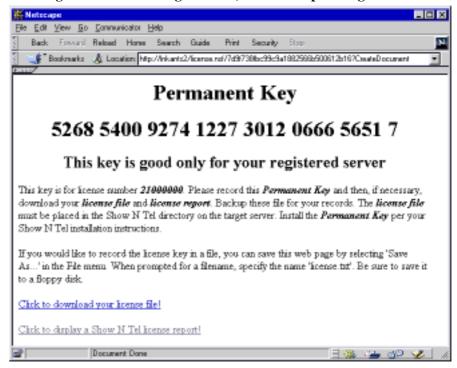
Figure 5-17 Web Licensing Form

Please enter all information below.



- a. Select **Permanent** or **Temporary**. A temporary license, based on the ID provided by your support representative, expires in 30 days.
- b. In the **License ID** field, enter your original License ID or the new one, depending on your circumstances.
- c. In the **Customer Name** field, enter your organization name.
- d. In the **Server Code** field, enter your server code.
- 5 Click Submit.
- When the license key Web page returns, as shown in Figure 5-18, save it to a diskette as **license.txt** in this sequence:

Figure 5-18 Licensing Website, License Report Page



- a. From the **File** menu, choose **Save As**.
- b. Choose "Plain Text (.txt)" as the file type.
- c. Browse to the diskette.
- d. Enter "license" for the name.
- e. Click Save.
- f. In Windows Explorer, go to the diskette. Make sure that the file was saved correctly.
- 7 To download a report that lists the features enabled by the license, click "Click to display a Show N Tel license report."
- 7 Click "Click to download your license file!"
- 8 Select the option to save the file, then select the diskette, as above. Make sure that the extension is ".crp".

#### Using License Install to Inspect and Install Licenses

Use the License Install utility in the OnePoint Messenger program suite to install feature licenses. This is the same utility that you use in the OnePoint Messenger installation. The main screen displays a list of your currently installed licenses, as shown in Figure 5-19.

Upgrading feature licenses involves either downloading a file from a support website to a temporary directory, or installing the key from a floppy diskette.

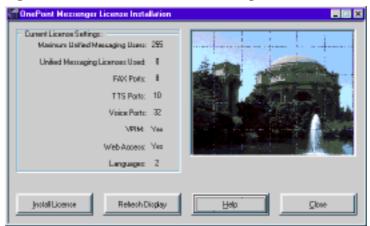
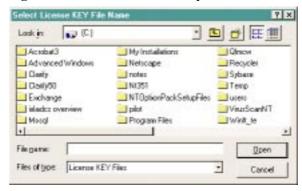


Figure 5-19 License Install Main Dialog

#### To upgrade licenses using License Install:

- 1 Place the file that contains new licenses on a disk drive on your system.
- 2 From the **OnePoint Messenger** program group, start **License Install**.
- 3 Check your current licenses on the main dialog. Click **Refresh Display** to be sure the current information appears.
- 4 Click **Install New License**. The Select License File Name dialog appears, as shown in Figure 5-20.

Figure 5-20 Select License Key File Name Dialog



- 5 In the Select License File Name dialog, navigate to the disk and directory that contain the license files.
- Double-click the license file name, which has a ".crp" extension; or, if the new file is located in the directory C:\SNT, click Cancel to view the SNT license dialog, described next.
- 7 If the license file that you selected in the previous step is also located in the SNT directory, the following message appears: "License File already exists in the Show N Tel directory."

#### Click **OK** to confirm.

- 8 If "License.txt" is located in the same directory as the license (.crp) file, the program proceeds to step 10. Otherwise, the dialog in Figure 5-20 appears:
  - Select the disk and directory that contain the key file (usually named "License.txt").

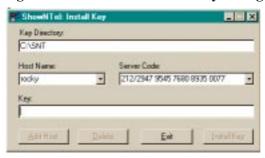
- 9 Double-click the key (.TXT) file name. If a license key file is not used, click **Cancel** and proceed to the next step.
- 10 When the "**licenseinstall**" message displays the following message, click **OK** to proceed.

```
"When the 'Install Key' program is displayed, press 'CTL-V' to setup key data in the KEY field.
```

Then press 'Install Key'."

11 The SNT Install Key program starts, as shown in Figure 5-21.

Figure 5-21 ShowNTel Install Key Dialog



Press [Ctrl-v] in the Key field to insert the license key (the license program automatically copies the key to the clipboard when you open the key file.)

- 12 If the **Key** field displays "KEY NOT FOUND," enter the correct license key data if you know it. The **Install Key** button becomes active.
- 13 Click **Install Key** to complete the installation.
- 14 Click **Exit** to close the window.
- 15 If a new license file is installed, the following message appears:

License installed. Check displayed license values.

Click OK.

16 Click Close.

**NOTE:** To see the result of the newly installed licenses, you must reboot.

#### **License Install Error Messages**

If an error occurs in License Install, one of the following messages appears.

**Table 5-2 License Install Error Messages** 

Error Message	Possible Explanation	
"Unable to open license file <filename>"</filename>	License file cannot be read.	
"Failed to locate Show N' Tel directory"	Show N Tel can not be installed.	
"Unable to install license file <file- name&gt;"</file- 	<ul> <li>Directory might be write-restricted.</li> <li>Existing license file having the same name might be read-only.</li> <li>Unable to copy the license file to the SNT directory.</li> </ul>	
"Unable to launch SNT license key installation program"	<ul> <li>SNT License Key program can not be located.</li> <li>License Key program fails to execute.</li> </ul>	

#### **Replacing Telephony Server Hardware**

For details on installing:

- Line cards, see Appendixes A and B
- An upgraded Telephony Server to support a migration from OnePoint Messenger 1.1 to OnePoint Messenger 2.0, see "Upgrading from OnePoint Messenger 1.1", on page 112 in this chapter

Since "OnePoint Messenger" refers only to software, the phrase "OnePoint Messenger hardware" suggests the Telephony Server and components connected to it that support OnePoint Messenger. For details on purchasing hardware components, contact your support representative. If you install new hardware components in the Telephony Server, you may need to get a new OnePoint Messenger license, because the license is based on a server code compiled from a profile of your computer's components.

The OnePoint Messenger Installation Program, previous to installation, generates the server code that you use to get license files uniquely keyed for your Telephony Server. The license files are installed on your Telephony Server at installation, and OnePoint Messenger checks them at startup and before performing various licensed operations. If the server code is not available, or does not match the

installed hardware, OnePoint Messenger shuts down until you install a replacement license, as described in "Getting a New Base License", on page 151.

Because the license files are uniquely keyed for each Telephony Server, it is not possible to install OnePoint Messenger on two Telephony Servers using the same license. To install OnePoint Messenger on two Telephony Servers, you must purchase two licenses.

To replace the license files on a Telephony Server with changed hardware does not require the purchase of two licenses. See "Changing Telephony Server Hardware Components", on page 150.

**NOTE:** For details on removing a fax card or disabling fax card drivers, see "Installing and Uninstalling Fax Cards", on page 182 in Appendix B.

# **Preparing for Contingencies**

Telephony Server has auto-start and automatic recovery features to minimize downtime. In addition, OnePoint Messenger has other features to minimize downtime, such as Exchange Resiliency (not yet operational), which is designed to store telephone messages on the Telephony Server when the Exchange Server goes off-line. OnePoint Messenger also is designed to support a strategy of resiliency through multiple Telephony and Exchange servers. However, this version of OnePoint Messenger has not yet enabled the multi-Telephony Server side of that strategy.

# **Communicating with Multiple Exchange Servers**

Although the Telephony Server cannot communicate directly to more than one Exchange Server, OnePoint Messenger utilizes the multiserver functionality of the Exchange Site design to interface the Telephony Server to multiple Exchange Servers through a primary Exchange Server ("primary" is defined as the Exchange Server assigned as the one with which the Telephony Server communicates directly.) If that primary Exchange Server goes down, you can quickly interface the Telephony Server to a new primary Exchange Server by running the Configuration Wizard. For details on running Configuration Wizard, see "Procedure 5. Running Configuration Wizard to Integrate Telephony Server with Exchange Server", on page 59.

## **Emergency License**

Because the OnePoint Messenger license is keyed to a particular computer, you cannot set up another Telephony Server using the same license. To prepare for a hardware failure in the Telephony Server that requires that you replace components, you must install a replacement license (it is free—contact your sales representative.) While you wait to receive that license, the license software allows you to use the original license for 14 days on the new hardware. For details, see "Installing OnePoint Messenger Licenses", on page 149.

#### **Parallel Systems**

Since OnePoint Messenger supports only one Telephony Server per PBX, to provide end-to-end fault tolerance with no downtime, you would need to set up two PBXs, each with its own Telephony Server (each with its own license), two Exchange sites, and then cross-connect the PBXs and Exchange sites.

**NOTE:** See Chapter 9 in the *OnePoint Messenger Administrator Guide* for a discussion on backing up software and data.

# **Substituting a Telephony Server**

A compromise approach between providing complete fault tolerance through parallel topologies and rebuilding a broken Telephony Server is to set up a substitute Telephony Server to be held in reserve. Ideally, to minimize downtime and cost, purchase two OnePoint Messenger licenses with the same features and configure the substitute Telephony Server identically to the active one.

If the active Telephony Server fails, move the lineards (unless you also want to have redundant backup cards) to the main Telephony Server. Follow the directions in "Renaming Servers", on page 118 to identify the new Telephony Server to the network and to Exchange.

# Appendix A. Supported Hardware and Software

This appendix details OnePoint Messenger hardware and software requirements, and it describes successfully tested host and peripheral hardware and software options, including PBX integration, line cards, and fax cards. This appendix contains the following sections:

Section	Page
Server Hardware Requirements	163
Client Hardware Requirements	168
Optional Hardware	168
Software Requirements	169
Software Options	171
PBX Support	172

**NOTE:** For details on software and feature licensing, see the discussion in Chapter 5 on page 111.

# **Server Hardware Requirements**

**Exchange Server**: The demands placed by OnePoint Messenger on the Exchange Server are generally a small fraction of the demands placed on the Exchange Server by standard e-mail. OnePoint Messenger validation testing used Exchange Servers with 233 MHz processors, 256 MB of RAM, and 3 GB of disk space.

**Telephony Server**: The following *minimum* hardware requirements for the Telephony Server for any number of ports are:

- Clearance above the motherboard for long line cards
- 256 MB RAM
- 550 MHz Pentium III CPU

- 3GB hard disk (create a 4GB disk partition on larger drives)
- Network interface card (NIC) connected to the LAN
- Grounding strap—see "Important Safety Information—Earth/ Ground" on page 176 in Appendix B.

The increased requirement to a 550 MHz CPU is partly to support the increased number of ports supported by OnePoint Messenger 2.0 and partly to support the increased processing demands of other services on the Telephony Server, such as VPIM.

#### **Supported Line Cards**

The Telephony Server requires one or more line cards (voice cards) to integrate telephony services with the PBX or CO Centrex system. The type of card that you can use in the Telephony Server depends on the PBX to which you are connecting:

- **AG-0:** The AG-0 card is another name for the AG-8 card acting purely as a DSP resource, with its SIPPs removed. Use up to three AG-0 cards only with the Mitel Application Fiber Controller (AFC) TAPI card in the **SX-2000** integration.
- **AG-8:** The AG-8 card provides eight analog loop-start voice ports. It is supported for the following PBX integrations:
  - Enhanced Data Link Integration (EDLI): The tested integrations using EDLI are Centrex, Cisco CallManager,
     Fujitsu 9600, Lucent Definity G3, Mitel Ipera, NEC 2400,
     and Nortel Meridian. The standard options are to use from one to three AG-8 cards.

**NOTE:** Lucent and Nortel integrations also require a protocol converter box such as the VoiceBridge II or Calista PBX-Link to convert the proprietary calling line information (CLI) to the SMDI format. The SMDI data passes to a serial port on the Telephony Server.

- **Mitel SX-200:** The SX-200 supports one AG-8, with the Mitel TalkTo card providing the data link.
- **Mitel SX-2000:** Typically, the SX-2000 is integrated with the Telephony Server through an AFC card and AG-24 card, but using up to three AG-8 boards is an alternative.
- **AG-24**: The AG-24 card is a dedicated 24-port DSP resource for the AFC card in the **SX-2000** integration, as described

above. Use either the AG-24 or up to three AG-0 cards as the DSP resource for the AFC card.

- AG-T1 (T1): The AG-T1 board provides one trunk (24 channels) along with on-board DSP resources. It is currently certified only for Fujitsu 9600 and Centrex integrations with analog trunking. It has only been tested with the following protocols:
  - Framing: D-3/D-4
  - Coding: AMI (Alternate Mark Inversion)
  - Signaling: CAS (Channel Associated Signaling)

For details on card installation and configuration, see "Appendix B. Adding Line and Fax Cards" on page 175.

**Modem**: To provide remote technical support, connect a modem to the Telephony Server and to an outside telephone line, then configure the program pcAnywhere, which is included on the OnePoint Messenger CD-ROM, to communicate over that modem. The TS-800 turnkey system provides a modem for that purpose. For Centrex integrations, the telephone company may require (and may provide) a specialized modem to carry the integration data.

#### **Server Sizing**

Message server sizing is the task of evaluating needs for the various kinds of hardware resources that support message processing and storage. The common variables are ports, CPU speed, RAM, disk storage, and network traffic bandwidth. The estimate of traffic is based on the number of users (total and concurrent) and the type of use (voice messages, fax, TTS, and other services such as Call-Me). Although this section can give you general parameters, your OnePoint Messenger sales representative can provide a detailed calculation based on common usage.

Exchange Server: In addition to storage needs for Exchange software and e-mail messages, you need to provide space for unified messages. How much space that requires depends on how much your users use unified messaging and on what voice storage format you use. The Raw PCM (Mu-Law or A-Law) codec produces about 8KB of storage per second of audio. IMA-ADPCM requires half as much space. To set the codec, see the section on the System Information page of TS Admin (the Unified Messaging Snap-in to Microsoft Management Console) in Chapter 3 of the *OnePoint Messenger Administrator Guide*.

**Telephony Server:** When sizing the Telephony Server, base your sizing decision on your estimate of peak demands and your organization's tolerance for degraded service. Consider the standard performance factors, such as CPU, RAM, bus speed, and hard disk capacity and speed. As usual, the more power, the better the performance. There are two major categories of impact on Telephony Server resources. The most important is how much your line card ports are used. The second category is how much message transcoding and transfer is required by your users through the telephone.

- Line Card Activity: The more users you have, the more likely all ports will be active, both from callers leaving messages and by users retrieving messages through the telephone. Call-Me and Meet-Me also impact ports, as do TTS and fax (including user fax messaging, downloading of e-mail to fax machines, and Fax on Demand). If users use those features so much that the system slows down, the Telephony Server administrator can mitigate the effect by reducing TTS, fax, and Call-Me permission levels through Class of Service settings. After installation, you can do detailed analysis by running reports on TTS and Fax traffic.
- Transcoding and Message Storage: The storage codec, as described above, affects Telephony Server processing loads and storage, because all transcoding occurs on the Telephony Server, and the Telephony Server caches messages when the Exchange Server is offline. There are too many variables to discuss comprehensively here (PCM vs. IMA ADPCM, transcoding using the line card or other software, source of traffic through VPIM or TUI, and so on), but the same general processing/storage space tradeoff discussed above is also germane here. To estimate server load using PCM as the codec, multiply one typical audio message in seconds times 8k per sec, then multiply the result by your expected average number of concurrently active ports.

If you have been using OnePoint Messenger 1.1, understand that OnePoint Messenger 2.0 introduces new demands on the Telephony Server, primarily supporting VPIM message transcoding and transfer, so performance evaluations you might have made while using OnePoint Messenger 1.1 will need to be adjusted based on your use of VPIM messaging.

Another burden on the Telephony Server can be trace logs. Logging takes CPU cycles; and, if you turn on tracing for long periods, those trace logs can ultimately eat up all disk space.

It is obvious from the number of variables that calculating exact hardware needs is beyond the scope of this document. Your sales representative has a sizing tool that can provide recommendations for telephony resources such as line cards and feature licenses. This guide can only state general guidelines on server internals, as follows:

- Random Access Memory (RAM): OnePoint Messenger testing reveals that system performance is greatly influenced by the amount of RAM available per line card port. It is the most valuable resource per dollar of investment that you can add. If you have already installed a Telephony Server, note how much memory paging is occurring. A rule of thumb is that, if paging averages more than one page per second, augment the RAM.
- CPU: The processor must manage the coincident demands of multiple voice ports. The more active ports you have, the better the processor you need to avoid delays. The faster the CPU, the more impact on virtual memory. Also, what storage method you choose is reflected in CPU usage. Choosing the compressed IMA AD/PCM storage codec doubles the impact on CPU of voice messaging. Because even the most basic installation of OnePoint Messenger requires a 550 MHz processor, there is not much latitude for increasing processor power. However, OnePoint Messenger 2.0 (with Show N Tel 4.4) supports dual Pentium CPUs.
- **Disk storage**: The Telephony Server does not archive messages (except the documents that you put in the Fax on Demand directory), but it will ultimately store telephone messages temporarily if the primary Exchange Server goes offline. The Telephony Server needs about 800 MB of free disk storage for its basic files. As mentioned above, telephone messages can be converted to file sizes of 4 KB per second of audio through IMA ADPCM or to 8 KB per second using Raw PCM, so an hour of stored speech could range from 5 to 10 MB of required storage, respectively.

Your Telephony Server hard disk plays an additional role in providing virtual memory (the paging file) as a supplement to RAM. The rule of thumb for virtual memory (the paging file) is to set virtual memory to two times the amount of RAM you have. For example, if you have 256 MB of RAM, set the paging file to 512 MB. Also, for this purpose, disk read/write speed is as important to consider as available space. Set the paging file size in the **System** applet of the **Control Panel**.

**Exchange Server:** Estimating the impact of unified messaging on disk storage on the Exchange Server can be done best by reviewing your own experience with storage demands of your independent e-mail and voice mail systems.

## **Client Hardware Requirements**

Client computers deliver messages to individuals through Microsoft Outlook or a supported Web browser. Client computers must run Windows 95 or better and require either a modem or a network interface card to send and receive messages.

OnePoint Messenger uses about 3 MB of disk storage for the client software. When users save messages on their computers, storage requirements increase at the rate of about 250K for each minute of voice, which equates to 15MB for one hour of stored voice messages.

To fully support multimedia creation and receipt of unified messages, a client system needs a microphone, sound card, and speakers. OnePoint Messenger can work without a sound system on the client PC, as users can use Call-Me/Meet-Me on their PCs to connect to a telephone to listen to and record messages, as described in Chapter 3 of the *OnePoint Messenger User Guide*.

#### **Optional Hardware**

The following optional components enhance OnePoint Messenger.

- Additional sound setup: To customize system greetings and for test purposes, add a microphone, soundcard, and speakers to the Telephony Server or to a remote administration computer. If you add a soundcard to a system with a Brooktrout fax card, follow the instructions in *Getting Started with Show N Tel* from Brooktrout Technology on setting DMA channels in the Brooktrout Configuration Wizard.
- **Fax card(s)** on the Telephony Server to receive and send faxes through the PBX): To receive faxes from or deliver faxes to a fax machine, OnePoint Messenger requires the Brooktrout TR114 fax card in the Telephony Server. However, a fax card is not required to create fax images and transfer fax images as e-mail.

For fax board configuration, refer to the Brooktrout *TR114 Digital Hardware Guide* (summarized in Appendix B on page 182 in this guide and in *Getting Started with Show N Tel*). Configuring

the fax card is included in the OnePoint Messenger installation sequence. The Brooktrout Configuration Wizard is installed as a separate application on the Telephony Server, so you can perform configuration modifications.

OnePoint Messenger fax services are compatible with all supported voice boards. OnePoint Messenger supports the following MVIP fax boards from Brooktrout Technology:

- 2 Port Fax Card
- 4 Port Fax Card
- 8 Port Fax Card

The Fax on Demand feature on the Telephony Server supports most of the fax machines on the market.

- **PBX**: OnePoint Messenger does not include a PBX and does not strictly require one, but most of the OnePoint Messenger utility is lost without integration between the Telephony Server and a switch. For details, see "PBX Support" on page 172.
- Redundant Telephony Server: As discussed earlier, the fastest way to reestablish unified messaging services when the Telephony Server is offline is to connect a cloned Telephony Server. To do this, however, requires purchasing two identical OnePoint Messenger licenses, one for each Telephony Server. For details on this and other emergency options, see "Preparing for Contingencies" on page 160.
- Remote Management: Attaching a modem to the Telephony
   Server and installing pcAnywhere (recommended) or other
   remote control software allows you to manage the Telephony
   Server from a dialup connection. It also enables offsite vendor
   technical support personnel to help you with installation and
   operation problems.

## **Software Requirements**

The **Telephony Server** requires the following software:

- OnePoint Messenger version 2.0 CD-ROM, which contains both the server and client components
- Microsoft Windows NT Server 4.0 (any edition) with Service Pack 5 or 6a

• Microsoft Outlook 98 with Service Pack 1, or Outlook 2000 (Outlook 97 is no longer tested for compliance.)

**CAUTION!** Do **not** install the OnePoint Messenger Outlook client on the Telephony Server. Doing so will overwrite entries in the NT Registry, requiring that you reinstall OnePoint Messenger.

- Internet Explorer 5.0 or later
- OnePoint Messenger license on floppy diskette—see "Upgrading OnePoint Messenger Feature Licenses" on page 152 in Chapter 5.
- The Telephony Server must have a static IP address (in other words, do not use DHCP to supply an IP address), and the address must be registered on your Domain Name Server.

The **Exchange Server** requires the following software:

- Microsoft Windows NT Server 4.0 (standard edition) with Service Pack 5
- Microsoft Exchange 5.5 with Service Pack 2 or 3

**CAUTION!** If installing McAfee Viruscan software on the Exchange Server, you must install version 4.03 or higher.

- OnePoint Messenger software, installed from the Telephony Server
- For supporting Web browser access to mailboxes:
  - Windows NT IIS 4.0 (from Option Pack 4)
  - Microsoft Outlook Web Access (from the Exchange CD-ROM)
  - OnePoint Messenger Web Client, installed from the Telephony Server
  - Internet Explorer 5.0 or later. You can download IE 5.01 from the Microsoft Web site at:

#### http://www.microsoft.com/windows/ie/download/default.asp

**NOTE:** For information on Microsoft software sources, see Appendix B of the *OnePoint Messenger Administrator Guide*.

#### **Client computers** (for users) require the following software:

- Microsoft Windows 95, 98, or NT 4.0 (any version)
- Outlook and/or Web Client:
  - Acceptable Outlook clients are Microsoft Outlook 98 and Outlook 2000 (Outlook 97 is no longer supported.) You cannot use Exchange Client in place of Outlook.
    - OnePoint Messenger for Outlook components placed on the Telephony Server by the OnePoint Messenger installation: Unified Message forms, Unified Message Player, QuickPick, and Unified Fax Printer
  - Web Client requires either Netscape 4.0+ or Internet Explorer 4.01+. Web Client downloads automatically to any Windows computer when the user connects to the Exchange 5.5 website.
- Network connection software, either LAN or modem:

Running OnePoint Messenger over a LAN requires network interface card (NIC) software. The turnkey TS-800 NIC requires a driver that is not included on the Windows CD-ROM, so it is included on a floppy disk that you install after loading Windows.

To provide OnePoint Messenger Call-Me/Meet-Me services on a client PC running Outlook requires that the PC use DCOM, which you must install on Windows 95 (Windows NT and 98 already include DCOM). DCOM on a client PC requires that the PC be set up to communicate on the LAN using TCP/IP. Then you must set the proper DCOM security level, as described in Procedure "12B. To install DCOM and set the security level on the user's PC:" on page 70. You can download DCOM from the Microsoft website:

http://www.microsoft.com/com/dcom/dcom1\_2/download.asp

# **Software Options**

This section discusses both OnePoint Messenger configuration options and thrid-party software options.

#### **OnePoint Messenger Configuration Options**

You can deploy the OnePoint Messenger Telephony Server only as a member server or domain controller, ideally but not necessarily in the same domain as the primary Exchange Server. You can run other software on the Telephony Server, but doing so can degrade the operation of the communication function.

To manage the Telephony Server, you have three options:

- You can use the Unified Messaging Snap-in to Microsoft Management Console (MMC) (click the TSAdmin icon to access) on the Telephony Server.
- You can install MMC on another Windows NT computer in the Telephony Server domain. After logging on to that NT computer and starting MMC, set up a connection within MMC to the Telephony Server.
- You can place pcAnywhere or another similar remote control program on the Telephony Server for remote management either through the LAN or through a modem.

For details on the Unified Messaging Snap-in, see Chapter 3 in the *OnePoint Messenger Administrator Guide*.

**CAUTION!** Do not use a dual-boot operating system configuration (such as Windows NT with DOS) or install a utility such as System Commander supporting dual-boot.

## **PBX Support**

OnePoint Messenger provides the Enhanced Datalink integration for the following PBXs (using the Simple Message Desk Interface— SMDI—protocol):

- Centrex switches
- Cisco CallManager
- Fujitsu 9600
- Lucent G3 SMDI
- Mitel Ipera
- NEC 2400
- Nortel Meridian

OnePoint Messenger uses the Mitel Telephony Application Interface (MiTAI 7.5.3) for integration with Mitel SX-200 and SX-2000 PBXs.

#### **Data Link Connections**

All PBX integrations other than the SX-2000 (using an AFC card and fiber channel) require a digital data line between the Telephony Server and the PBX to carry the data about calls, in addition to the phone lines. Ideally, this data link should be through a direct connection. Also, it usually is possible to make the connection through a network or through a modem. This requires a free serial port and IRQ on the Telephony Server. The integrations with Lucent and Nortel PBXs require the use of a "call pickup" box to translate their proprietary calling data into the SMDI format. Their integration guides provide procedures for setting up a Calista PBXLink external box to provide that function. Wire requirements are:

- For a Mitel SX-200, use twisted pair wire, 25 feet maximum
- For a Mitel SX-2000, use fiber optic link, no length limit
- For PBXs using SMDI integrations, use RS-232 cable, 50 feet maximum

See Chapter 4 (page 77) of this guide for a sample PBX integration sequence. See the appropriate integration guide for details on integrating the Telephony Server with your PBX. There are integration guides for each of the PBXs listed above.

# Appendix B. Adding Line and Fax Cards

This appendix summarizes the installation of fax and line cards with which Telephony Server is compatible, but this should not be considered an exhaustive substitute for the manufacturers' documentation. This appendix contains the following sections:

Section	
Preparing the Telephony Server	
• Important Safety Information—Earth/Ground	
Configuring MVIP and Connecting MVIP Cables	
Installing Cards in the Telephony Server	
Using Windows NT Diagnostics	179
<ul> <li>Making Line Card and Data Link Connections</li> </ul>	
<ul> <li>Installing and Uninstalling Fax Cards</li> </ul>	
• Installing Natural MicroSystems (NMS) Line Cards	
Installing AG-8 Cards	187
Installing AG-0 Cards	189
<ul> <li>Installing an AG-24 Card</li> </ul>	190
<ul> <li>Installing an AG-T1 Card</li> </ul>	190
Using AG Configurator	193
Validating Two Cards	195
Editing Ag.cfg Directly	196
Using the Ag8dspmask.txt File	199
Connecting Line Cards to the PBX	
Enabling MiTAI/AFC	201
<ul> <li>Installing the AFC Card</li> </ul>	
<ul> <li>Configuring the NMS and CTI Software</li> </ul>	
<ul> <li>Configuring the NMS Card for AFC</li> </ul>	
Configuring Show N Tel for MiTAI	205

OnePoint Messenger is qualified on Natural MicroSystems (NMS) ISA-type line cards and Brooktrout fax cards. For complete, up-to-date installation instructions, refer to the manufacturers' manuals.

You must set Interrupt Request (IRQs) and I/O base addresses for the ISA-based telephony boards; you cannot use the Windows Plug and Play feature. All NMS line cards in the box can share one IRQ, each card must have a separate IRQ. Cards that make use of memory and I/O addresses must have separate addresses reserved for each card.

#### **Preparing the Telephony Server**

In general, the cleaner the power source that you provide to your Telephony Server, the better the quality of message handling and the more stable the hardware. Ideally, you would use a dedicated, conditioned circuit with isolated ground for each server, augmented by a long-life UPS with surge protection.

#### Important Safety Information—Earth/Ground

You must connect a hard-wired insulated Protective Earth/Ground connection to the Protective Earth/Ground stud on the rear of the Telephony Server. Failure to provide this connection will invalidate this product's conformance to minimum legal safety requirements. The Earth/Ground connection must be provided in accordance with the local wiring codes of the country where installation takes place (IEE 16th edition Wiring code in the UK, Article 250 of the National Electrical Code, NFPA 70, or Section 10 of the Canadian Electrical Code CSA C22.1)

**NOTE:** For more on replacing or upgrading other Telephony Server components, see Chapter 5.

#### **Configuring MVIP and Connecting MVIP Cables**

Multi-Vendor Integration Protocol (MVIP) is a telephony card communication standard that the telephony cards in the Telephony Server support.

## **Providing the MVIP Clock**

MVIP requires a clock to synchronize data movement. The clock signal can come from a board or from the PBX. Among the AFC, AG-0/AG-8, AG-24, and Brooktrout cards, only the AG-0/AG-8 cards have an oscillator that can generate the clock signal. The AG-T1 card and

the AFC daughterboard have clocks that OnePoint Messenger can use to synchronize with the PBX clock as the clock source.

Alternatively, you can add an AG-0 on the same bus with the AG-24 and the AFC, then use the AG-0 as the clock master. The section "Sample Configuration File: AG-8 and AG-24" on page 197 contains part of an "ag.cfg" file showing an AG-0 (called an AG-8 in the file) configured with an AG-24. For details on configuring the AFC, see the section "Enabling MiTAI/AFC" on page 201.

If you use more than one AG-0/AG-8, designate one as the clock master by setting it up as Board 0 in the "ag.cfg" configuration file, then put it in the middle of the MVIP array. Create separate board configurations for each other AG card in the ag.cfg file. Note in ag.cfg that MVIP is enabled and that the clock source on the clock master AG-8 is "OSC" (the on-board oscillator). Follow the configuration procedure below in "Using AG Configurator" on page 193. For details, see the AG-24/30/48/60 Installation and Developer's Manual from Natural MicroSystems.

#### **MVIP Termination**

Setting MVIP termination means using jumpers on the end cards in the MVIP array to identify them to the MVIP cable as the end cards. These cards are not necessarily the end cards in the backplane. For example, if you have non-MVIP cards, such as a NIC or sound card, keep them separate from the MVIP array.

For details on setting termination on the fax cards, see "Installing and Uninstalling Fax Cards" on page 182. For details on setting MVIP termination on NMS cards, see "Installing Natural MicroSystems (NMS) Line Cards" on page 186. If you cannot set MVIP termination on the AG-24 (older versions do not have termination), do not put that card at the end of the array.

#### The MVIP Cable

MVIP support requires a special MVIP cable between each of the telephony cards in the Telephony Server backplane. The MVIP cable is a 40-line ribbon with card connectors arrayed along it. Cables come in different lengths and have from four to 13 connectors. The cable has one colored wire that you use to orient the cable to Pin 1 on each connector. The female connectors on the cable attach to male connectors on the top edge of each card, near to the rear panel bracket. The primary goal when connecting MVIP cards and cables

is to prevent signal synchronization errors by minimizing propagation delay. To do that optimally, use a cable with the exact length and number of connectors that you need to connect the installed MVIP cards.

If you use a cable with more connectors than you need, put the same number of empty connectors at each end of the cable. Avoid putting empty connectors between cards. Try to put the telephony cards in adjacent slots. To minimize signal propagation errors, put the card acting as the clock master in the middle of the MVIP card array.

**NOTE:** If you are using the TS800 Telephony Server, see the recommended slot, IRQ, and I/O address assignments in Appendix A of the *Getting Started Guide*. Using these settings helps to reduce the variables that Product Support must consider when helping you debug problems.

#### Given the guidelines above, to set up the MVIP array:

- In the NMS configuration dialog AG Configurator (or by directly editing the ag.cfg file), set the MVIP clock source on the card that will be closest to the center of the MVIP bus. However, if the server includes an AG-T1 card or Mitel AFC card, do not identify one of the cards as the clock master. For details, see the section below that discusses configuring the particular card.
- 2 Set MVIP termination on the end cards in the MVIP array. The AFC, NMS AG-8, and Brooktrout MVIP-based fax cards used by OnePoint Messenger all provide MVIP termination. Older NMS AG-24 cards do not provide a termination block; some newer ones have the block; other provide termination automatically when needed. While it is possible to operate an MVIP array by not setting termination or by only setting termination at one end, the performance will likely be degraded.

**CAUTION!** Do not set termination on cards that are not at either end of the array. If you add or rearrange cards, be sure to revise the termination so that only the end cards are terminated.

- 3 Insert the cards in their correct slots, as described above, and in their specific sections below.
- 4 Plug the MVIP bus cable into each of the MVIP bus connectors. Each telephony card in the bus with an MVIP connector must be attached to the cable.

## Installing Cards in the Telephony Server

For details on supported card types for the various supported PBX integrations, see "Server Hardware Requirements" on page 163 in Appendix A, or see the OnePoint Messenger integration guide for your PBX. If you have a turnkey Telephony Server with line cards installed at the factory, the cards should already have the correct switch and jumper settings. Verify the hardware installation with the information in this section. The card slot arrangement and settings in TS800 turnkey systems should match the recommendations in Appendix A in the *OnePoint Messenger Getting Started Guide*.

If you are installing line cards, use the following instructions to install those cards in the appropriate slots in the system backplane. Then use the manufacturer documentation to configure those cards (summary notes are provided here.) When you use multiple cards, configure them to use the MVIP protocol and connect them with the MVIP cable, as described above in "Configuring MVIP and Connecting MVIP Cables" on page 176.

#### **Using Windows NT Diagnostics**

Use Windows NT Diagnostics, as shown in Figure B-1, to identify available IRQs and I/O base addresses for the line cards.

Windows NT Diagnostics - VAULONOCARA Elle Help Version System Display Drives Resources Environment Include HAL resources T Bus Тури Device Isa 8042p# 04 Serial σ Isa Floppe Isa W 0 Isa Aghw DC21004 10 п Poi 12 8042pri 0 Isa 8480 158 Degioes 1/0 Post

Figure B-1 Windows NT Diagnostics, Resources Tab

# To use Windows NT Diagnostics to assess available IRQ and I/O addresses:

- 1 Click the Windows **Start** button, then choose **Programs**, **Administrative Tools**, **Windows NT Diagnostics**.
- 2 Select the **Resources** tab.
- 3 Click the **IRQ** button.
- 4 Note the available IRQs. The recommended IRQ for the AG-T1 is 12, for the fax cards 10 (all fax cards can use the same IRQ), and 5 for the AG-8 cards (all AG-8s can use the same IRQ).
  - **NOTE:** In Figure B-1, IRQ 7 (07) in the IRQ resource list is assigned to "Aghw," representing the NMS AG-8 card (IRQ 7 is the default.)
- 5 On the Resources tab, click **I/O Port**. Note the available I/O base addresses.
  - a. For the fax card(s), compare the available addresses with those allowed, as listed in Table B-1.
    - For more on setting up fax cards, see "Installing and Uninstalling Fax Cards" on page 182.
  - b. For NMS line cards, note whether 02C0 is available, which is the default and recommended setting for the AG-T1 and the AG-8 in slot 1 (02C0 is a convenient address for the AG-xx cards, because all DIP switches are up.) When using more than one AG-8, look also for 22C0 and 42C0 to use for the second and third cards.
    - For more on setting up NMS cards, see "Installing Natural MicroSystems (NMS) Line Cards" on page 186.

**NOTE:** Some computers, such as Dell, preempt the recommended settings, so you may need to check and set new ones.

For more on recommended slots, IRQs, and I/O base addresses, see Appendix A in the *OnePoint Messenger Getting Started Guide*.

# **Making Line Card and Data Link Connections**

Voice line cards have three connection points—the ISA bus, the PBX, and the MVIP bus. Fax line cards have two connection points—the ISA bus and the MVIP bus. When using more than one line card (including both voice and fax cards), use an MVIP bus to provide communication between the cards. See "Configuring MVIP and Connecting MVIP Cables" on page 176.

The data link is the line carrying the data about the call (caller ID, called party, reason the call has been forwarded to voice mail). How it is provided depends on which PBX integration you are using. The integration guide for the specific PBX contains details on making those connections. In summary:

- The Mitel SX-2000 integration uses the fiber connection to the AFC card for both the data link and the call itself.
- The Mitel SX-200 integration uses the Talk To card, which has two points of contact, the Line input and the ISA bus. It has no MVIP connection.
- The other integrations use the serial port for the data link. The Nortel and Lucent integrations connect the serial port to a "call pickup box" such as the Calista PBXLink.

#### To install cards and connect cables:

- When installing more than one line card in the Telephony Server, create a slot map showing the card array and the PBX lines that you plan to connect to each port. Each PBX integration guide contains a PBX Integration worksheet for planning the assignments. Appendix A of the *OnePoint Messenger Getting Started Guide* contains recommended slot map configurations for the turnkey TS800. Using these settings helps to reduce the variables that Product Support must consider when helping you debug problems.
- 2 Set I/O base address and IRQ (if necessary) switches and MVIP jumpers on each card according to the requirements for each type of card.
- 3 Set the MVIP termination for the cards that are on the ends of the MVIP bus. Check that termination is not set on any other cards.
- 4 Plug each card firmly into the backplane.
- 5 Secure each card with a 6-32 Philips screw through the retaining bracket.

- 6 Install a cover over any unused slot.
- 7 Plug the MVIP bus cable into the MVIP bus connectors on each card. Ideally, you should use a cable that is just long enough and has just enough connectors to connect your cards. If you have extra connectors, balance them on the ends of the array.
- 8 Use the information that you recorded in the PBX Integration worksheet from your PBX integration guide to install the phone cables between the line cards and the punch-down block.
- 9 Connect the serial cable(s) to the serial ports on the Telephony Server and PBX, and use the Data Link Protocols Worksheet from your PBX integration guide to note the connection points.

For more information about MVIP, see "Configuring MVIP and Connecting MVIP Cables" on page 176.

# **Installing and Uninstalling Fax Cards**

The 2-, 4-, and 8-port Brooktrout fax cards approved for OnePoint Messenger can all work in either an 8-bit ISA or 16-bit EISA slot. 16-bit slots yield more interrupt and base address options. For details on the fax cards beyond those provided here in the *OnePoint Messenger Installation Guide* and in the *OnePoint Messenger Getting Started Guide*, see Brooktrout Technology's *TR114 Hardware Guide*, Appendix F in their *Show N Tel Reference Manual*, or their documentation website:

#### www.brooktrout.com/pages/technical/t fax/t manual/index.html

Installing an Brooktrout ISA-type fax card includes setting three switches on the card (I/O, IRQ, and MVIP), setting the IRQ and I/O address in Windows NT Diagnostics, and connecting the MVIP bus cable to the card and the other line cards. Finally, enter the board settings in the Brooktrout Fax Configuration Wizard.

**NOTE:** If you have multiple Brooktrout fax cards, they can share the same IRQ, but you must reserve a unique base I/O address for each.

#### Fax Card I/O Address

Each fax card must be configured with a unique I/O base address. The default I/O address is 260. Table B-1 lists the possible values and settings.

Table B-1 BrookTrout Fax I/O Base Addresses

I/O	Switch Settings						
Address	8	7	6	5	4	3	2
100	ON	OFF	ON	ON	ON	ON	ON
140	ON	OFF	ON	OFF	ON	ON	ON
180	ON	OFF	OFF	ON	ON	ON	ON
200	OFF	ON	ON	ON	ON	ON	ON
220	OFF	ON	ON	ON	OFF	ON	ON
240	OFF	ON	ON	OFF	ON	ON	ON
260	OFF	ON	ON	OFF	OFF	ON	ON
270	OFF	ON	ON	OFF	OFF	OFF	ON
278	OFF	ON	ON	OFF	OFF	OFF	OFF
280	OFF	ON	OFF	ON	ON	ON	ON
290	OFF	ON	OFF	ON	ON	OFF	ON
2A0	OFF	ON	OFF	ON	OFF	ON	ON
2C0	OFF	ON	OFF	ON	ON	ON	ON

#### To install the fax card:

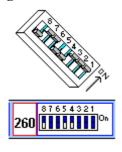
- In Windows NT Diagnostics, check what IRQs and I/O addresses are available, as described above in "Using Windows NT Diagnostics" on page 179.
- 2 Set the base I/O address switch on the card to the selected available base address. Table B-1 lists the switch settings for the possible I/O addresses. Table B-2 lists recommended addresses for 2- and 4-channel fax cards.

Table B-2 Recommended I/O Addresses for Multiple Fax Cards

Board	2-Channel	4-Channel
1	260	260
2	270	278
3	280	290

The I/O address selector, as shown in Figure B-2, is the red 8-position DIP switch between the MVIP connector and the mounting bracket. Figure B-2 shows the switch as you would see it if you held the card upright, with the top of the board facing you, and the mounting bracket to the right. When you have determined the correct address for the card, refer to Table B-1 for the corresponding switch positions, and set the switches accordingly.

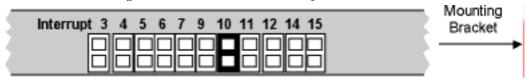
Figure B-2 I/O Address Selection Switch (Address 260 Shown)



**NOTE:** Switch 1 enables an interrupt pull-up resistor. It should be set to ON for *one* fax card only

Set the IRQ jumper on the IRQ jumper block, which is next to the MVIP termination block and contains 11 sets of pins. The default is 5. The recommended setting on the turnkey TS800 is 10 (see Figure B-3), which avoids conflicts with other cards in the server. Move the jumper to connect the appropriate pair of pins.

Figure B-3 BrookTrout Fax Card IRQ Address



4 If the fax card is to be at either end of the MVIP array, set the MVIP termination; otherwise do not. The MVIP termination

- switch is a two-position DIP switch next to the MVIP connector. To terminate MVIP, set both switches to **On**.
- 5 Insert the card in an ISA slot. If MVIP termination is set on the card, put it in an end slot in the MVIP sequence.
- 6 Install the other line cards, as described below, then connect the MVIP ribbon connector between all MVIP-enabled cards.
- 7 Turn on the computer.
- 8 In the Brooktrout Fax Configuration dialog, enter the board settings you have chosen, as detailed in Chapter 3 (page 51) here. For configuring a card in Canada or the United States, you can use the dialog that is embedded in the OnePoint Messenger Installation Program.

To configure the fax card for use elsewhere, run the Brooktrout Fax Configuration Wizard, which contains an extra screen on which you must select A-Law encoding (the dialog embedded in the OnePoint Messenger Installation Program sets the encoding to Mu-Law, which is only valid in Canada or the United States.)

From the Windows **Start** button, choose **Programs**, then **Show** N **Tel for OnePoint Messenger**, then **Brooktrout Fax Configuration Wizard**.

# To uninstall a fax card from the Telephony Server (or to disable the fax drivers):

- 1 Use TSMon to stop telephony services. See "Using TSMon to Start and Stop Telephony Server" on page 114 in Chapter 5 for details.
- 2 Remove support for fax services. For example:
  - Remove FaxonDemand and SendFax from all Show N Tel lines and reassign resources on the PBX dedicated to those applications. For details, see "Assigning Applications to Lines" on page 104 in Chapter 4 and see your PBX integration guide.
  - Disable the **Fax on Demand** service. See "Fax on Demand" in the *OnePoint Messenger Administrator Guide*.
  - Remove **Fax** from each **COS**.
  - Have users reinstall the Desktop Client, deselecting FAX
     Client in the Setup dialog.

- 3 From the **Start** menu, choose **Programs**, then **Show** N **Tel for OnePoint Messenger**, then **Show** N **Tel Configuration** Utility.
- 4 In the **Currently Used Driver Dependency** list of the Show N Tel Configuration Utility, double-click (or select and click **Remove**) **Brooktrout fax drivers** to move it to the disabled list.
- 5 Click **OK** to close dialog, then shut down, remove the fax card, and reboot.

# Installing Natural MicroSystems (NMS) Line Cards

You can use various configurations of the supported NMS Alliance Generation (AG) line cards, using them to process calls and voice: For details on supported cards, see "Server Hardware Requirements" on page 163 in Appendix A.

#### To configure NMS cards:

- 1 Set the I/O base address of the card on the card and in the ag.cfg configuration file.
- 2 Set the interrupt ("IRQ") of the card in ag.cfg.
- 3 If your Telephony Server has more than one line card installed, enable MVIP and set the clock source and MVIP slot series in ag.cfg.
- 4 Name the line encoding formats to support on the card in ag.cfg. For detailed installation directions on:
- AG-8, see page 187
- AG-0, see page 189
- AG-24, see page 190
- AG-T1, see page 190

Generally, you can use the AG Configurator (AG Config) GUI configuration utility to edit the ag.cfg configuration file, but you can also directly edit file. AG Config is added to the OnePoint Messenger program group by the OnePoint Messenger Installation Program. For details on using AG Config, see "Using AG Configurator" on page 193. For information on directly editing ag.cfg, see "Editing Ag.cfg Directly" on page 196.

To install the cards to make use of the MVIP communication channel, see "Configuring MVIP and Connecting MVIP Cables" on page 176.

When adding cards to the TS800 Telephony Server, please use the slot locations, IRQs, and I/O addresses recommended in Appendix A of the *OnePoint Messenger Getting Started Guide*.

#### NMS AG Card Base I/O Address

You set base I/O address for the AG-series line card in two places—using the DIP switches on the card and in the ag.cfg configuration file. All of the AG-series cards use the same I/O address selector switches. The recommended settings appear in Table B-4. For example, if there is only one NMS line card in the Telephony Server, set the base I/O address to 02C0 by flipping all of the DIP switches on and then entering 02C0 in the ag.cfg file.

Table B-4 NMS AG Card I/O Address DIP Switch Settings

Board	Address	S1-1	S1-2	S1-3	S1-4	S1-5	S1-6
1	2C0	ON	ON	ON	ON	ON	ON
	2A0	ON	ON	ON	ON	OFF	ON
2	22C0	OFF	ON	ON	ON	ON	ON
	22a0	OFF	ON	ON	ON	OFF	ON
3	42c0	ON	OFF	ON	ON	ON	ON
	42a0	ON	OFF	ON	ON	OFF	ON

#### **Installing AG-8 Cards**

You can use up to three AG-8 cards for most PBX integrations. See the OnePoint Messenger integration guide for your PBX.

If you use more than one MVIP-enabled card, designate one AG-8 card as the MVIP clock master by setting it up as Board 0 in the "ag.cfg" configuration file, then put it in the middle of the MVIP array to minimize signal propagation errors. Also note in ag.cfg that MVIP is enabled and that the clock source on the clock master AG-8 is "OSC" (the on-board oscillator), as detailed below.

Create separate board configurations for each other AG card in the ag.cfg file. For details, see the OnePoint Messenger integration guide for your PBX. See also the *AG-24/30/48/60 Installation and Developer's Manual* from Natural MicroSystems.

#### To install the AG-8 line card:

- 1 Check what IRQs are available, as described in "Using Windows NT Diagnostics" on page 179.
- With the AG Config utility, described below in "Using AG Configurator" on page 193, or with Notepad to directly edit the ag.cfg file, select the board type, I/O base address, line encoding—Mu-Law if Canada and the United States, A-Law otherwise—and voice codecs—IMA ADPCM, PCM, and OKI. If you are using MVIP (i.e., using more than one MVIP-capable board), select **Enable MVIP**, set the **MVIP Stream** to 0, and set the **Clock Ref** ("OSC" for the clock master, "MVIP" for the others).
- 3 Set the I/O base address on the line card to conform with the recommended settings (see Table B-4) and using the DIP switches above the card bracket, as shown in Figure B-4.

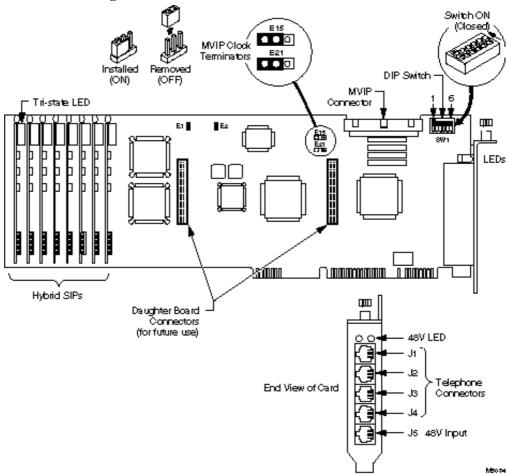
#### For example:

- If there is only one NMS line card in the computer, and **02C0** is available, use it for the NMS card in slot 1. All the DIP switches are on for 02C0.
- To use **22C0** for the second AG-8, if the address is available, set the first DIP switch to off, the others on.
- To use **42C0** for the third AG-8, if the address is available, set the second DIP switch to off, the others on.

Refer to the table of DIP switch settings on the NMS installation card to set the switches for other addresses.

- 4 To set **MVIP** termination, set the **J9** and **J10** jumpers. The jumpers are below the I/O DIP switches, as shown in Figure B-4.
- 5 Insert the card in the appropriate ISA slot. See Appendix A in the *OnePoint Messenger Getting Started Guide* for recommended slots for the turnkey TS800 system.
- 6 Start the computer and check the error logs for IRQ and memory conflicts.

Figure B-4 AG-8 Line Card



**NOTE:** Without the SIPPs depicted at the right end of the schematic, Figure B-4 also represents an AG-0 card.

# **Installing AG-0 Cards**

AG-0 cards are used only for the Mitel SX-2000 integration. AG-0 cards are simply AG-8 cards without their SIPPs. In fact, AG Config (page 193) lists them as AG-8 cards. Configure them almost as you do AG-8 cards (see page 187). The two differences in how you configure them are:

- Set the clock reference to MVIP.
- Edit the **Parameters** tab of **Show N Tel Manager** to note the presence of an AG-0, as described on page 93 in Chapter 4 and in Chapter 4 of the SX-2000 integration guide.

#### **Installing an AG-24 Card**

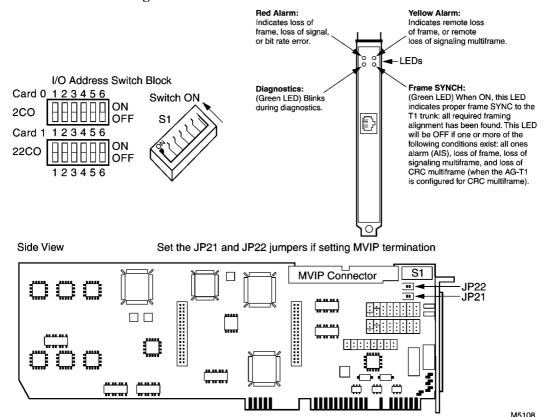
An AG-24 card is used only for the Mitel SX-2000 integration. Details on configuring the card appear in the *OnePoint Messenger/SX-2000 Integration Guide* and below in "Enabling MiTAI/AFC" on page 201. Sample configuration files for an AG-24 appear in "Sample Configuration File: AG-8 and AG-24" on page 197. In general, configure the card as you do an AG-8 card (see page 187), except that, when using it with the AFC card, set the clock reference to **MVIP**.

Earlier versions of the AG-24 cards did not have jumpers for setting MVIP termination. Current versions have automatic termination.

#### **Installing an AG-T1 Card**

AG-T1 cards can be used for integration with Centrex switches and Fujitsu 9600 PBXs. Lucent and Nortel PBXs may also support digital trunk connection via the AG-T1 card. However, this requires PBX support for station-side T1 or a channel bank and is not recommended. Figure B-5 shows the side and end views of the card.

Figure B-5 AG-T1 Side and End View



The settings are for an AG-T1 line card are:

- IRQ = 12 (preferred, if available; the default is 7.)
- Line Encoding = Mu-Law for Canada and the United States, A-Law otherwise
- Enable MVIP = Yes (if a fax card is installed)
- Voice Codecs = NMS ADPCM, OKI, PCM, WAVE, IMA ADPCM
- Board Type = AG-T1
- ISA Address (I/O base address) = 02C0 (preferred, if available); in Figure B-5, the block at the top right of the diagram labelled S1 indicates the location of the DIP switch for setting the I/O address. The switch settings for address 02C0 and 22C0 are depicted at the top left of Figure B-5. The drawing shows displays 02C0 for "Card 0" and 22C0 for "Card 1", but, for OnePoint Messenger 2.0, only one NMS card can be used when an AG-T1 card is used.
- Clock Ref = NET1
- MVIP Stream = 0
- Protocol = lps8.tcp (Do not enter anything in AG Config., m this entry manually in ag.cfg. Enter TCP = lps8.tcp above the existing TCP listings in the COMMON area of ag.cfg.)

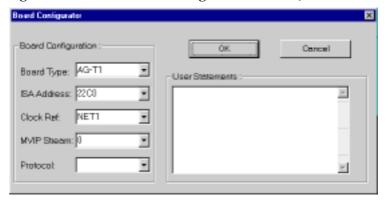
The installation sequence is nearly the same for the AG-T1 card as that described above for the AG-8 (page 187), including identical switches and jumpers on the card. The differences in setup are, as detailed below:

- Manually edit the ag.cfg file to set the trunk control protocol (TCP) as TCP = lps8.tcp. You can make the other configuration selections using AG Config or directly editing ag.cfg. For details on using AG Config, see "Using AG Configurator" on page 193. For details on editing ag.cfg directly, see "Editing Ag.cfg Directly" on page 196.
- Select **NET1** instead of OSC or MVIP for the clock reference.
- An extra step: set **SNTP\_PROTOCOL** to **3** in the **Parameters** tab of **Show N Tel Manager** for all channels.

#### To set up the AG-T1:

- 1 Check the available IRQs and I/O base addresses, as described in "Using Windows NT Diagnostics" on page 179.
- 2 Use the AG Config GUI utility, as described below in "Using AG Configurator" on page 193, or use Notepad to directly edit the ag.cfg file, as described in "Editing Ag.cfg Directly" on page 196. Configure the board as listed above. The major difference in using AG Config is that, when you select AG-T1 in the Boards window, the Protocols field becomes active, as shown in Figure B-6. Do not edit that field. Instead, directly edit ag.cfg.

Figure B-6 NMS Board Configuration Screen, AG-T1



- 3 Set the I/O base address using the DIP switches on the line card. If **02C0** is available, use it for the AG-T1. All the DIP switches are on for 02C0. Refer to the table of DIP switch settings on the NMS installation card to set the switches for other addresses.
- 4 To set MVIP termination, set the **JP21** and **JP22** jumpers. The jumpers are below the I/O DIP switches, as shown in Figure B-5.
- 5 Insert the card in its ISA slot, as described in "Making Line Card and Data Link Connections" on page 181. See Appendix A in the *OnePoint Messenger Getting Started Guide* for the recommended slot map.
- 6 Start the computer.
- 7 Set **SNTP\_PROTOCOL** to **3** in the **Parameters** tab of **Show N Tel** Setup for all channels. This procedure is described in "Editing the SNT Parameters Tab" on page 92 in Chapter 4.

#### **Using AG Configurator**

NMS AG Configurator (AG Config) is a GUI configuration utility for the NMS AG-8, 24, and 30-port ISA cards. You can use this GUI instead of editing the ag.cfg file directly.

#### Before running AG Config for the first time:

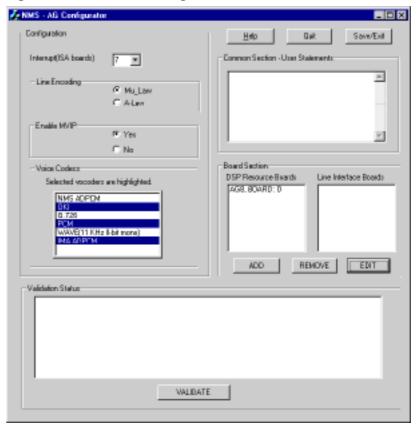
- 1 Make a copy the appropriate template file in the NMS directory. For example, for a system with an AG-8 card, copy AG8.cfg.
- 2 Save the copy in the same directory.
- 3 Rename the copy as ag.cfg.



#### To start the AG Configurator utility:

Double-click **AG Config** in the OnePoint Messenger desktop program group. Alternatively, to start the utility from the Windows **Start** menu, choose **Programs**, then **OnePoint Messenger**, and **AG Config**. Figure B-7 shows the screen after configuring an AG-8 card.

Figure B-7 NMS AG Configurator Main Screen



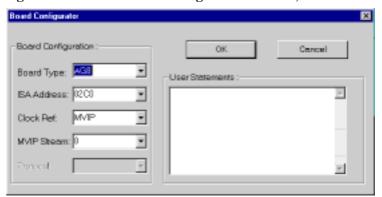
**NOTE:** The AG Configurator interface has changed from that used for OnePoint Messenger 1.1, primarily in that the previous "Board Section" window has been split into two windows, one for DSP-only boards and one for call-management line cards. The other change is that the codec list appears in a window rather than as a checklist.

The following is an example of using AG Configurator.

#### To set up two AG-8 boards using the AG Configurator:

- 1 Click the down arrow by Interrupt (ISA boards) to select the open IRQ that you found in Windows NT Diagnostics (see "Using Windows NT Diagnostics" on page 179 above). Typically, IRQ 7 is available, the AG-8 default. All AG-8 boards share the same IRQ. If you select another IRQ, a message pops up to caution you to disable IRQ auto-select in the BIOS. In any case, if you select an IRQ that is already in use, AG Config does not warn you or stop you from assigning that IRQ to the board.
- 2 For Line Encoding, select Mu\_Law in the U.S. or Canada, A-Law elsewhere.
- 3 For **Enable MVIP**, select **No** if the AG-8 is the only telephony card in the system; otherwise, select **Yes**.
- 4 For Voice Codecs, select OKI, PCM, and IMA ADPCM.
- 5 Click **Add**. The Board Configuration screen appears, as shown in Figure B-8.

Figure B-8 NMS Board Configuration Screen, AG-8



- 6 On the Board Configuration screen:
  - a. For **Board Type**, click the down arrow and select **AG8**.

- b. For **ISA Address**, click the down arrow and select the unused I/O base address you found in Windows NT Diagnostics (see "Using Windows NT Diagnostics" on page 179).
- c. For Clock Ref, click the down arrow and select OSC for the middle AG-8 card to make it the MVIP clock reference. For any other AG-8, select MVIP.
- d. For **MVIP Stream**, click the down arrow and select **0**.
- e. Under **User Statements**, make notes about the board, such as line card type and backplane slot.
- f. Click **OK** to close the dialog. The AG Configurator main screen reappears. The addition of the first AG-8 board is noted as "Board 0" in the Board Section area.
- 7 Click **Add** to repeat the sequence to add a second board. Use a different ISA address for the second board, matched to the DIP switch settings you make on the board.
- 8 On the main AG Config screen, select a board listing in the **Boards Section**, then click **Validate** to test its memory settings. The Validation Status box reports "download successful" for a good configuration.
- 9 If the test indicates a memory conflict, select the board in the **Boards Section**, then click **Edit**. Otherwise, click **OK** to return to the main screen; note the additional entry of the second board in the "Board Section" window as Board 1.
- 10 To save and quit, click **Save/Edit**.

**NOTE:** A benign error message occasionally appears: "use: net helpmsg 1060 to checkthe error."

#### Validating Two Cards

When you configure two NMS cards with the same IRQ, you can see both cards in Windows NT Diagnostics, as shown by the two listings for "Aghw" in Figure B-9. If you use an IRQ that is already used by another device, the device that appears in Windows NT Diagnostics is that which starts first. If you discover that another device has the IRQ that you intended for the cards, stop telephony services, change the IRQ in AG Config, restart services, and inspect Windows NT Diagnostics. Windows NT Diagnostics will continue to display the previous status until you refresh the screen. Sometimes clicking the Refresh button is not enough. Switch to another tab, then return to the Resources tab, or even close and reopen Windows NT Diagnostics.



Figure B-9 Windows NT Diagnostics, Resources Tab

#### **Editing Ag.cfg Directly**

You can use a text editor to inspect and edit the NMS line card configuration file, ag.cfg. Alternatively, you can use AG Config, as described in "Using AG Configurator" on page 193. For the T-1 card, you must directly edit ag.cfg to enter the correct TCP setting.

In /windows Explorer, navigate to \NMS\AG\Cfg and open in Notepad the appropriate ag.cfg sample file for the line card that you have. For example, for the AG-8 card, open ag8.cfg and save the file as ag.cfg. For an AG-T1, open agt1.cfg and save the file as ag,cfg,

#### 1 For an AG-8, edit:

- a. "Interrupt =" in the COMMON section with the IRQ you selected (see "Using Windows NT Diagnostics" on page 179).
- b. "Address = " in the BOARDS section with the I/O base address you set on the board (see "Using Windows NT Diagnostics" on page 179).
- c. "ClockRef = OSC" for the clock master AG-8 if you have multiple cards, including a Brooktrout fax card. Set "Clock-Ref = MVIP" for other AG-8 cards. Set "ClockRef = NET1" for an AG-T1.

- 2 Uncomment DspFile = rvoice.dsp. This enables raw PCM.
- 3 Uncomment DspFile = okiply.dsp and DspFile = okirec.dsp. This enables the OKI sound file format.

#### Sample Configuration File: AG-8 and AG-24

The following partial configuration file, using ag24.cfg as the template, is from the Natural MicroSystems book *AG-24/30/48/60 Installation and Developer's Manual*. It shows the Boards section for an AG-8 with an AG-24. The AG-8 board is the clock master, initialized first. The DSP resources on the AG-24 board are nailed up to the MVIP bus as shown in the Board 1 section. When using an AG-0 instead of an AG-24, also set ClockRef = MVIP.

```
#----- BOARDS section -----
                  # AG-8 board
    Board 0
      Address = 2c0
      RunFile = sysan.run
      ClockRef = OSC
      EnableMvip = Yes
      IdleCode = mu-LAW
    End Board
     Board 1
                 # AG-24 board
      Address = 22c0
      RunFile = sysdn.run
      ClockRef = MVIP
      IdleCode = MU-LAW
      MvipSlot = 2:0..7
                           # Voice data
      MvipSlot = 3:0..7  # Signaling data
     End Board
```

### Sample Configuration File: AG-T1

The following ag.cfg file (created from agt1.cfg) shows the settings for an AG-T1 card. The line "TCP = lps8.tcp", which you must manually enter, is underlined and in bold type to highlight its location.

```
# agt1.cfg
# --- Alliance Generation Configuration --
# Sample configuration file for AG-T1
[AGBOARD]
#----- COMMON section -----
Interrupt = 7
# Note that IRQ 7 is the lowest priority interrupt.
# In heavily loaded systems this could cause the AG
# boards to be starved for service. Refer to the
# section on interrupts in the AG Runtime Configu-
```

# ration & Developer's Manual for more information.

# Uncomment the appropriate Trunk Control Protocol(s)

```
TCP = LPS8.tcp
```

```
# TCP = nocc.tcp # "no trunk control" protocol
                  # 2-way wink protocol
# TCP = wnk0.tcp
# TCP = did0.tcp
                        # Incoming wink protocol
# TCP = oqt0.tcp
                        # Outgoing wink protocol
# Uncomment the appropriate DSP functions
DspFile = tone.dsp # Beep, tone generation, dial
DspFile = callp.dsp # Call Progress detection
DspFile = signal.dsp # Out-of-band channel associ-
ated signalling
 DspFile = dtmf.dsp # DTMF, cleardown and
silence/energy detectors
 DspFile = voice.dsp # NMS ADPCM play and record
                      # MF detection
 DspFile = mf.dsp
DspFile = rvoice.dsp # Unformatted PCM play and
record
 DspFile = okiply.dsp
                         # OKI ADPCM play
 DspFile = okirec.dsp
                         # OKI ADPCM record
DspFile = wavply.dsp
                         # WAVE play
 DspFile = wavrec.dsp
                       # WAVE record
 RunFile = systn.run
 IdleCode = MU-LAW
#----- BOARDS section -----
 Board 0
 Address = 2c0
 ClockRef = NET1
 EnableMvip = NO # Change to YES if there is an
MVIP bus
 LineCode = AMI
 Framing = D4
 End Board
# Uncomment the following for a second board
# Board 1
   Address = 22C0
# ClockRef = NET1  # Change to MVIP if there
is an MVIP bus
# EnableMvip = NO  # Change to YES if there is
an MVIP bus
# LineCode = AMI ZCS
# End Board
# -----
```

#### Using the Ag8dspmask.txt File

Until OnePoint Messenger 2.0 (coinciding with Show N Tel 4.4 SR2), it had been necessary to edit the Ag8dspmask.txt file. According to the NMS installation notes in Brooktrout Software's *Getting Started with Show N Tel*, that file may now be deleted. Instead, its function, to tell the system about installed AG-0 and AG-8 boards, is replaced by the AG\_DSP\_BOARDS setting in the **Parameters** tab of Show N Tel Manager. For instructions on making that edit, see "To edit the Parameters tab to note the presence of an AG-0 card:" on page 93 in Chapter 4.

# **Connecting Line Cards to the PBX**

**CAUTION!**Before connecting cards to the PBX, you must provide an isolated ground, as described in "Important Safety Information—Earth/Ground" on page 176.

#### **Connecting AG-8 Cards to the PBX**

When using AG-8 cards in the Telephony Server, connect each AG-8 port directly (or through a patch panel) to a PBX analog line card port configured specifically to support the function assigned by Telephony Server to the port. Use standard telephone-grade RJ-11 wiring.

AG-8 cards have five connectors on their brackets. The bottom connector is not used by OnePoint Messenger. Each of the other four connectors provide two voice ports, for a total of eight. To connect those duplexed ports, you can use a T-adapter at each connector or use an "octopus" cable for all connectors. Octopus cables help to organize the wiring and ensure that connections are not cross-wired to incorrect lines running to them from the PBX punch-down block. The T-adapter is shown in Figure B-10. A 12-connector version of an octopus cable is shown in Figure B-11.

Figure B-10 T-Adapter

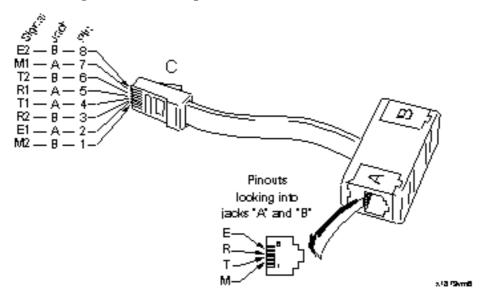
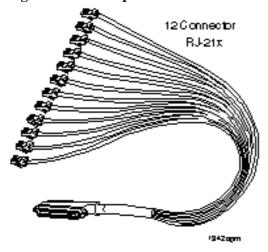


Figure B-11 Octopus Cable



Ports assigned to incoming applications (Message Center, Automated Attendant, Fax on Demand) are connected to PBX ports set up to support their hunt groups. Connect Telephony Server ports assigned to outdial applications such as SendFax and Notifications to outdial ports on the PBX.

#### Connecting an AG-T1 Card to the PBX

The AG-T1 line card contains one port that multiplexes 24 lines. It connects to a T1 trunk on the PBX using an RJ-45 cable.

#### **Connecting Fax Cards to the PBX**

The fax cards do not connect to the PBX. Connect them through the MVIP cable to the AG-8 or T1 line cards, as described in "Configuring MVIP and Connecting MVIP Cables" on page 176.

# **Enabling MiTAI/AFC**

When using a Mitel Application Fiber Controller (AFC) as the interface to the PBX to do the call processing, use the NMS line card only as a digital signal processor (DSP) to convert voice from analog to digital signals (use AG-0 or AG-24). Connect the cards with an MVIP cable.

The general installation sequence of hardware and software, starting with a bare computer, to enable the MiTAI/AFC cards is as follows:

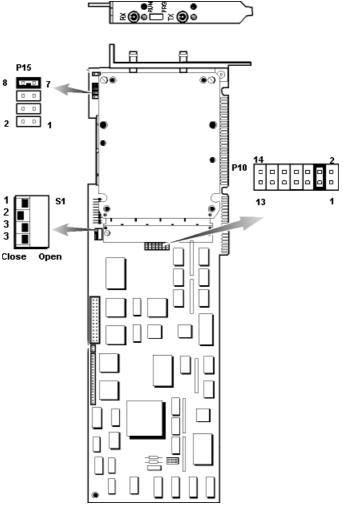
- Install NMS and AFC cards in the Telephony Server. See the sections below.
- 2 Install Windows NT 4.0 Server as part of the OnePoint Messenger installation sequence.
- 3 Install NT Service Pack 5 or 6 as part of the OnePoint Messenger installation sequence.
- 4 Install and configure Mitel Telephony Application Interface (MiTAI) 7.5.3 (see Chapter 4). The MiTAI CD-ROM now includes the AFC drivers that previously had been on the AFC B-Channel diskette.
- 5 Install Show N Tel as part of the OnePoint Messenger installation sequence. NMS software is installed with Show N Tel.
- 6 Set up the NMS line cards, and edit the NMS ag.cfg file, as described in "Using AG Configurator" on page 193.
- 7 Restart the Telephony Server.

# Installing the AFC Card

Adjust the switches on the AFC to set the IRQ and I/O address (and MVIP termination if the card is at the end of the MVIP array). Figure B-12 shows the jumper block locations and default settings:

- 1 **Interrupt (IRQ) 11**: Jumper on position 3-4 of block P10
- 2 **I/O address A300**: Switch 2 closed on block S1, the others open
- 3 **MVIP termination**: Jumper on position 7-8 of block P15

Figure B-12 AFC Card



S1: I/O Address, default = A300

P10: IRQ, default = 11 P15: MVIP Termination You will need the appropriate fiber link cable to attach the AFC card to the Mitel PBX.

# Configuring the NMS and CTI Software

Software must be installed for the NMS card used with the AFC card. CT Access and AG Access software are installed as part of the OnePoint Messenger installation, as detailed in "Procedure 4D. To set up Natural MicroSystems (NMS) line card AG Access:" in Chapter 3. Procedure 9 of the OnePoint Messenger installation in Chapter 3 contains a placeholder in the configuration sequence for you to run the configuration software for the line cards.

# Configuring the NMS Card for AFC

Set one IRQ for all NMS AG cards. You can use the AG Config utility (see page 193) or directly edit the Common section of ag.cfg (see page 196). Set an I/O base address for each card in the Boards section of the ag.cfg file. The ag.cfg file and sample files for various kinds of AG cards reside in the C:\NMS\AG\CFG directory. See the ag.cfg file reproduced below. It shows a sample configuration file for two AG-24 cards set to work through an AFC card. Make sure your file has the same lines annotated or commented out.

```
#
                        aq.cfq
##
        --- Alliance Generation Configuration --
# Sample configuration file for AG-24
[AGBOARD]
#----- COMMON section -----
 Interrupt = 5
# Comment out the Trunk Control Protocols that you
do not need.
TCP = nocc.tcp
                         # "no trunk control" pro-
tocol
# TCP = lps0.tcp
                          # loop start protocol
(for ATI-24 line interface)
# TCP = wnk0.tcp
                         # 2-way wink protocol
# TCP = did0.tcp
                          # Incoming wink protocol
# TCP = ogt0.tcp
                          # Outgoing wink protocol
# Uncomment the appropriate DSP functions
DspFile = tone.dsp
                       # Beep, tone genera-
tion, dial
```

```
DspFile = callp.dsp
                          # Call Progress detec-
tion
                          # Out-of-band channel
 DspFile = signal.dsp
associated signalling
 DspFile = dtmf.dsp
                          # DTMF, cleardown and
silence/energy detectors
 DspFile = voice.dsp
                          # NMS ADPCM play and
record
# DspFile = adsir.dsp
                          # Caller ID (for loop
start only) and ADSI receive
# DspFile = mf.dsp
                          # MF detection
DspFile = rvoice.dsp  # Unformatted PCM play
and record
DspFile = okiply.dsp
                        # OKI ADPCM play
DspFile = okirec.dsp
                        # OKI ADPCM record
# DspFile = wavply.dsp
                          # WAVE play
# DspFile = wavrec.dsp
                          # WAVE record
RunFile = sysdn.run
ClockRef = MVIP
IdleCode = MU-LAW
#----- BOARDS section -----
Board 0
Address = 2a0
MvipSlot = 0:0..23
MvipSlot = 1:0..23 # Omit if no out-of-band
signaling
End Board
   Uncomment the following for a second board
# Board 1
# Address = 22C0
# MvipSlot = 2:0..23
# MvipSlot = 3:0..23 # Omit if no out-of-band
signaling
# End Board
# -----
```

# **Configuring Show N Tel for MiTAI**

Configure the following settings within Show N Tel Manager for the Mitel MiTAI 2000 Series:

- 1 Start Show N Tel Manager from the Show N Tel program group.
- 2 Open Show N Tel Setup in the Show N Tel Operation Manager (click the wrench button).
- 3 Select the **Phone System** tab.
- 4 Select CTI and click Edit.
- 5 Select the **Configure CTI** tab.
- 6 Make sure CTI is enabled and that all check boxes are selected.
- 7 Click **Apply**, then **OK**, and **Done** on the next screen.
- 8 From the **Tools** menu, choose **Configure CTI**.
- 9 Select the **Switch/CTI Link** tab.
- 10 Set the Select Switch (PBX) & Link Type to Mitel with MiTAI 2000 Series.
- 11 In the chart below the **Select Switch** list box, adjust the settings to the following values:
  - Transfer with Consultation Call: True
  - Use Complete Transfer: False
  - Go On-Hook to Complete Transfer: True
  - Go Off-Hook (before making new calls): **False**
  - Redirect Calls with Answer and Transfer: False
- 12 Click Apply.
- 13 Select the **Device Map** tab.
- 14 Assign values in the three fields in the **Device Map**:
  - a. Enter an appropriate trunk number in the **Device ID** field. This number should be in the form "Txxx" where "xxx" stands for the B-channel trunk number you set up on the switch.
  - b. Enter the Show N Tel line in the **Device Type**.
  - c. Enter the Show N Tel line number in the next field.
- 15 Click Apply.
- 16 Select the **Switch/CTI Link** tab.

- 17 At the bottom of the screen, enter a valid extension number in the **Device to Check (Device ID)** field.
- 18 Click **Check Data Link**. A successful response means that the Mitel switch is connected to Show N Tel and the Application Gateway.
- 19 Quit all programs and reboot. It may take a few minutes for your switch to establish the link to the Application Gateway.

# Appendix C. Installation Checklist

This appendix summarizes the tasks in Chapters 3 and 4, which are the tasks necessary to install the OnePoint Messenger unified messaging system, including installing Windows NT, creating administrator accounts, installing and configuring OnePoint Messenger Telephony Server, Microsoft Exchange with OnePoint Messenger extensions, line cards, fax cards, client software, then testing features and connectivity, and integrating with a PBX.

When you view this book online, the page numbers and list items contained in Table C-1 are hyperlinks to their associated procedures in Chapters 3 and 4. In addition to the procedures listed in those chapters, follow the installation and configuration procedures in the related hardware documentation provided by their manufacturers. A summary of the documentation for the line cards is included in Appendix B of this guide. Finally, while Telephony Server software installs with a default configuration, you should follow the directions in Chapter 3 of the *OnePoint Messenger Administrator Guide* to configure Telephony Server for your specific needs.

**Table C-1 Procedure Completion Checklist** 

Complete	Page	Procedure
	35	Procedure 1. Installing Exchange Server Software, and Creating an Exchange Administrator Account
	35	1A. To install Windows NT 4.0 with SP 5, IIS 4.0, and Internet Explorer on the Exchange Server:
	37	1B. To set up an Exchange administrator NT account:
	38	1C. To install Microsoft Exchange Server 5.5:
	38	1D. To set permissions for the forms author in Exchange:
	39	Procedure 2. Installing Microsoft Software on the Telephony Server

**Table C-1 Procedure Completion Checklist** 

39	2A. To install Windows NT Server 4.0 on the Telephony Server:
40	2B. To install Windows NT Server 4.0 Service Pack 5 or Service Pack 6a on the Telephony Server:
40	2C. To install Internet Explorer 4.01 with Service Pack 1 on the Telephony Server:
40	Procedure 3. Setting Up an Administrator Account and Outlook on the Telephony Server
41	3A. To create a Telephony Server administrator account ("TSAdmin") in the NT domain:
43	3C. To give TSAdmin "Act as Part of the Operating System" right:
42	3B. To give Telephony Server Local Administrator rights to TSAdmin:
43	3D. To install Outlook on the Telephony Server:
45	3F. To give Service Account Administrator rights to TSAdmin in Exchange Administrator:
44	3E. To give Exchange Server Local Administrator rights to TSAdmin:
46	This is a good time to install line and fax cards:
46	Procedure 4. Installing OnePoint Messenger
47	4A. To register OnePoint Messenger and select components:
49	4B. To install Show N Tel 4.4 SR 2 on the Telephony Server:
51	4C. To configure Brooktrout fax cards:
53	4D. To set up Natural MicroSystems (NMS) line card AG Access:
55	4E. To install the Mail Transport Agent (MTA):
57	4G. To install the OnePoint Messenger and Show N Tel licenses on the Telephony Server:

**Table C-1 Procedure Completion Checklist** 

59	Procedure 5. Running Configuration Wizard to Integrate Telephony Server with Exchange Server
64	Procedure 6. Running Directory Initialization
65	Procedure 7. Completing the Software Installation
66	Procedure 8. Sharing Telephony Server Directories
67	Procedure 9. Setting Telephony Server Security Level
67	Configuring the Line Card(s)
68	Procedure 10. Installing Web Client on the Exchange Server
69	Procedure 11. Configuring the Test User in Exchange Administrator
69	Procedure 12. Setting Up and Running the Test User
70	12A. To install Outlook on the test PC:
70	12B. To install DCOM and set the security level on the user's PC:
72	12C. To install the OnePoint Messenger Outlook client on the client PC:
72	12D. To send test messages from the test user PC:
74	Procedure 13. Pinging and Checking the Event Log
74	13A. To limit the Event Log file size:
74	13B. To test the network connection:
79	Integrating the Telephony Server with a Switch (PBX)
88	Configuring Show N Tel for a Mitel PBX
94	Overview of Telephony Applications
95	Configuring and Testing Notification Server
97	Modifying the Phone System Definition in SNT
102	Configuring the Mitel SX-2000 and Notification Server MWI for Mitel MiTAI B-Channel

**Table C-1 Procedure Completion Checklist** 

104	Assigning Applications to Lines
107	Reassigning Lines to Other Applications
110	Configure, Start, and Monitor Telephony Server
110	Testing Telephony Server Start and Stop

Symbols	AG-CAS installation dialog 53
.crp key file 154	AG-ISDN 50, 54
.crp key file 134	AG-T1 165
	ag.cfg 197
Numerics	card settings 191
550 MHz Pentium III CPU 163	Installing 190
	recommended settings 180
	Show N Tel settings 93
A	A-Law 51, 165, 185, 188, 191, 194
Acrobat 120	Application Fiber Controller. See AFC
Active Call 56	Attendant Mailbox 109
Active Call CTI 94	Audio stream 166
Active Call Handler 94	Automated Attendant 109
Active X 56	Automated Receptionist
Administrator accounts	See Automated Attendant.
creating passwords for 34	AutoRecep 94
giving rights and permissions to 38, 42,	
44, 45, 124	D
See also names of various accounts	В
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