



ADMINISTERING TELEVANTAGE

TELEVANTAGE 5

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Getting Started

INTRODUCTION TO TELEVANTAGE

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Welcome to TeleVantage

TeleVantage is a feature-rich, software-based phone system that combines rock-solid stability with the most advanced communications technology available today. TeleVantage delivers greater functionality, flexibility, and value than proprietary PBXs to a variety of customers, from small offices to large enterprise organizations with sophisticated call centers.

What's new in this version of TeleVantage

See the online Help for a complete list of new features in this version.

Major TeleVantage features

Major TeleVantage features include:

- **Fault tolerant architecture.** Designed to keep your phone system up and running. If the network or your desktop computer goes down, your phone lines are unaffected. Even in the case of a TeleVantage Server malfunction or power outage, your critical phone lines will stay open.
- **Graphical call control.** Gives you an easy visual way to place calls, transfer, put on hold, send to voice mail, set up conference calls and more.
- **Verbal menus.** Guide you through all call handling and user management tasks so that you can use TeleVantage even without a computer.
- **Full-featured voice mail.** Lets you create caller-specific greetings, log in remotely, and manage your voice messages graphically from the TeleVantage Client or your e-mail Inbox. You can also easily call back the person who left you a message.
- **Powerful call center options.** Two types of call centers are available in TeleVantage—call center queues and ACD workgroups. Call center queues provide a full-featured call distribution system, enabling you to customize your callers' hold experience, play single or repeating prompts, prompt callers to enter data, configure call priority, and set up multi-level supervisor permissions. ACD workgroups provide fewer features and are available to you if you have not purchased the Call Center Agent licenses that are required for call center queues. You can use the TeleVantage Call Center Reporter to run a variety of reports on call center activity for both call center queues and ACD workgroups.
- **E-mail, pager, and call notification.** Receive notification of incoming voice mail, using e-mail, pager, or by having TeleVantage call you.
- **Advanced caller identification.** Using PIN numbers or Caller ID, TeleVantage lets you easily screen every call and message, either visually or by announcing the caller's name when you answer the phone.
- **Call recording.** Lets you record conversations of calls or conferences, on demand or automatically across the entire company or specified individuals.
- **Personal statuses.** Lets you create "Vacation," "Out of the Office," and other personal statuses to let your coworkers know what you are doing. Personal status can set whether

your phone rings, the greeting that plays, and routing list behavior when you are not able to answer calls.

- **The TeleVantage Web Client.** Enables users with a Web browser to access voice mail or manage personal settings from anywhere in the world over the Internet or from non-Windows platforms in the office.
- **“Follow-me” call forwarding.** Features routing lists that try several locations to find you. You can create several routing lists and apply them to specific callers.
- **Call logging.** Lets users see a record of their own calls and gives TeleVantage system administrators access to your company’s complete log.
- **Scheduled auto attendants.** Allows you to schedule an auto attendant’s use of specific greetings and the way it routes calls according to the time of the day and days of the week.
- **Flexible Internet-ready architecture.** Supports pure IP telephony and hybrid solutions such as IP-connected phones. Lets you adapt to Internet telephony at your own pace.
- **TAPI Service Provider and Contact Manager Assistant.** Lets you use Act!, Outlook, GoldMine, GoldMine FrontOffice, or other TAPI-compliant applications with TeleVantage. You can place calls and receive screen-pop identifications when you receive calls from contacts in these applications.
- **The TeleVantage Software Development Kit and open architecture.** Use one of the many off-the-shelf applications available from third-party vendors to customize TeleVantage behavior and call processing. Programmers can use the comprehensive TeleVantage Software Development Kit (SDK) for the ultimate in flexibility. The SDK includes the Client API to access all Client functions, calls and data; the IVR Plug-in API to perform any custom call and voice processing; and the Device Status API to get real-time information on any trunk or station.
- **Multi-lingual system prompts.** Lets both users and callers select the language in which they hear TeleVantage prompts.
- **CLASS, ADSI, IP, and Toshiba digital phone support.** ■For analog CLASS phones, Caller ID, call waiting, and message waiting lights are supported.
- **Tenanting support.** Tenanting allows one Server to be shared between multiple companies or groups, with each user's outbound calls to be tracked in the Call Log by organization.

Changes from previous versions of TeleVantage

The following features are changes from previous versions of TeleVantage:

- TeleVantage now uses the Intel Dialogic SR 5.1.1 drivers instead of the DNA 3.3 drivers.
- Most user phone settings (for example, voice mail, call screening, and queue calling) now follow the user when he or she logs in at another station.
- Music-on-hold stations or Enhanced 911 (E911) stations no longer consume station licenses.

Wherever possible, TeleVantage settings from previous versions are upgraded seamlessly to work with new TeleVantage features.

Before configuring a new TeleVantage system

Before you configure a new installation of TeleVantage, be sure that you have successfully completed the following tasks as described in *Installing TeleVantage*:

- Install the Dialogic hardware and drivers in the TeleVantage Server computer.
- Physically connect your trunks and stations.
- Install the TeleVantage Server and the TeleVantage Administrator.
- Add any required licenses.

Note: You can start the Administrator in a mode that allows you to configure a system without having installed telephony boards or licenses. See the next section.

This chapter outlines the tasks you must perform after installation. Detailed instructions for each step are in subsequent chapters.

Configuring a new TeleVantage system

After you have successfully installed TeleVantage and entered licenses as described in *Installing TeleVantage*, you are ready to configure your system. Configuring a new system involves the following minimum steps, each of which is described in detail in this manual. The other chapters describe additional features and capabilities.

1. **Configure system settings.** See Chapter 3.
2. **Configure your trunks.** See Chapter 5.
3. **Create users.** See Chapter 6.
4. **Set up outbound call handling.** See Chapter 8.
5. **Set up call routing for inbound calls.** See Chapter 9.

Configuring TeleVantage without telephony boards or licenses

You can use TeleVantage in a mode that enables you to configure a system, and run reports, even if you do not have telephony boards and licenses installed. Note that licenses are still required to assign stations IDs to users. Licenses and telephony hardware are also required to configure trunks and place or receive calls.

In this mode you can do the following:

- Use the Administrator and Client applications to configure nearly all TeleVantage settings, even if you have not entered appropriate licenses.
- Use the Call Center Reporter to run reports. This can be a useful way to report on database backups you have made to save space. To run reports, you must have a Server and Reporter licenses, even if those licenses are not activated.

To configure TeleVantage without telephony boards or licenses

1. Start the Administrator as described in “Logging on to the Administrator” on page 2-2.
2. With the Administrator running, choose **Tools > System Settings**. On the General tab, check **Server should not detect devices during startup**, and click **OK**.
3. Start the TeleVantage Server.

To turn off this configuration mode

1. Enter all required hardware and licenses as described in *Installing TeleVantage*.
2. Stop the Server.
3. In the Administrator, choose **Tools > System Settings**, uncheck **Server should not detect devices during startup**, and click **OK**.
4. Start the Server again.

Where to get help

Contact your TeleVantage system administrator for technical support. For information about how to report problems, see “Reporting problems to your TeleVantage provider” on page 11-27.

You can get help through TeleVantage documentation as described in the next section.

TeleVantage documentation

TeleVantage includes the following documentation:

- *Installing TeleVantage*—This manual guides you through the installation process for upgrades and fresh installations, and describes how to change hardware, configure your Server, and add licenses.
- *Using TeleVantage*—This manual describes how to use the TeleVantage Client Web Client, Contact Manager Assistant, TAPI Service Provider, and telephone commands.

- *TeleVantage Call Center Administrator's Guide*—This manual contains complete instructions for setting up and maintaining both types of TeleVantage call center—ACD workgroups and call center queues—as well as instructions for agents and supervisors.
- *TeleVantage Pocket Reference Card*—This wallet-sized card is a convenient reference for the TeleVantage telephone commands.
- *TeleVantage QuickStart Guide*—This quick-start guide for new users describes basic TeleVantage commands for the telephone and the Client.
- *Online Help*—Context-sensitive help is available in all TeleVantage applications. In any view or dialog box, click the **Help** button, press F1, or choose **Help > Contents and Index** for an explanation of the available fields.
- *TeleVantage Developer's Guide*—This online reference describes how to extend TeleVantage's built-in features using the Client API, the IVR Plug-in API, and the Device Status API.

The following table shows the TeleVantage documentation set and the formats in which it is available.

Document	Printed	Online Book	Acrobat (PDF)
<i>Installing TeleVantage</i>	Yes	Yes	Yes
<i>Administering TeleVantage</i>	Yes	Yes	Yes
<i>Using TeleVantage</i>	Yes	Yes	Yes
<i>TeleVantage Call Center Administrator's Guide</i>	Yes	Yes	Yes
<i>TeleVantage Developer's Guide</i>	No	No	Yes
<i>TeleVantage Pocket Reference Card</i>	Yes	No	No
<i>TeleVantage QuickStart Guide</i>	Yes	No	Yes

Notes:

- The online books are available in HTML-based format. To access an online book, click **Help > Online Books** in any TeleVantage application.
- The PDF-formatted books are available on the TeleVantage master CD, in the \Manuals directory. Use Adobe Acrobat Reader—also available on the TeleVantage master CD in the \Adobe directory—to view and print these files.

THE TELEVANTAGE ADMINISTRATOR

CHAPTER CONTENTS

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The Administrator interface	2-3
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About the TeleVantage Administrator

The TeleVantage Administrator is a Microsoft Windows application that lets you configure, monitor, and manage your TeleVantage system. For a list of Administrator functions, see “The Administrator interface” on page 2-3.

This chapter describes logging on to the Administrator, using the interface of the Administrator, and performing basic actions in the Administrator.


Important: Changes to user and system settings made using the Administrator do not take effect immediately. The system will recognize changes within 5 minutes of their being made.

Logging on to the Administrator

For information about logging on to the Administrator using command line options, see Appendix B.

1. Choose **Start > Programs > Artisoft TeleVantage > TeleVantage Administrator**. The Log on dialog box opens.
2. If you want to change your default TeleVantage Server or associated phone (station ID), click **Options** to view the expanded dialog box.



3. Type your **User name**.
A user name called “Admin” exists by default. To create other administrators, you must add users to whom you give Administrator permissions (see “The Security tab” on page 6-38).
4. Type your **Password**. The Admin user password is set to 100 at installation. Change the password for the Admin user after you log on for the first time (see the important note below).
5. If you want to log on to a different Server than the one already selected under **Server**, click  and select a Server name.
6. If you want to change your station ID, enter a valid station ID in the **Station ID** field.
The station ID identifies the phone associated with this computer—the one you use to make recordings in the Administrator and perform other audio tasks. To find the station ID of a TeleVantage phone, pick it up and dial *0.
7. Click **OK**.

Important: Leaving the Admin user password as 100 is a security risk that can cost your company money due to toll fraud. Until you change it, and the password of the Operator user, you will see a reminder message prompting you to do so each time you start the Administrator. For instructions on changing passwords, see “Creating a password” on page 6-14. For more information about system security, see Appendix C, “Protecting Your Phone System Against Toll Fraud.”





Reconfiguring the computer to use a different phone









Each computer running the Administrator (or other TeleVantage workstation applications) has an assigned phone, which it uses when you perform commands such as making recordings or listening to voice mail. The phone is specified by the station ID you enter when logging on (see the previous section).

To change the phone associated with the computer, click **Options** when logging on and enter the new station ID. You must do this, for example, if you move the computer to an office with a different phone.

The Administrator interface

The TeleVantage Administrator interface is composed of *views* (see “Working in views” on page 2-7). Each view enables you to configure, manage, or monitor an aspect of the TeleVantage system.

View	Description	See
Users 	Manage TeleVantage users. Includes changing passwords and allocating disk space to users for voice mail messages and greetings.	Chapter 6, “Managing Users and Roles”
Workgroups 	Manage workgroups (groups of related extensions or contacts).	Chapter 7 “Managing Workgroups”
Trunks 	Manage the phone lines or Internet trunks that connect your TeleVantage system to the public phone network.	Chapter 5, “Managing Trunks, Spans, and Stations”
Dialing Services 	Customize how outbound calls are allocated to different trunk groups, and dialing behavior. Includes routing services (which route calls based on customizable rules).	Chapter 8, “Managing Outbound Calls”

View	Description	See
Device Monitor 	View and manage TeleVantage activity on stations and trunks.	Chapter 11, "Monitoring and Backing Up"
Auto Attendants 	Manage auto attendants that handle and route inbound calls with voice menus.	Chapter 9, "Handling Inbound Calls"
Queues 	Manage groups of agents in TeleVantage call center queues.	<i>TeleVantage Call Center Administrator's Guide</i>
Maintenance Log 	View a log recording Administrator actions.	Chapter 11 "Monitoring and Backing Up"
System Prompts 	Listen to and change recordings used for standard system prompts and auto attendants.	Chapter 12, "System Prompts"
Call Log 	View a record of all the calls made on the system.	Chapter 11, "Monitoring and Backing Up"
IVR Plug-Ins 	Manage TeleVantage IVR Plug-ins, which are custom interactive voice response applications that you or third parties can create.	Chapter 14, "Extending TeleVantage"
IP Gateways 	Manage IP Gateways, by which you can exchange calls with remote TeleVantage Servers over the Internet or an IP network.	Chapter 13 "Configuring Internet Telephony Support"

Using the Tools menu

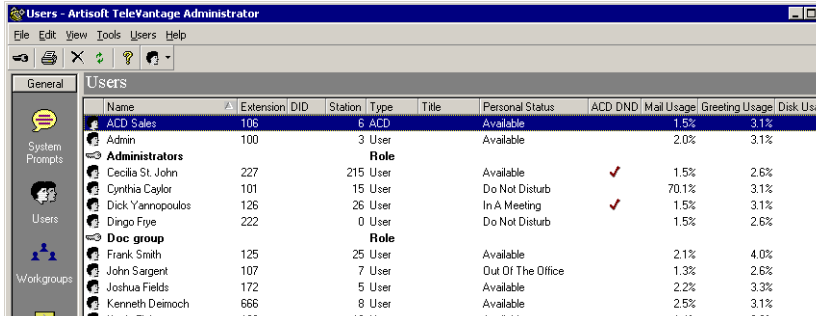
The **Tools** menu of the Administrator offers additional TeleVantage features not available from the views:

Command	Description	See
Audio Output	Lets you choose whether audio files play over your computer speakers or the phone associated with this workstation.	“Working with voice files” (page 2-10)
Backup/Restore Database	Backs up your TeleVantage files, so that your system can be restored in the event of disruption.	“Backing up TeleVantage” (page 11-17)
Shut down Server	Stops the TeleVantage Server.	“Shutting down the TeleVantage Server” (page 11-16)
Update Access Codes	Lets you change the access code used for a particular dialing service.	“Changing an access code in users’ saved numbers” (page 8-7)
Adjust Station IDs	Prompts you to shut down the Server and then increments or decrements all station IDs on the system by a number you specify, so that if you add or remove a low-number station board you do not have to edit each station ID individually.	
Recalculate Disk Usage	Updates the display in the Users dialog box, Mailbox tab that shows how full users’ mailboxes are. The display is updated once a day automatically.	“Viewing the user’s mailbox usage” (page 6-16)
Analyze Security	Runs an online report on how secure your system is.	“Identifying users with security-risk passwords” (page C-3)
Columns	Lets you customize the columns that appear in each view.	“Customizing columns” (page 2-9)

Command	Description	See
Options	Lets you customize the appearance of names, Call Log size, and defaults for station and extension numbers.	<p>“Assigning an extension” (page 6-10)</p> <p>“Changing the station ID default” (page 6-12)</p> <p>“Displaying a specific number of Call Log entries” (page 11-13)</p>
Agent Skills	Lets you define skills for call center agents or any users. You must define a skill to use overflow agents in a call center queue.	<i>TeleVantage Call Center Administrator’s Guide</i>
Account Codes	Lets you define user-entered account codes for billing, tracking, or other purposes.	“Using account codes to track phone usage” (page 10-6)
Custom Data	Lets you attach custom information to calls, to aid customer service, enable automatic call handling, or other purposes.	“Using custom data to add information to calls” (page 9-18)
Routing Variables	Lets you create special variables that help routing rules identify outbound calls for intelligent routing.	“Adding custom routing variables” (page 8-30)
Organizations	Lets you define multiple tenants, businesses, or other entities that share your TeleVantage system, for tracking and billing purposes.	“Using Organizations” (page 10-2)
System Call Recording	Lets you set up automatic recording of all system calls, or those of specific individuals.	Chapter 4, “Recording All TeleVantage Calls”
Advanced Settings Editor	Launches the Advanced Settings Editor, where you can modify advanced TeleVantage settings not available from the Administrator.	“Using the TeleVantage Advanced Settings Editor” (page A-31)
System Settings	Lets you configure and customize several aspects of your TeleVantage system.	Chapter 3, “Defining System Settings”

Working in views

To open a view, click its button in the vertical *view bar* on the left side of the Administrator window. To change the location of a button on the view bar, drag and drop it.



Name	Extension DID	Station	Type	Title	Personal Status	ACD DND	Mail Usage	Greeting Usage	Disk Us
ACD Sales	106	6	ACD		Available		1.5%	3.1%	
Admin	100	3	User		Available		2.0%	3.1%	
Administrators									
Role									
Cecilia St. John	227	215	User		Available	✓	1.5%	2.6%	
Cynthia Caylor	101	15	User		Do Not Disturb		70.1%	3.1%	
Dick Yannopoulos	126	26	User		In A Meeting	✓	1.5%	3.1%	
Dingo Frye	222	0	User		Do Not Disturb		1.5%	2.6%	
Doc group									
Role									
Frank Smith	125	25	User		Available		2.1%	4.0%	
John Sargent	107	7	User		Out Of The Office		1.3%	2.6%	
Joshua Fields	172	5	User		Available		2.2%	3.3%	
Kenneth Deimoch	666	8	User		Available		2.5%	3.1%	

You can also open a view by clicking the **View** menu and choosing a view.

Note: If a view is not available to you, you might not have permission to view it. Check with your system administrator, or see “The Security tab” on page 6-38.

The main part of a view contains rows of the *items* that pertain to that view. For example, in the Users view, each TeleVantage user appears as an item on a row. Double-click an item to edit it. Some views, such as the Call Log and Device Monitor, display read-only information that cannot be edited.

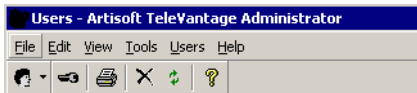
Using commands in a view

A command always affects the item or items that are selected. To select multiple items, hold down the CTRL key as you click the items. You can perform a command using any of the following methods:

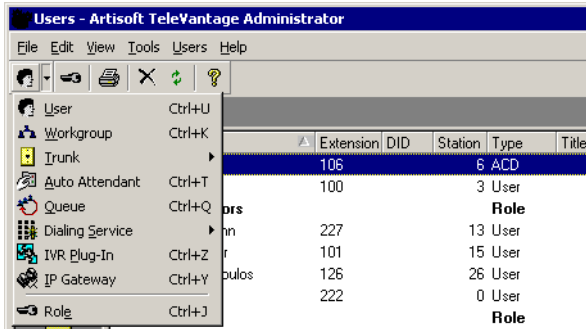
- Choose a command from the view’s menu. For example, in the Trunks view, click the **Trunks** menu and choose a command.
- Click a toolbar button (see the next table).
- Right-click an item and choose a command from the shortcut menu that appears. This is often the fastest way to perform a command.

Using the Administrator toolbar

The Administrator toolbar is located on the main menu bar in each view. It gives you quick access to several Administrator commands that are also available through the Administrator menus.



To create a new item when you are working in any TeleVantage view, click the arrow next to the first button on the toolbar and select an item.



See the next section for information about creating new items that are based on existing items.

Performing basic actions in the Administrator

This section shows you how to perform the following basic actions in most views:

- Creating items
- Deleting items
- Renaming items
- Copying items
- Customizing columns

Creating items

You can create a new item in any of the following ways:

- Choose **File > New**, and select the type of item to create.
- Click the arrow to the right of the first toolbar button.
- In any view, click the first toolbar button to create a new item for that view. For example, in the Users view, click the first toolbar button to create a new user.

To create a new item that is based on an existing item

1. Select the item on which you want to base a new item, such as a user in the Users view.
2. Choose **Edit > Copy**. A copy of the item is placed on your clipboard.
3. Choose **Edit > Paste**. A New <Item> dialog box opens. **Copy of <item that you copied>** appears in the title bar of the dialog box. It contains a duplicate of the selected item's information. You can use this information as a basis for creating a new item.
4. Enter or change any information required for the new item in the dialog box.
5. Click **OK** to save the changes as a new item.

Deleting items

To delete one or more items, select them and choose **Edit > Delete**. In some views, like the Maintenance Log or Device Monitor, you cannot delete items.

Renaming items

Items in some views cannot be renamed, for example, Call Log items cannot be renamed.

To rename an item

1. Double-click the item to open its dialog box.
2. In the **Name** field, type a new name for the item.
3. Click **OK**.

Copying items

Copying a row in any view places the information about the item in that row on the clipboard as text that you can paste into other applications. Use this method to paste Call Log entries and voice message information into the Problem Report Wizard (See “Using the Problem Report Wizard” on page 11-27.).

Some items, such as users, workgroups, and auto attendants, can also be pasted back into the Administrator view to create a copy.

Customizing columns

Click a column header to sort by that column. Click again to sort in the reverse order. The arrow in the column header shows by which column and in what direction the display is currently sorted.

You can resize column widths by dragging the sides of the column headers.

For each view in the Administrator, you can choose the columns that you want to see and the columns that you want to hide. Some views do not show all the available columns by default.

To show or hide columns in a view

1. Choose **Tools > Columns**, or right-click a column header. The Columns dialog box opens.
2. From the **View** drop-down list, choose the view you want to change.
3. Check a column to show it. Uncheck a column to hide it. For an explanation of the various columns, click **Help**.
4. Click **OK**.

Working with voice files

A voice file is an audio recording that is stored as a file. TeleVantage stores system prompts, greetings, voice messages, and recorded conversations in voice files that you can play over your computer speakers or on the telephone. You can record voice files using the telephone.

TeleVantage supports the following file formats for voice files:

- .WAV (standard Microsoft Windows audio format)
- .VOX MuLaw (used in North America and Japan)
- .VOX ALaw (used in most locations outside North America and Japan)

The TeleVantage Server natively uses 8-bit PCM .VOX format.

Changing the voice file format

You can change the format of your TeleVantage .VOX voice files from ALaw to MuLaw, or from MuLaw to ALaw, by using the TVConvert utility as follows:

1. Run the file `TVConvert.exe` in the TeleVantage Server directory on the TeleVantage Server computer. The default path is:
`C:\Program Files\TeleVantage Server\TVConvert.exe`
2. Click **OK** to convert all your TeleVantage voice files to the other format. If the voice files are ALaw, they become MuLaw. If they are MuLaw, they become ALaw.




In most cases you will not need to use this procedure, because your voice file format will have been correctly set when your TeleVantage system was installed

Using the audio controls

TeleVantage's audio controls make it easy to create and modify recordings of all types. The following controls appear in TeleVantage wherever you can create and listen to recordings.



To create recordings, use the buttons on the audio controls as shown in the following table and speak into your phone.

	Record	When you are ready to record, pick up your phone, and then click this button. A beep signals that recording has begun.
	Stop	When you are done recording, you can either hang up or click this button.
	Play	To hear the recording, click this button.

To move forward and backward within the recording, drag the slider bar.



Importing and exporting voice files

To import or export a voice file, use the import or export buttons on the recording control, as shown in the next table.



Import

You can import a voice file in .WAV or .VOX format to use for any Client recording (greetings, voice titles, and so on).

TeleVantage can import .WAV files with a frequency of 8Khz, 11.025 Khz, 22.05 Khz, or 44.1 Khz. You can also import an 8 kHz PCM .VOX file (MuLaw format for North America and Japan, ALaw format for other countries).



Export

You can export any of your Client recordings, including voice messages and recorded conversations, to a .WAV file.

Changing audio output

TeleVantage can play audio files over your telephone. You can also play them on your computer if it has a sound card and speakers.



To hear audio output over the phone, click the telephone button on the status bar, or choose **Tools > Audio Output > Phone**.



To hear audio output over your computer speakers, click the speaker button on the status bar, or choose **Tools > Audio Output > Speakers**.

Using the TeleVantage Administrator

DEFINING SYSTEM SETTINGS

CHAPTER CONTENTS

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About system settings

System settings control overall TeleVantage behavior. Before adding TeleVantage trunks or users, you should define your system settings by choosing **Tools > System Settings**.

Creating system settings

This chapter assumes that you have already entered the required licenses (see *Installing TeleVantage*). It describes how to create system settings by using the following tabs in the System Settings dialog box:

- **General.** Use this tab to set system hold audio, tones generation, default language for system prompts, confirmation menu before sending to voice mail, voice-first answering, and outbound Caller ID (see page 3-5).
 - **Licenses.** See *Installing TeleVantage*. You must enter licenses here before you can proceed to create other system settings.
 - **Call Log.** Use this tab to set logging of internal calls and to set archiving options for the Call Log (see page 3-7).
 - **Storage.** Use this tab to view current disk usage and set locations for backups of voice files and the database (see page 3-8).
 - **Dialing.** Use this tab to set up special access codes for the dial-by-name directory, for trunk selection, and for the default dialing services. Also use this tab to set dialing time-outs (see page 3-11).
 - **Emergency.** Use this tab to configure emergency dialing options (see page 3-13).
- Security.** Use this tab to increase the security of your TeleVantage system against toll fraud by setting password requirements and lockout behavior (see page 3-15).
- **Other.** Use this tab to create the dial-by-name directory settings, set up Microsoft Exchange synchronization and e-mail notifications, and set up event e-mail notification (see page 3-17).

Advanced TeleVantage settings

Some TeleVantage settings are low-level settings that are rarely, if ever, changed, and cannot be changed from the Administrator. For a complete description of these settings, see Appendix A, “TeleVantage Configuration Settings.”

Re-recording voice prompts

For information about how to re-record the TeleVantage system prompts or translate them into another language, see Chapter 12, “System Prompts.”

Setting Business Hours

TeleVantage uses your business hours settings in schedules that you create for the following:

- **After hours greetings.** See “Scheduling transfers and greetings” on page 9-13.
- **Automatic transfers.** See “Scheduling transfers and greetings” on page 9-13.
- **Notification of new voice messages.** See “Scheduling notifications” on page 6-21.
- **Call rules.** See *Using TeleVantage*.

You can create as many sets of business hours as you need. For example, you can create a set of business hours for the company as a whole (the default), and then create additional sets of business hours for individual departments, shifts, and so forth.

Defining business hours

To define your business hours, you must define your daily work hours, work days and holidays.

To define business hours

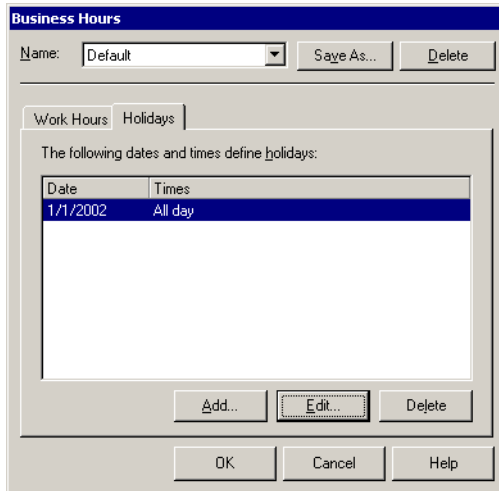
1. Click **Business Hours** on any tab in the System Settings dialog box. The Business Hours dialog box opens. To edit an existing set of business hours, select its **Name** on the drop-down list. To create a new set of business hours, go to step 2.

Work days:	Work hours:
<input checked="" type="checkbox"/> Monday	9:00 AM - 6:00 PM
<input checked="" type="checkbox"/> Tuesday	9:00 AM - 6:00 PM
<input checked="" type="checkbox"/> Wednesday	9:00 AM - 6:00 PM
<input checked="" type="checkbox"/> Thursday	9:00 AM - 6:00 PM
<input checked="" type="checkbox"/> Friday	9:00 AM - 6:00 PM
<input type="checkbox"/> Saturday	
<input type="checkbox"/> Sunday	

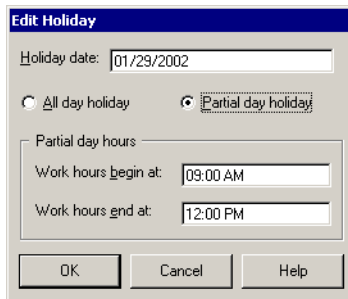
2. On the Work Hours tab, under **Work days**, check each day that is a work day, and under **Work hours**, enter the starting and ending times for each work day.

Note: When you define business hours and holidays, you can type dates and times in most formats. Your entries are converted to a standard format that is based on your Windows regional settings.

3. To define holidays, click the Holidays tab.



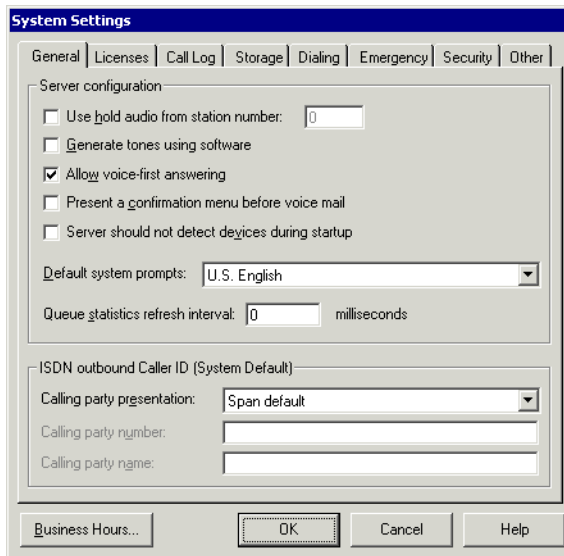
4. Click **Add** to add a new holiday. Click **Edit** to edit an existing one.



5. Enter the **Holiday date**.
6. Choose if this is an **All day holiday** or **Partial day holiday**. For a partial day holiday, enter:
 - **Work hours begin at.** Starting time for work on the holiday.
 - **Work hours end at.** Ending time for work on the holiday.
7. When you finish creating holidays, click **OK**.
8. Click **OK** in the Business Hours dialog box.
9. Click **OK** in the System Settings dialog box to save the settings you have created so far or go to the next section.

The General tab

Choose **Tools > System Settings** and then click the General tab to set general Server options.



Setting Server configuration

Use the **Server configuration** section to set the following general options for your TeleVantage system:

- **Use hold audio from station number.** Check this box to play music for callers on hold. The music can be played on a CD player or other music device, or from the CD drive of the Server computer using the Windows' CD Player application, as long as the device or sound card is connected to the specified station port.

It is highly recommended that you use music on hold for systems with call centers or systems that use “follow-me” call forwarding, so callers don't hear ringing or silence for too long.

TeleVantage plays whatever is on the specified channel and does not monitor the channel. If the music device stops, callers on hold hear nothing.

Note: If you are using the Windows CD Player application or other software application for music-on-hold, you can have the application automatically start whenever the Server computer is started, so that you never need to remember to manually launch it. From the Windows Control Panel, choose **Scheduled Tasks**, then select the application and **When my computer starts**. In the application options, set it to automatically start playing at startup and to repeat.

- **Generate tones using software.** Check this box to generate dial, reorder, callback, and stutter dial tones using TeleVantage software. You will need to use this feature only if you are using Dialogic boards that do not generate these tones in hardware.

Customers who use the D/41ESC board must check this box. U.S. customers can usually leave this box unchecked, because most U.S. Dialogic hardware generates the tones.

- **Allow voice-first answering.** If checked, users with Toshiba, Cybiolink or Aastra Powertouch phones can use the voice-first answering feature. With voice-first answering, internal calls are connected to the user's speakerphone automatically without the phone ringing or needing to be picked up. (External callers ring the phone as normal.)

To use voice-first answering, a user must turn it on using the Client or the telephone commands. See *Using TeleVantage* for details.

- **Present a confirmation menu before voice mail.** If checked, callers hear the prompt "To leave a message press 1, or press * to return to the menu" after they hear a user's voice mail greeting. If unchecked (the default), callers go directly to recording their message after hearing the greeting.
- **Server should not detect devices during startup.** If checked, you can use TeleVantage in a mode that enables you to configure a system, and run reports, even if you do not have telephony boards and licenses installed. See "Configuring TeleVantage without telephony boards or licenses" on page 1-5.
- **Default system prompts.** Use this drop-down list to select the language version of system prompts that are played to callers and users on the TeleVantage system.

U.S. English is installed by default. You must reinstall TeleVantage to access additional languages, such as U.K. English or Latin American Spanish. For more information, see *Installing TeleVantage*.

- **Queue statistics refresh interval.** This field enables you to slow the Queue Monitor refresh rate for call centers. See the *TeleVantage Call Center Administrator's Guide*.

Setting ISDN outbound Caller ID for the system

Use the **ISDN outbound Caller ID** section to specify the Caller ID information that accompanies outbound calls from the TeleVantage system on ISDN trunks (including ISDN BRI).

The outbound Caller ID settings you make here can be overridden by individual user settings, and also by the settings for the span on which the call is to placed. See "Outbound ISDN Caller ID hierarchy" on page 5-23.

Note: On trunk types other than ISDN, outbound Caller ID is always set by the telephone company.

You can customize ISDN outbound Caller ID in several places in the system. For an overview, see "Specifying ISDN outbound Caller ID" on page 5-20.

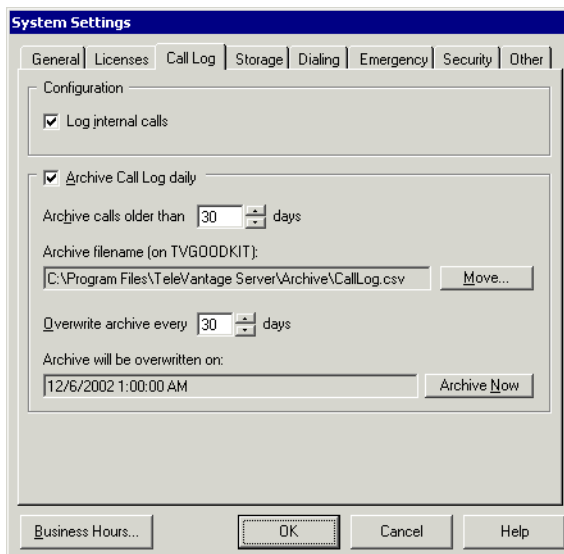
To set outbound ISDN Caller ID for the system

From the **Calling party presentation** drop-down list, select one of the following:

- **Span default.** The system's outbound Caller ID number and name will be what you specify in the properties of the ISDN span used to place the call. See "Specifying ISDN outbound Caller ID" on page 5-20.
- **Custom.** The system's outbound Caller ID number and name will be what you specify in the following fields:
 - **Calling party number.** Enter the number to use as your outbound Caller ID number, for example your business' main number.
 - **Calling party name.** Enter the text to use as your outbound Caller ID name, for example the name of your business.
- **Blocked.** The system's Caller ID is blocked on outbound calls.

The Call Log tab

The Call Log tab contains settings for logging internal calls and for archiving the Call Log. For more information about the Call Log, see "Using the Call Log view" on page 11-10.



Logging internal calls

By default, TeleVantage logs only external calls. If internal Call Log information is important to you, and you can afford the additional disk space, you can log internal calls as well.

To log internal calls as well as external calls

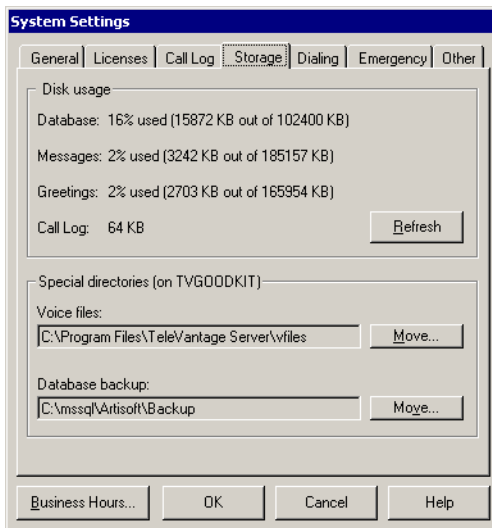
1. Choose **Tools > System Settings** and then click the Call Log tab.
2. Check **Log internal calls**.

Call Log archiving

For instructions on using this tab to archive Call Log information, see “Archiving the Call Log” on page 11-14.

The Storage tab

The settings on the Storage tab control how TeleVantage’s database stores your system configuration settings and voice files.



Disk usage

- **Database.** Percentage of disk space allocated for the TeleVantage database that is currently used, also shown in kilobytes used out of the total number of kilobytes allocated. The size of the TeleVantage database is set and the required disk space allocated when the TeleVantage Server is installed. The default database size is 100 MB. It will grow automatically up to a maximum of 2 GB if you are using the MSDE database, or to the size of your hard drive if you are using SQL Server Standard or Enterprise editions. See *Installing TeleVantage* for supported databases and requirements.

When you start the Administrator, TeleVantage displays a warning message if the TeleVantage database is 80% or more full. You should check the database usage periodically to make sure that you are not running out of space. You will also automatically receive e-mail notifications of low space if you have set up Windows Event Log notifications (see “Setting up Windows Event Log notifications” on page 3-20).

- **Messages.** Percentage of disk space allocated for all users’ voice mail messages, as well as any call recordings users have made, that is currently used.
- **Greetings.** Percentage of disk space allocated for all users’ greetings and voice titles that is currently used.
- **Call Log.** Amount of space currently used in the TeleVantage database for Call Log records, in kilobytes. Some or all of this space can be recovered by archiving Call Log information if total database usage is high (see “Archiving the Call Log” on page 11-14).

Allocating disk space

When you set up new users in TeleVantage, you specify the maximum size of each user’s voice mailbox and the maximum space permitted for each user’s greetings and voice titles.

When disk space for mailboxes and greetings becomes critically low, the Administrator displays a warning. You will also automatically receive e-mail notifications of low space if you have set up Windows Event Log notifications (see “Setting up Windows Event Log notifications” on page 3-20). When you see such a warning message, you should take steps to reduce disk space usage. Actions you can take include reducing the space allocated to users and having users export or delete unneeded messages.

For more information about allocating disk space for users, see “The Recordings tab” on page 6-15.

Note: When users log on to the Client or use the telephone commands, they may get a warning if their voice mailboxes are more than 80% full. You can check available message and greeting space for users in the Users view.

If the available disk space on the Server drops below 50 MB, a verbal message alerts you when you pick up a TeleVantage phone. You will also automatically receive e-mail notification if you have set up Windows Event Log notifications (see “Setting up Windows Event Log notifications” on page 3-20).

Moving voice files

If disk space is low on the drive on which you installed TeleVantage, you can move your voice message and prompt files to another local drive that has sufficient space. To move voice files, you must log on to the Administrator as a user who has write access to both the source and destination directories.

To move voice message files

1. Shut down the TeleVantage Server. You cannot move voice files while the Server is running.
2. Start the TeleVantage Administrator.
3. Choose **Tools > Systems Settings** and then click the Storage tab.
4. Click **Move**.
5. Choose a new location for your voice files. The drive you select must be a local drive on the TeleVantage Server, not a network drive.
6. Click **OK**.

Moving the database backup

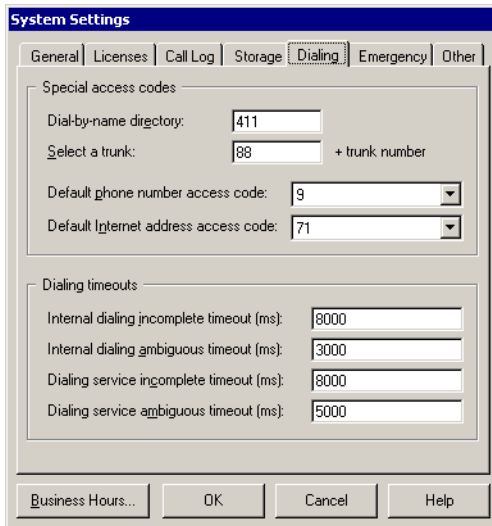
The **Database backup** field shows the location of the last database backup made. Click **Move** to move it to a different location.

Backing up your database is something you should do periodically to ensure the integrity of your TeleVantage system. See “Backing up TeleVantage” on page 11-17.

The Dialing tab

System-wide settings for phone system dialing prefixes, special access codes and dialing time-outs are made on the Dialing tab.

Choose **Tools > System Settings** and then click the Dialing tab.



The screenshot shows the 'System Settings' dialog box with the 'Dialing' tab selected. The dialog has several tabs: General, Licenses, Call Log, Storage, Dialing (selected), Emergency, and Other. The 'Special access codes' section contains four fields: 'Dial-by-name directory' with the value 411, 'Select a trunk' with the value 88 and a '+ trunk number' label, 'Default phone number access code' with a dropdown menu showing 9, and 'Default Internet address access code' with a dropdown menu showing 71. The 'Dialing timeouts' section contains four text input fields: 'Internal dialing incomplete timeout (ms)' with 8000, 'Internal dialing ambiguous timeout (ms)' with 3000, 'Dialing service incomplete timeout (ms)' with 8000, and 'Dialing service ambiguous timeout (ms)' with 5000. At the bottom of the dialog are buttons for 'Business Hours...', 'OK', 'Cancel', and 'Help'.

Defining special access codes

Enter the access codes that users must dial for the following:

- **Dial-by-name directory.** Number to access the TeleVantage dial-by-name directory. The default is 411.
- **Select a trunk.** Number to dial to place a call on a particular trunk. The default is 88.

To place a call on a specific trunk, dial the access code and the trunk number. Users must have the permission **Select a specific trunk for outbound call** to use this command. If users need to select trunks, create dialing services for the appropriate trunks. See “About dialing services” on page 8-2 for more information.

You also enter default phone number and Internet address access codes on this tab that the system uses when returning calls from voice messages. For more information, see “Setting default access codes for callbacks” on page 8-8.

Setting dialing time-outs

TeleVantage uses dialing time-outs that you define to determine the end of a number that was entered by a user. If users press # after entering the final digit of a number, TeleVantage dials the number immediately and does not wait for the time-out period to elapse.

- **Internal dialing incomplete time-out.** Number of milliseconds before TeleVantage times out on an internal call if not enough digits were entered. The default is 8000 milliseconds (8 seconds).
- **Internal dialing ambiguous time-out.** Number of milliseconds before TeleVantage times out on an internal call if the digits entered cannot be resolved into a recognized number. The default is 3000 milliseconds (3 seconds).
- **Dialing service incomplete time-out.** Number of milliseconds before TeleVantage times out on an external call if not enough digits were entered. The default is 8000 milliseconds.
- **Dialing service ambiguous time-out.** Number of milliseconds before TeleVantage times out on an external call if the digits entered cannot be resolved into a recognized number. The default is 3000 milliseconds.

Note: The default dialing time-outs work in most installations, and they should be modified carefully.

You may want to consider increasing the **Dialing service ambiguous time-out** by half-second intervals if users intermittently hear “Number not available” when they dial out on analog or Robbed Bit T1 spans (this is not a problem for ISDN or IP lines).

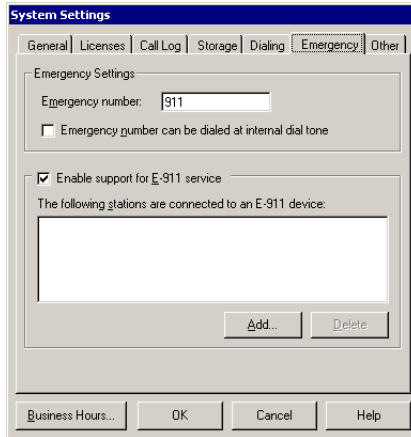
If you increase this time-out by too much, however, users can miss the beginning of the audio signal at the target if the called party answers immediately, for example, a company auto attendant. If this problem occurs, you can do any of the following:

- Reduce the dialing service ambiguous time-out.
- Instruct users to enter # after dialing a number.
- Collect all digits before dialing (see page 8-10).

The Emergency tab

Settings for two kinds of emergency dialing services—standard 911 and Enhanced 911 (E-911)—are made on the Emergency tab.

Note that users can make an emergency call from any TeleVantage station, even one not assigned to a user, and even if they are blocked from making external calls.



Using standard 911 service with TeleVantage

Standard 911 service does not require additional hardware. All standard 911 calls use a TeleVantage trunk and go through the phone company to the emergency dispatching center.

You can change the emergency number from 911 to something else by entering the new number in the **Emergency Number** field.

Check **Emergency number can be dialed at internal dial tone** if you want users to be able to dial the emergency number without first dialing an access code (such as 9 to get an outside line). If unchecked, users must dial the access code and then the emergency number (for example, **9 911**). This setting affects emergency calls only. Be careful when changing this setting may cause accidental emergency calls.

Using enhanced 911 service with TeleVantage

Enhanced 911 (E-911) calls send the calling station's ANI information (the TeleVantage station ID) to the phone company's E-911 center so they can identify the location of the person who made the emergency call, for example, the specific floor and office in a large building.

Before enabling E-911 service

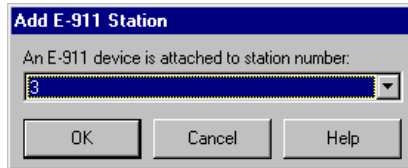
Before you can use E-911 service with TeleVantage, you must have installed and configured an E-911 device, and connected one or more E-911 stations. See *Installing TeleVantage* for instructions.

Note: E-911 stations must be physically connected to the E-911 device and dedicated to the E-911 service. They cannot be shared with a user.

Enabling E-911 service

After you install and configure an E-911 device and stations, you must use the Emergency tab to enable E-911 service and assign your E-911 stations, as follows:

1. Check **Enable support for E-911 service**.
2. Click **Add** to add each E-911 station. that is connected to the E-911 device. The Add



E-911 Station dialog box opens.

3. Select a station from the drop-down list, and then click **OK**.
The list shows all unassigned station IDs. Note that an E-911 station will not appear in this list if a user is also assigned to that station ID. If an E-911 station does not appear in this list, you must unassign it from the user who shares it. To change a user's station ID, see "Assigning a station ID" on page 6-11.
4. Repeat the steps in this procedure until you have added all E-911 stations.

How E-911 calls work

If E-911 is enabled and the E-911 device has been installed and configured correctly, an emergency call from any station is automatically routed to one of the E-911 stations. As soon as the E-911 station takes the call, the station ID of the caller's station is passed to the E-911 device. The E-911 device then calls the emergency center directly over a dedicated trunk.

If for any reason the emergency call cannot be placed using E-911 service, TeleVantage automatically places a standard 911 call to the emergency center using the local carrier.

Troubleshooting E-911

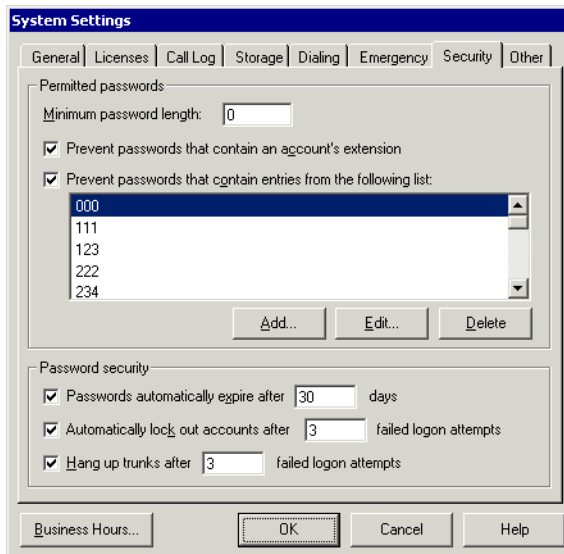
Causes for failure of an E-911 call include the following:

- All the E-911 stations are busy.
- The E-911 device fails.
- The dedicated trunk from the E-911 device to the emergency center is down.
- The trunk does not respond within a certain time period.
- E-911 is not enabled in TeleVantage.

The Security tab

Choose **Tools > System Settings** and then click the Security tab to set password options that increase your system security.

Important: Password security is crucial in preventing your company from being victimized by toll fraud. Unauthorized users who gain privileged access to your telephone system can place outbound long distance or international calls that get charged to you. In 99% of cases, access is gained through insecure (easy-to-guess) passwords. By making your passwords more secure, you can dramatically increase the security of your TeleVantage system against toll fraud. For more information about making your system secure, see Appendix C, “Protecting Your Phone System Against Toll Fraud.”



Restricting password options

Use the **Permitted passwords** section to restrict the passwords that users can choose. By forbidding easy-to-guess passwords, you can make your system much more secure from unauthorized access. Artisoft highly recommends checking all these options to prevent toll fraud.

When you change any of the password options, users whose passwords are now prohibited will be prompted to change them the next time they log on, and will show up in the Security Analysis report (see “Identifying users with security-risk passwords” on page C-3).

- **Minimum password length.** Enter the minimum number of digits for a password. For secure passwords, the minimum should be at least five, and preferably seven or more digits.
- **Prevent passwords that contain an account's extension.** Passwords that contain the extension number are especially easy to guess. Check this option to prevent the

extension from being any part of the password. For example, a user at extension 337 could not have a password of 337, 33755, or 13378080.

- **Prevent passwords that contain entries from the following list.** Check to prevent passwords from containing any of the digit strings in the list. TeleVantage provides by default a list of easy-to-guess digit strings.

To add a new digit string to the list, click **Add**. To edit a digit string in the list, select it and click **Edit**. To remove a digit string from the list, select it and click **Delete**.

Increasing password security

Use the following options in the **Password security** section to safeguard your TeleVantage system against unauthorized access:

- **Passwords automatically expire after __ days.** Checking this option forces users to regularly change their passwords. Enter the number of days that each user may keep a password before the system requires them to change it to something new.

You can override this setting for individual users, to permit passwords that never expire. You can also manually force a user to change his or her password whenever you want. See “Securing the user’s account” on page 6-40.

Note: You should exempt users with Polycom IP phones from having to change their passwords. See “Issues for users of Polycom IP phones” on page E-15.

- **Automatically lock out accounts after __ failed logon attempts.** If checked, the system *locks out* an account after the number of consecutive failed logon attempts that you enter. A locked-out account cannot log on to the system, even with the correct username and password, until the administrator unlocks it.

Note: For lockout to occur, the multiple failed logon attempts must all happen within a 30-minute time period. You can change this time period by changing the LockoutResetInterval registry setting. See “TeleVantage Server registry settings” on page A-2.

To unlock a locked-out account, do the following:

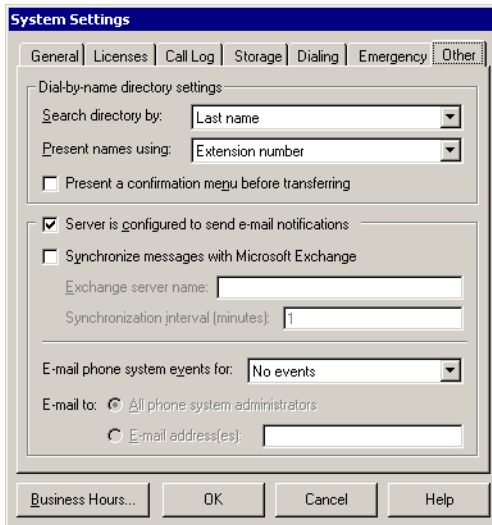
- **User.** In the Users view, double-click the user to open the Users dialog box, click the Other tab, uncheck **User is locked out**, and click **OK**.
- **Queue.** In the Queues view, double-click the queue to open the Queue dialog box, click the Account tab, uncheck **Queue is locked out**, and click **OK**.
- **Hang up trunks after __ failed logon attempts.** If checked, the system hangs up on any incoming caller who tries to log on to a TeleVantage account with an invalid password after the number of consecutive attempts that you enter.

Identifying security risks

You can analyze your system for potential security risks by choosing **Tools > Analyze Security**. For more information, see “Identifying users with security-risk passwords” on page C-3.

The Other tab

Choose **Tools > System Settings** and then click the Other tab to set options for the dial-by-name directory, Microsoft Exchange synchronization, e-mail and pager notifications of new voice messages, and Windows Event Log notifications.



Creating dial-by-name directory settings

In **Search directory by**, select one of the following methods by which callers can search for users:

- **Last name.** Callers enter the first few letters of the last name. This is the default.
- **First name.** Callers enter the first few letters of the first name.
- **Last name or First name.** Callers enter the first few letters of either the first or last name.

In **Present names using**, select one of the following methods for presenting the names of users to callers:

- **Extension number.** Callers hear an extension number after each name, for example, “For John Sargent, press 175.” This is the default.
- **Numbered list.** Callers hear a sequence number after each name, as in “For John Smith, press 1”.

By default TeleVantage connects a caller immediately to the user that was chosen in a menu of multiple names. Similarly, when the system finds one match only, the call is immediately transferred to the user. However, you can select **Present a confirmation menu before transferring** if you want callers to confirm their choices before they are transferred to the one extension that matched the name they entered. For example, a caller would hear, “For John Sargent, press 1. To try again, press *.”

Configuring TeleVantage to send e-mail notifications

Check **Server is configured to send e-mail notifications** to enable TeleVantage e-mail functionality on your system. This functionality includes e-mail notification and Exchange synchronization. Before checking this checkbox, you must prepare your TeleVantage Server for e-mail notifications (see *Installing TeleVantage*).

Using Microsoft Exchange synchronization

If your organization is using Microsoft Exchange Server for e-mail, you can choose this option to synchronize TeleVantage voice mail messages with the corresponding e-mail notifications in Exchange. You then must set up e-mail notification and Exchange synchronization for individual users (see “The Notifications tab” on page 6-18).

Synchronization enables users to manage their TeleVantage voicemail efficiently from Microsoft Outlook.

Synchronization behavior depends on whether e-mail notifications have voice messages attached, as follows:

- If a voice message is attached to an e-mail notification, the following occurs:
 - Moving a voice message from the Inbox folder to the Deleted folder in either system also moves the voice message on the other system. For example, if you delete voice messages from the TeleVantage Inbox (using either the telephone commands or Client), the corresponding e-mail notifications and any attachments are deleted from the Exchange Inbox also.
 - A voice message in TeleVantage is deleted permanently when the associated e-mail notification in Exchange is deleted or is moved to any folder other than the Inbox or Deleted folder in Exchange.
 - An e-mail notification in Exchange is deleted permanently when the associated voice message is deleted permanently in TeleVantage.
- If a voice message is not attached to an e-mail notification, the following occurs:
 - An e-mail notification in Exchange is deleted permanently when the associated TeleVantage voice message is deleted, either via the Client or the telephone commands.
 - Deleting an e-mail notification in Exchange has no effect on the voice message in TeleVantage. Voice messages therefore cannot be deleted accidentally in TeleVantage before a user has the opportunity to listen to them.

Exchange Server Mailbox Permissions

In order to synchronize with Microsoft Exchange, the TeleVantage account must be a domain account that has User role permissions to all Exchange mailboxes that are to be synchronized.

One way you can do this is by assigning the User role permissions to each individual Exchange mailbox. This method is secure but time-consuming. Alternately, you can assign the User role to all Exchange mailboxes at the site level. This method is less secure, but it requires less intervention by system administrators. For more information about assigning User role permissions, see your Exchange Server documentation.

With Exchange Server version 5.5 or later, note that depending on how Exchange Server is configured, it may take up to two hours for mailbox permission changes to take effect, because changes are cached before they are applied. For more information and details on how to change the cache interval for Exchange Server 5.5, see:

<http://support.microsoft.com/support/kb/articles/q179/0/65.asp>

To set up Microsoft Exchange synchronization for a user

1. On the Other tab of the System Settings dialog box, check **Synchronize messages with Microsoft Exchange**. Then enter:
 - **Exchange Server name.** Name of the Exchange Server on your LAN.
 - **Synchronization interval.** Frequency of synchronization, in minutes. The default is one minute.
2. Set up e-mail notification for the user (see “Setting e-mail notification” on page 6-19).
3. Enable Exchange synchronization for the user (see “Enabling Microsoft Exchange Server synchronization” on page 6-16).

Note: The user's Microsoft Outlook client must be configured to deliver messages to a mailbox on the Exchange Server. Exchange Server synchronization does not work if the user's Outlook client is configured to deliver messages to a PST file on the local computer.

Setting up Windows Event Log notifications

You can configure TeleVantage to send e-mail notification of each TeleVantage-related event logged in the Server's Windows Event Log. By setting up notifications, you can stay informed of critical problems, like low disk space, no matter where you are.

Windows Event Log notifications are sent based on the following settings on the Other tab:

- **E-mail phone system events for**

Select one of the following from the drop-down list:

- **No events.** This is the default. No notifications are sent.
- **Errors and warnings.**
- **Errors only.**
- **All events.**

Errors indicate that a failure has occurred. Warnings indicate that a critical resource is getting low, though no failures have occurred yet. For a complete list of events, see "TeleVantage-related Windows Event Log messages" on page 11-19.

- **E-mail to.** Identify to whom the notifications are sent.

- **All phone system administrators.** Notifications go to all TeleVantage users with Administrator permissions who have e-mail notification turned on. The users you identify here must also have e-mail notification set to receive Windows Event Log notifications (see "Setting e-mail notification" on page 6-19). This is the default setting.
- **E-mail address(es).** Enter the e-mail addresses of users whom you want to receive notifications, separated by semicolons.

Note: All calls to 911 are logged in the Windows Event Log as an entry.

RECORDING ALL TELEVANTAGE CALLS

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About recording calls

You can have TeleVantage automatically record all calls handled by the system, while exempting the individuals, roles, or queues of your choice. For example, you could record all calls except for those belonging to users in the Administrators role. You can also exempt internal (station-to-station) calls.

Note: Users can also record their own calls manually (see *Using TeleVantage*), and you can configure call center queues to automatically record calls (see the *TeleVantage Call Center Administrator's Guide*).

System call recordings are stored in a voice mailbox of your choice. You can manage them exactly as you would manage voice messages, including automatically moving them to your e-mail server to free up valuable TeleVantage disk space. For instructions on playing and managing voice messages using the phone or Client, see *Using TeleVantage*.

What parts of the call are recorded

Call recordings include only calls with two or more parties, and only the portion of the call from time the parties are connected to the end of the call. The following parts of a call are not recorded:

- Hold music
- Auto attendant messages
- Voicemail greetings
- Voicemail messages
- Telephone commands or prompts
- IVR Plug-in prompts
- Consultation calls during supervised transfers

When a call is transferred, the various conversations are included in a single call recording.

Exempting queue calls

Call centers usually comprise a large portion of a system's total phone traffic. If your site uses TeleVantage call center queues, it is recommended that you exempt your queues from system call recording, and use the queue's own recording features to record queue calls (see the *TeleVantage Call Center Administrator's Guide*). Otherwise, a needless duplication of recordings can result.

Preparing to record all calls

Recording all TeleVantage calls can significantly reduce your available disk space and Intel Dialogic voice resources (see *Installing TeleVantage* for information on managing voice resources). Before beginning to record calls, you should plan for how to store the resulting voice files and manage the demand for voice resources to record the calls.

Sending call recording voice files to your e-mail server

Each minute of call recording consumes .46 MB of disk space. If you store all call recordings on the TeleVantage Server computer, it can rapidly consume your available hard disk space and interfere with phone system performance and users' ability to receive voice messages.

Therefore, it is highly recommended that you automatically offload call recordings from the TeleVantage Server computer to your e-mail server, using the e-mail notification feature. To do so:

1. Create a placeholder user (named, for example, "Recorded Calls") to whom you send all call recordings. For instructions on creating a user, see "Adding users" on page 6-7.
2. Set up e-mail notification for the user with the following selections:
 - **Send e-mail for all messages**
 - **Attach voice message and delete from Inbox**

For instructions on setting up e-mail notification, see "Setting e-mail notification" on page 6-19.

With these settings, the call recording files are moved to your e-mail server in the form of e-mail attachments, with detailed Call Log information, and are deleted from the TeleVantage Server computer as soon as they arrive, so that no extra disk space is consumed.

Managing call recording e-mails

When you offload call recording files via e-mail notification, you will have a large number of e-mails in the e-mail account to which they are sent—one e-mail for each recorded call.

TeleVantage automatically puts information about the call into the e-mail's subject and body, so that you can use your e-mail program's Search capability to find a particular call recording.

The e-mail's subject holds information in the following format:

```
SysRec: TrunkX/SMITH,KARYN->Station Y/User Y
```

where -> indicates the direction of the call, Trunk X indicates the trunk number involved and the Caller ID name (where available), Station Y indicates the station ID of the station involved, and User Y indicates the extension of the user involved.

The e-mail body also includes the following Call Log information that further describes what was recorded (example data used):

```
Direction: Inbound
From: Unknown
To: Corey Smythe
Answered By: Corey Smythe
```

From Number: 6171234567
To Number: 104
From Code: <None>
To Code: <None>
From Device: Trunk 5
To Device: Station 4
Duration: 00:06
Start Time: 9/20/2002 10:38:20
Stop Time: 9/20/2002 10:38:26
Wait Time: 00:08
Parties: 2
CallerID Name: VIN WILLIAMS
Organization: <None>
Call Log Id: 04010000001238
TeleVantage Code:1175:1102:1

Storing call recordings on the TeleVantage Server

If you decide to store call recordings on the TeleVantage Server instead of offloading them via e-mail, you should choose the amount of disk space that you want to devote to storing call recording files. When this space is filled, you can have TeleVantage automatically make room for the newest call recordings by deleting the oldest. To set this up:

1. Limit the size of the placeholder user's voice mailbox to the amount of disk space you want to devote to call recordings. Use the formula 1 minute = .46MB. For example, to devote 1 GB to call recordings, set the user's voice mailbox to 2185 minutes. See "Configuring the user's voice mailbox" on page 6-15.
2. Configure system call recording to automatically delete the oldest call recording when the mailbox is full. See "Recording all calls" on page 4-5.

Call recordings and voice resources

Call recording involves one additional voice resource for each call being recorded. This includes internal calls as well as those involving a trunk. For example, if your system has 5 trunk calls and 8 internal calls occurring at the moment, 13 extra voice resources are required to allow for call recording.

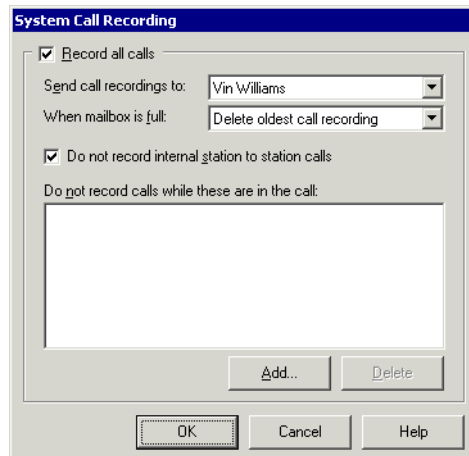
Note: Trunk voice resources cannot be shared for system call recording, because they must be reserved for manual ("on demand") recording of calls by users. Likewise, call center queues require an additional voice resource per call to handle automatic call recording by the queue.

Before beginning to record all calls, you should make sure that your hardware configuration includes enough voice resources to meet the increased demand. For instructions on calculating voice resource needs and installing extra voice resources, see *Installing TeleVantage*.

Recording all calls

Use the following procedure to set up the automatic recording of all TeleVantage calls, and specify exemptions for calls that you do not want to record:

1. Choose **Tools > System Call Recording**. The System Call Recording dialog box opens.



2. Check **Record all calls** to have TeleVantage automatically record system calls according to the settings you make here. If unchecked, TeleVantage does not record system calls.
3. From the **Send call recordings to** drop-down list, select the voice mailbox to which system call recordings are sent.
4. From the **When mailbox is full** drop-down list, choose one of the following options:
 - **Discard new call recording.** TeleVantage deletes the new call recording instead of storing it. Selecting this will cause call recordings to stop when the mailbox is full.
 - **Delete oldest call recording.** TeleVantage deletes the oldest call recording in the mailbox to make room for the new recording. Only call recordings can be deleted by this method. TeleVantage never deletes voice messages in this way.
5. To exempt internal calls, so that only calls involving a trunk are recorded, check **Do not record internal station to station calls**. If unchecked, both internal calls and calls involving a trunk are recorded.

6. Use the **Do not record calls while these are in the call** list to exempt users or roles from system call recording. You can exempt any of the following entities:
 - **Users.** The system does not record any call while an exempted user is a participant. If an exempted user joins a conference call that is being recorded, the recording pauses as long as the exempted user is in the call. If the exempted user leaves the conference, the recording resumes.
 - **Roles.** The system does not record any call while a member of the role is a participant.
 - **Queues.** The system does not record any queue call. When a queue call is transferred to a user who is not an agent in the queue, it ceases being a queue call and recording of it begins.To exempt a user, role, or queue from system call recording, click **Add**. Make your selection in the System Call Exclusion dialog box and click **OK**.
7. When you are finished adding exemptions, click **OK**.

MANAGING TRUNKS, SPANS, AND STATIONS

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About trunks and spans

Trunks are the outside phone lines that connect your business to the telephone company and other providers.

A TeleVantage trunk is a single channel of communication that can support one call at a time. A span is a collection of many trunks bundled together on a single digital line. For example, a T1 span on ISDN PRI contains 23 trunks.

Adding trunks to your TeleVantage system is a three-step process:

1. Connecting the physical trunk line to the Dialogic telephony board in the TeleVantage Server computer. See *Installing TeleVantage*.
2. Defining the trunk in the TeleVantage Administrator's Trunks view. This involves defining the individual trunks and (for digital trunks) the span behavior and settings. See "Adding trunks" on page 5-3.
3. Including the trunks in one or more dialing services so that users can place outbound calls on it. See "About dialing services" on page 8-2.

For information about required hardware and how to order services from your phone company, see *Installing TeleVantage*.

Trunk types

TeleVantage supports analog and digital trunks. The analog trunks supported are the following:

- **Standard analog trunks.** The standard type of analog trunk.
- **Analog Direct Inward Dial (DID) trunks.** For TeleVantage to support analog DID trunks, they must be properly configured (see *Installing TeleVantage*).
- **Centrex trunks or analog extensions from another PBX.** In TeleVantage, these are referred to collectively as Centrex/PBX extensions.

Note: TeleVantage does not support ground start analog circuits.

The digital trunk types supported are the following:

- **Robbed Bit T1 trunks.** 24 trunks per span.
- **ISDN PRI over T1 trunks.** 23 trunks per span.
- **ISDN PRI over E1 trunks.** 30 trunks per span.
- **ISDN BRI over BRI trunks.** Two trunks per span.
- **E1 CAS trunks.** 30 trunks on one span.
- **Internet trunks.** Each IP board supports a different number of trunks.

Note: TeleVantage supports both Wink start and Immediate start on Robbed Bit T1 trunks.

You do not need additional telephone company trunks for IP telephony with TeleVantage. A Dialogic board connects to your network and accesses the Internet through your gateway.

Adding trunks

This chapter contains instructions for adding new trunks of each type, as follows:

- “Adding an analog trunk” (page 5-9)
- “Adding a digital Robbed Bit T1 span” (page 5-14)
- “Adding a digital ISDN or CAS span” (page 5-16)
- “Adding a digital ISDN BRI span” (page 5-17)
- “Adding an Internet span” (page 5-25)

Before you perform the steps in each section of this chapter, you must have installed and configured the Dialogic boards and drivers that are required for your trunks. See *Installing TeleVantage* for instructions.

If you add a trunk in the Administrator before it is physically installed or configured, the trunk has a status of “Not Installed” in the Device Monitor, until the physical trunk is installed.

Naming trunks

When you name your trunks later in this chapter, give them names that convey important information about them, so that you can identify trunks quickly and easily. Information recommended for use in a trunk name includes:

- The telephone number of an analog trunk
- The IP address of an Internet trunk
- The name of the digital or Internet span to which the trunk belongs

Monitoring trunks

For instructions on how to monitor the activity on a trunk, how to enable or disable a digital trunk, or how to restart a trunk that is experiencing problems, see “Using the Device Monitor view” on page 11-2.

Deleting trunks

Deleting a trunk removes it from your TeleVantage system configuration but does not affect the telephone line, the hardware, or the Trunk license.

Although you can delete a single analog trunk, you cannot delete a single T1, E1, or Internet trunk from the span to which it belongs. If you must permanently remove a digital trunk, you must delete the entire span. To disable an individual trunk in a span temporarily, right-click the trunk in the Device Monitor choose **Disable Trunk**. Uncheck the options for receiving inbound calls and placing outbound calls.

A deleted trunk appears in the Device Monitor as “NA” if the physical line is still connected to the Intel Dialogic board.

Configuring trunks for inbound and outbound calls

You can configure trunks as inbound-only, outbound-only, or both inbound and outbound. In most TeleVantage installations, trunks are configured for both inbound and outbound use.

If it is critical that a phone line is always available for inbound calls (for example, if you have an emergency hotline), you can set up an inbound-only trunk. Similarly, if it is critical that there is always a trunk available for outbound calls, you can set up an outbound-only trunk.

For instructions on configuring each trunk type for inbound and outbound calls, see the instructions for that trunk type in this chapter.

Matching trunk settings with your phone company

TeleVantage inbound and outbound settings control only how TeleVantage treats trunks. They do not affect how the telephone company treats trunks.

For example, if you configure a trunk for inbound calls only, TeleVantage does not use it for outbound calls. You do not receive any calls on the trunk, however, unless you have instructed your telephone company to include the trunk in your inbound hunt group.

Similarly, specifying a trunk as outbound-only does not prevent inbound calls if your telephone company included the trunk in your inbound hunt group and given the trunk's telephone number to outside parties. If calls arrive on a trunk designated for exclusive outbound use, TeleVantage plays a message indicating that the caller dialed a wrong number and then hangs up.

Note: The message played under these circumstances is the system prompt "Wrong Number." You can rerecord it to have the message give the caller the correct number to reach your company. See Chapter 12 for more information about recording system prompts.

Inbound and outbound calls and hunt groups

It is recommended that you ask your telephone company for a *terminated hunt group*. In this arrangement, inbound calls try the lowest phone number first and then the next higher until a free line is found. When you are adding trunks to your configuration in the Administrator, assign the lowest phone numbers to the lowest TeleVantage trunk numbers.

On outgoing calls, by default TeleVantage starts searching for a free line with the highest TeleVantage trunk number. This behavior results in the fewest conflicts for lines (if you have a terminated hunt group), because inbound calls are arriving on the lower-numbered trunks, and outbound calls are going out on the higher-numbered trunks. This behavior is defined by the dialing service used to place the call, and can be changed to accommodate other configurations and needs. See "About dialing services" on page 8-2 for more information.

Placing outbound calls on a specific trunk

Users with the permission **Select a specific trunk for outbound call** can place a call on a specific trunk for testing purposes by dialing **88**, the trunk number, and then the phone number. For example, to place a call on trunk #1, dial 8801 (you must use 4 digits). To place a call on trunk #12, dial 8812. When you are using specific-trunk dialing, you do not need to dial the access code to make an external call.

You can change the **88** code to other digits. See “Defining special access codes” on page 3-11.

Note: If you want to allow users to access a specific trunk, create a dialing service that allocates that trunk. See “About dialing services” on page 8-2. To restrict the use of outbound trunks to certain users, see “Restricting outbound trunk use by Organization” on page 10-4.

Telephone company services that help TeleVantage _____

The following services from your phone company enable TeleVantage to work with maximum efficiency:

- **Caller ID/ ANI (Automatic Number Identification).** Enables TeleVantage to identify incoming calls by number and sometimes name too, perform one-click callback of voice messages, and use other features. ANI provides Caller ID information about analog DID and digital trunks.
- **DID (Direct Inward Dial).** Enables direct routing of incoming calls to individual stations, so callers do not need to dial an extension at an auto attendant. To give a user a DID number, see “Assigning a DID number” on page 6-14.
- **DNIS (Dialed Number Identification Service).** Provides DID data on toll-free lines such as 800, 877, and 888 numbers. Throughout TeleVantage, “DID” means both DID and DNIS.

Collecting ANI/DID digits

Some caller or number identification services that you can order with your analog or Robbed Bit T1 phone lines require that TeleVantage collect information that arrives with an inbound call.

Note: TeleVantage automatically collects Caller ID digits on analog trunks and ANI/DNIS digits on ISDN or CAS trunks, if available. If your system has only these trunk types and services, you can skip this section.

For TeleVantage to collect DID/DNIS information when a call arrives on an analog or Robbed Bit T1 trunk, or to collect ANI digits on a Robbed Bit T1 trunk, the TeleVantage Server needs to know exactly how the data is signaled. Use the information supplied by your telephone company or T1 carrier to define these signals to TeleVantage. For detailed instructions, see:

- “Setting up digit collection on an analog trunk” (page 5-11).
- Instructions for using the Robbed Bit T1 Experimenter in *Installing TeleVantage*.

See *Installing TeleVantage* for information about ordering and installing DID/DNIS for analog or digital lines.

Using DID with Robbed Bit T1 trunks

1. Make sure that your Robbed Bit T1 trunks have been installed correctly.
2. Configure digit collection signaling for the trunks (see *Installing TeleVantage* for instructions on using the Robbed Bit T1 Experimenter).
3. Verify that each trunk in the digital span is configured to accept inbound calls and that calls are sent to a user or auto attendant (see “Entering trunk defaults for a span” on page 5-29).
4. Assign DID numbers to users or auto attendants (see “The General tab” on page 6-10).

Using DID with analog trunks

1. Make sure your analog DID trunks and digital interface units have been correctly installed and configured. See *Installing TeleVantage*.
2. Configure analog digit collection signaling for the trunks (see “Setting up digit collection on an analog trunk” on page 5-11).
3. Enable DID for each inbound analog DID trunk (see “Adding an analog trunk” on page 5-9).
4. Assign DID numbers to users or auto attendants (see “Assigning a DID number” on page 6-14).

Setting up fax routing

TeleVantage supports the use of fax machine and modem communication. The quality of the communication (for example, the bandwidth supported) is determined by the telephony board used.

TeleVantage also supports fax detection on incoming calls, and can route calls to the appropriate extension (for example, a fax machine or fax server). Fax detection and routing is supported on the following trunk types:

- Analog
- Robbed Bit T1
- ISDN/CAS T1/E1

To route faxes to a fax machine

1. Create a placeholder user whose station ID is connected to the fax machine (for example, a user named “First floor fax machine.”) See “Adding users” on page 6-7.
2. Select that user when defining a trunk, in the **Faxes are sent to** drop-down list. For instructions on defining trunks of different types, see the sections in the rest of this chapter.

Note: By default, if a DID match occurs on an inbound fax call, the call is routed to the user whose DID number is dialed, not diverted to the **Faxes are sent to** extension. You can change this behavior and enable fax diverting by changing the registry setting `DirectCallsUseFaxTarget`. See “Server\DirectCallsUseFaxTarget” on page A-35.

Whenever TeleVantage detects a fax signal on a trunk, the call is automatically routed to the trunk’s fax target station. You can select a different station as the fax target for each trunk.

For instructions on how to configure specific trunk types to support fax routing, see the sections on adding those trunk types later in this chapter.

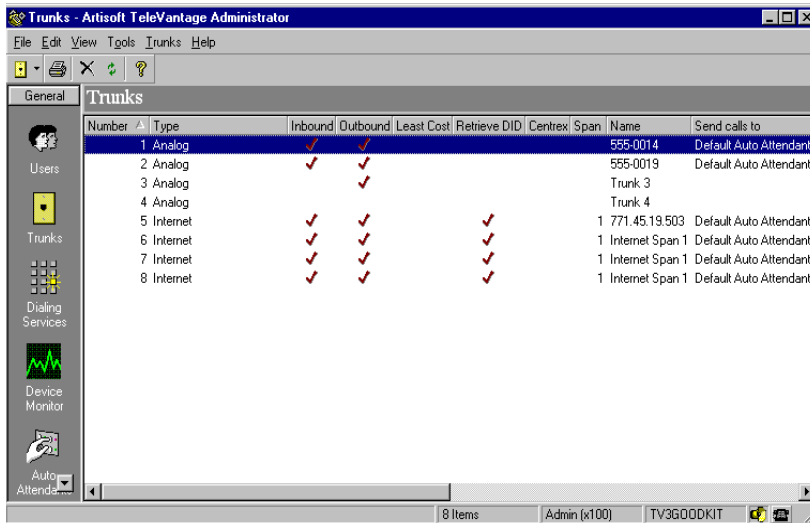
Customizing fax routing

If you have a bank of fax machines, you can route faxes to the entire bank at once. Whichever fax machine answers first receives the call. To set this up, add all the fax machine users to a workgroup (see “Creating a Workgroup” on page 7-4), then select the workgroup as the fax target when defining the trunk (see the rest of this chapter).

To handle faxes differently based on time or date, you can route fax calls to an auto attendant and then schedule transfers to the appropriate fax devices.

The Trunks view

Click **Trunks** in the view bar to open the Trunks view.



Each trunk that you add appears as a row in the view. The following table show the information that appears for each trunk.

Column	Description
Number	Port number on the Dialogic board associated with this trunk.
Type	Type of trunk: Analog, Robbed Bit T1, Internet, or ISDN/CAS E1/T1.
Inbound	If checked, this trunk is used for inbound calls.
Outbound	If checked, this trunk is used for outbound calls.
Rings	Number of rings before TeleVantage picks up an incoming call.
Retrieve DID	If checked, TeleVantage retrieves Direct Inward Dial digits from calls coming in on this trunk.
Centrex	If checked, indicates a Centrex trunk.
Span	For digital spans, the number of the span to which the trunk belongs.
Name	Descriptive name assigned to the trunk.
Send calls to	Auto attendant, operator, user, or IVR Plug-in that receives inbound calls on this trunk.
Send faxes to	User to whom inbound faxes on this trunk are routed.
IP Address	IP address of the Internet trunk, if applicable.
Span Description	Optional information provided when the span was added.

Because you can add trunks to the configuration before the physical trunks are added to your system, the number of trunks shown in the trunks view may not reflect the actual number of trunks available for TeleVantage's use.

Digital and Internet spans

TeleVantage represents digital and Internet trunks as a span of a number of individual trunks. The number corresponds to the number of available channels. For example, a Robbed Bit T1 span offers 24 channels. When you add a Robbed Bit T1 span, 24 individual trunks appear in the Trunks view. You can set some properties for the span as a whole and some properties for individual trunks in the span only as follows:

- To set properties for a span as a whole, right-click a trunk in the span and choose **Open Span**.
- To set properties for an individual trunk, right-click the trunk and choose **Open Trunk**.

When you add a digital span, make sure that the span type matches the protocol type that was specified with the Dialogic Configuration Manager (DCM), as described in *Installing TeleVantage*. You cannot change a span's type after you add it. If you create a span of the wrong type, delete the span and add a new one of the correct type.

Adding an analog trunk

Use the following procedure to add a new analog, analog DID, or analog Centrex/PBX trunk.

1. Choose **Trunks > New Trunk > Analog Trunk**. A new Trunk dialog box opens.

The screenshot shows a dialog box titled "Trunk 1 - Trunk". It has a close button in the top right corner. The "Number" field contains the value "2" and the "Name" field contains "Trunk 2". Under the "Accept Inbound calls" section, the checkbox is checked. The "Number of rings before answering" field is set to "2". The "Calls are sent to" dropdown menu is set to "Default Auto Attendant (x 8000)". The "Faxes are sent to" dropdown menu is set to "Admin (x 100)". The "Retrieve DID digits from this analog line" checkbox is unchecked. Under the "Allow Outbound calls" section, the checkbox is checked. The "Centrex/PBX transfers supported" checkbox is unchecked. The "Pre-transfer sequence" field contains a "%" character, and the "Post-transfer sequence" field is empty. At the bottom of the dialog are three buttons: "OK", "Cancel", and "Help".

2. Enter the number and name of the trunk, as follows:
 - **Number.** Identifies the hardware resource on the TeleVantage Server used for this trunk. If you are using a Dialogic BCP Connection Panel, the number must correspond to the port on the panel to which the trunk is connected.

If you have a mix of analog and digital trunks, and have not yet installed the trunks, be sure that you assign trunk numbers that reflect how trunks will be installed in your system. Analog trunks always use the lower-numbered trunks, so either add

the analog trunks first, or bump up the starting trunk number for the digital span to reflect the actual trunk number. See “Digital and Internet spans” on page 5-9 for information about adding a digital span.

- **Name.** Descriptive name for the trunk. See “Naming trunks” on page 5-3.
3. Choose whether the trunk is used for inbound calls, outbound calls, or both, using the following fields:
- **Accept inbound calls.** Check this box if the trunk is used for inbound calls.
 - **Number of rings before answering.** Enter the number of rings that TeleVantage detects on the incoming call before accepting it. Billing for a call begins at the moment TeleVantage accepts it, at which point TeleVantage sends the call to the destination you specify in **Calls are sent to**.

The default of 2 rings allows for the capture of Caller ID on analog trunks, which in the U.S. appears between the first and second ring. In areas such as the U.K., where Caller ID appears before the first ring, this setting can be changed to 1 so that calls on an inbound trunk are answered after the first ring. TeleVantage uses Caller ID for identifying contacts, performing callbacks, and other features.
 - **Calls are sent to.** Select the auto attendant, user, ACD workgroup, call center queue, or IVR Plug-in that answers all inbound voice calls on this trunk. To change the target according to time of day, send the calls to an auto attendant and define the appropriate scheduled transfer action.
 - **Faxes are sent to.** Select the extension that answers all inbound fax calls on this trunk. See “Setting up fax routing” on page 5-6 for more information.
 - **Retrieve DID digits from this analog line.** Check this box to detect DID digits and route inbound calls directly to the user, auto attendant, or IVR Plug-in associated with the DID number. See “Setting up digit collection on an analog trunk” on page 5-11 for more information.
 - **Allow outbound calls.** Check this box if the trunk is used for outbound calls.
 - **Centrex/PBX transfers supported.** If this is a Centrex trunk or a trunk connected to an external PBX, check the box to enable users to transfer or forward calls using only Centrex or PBX extensions. When this option is selected (and if supported by your Centrex service or PBX), TeleVantage can transfer or forward a call without using any TeleVantage trunks.
 - **Pre-transfer sequence.** Type the keys required before transferring a call to a Centrex or PBX extension. The valid keys are 0-9, *, #, and & (Flash). The default is &.
 - **Post-transfer sequence.** Type the keys required after TeleVantage dials the pre-transfer sequence and the extension, to transfer a call to a Centrex or PBX extension. The valid keys are 0-9, *, #, and & (Flash). After the post-transfer sequence is dialed, TeleVantage hangs up.
4. Click **OK** to add the trunk to your configuration.

Setting up digit collection on an analog trunk

The format used to transmit ANI and DID/DNIS information on analog trunks varies with the carrier, as follows:

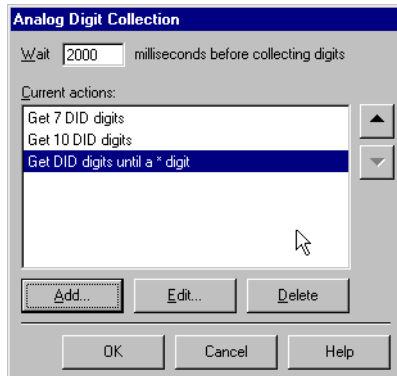
- **Fixed format.** Each piece of information is always the same length. For example, DID information is typically the last four digits that the caller dialed.
- **Variable format.** Each piece of information can vary in length, with filler digits used as separators, for example, 4 DID digits and 5 ANI digits in the format #DDDD#AAAAA#.

To collect the variable-format digits shown in the previous example, you must specify the following three (3) separate actions that TeleVantage must perform (see the next procedure):

- Collect the filler digit # that indicates the start of the DID information. The digit type is **Filler**, and the number of digits to collect is 1.
- Collect the DID digits sent by the carrier. The digit type is **DID**. You collect a variable number of digits up to the filler digit, #.
- Collect the ANI digits sent by the carrier. The digit type is **ANI**. You collect a variable number of digits up to the filler digit, #.

To collect digits on an analog trunk

1. In the Trunks view, select the trunk.
2. Choose **Trunks > Analog Digit Collection**. The Analog Digit Collection dialog box opens. Any digit collection actions that already have been defined for this trunk appear in the list under **Current actions**.



3. In the **Wait** field, enter the number of milliseconds that you want TeleVantage to wait for the analog DID interface device to send digits.
4. Click **Add** to add an action to the list under **Current actions**, or click **Edit** to modify the selected action. In either case, the Modify Action dialog box opens.

5. In the Modify Action dialog box, select the **Digit type** to retrieve. You can retrieve **DID**, **ANI**, or **Filler** digits.



6. Under **Digit length**, do one of the following:
 - To retrieve fixed-format data, click **Exactly __ digits**, and then type the number of digits to collect.
 - To retrieve variable-format data in which each piece of information may vary in length, and filler digits are used as separators, click **Variable up to the first ____ digit**, and then type the filler digit.
7. Click **OK**.
8. Repeat steps 4-7 to add all the actions required to collect digits coming in on the trunk, and then click **OK**.

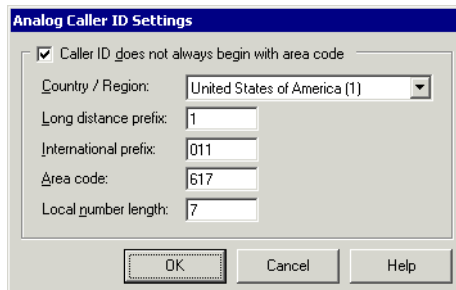
After you have configured analog digit collection correctly, make sure that the trunk is configured to accept inbound calls and retrieve DID digits. Double-click the trunk to open the Trunk dialog box to verify both of these settings.

Handling international Caller ID on analog trunks

If your carrier ever sends incoming Caller ID numbers that begin with something other than area code—for example, international numbers that begin with 0, or with the country code—you should make sure that TeleVantage is set up to handle them. If you do not, then users will not be able to use the callback feature on international calls, or any calls where the Caller ID number begins with something other than the area code.

To enable TeleVantage to handle international Caller ID

1. In the Trunks view, choose **Trunks > Analog Caller ID Settings**. The Analog Caller ID Settings dialog box appears.



2. Check **Caller ID does not always begin with area code**.
3. Enter the following data to specify your Server's regional location (the illustration above shows the settings for the United States):
 - **Country/Region.** Select your country.
 - **Long distance prefix.** Enter the number you must dial to make a long distance calls from your location.
 - **International prefix.** Enter the number you must dial to make an international call from your location.
 - **Area code.** If applicable, enter your area code. Otherwise, leave blank.
 - **Local number length.** Enter the length of a local number in your location, without area code or prefixes of any kind.
4. Click **OK**.

Once these settings are made, users can use the callback feature on international calls and other calls with non-standard Caller ID numbers.

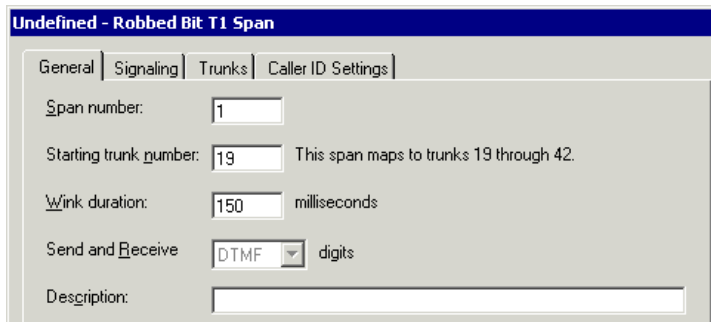
Adding a digital Robbed Bit T1 span

This section explains how to add a digital Robbed Bit T1 span by configuring signaling and adding the span to TeleVantage in the Trunks view.

Note: Before you add a Robbed Bit T1 span in the Administrator, you may want to run the TeleVantage Robbed Bit T1 Experimenter on the TeleVantage Server computer to configure signaling on the T1 span. For information about installing and using the Experimenter, see *Installing TeleVantage*.

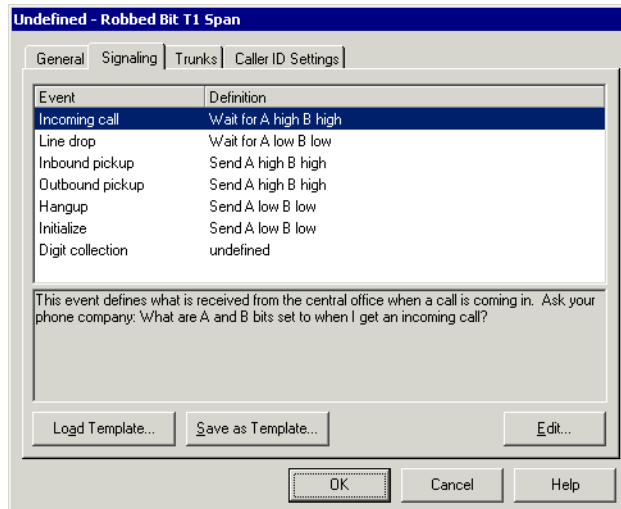
To add a Robbed Bit T1 span

1. Choose **Trunks > New Trunk > Robbed Bit T1 Span**. A new Robbed Bit T1 Span dialog box opens.



2. On the General tab, specify the following information for the span:
 - **Span number.** The sequence number of this Dialogic T1 board as installed in your TeleVantage Server computer (the sequence number of the first T1 board is 1, not 0).
 - **Starting trunk number.** The starting trunk number of the span. The dialog box shows you the range of numbers of the 24 trunks belonging to this span. If your system also has analog trunks, the analog trunks must have the lower trunk numbers, so if you have not added them yet, leave room for them in your numbering of the span.
 - **Wink duration.** The length in milliseconds of the signal TeleVantage sends to your T1 carrier to indicate that it is ready to receive digits. You can also set the wink duration using the Robbed Bit T1 Experimenter.
 - **Send and receive.** For T1 trunks with ANI or DID/DNIS service only, the signaling type—DTMF or MF—used for inbound digit collection. You can also set this in the Robbed Bit T1 Experimenter.
 - **Description.** A description of the span, typically including the main phone number of the span.
3. Click the Signaling tab and review the event definitions that appear for your T1 trunk. These are the event definitions that you specified using the Robbed Bit T1

Experimenter. The trunk will not work unless these definitions match your carrier's definitions.



Note: You can import and export signaling templates to make the signaling setup easier. See the next section.

To change a definition, do one of the following:

- Use the Robbed Bit T1 Experimenter (see *Installing TeleVantage*). This method is useful since it allows you to test the settings, but it requires that the TeleVantage Server be stopped.
 - Select the definition you want to change, and click **Edit**. Use this method only if you know exactly what change you need to make.
4. Click the Trunks tab and set the default values for the 24 trunks that will be created in this span. You can then change these values for each trunk individually. See “Entering trunk defaults for a span” on page 5-29.
 5. Use the Caller ID Settings tab to set the values for your location and Caller ID formats. See “Setting location and Caller ID settings” on page 5-19.
 6. Click **OK** to add the span to your configuration.

Using a signaling template

The Robbed Bit T1 Experimenter includes templates that contain Robbed Bit T1 signaling definitions that will be valid in many cases, as follows:

- **Local1**. Use this template for a local Robbed Bit T1 trunk.
- **Longdistance**. Use this template for a long-distance Robbed Bit T1 trunk.

To apply a template to a span, click **Load Template** on the signaling tab. Select the template to apply, click **Open**, and then click **OK**.

Note: If you have installed the Robbed Bit T1 Experimenter to a directory other than the TeleVantage Administrator's directory, you must look for the template in that directory.

You can also export the current signaling definitions shown in the tab, for example, to use in another span. Click **Save as Template**, and specify the path and filename.

To edit signaling definitions applied from a template, see the previous section.

Adding a digital ISDN or CAS span

Use the following procedure to add an ISDN T1, ISDN E1, or CAS E1 trunk. To add ISDN Basic Rate Interface (BRI) trunks, see “Adding a digital ISDN BRI span” on page 5-17.

1. Choose **Trunks > New Trunk > ISDN/CAS T1/E1 Span**. A new ISDN/CAS T1/E1

The screenshot shows a dialog box titled "Undefined - ISDN/CAS T1/E1 Span". It has five tabs: "General", "Tuning", "Trunks", "Caller ID Settings", and "Outbound Caller ID". The "General" tab is selected. The dialog contains the following fields and controls:

- Board number:** A text input field containing the value "1".
- Description:** An empty text input field.
- Protocol type:** A dropdown menu with "ISDN T1" selected.
- Starting trunk number:** A text input field containing "84". To its right, a note reads "This span maps to trunks 84 through 106."

At the bottom of the dialog, there are three buttons: "OK", "Cancel", and "Help".

Span dialog box opens.

2. Click the General tab and specify the following information for the span:
 - **Board number.** The sequence number of the span.
 - **Description.** A description of the span, typically including the main phone number of the span.
 - **Protocol type.** Select whether the trunk is an ISDN T1 or an E1 type. The actual protocol used is determined when the Dialogic drivers are installed, as described in *Installing TeleVantage*.
 - Note:** If you are using an E1 board with the CAS protocol, and your country's E1 CAS protocols are different than the standard format, contact your TeleVantage provider.
 - **Starting trunk number.** The starting trunk number of the span. The dialog box shows you the range of numbers of the trunks belonging to this span. If your system

also has analog trunks, the analog trunks must have the lower trunk numbers, so if you have not added them yet, leave room for them in your numbering of the span.

3. Click the Tuning tab and optimize your ISDN settings as needed. See “Optimizing your ISDN settings” on page 5-19.
4. Click the Trunks tab and set the default values for the 24 trunks that will be created in this span. You can then change these values for each trunk individually. See “Entering trunk defaults for a span” on page 5-29.
5. Use the Caller ID Settings tab and Outbound Caller ID tab to set the values for your location and Caller ID formats. See “Setting location and Caller ID settings” on page 5-19.
6. Click **OK** to add the span to your configuration.

Note: ANI/DNIS is automatically retrieved by TeleVantage for ISDN T1 trunks and E1 trunks.

Adding a digital ISDN BRI span

Use the following procedure to add a new ISDN Basic Rate Interface (BRI) span. To add Primary Rate Interface (PRI) spans, see “Adding a digital ISDN or CAS span” on page 5-16.

1. Choose **Trunks > New Trunk > ISDN BRI Span**. A new ISDN BRI Span dialog box opens

Port	SPID
1	
2	
3	
4	
5	
6	
7	
8	

2. Click the General tab and specify the following information for the span:
 - **BRI board number.** The sequence number of the span.
 - **Description.** A description of the span, typically including the main phone number of the span.
 - **Number of ports.** The number of trunks supplied by your Dialogic BRI board. If you are using a BRI/80-SC board, select **8**. If you are using a BRI/160-SC board, select **16**.
 - **Protocol.** The protocol of your BRI span, as given to you by your BRI supplier.
 - **Starting trunk number.** The starting trunk number of the span. The dialog box shows you the range of numbers of the trunks belonging to this span. If your system also has analog trunks, the analog trunks must have the lower trunk numbers, so if you have not added them yet, leave room for them in your numbering of the span.
 - **Service Protocol Identifier Number (SPID).** A unique number assigned to each trunk in the BRI span. Enter the SPID numbers supplied to you by your BRI supplier. SPID numbers are required for North American BRI installations only. If your BRI board is the Dialogic BRI/2VFD, you do not need to enter SPID numbers.
3. Click the Trunks tab and set the default values for the trunks that will be created in this span. You can then change these values for each trunk individually. See “Entering trunk defaults for a span” on page 5-29.
4. Use the Caller ID Settings tab and Outbound Caller ID tab to set the values for your location and Caller ID formats. See “Setting location and Caller ID settings” on page 5-19.
5. Click **OK** to add the span to your configuration.

Editing an ISDN BRI span

If you make changes to an ISDN BRI span, you must restart all trunks in the span for your changes to take effect. When you make changes and click **OK**, TeleVantage prompts you to restart the span. Choose one of the following options:

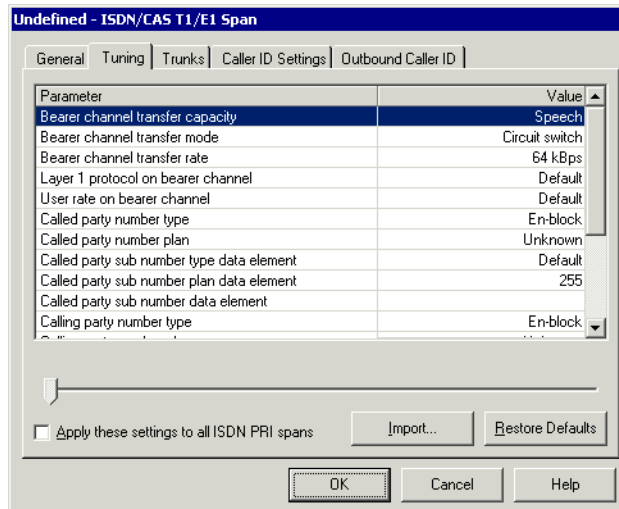
- Click **Yes**. The span is restarted, and all calls using the span are disconnected without warning.
- Click **No**. Your changes are saved, but they will not take effect until you manually restart the span. To do so, select any trunk in the span in the Trunks view and choose **Trunks > Restart Span**.

Optimizing your ISDN settings

When you are adding an ISDN trunk, you can use the Tuning tab to change ISDN board parameters. Any changes you make take effect after the current call ends.

To optimize your ISDN settings

1. Run the Dialogic Makecall Utility (DMU), which is supplied on the TeleVantage master CD. For instructions, see *Installing TeleVantage*. The DMU wizard leads you through the process of testing your ISDN board and generates the file `Outbound_MCB.txt` in the Output subdirectory.
2. Click the Tuning tab, click **Import**, select the `Outbound_MCB.txt` file, and then click **OK**.



This procedure updates all ISDN parameters based on their optimum value as determined by the DMU. To undo the update, click **Restore Defaults**. The parameters on the Tuning tab return to their initial values.

You can also change each parameter individually. Click **OK** on the Tuning tab when you are done.

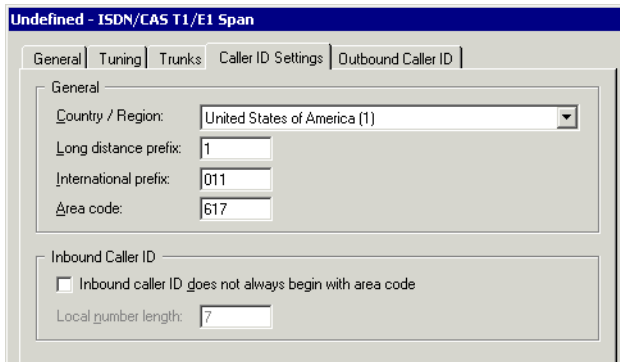
Setting location and Caller ID settings

When adding a Robbed Bit T1 or ISDN span, use the Caller ID Settings tab to specify the Server's location and how it handles incoming Caller ID in different formats.

Note: The location settings can affect your outbound Caller ID. For example, if your carrier expects a ten-digit Caller ID number and you are sending a seven-digit local number, TeleVantage appends the area code specified on this tab. For more about outbound Caller ID, see the next section.

To specify location and Caller ID formats

1. Click the Caller ID Settings tab.



The screenshot shows a configuration window titled "Undefined - ISDN/CAS T1/E1 Span". It has several tabs: "General", "Tuning", "Trunks", "Caller ID Settings", and "Outbound Caller ID". The "Caller ID Settings" tab is active. Under the "General" section, there are four input fields: "Country / Region" with a dropdown menu showing "United States of America (1)", "Long distance prefix" with the value "1", "International prefix" with the value "011", and "Area code" with the value "617". Below this is the "Inbound Caller ID" section, which contains a checkbox labeled "Inbound caller ID does not always begin with area code" (which is unchecked) and a "Local number length" field with the value "7".

2. Enter the following general information:
 - **Country/Region.** Select the country where this TeleVantage Server resides.
 - **Long distance prefix.** Enter the number to dial to begin a long-distance call. In the United States, this number is 1.
 - **International prefix.** Enter the number to dial to begin an international call. In the United States, this number is 011.
 - **Area code.** If applicable, enter the area or city code of the region where this TeleVantage Server resides. Otherwise, leave blank.
3. If your carrier ever sends incoming Caller ID numbers that begin with something other than area code, for example numbers prefixed with 0, check **Inbound Caller ID does not always begin with area code**, and then enter the length of a local phone number in the **Local number length** field. When checked, TeleVantage automatically adjusts to incoming Caller ID numbers with different formats, enabling callback to work correctly.

If unchecked, callback will not work on Caller ID numbers that do not begin with the area code.

If your carrier always sends Caller ID numbers beginning with the area code, you do not need to check this field, but there is no harm in doing so.
4. Click **OK**.

Specifying ISDN outbound Caller ID

When adding an ISDN span, you can optionally click the Outbound Caller ID tab to configure this span to send Caller ID on outbound calls.

Important: Not all providers support this feature. If you configure the span to use this feature and your carrier does not support it, outbound calls can fail. Be sure to test the line after enabling outbound Caller ID.

By default, each span is set to accept your system setting for outbound Caller ID (see “Setting ISDN outbound Caller ID for the system” on page 3-6). By editing the span setting, you can override the system setting for outbound calls placed on this span. Editing the span setting is the only way to override outbound ISDN Caller ID settings for individual users and queues.

Preparing to enter outbound Caller ID settings

Before beginning this procedure, ask your ISDN carrier the following questions:

- Does my ISDN line support custom calling party numbers (sometimes referred to as custom Caller ID or customer-defined Caller ID)?
- What is my **Preferred Party Plan**—“ISDN” or “National?”

If the Preferred Party Plan is “ISDN,” ask:

- What is my **Preferred Party Type**—“International” or “National?”

Entering outbound Caller ID settings

Use the following optional procedure to specify how an ISDN span handles outbound Caller ID:

1. Click the Outbound Caller ID tab in the ISDN dialog box.

The screenshot shows a dialog box titled "Undefined - ISDN/CAS T1/E1 Span" with the "Outbound Caller ID" tab selected. The dialog contains the following fields and options:

- Preferred party plan:** A dropdown menu set to "ISDN".
- Preferred party type:** A dropdown menu set to "International".
- By default send:**
 - Span Caller ID name: A text field containing "Artisoft, Inc."
 - Span Caller ID number: A text field containing "6173540600"
 - Blocked
- If it exists, send:**
 - Individual or system default Caller ID name
 - Individual or system default Caller ID number
 - Only send registered numbers:

At the bottom of the dialog, there are three buttons: "Add...", "Edit...", and "Delete". At the very bottom are "OK", "Cancel", and "Help" buttons.

2. Specify the following outbound Caller ID format information to match your ISDN provider’s requirements:
 - **Preferred party plan.** Select “ISDN” or “National.”
 - **Preferred party type.** If your Preferred party plan is “ISDN,” select “International” or “National.”

3. Under **By default send**, enter any of the following information as the span's basic outbound Caller ID settings. These settings determine caller ID for all outbound calls on the span unless you specifically permit other settings (see step 4):
 - **Span Caller ID name.** This span's outbound Caller ID name; for example, your business name. If unchecked, Caller ID name is set by your telephone company.
 - **Span Caller ID number.** This span's outbound Caller ID number; for example, your business' main number. If unchecked, Caller ID number is set by your telephone company.
 - **Blocked.** Check to block outbound Caller ID information on this span, so that it does not appear to the destination party. Note that the system still sends Caller ID information even though it is blocked: this is a requirement, because some institutions have the right to read blocked Caller ID, for example emergency services and 800-numbers.
4. Under **If it exists, send**, specify whether to send **Individual or system default Caller ID name and number**. If checked, the custom Caller ID information specified for a user, queue, or the system as a whole is attached to outbound calls where specified. (User and queue settings override the system-wide setting if both are specified.) If no custom information is specified, the span settings are used.

If unchecked, customized numbers are ignored and the **Span Caller ID number** setting in step 3 is always used.
5. If your ISDN provider limits the outbound Caller ID numbers on this span to the span's registered numbers, you must do the following:
 - Check **Only send registered numbers**.
 - Enter all the registered phone numbers for the span, as provided by your ISDN provider. To enter a number, click **Add**. Enter the number in the Registered Number dialog box and click **OK**.

If your ISDN provider supports any custom outbound Caller ID numbers, leave **Only send registered numbers** unchecked.
6. Click **OK**.

Outbound ISDN Caller ID hierarchy

With TeleVantage, you can customize outbound Caller ID for the system as a whole as well as for individual users and queues. You can customize ISDN outbound Caller ID in the following places:

To customize ISDN outbound Caller ID...	See...
For the system as a whole	"Setting ISDN outbound Caller ID for the system" (page 3-6)
For an individual user	"Setting the user's ISDN outbound Caller ID" (page 6-42)
	<i>Using TeleVantage</i>
For a call center queue	<i>TeleVantage Call Center Administrator's Guide</i>
For an ISDN span	This section

The Caller ID on an outbound call using an ISDN trunk is determined as follows:

- Individual user and queue settings override the system setting.
- Span settings override all other settings.

For example, to block individual user or queue settings, you must edit the span setting.

Getting the outbound Caller ID setting that you want

Use the following guide to get the outbound ISDN Caller ID that you want:

Desired result	Configuration
All outbound Caller ID is set by your telephone company	This is the default behavior. To restore it after changes, double-click the ISDN span in the Trunks view, click the Outbound Caller ID tab, and make sure that all fields under By default send and If it exists, send are unchecked.
The number (617) 111-2345 is always your outbound Caller ID number for all spans	Choose Tools > System Settings . On the General tab, under ISDN outbound Caller ID , select Custom and enter 6171112345 in Number . Make sure that the ISDN spans are set to use the system default.

Desired result	Configuration
Specify a custom Caller ID number for each user that matches their DID number, so people can return their calls easily	<p>Double-click the ISDN span in the Trunks view, click the Outbound Caller ID tab, and check Individual or system default Caller ID number.</p> <p>For each user in the Users view, double-click the user, click the Other tab, set Calling party presentation to “Custom,” and enter the user’s DID number in Calling party Number. Users can select that number or other settings in the Client (Tools > Options).</p>

Recognizing inbound Caller ID name on ISDN lines

If you are using ISDN PRI, you may need to customize certain registry settings in order to correctly receive Caller ID name. See “Configuring Calling Name Identification on PRI boards” on page A-27.

Enabling ISDN Megacom support

If you are using ISDN Megacom service, you must change the TeleVantage Server computer’s registry in order to make outbound international calls. Without this change, international calls will fail, because TeleVantage does not provide the parameter indicating national or international calls that ISDN Megacom service requires.

For instructions on changing the registry for ISDN Megacom calls, see “ISDN Megacom service settings” on page A-29.

Using a partial T1 span

In some cases you might want to use only part of a TeleVantage T1 span, and disable the unused trunks. For example, you may have purchased a partial T1 line from your telephone company, or you may want to use some of the trunks for data rather than phone traffic.

To disable unused T1 trunks in a span

1. In the Trunks view, double-click each trunk that you want to disable in turn. The Trunk dialog box opens.
2. Uncheck both **Accept Inbound calls** and **Allow outbound calls**.
3. Click **OK**.

When you disable a trunk in this manner, TeleVantage responds to incoming calls on it by playing a message that says, “The number you have dialed does not accept inbound calls.”

Note: Do not try to disable trunks for this purpose using the **Device Monitor > Disable Trunk** command in the Device Monitor view. Trunks disabled that way are enabled again whenever the Server is restarted, and TeleVantage does not respond at all to incoming calls on those trunks.

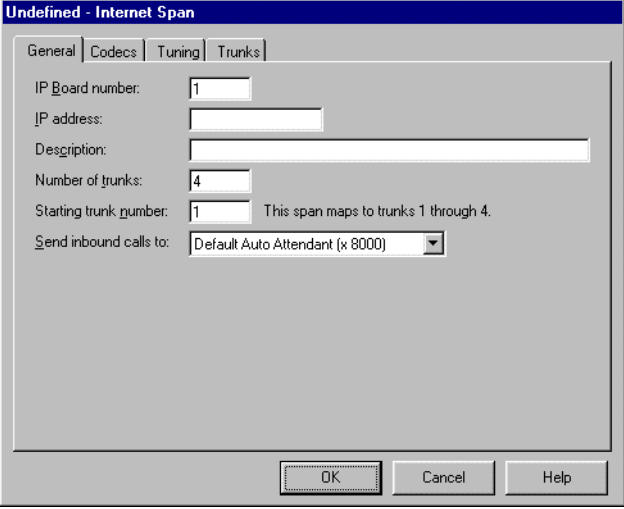
Adding an Internet span

Internet trunks require no physical trunks from your telephone company. However, they require that TeleVantage Server computer has an active, preferably high-speed connection to the Internet, and that you have installed one or more Dialogic Internet telephony boards as described in *Installing TeleVantage*. The Internet “trunks” represent the individual channels that the Dialogic telephony board supports.

Note: After adding Internet trunks to a span, you must restart the computer. If the trunks fail to appear, delete the span and add the span again. Then restart the computer.

To add an Internet span

1. Choose **Trunks > New Trunk > Internet Span**. A new Internet Span dialog box opens.



The screenshot shows a dialog box titled "Undefined - Internet Span". It has four tabs: "General", "Codecs", "Tuning", and "Trunks". The "General" tab is active. The fields are as follows:

- IP Board number: 1
- IP address: (empty)
- Description: (empty)
- Number of trunks: 4
- Starting trunk number: 1 (with a note: "This span maps to trunks 1 through 4.")
- Send inbound calls to: Default Auto Attendant (x 8000)

Buttons at the bottom: OK, Cancel, Help.

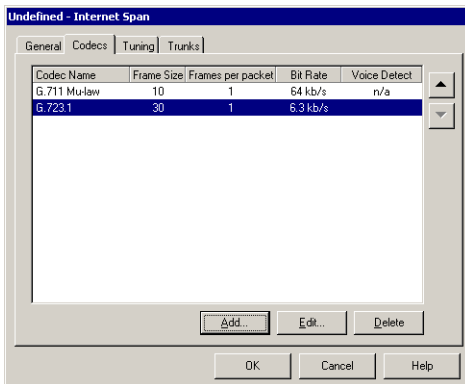
2. Click the General tab and specify the following information for the span:
 - **IP Board number.** The sequence number of the Dialogic DM3 IPLink board installed in your TeleVantage Server computer (the sequence number of the first DM3 board is 1, not 0).
 - **IP Address.** The IP address of the IPLink board if it has its own built-in Network Interface Card (NIC). Otherwise, use the IP address of the TeleVantage Server computer’s NIC.
 - **Description.** A description of the span. Include the address of the span in the description for easy reference.
 - **Number of trunks.** The number of trunks contained in the span. Enter the number of channels available on the Internet telephony board. To find the number of channels available on your board, refer to the model number of the board and *Installing TeleVantage*.

- **Starting trunk number.** The starting trunk number of the span. The dialog box shows you the range of numbers of the trunks belonging to this span. If your system also has analog trunks, the analog trunks must have the lower trunk numbers, so if you have not added them yet, leave room for them in your numbering of the span.
 - **Send inbound calls to.** Select the auto attendant, user, or IVR Plug-in that answers all inbound voice calls on the trunks in this span.
3. Click the Trunks tab and specify how trunks in this span are used:
 - **Accept inbound calls.** If checked, the trunks are used for inbound calls.
 - **Allow outbound calls.** If checked, the trunks are used for outbound calls.
 4. Click the Codecs tab and review the default codecs used by this span for all inbound calls and as dialing service defaults for outbound calls. If you must change TeleVantage’s default codec list, see the next section, “Modifying TeleVantage IP codecs.”

Note: You can override the default span codecs when you set up a dialing service that allocates trunks in this span (see “The Codecs tab” on page 8-13).
 5. Click **OK** to add the span to your configuration.

Modifying TeleVantage IP codecs

A codec is a protocol used to compress and decompress voice signals for transmission over an IP network. When an IP call is established between two devices, the devices automatically choose which codec to use. This choice is based on whether the codec is available to both devices and how highly the codec is preferred by both. This tab lets you make codecs available to your device and arrange them in order of preference. The first codec listed is the most preferred codec. For example, you may prefer one codec over another for bandwidth reasons.



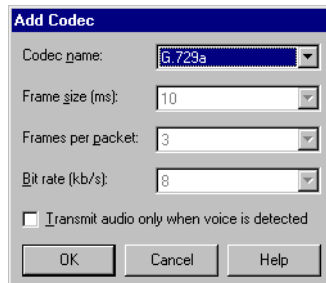
Important: Two TeleVantage Servers connecting over an IP Gateway must use the same codec lists in the same order. If they do not use the same codec lists, audio failure can occur during calls. See “Connecting two Servers using IP Gateways” on page 13-8 for more information about IP Gateway connections.

You can make the following codecs available. See the Known Issues in the Administrator online Help for up-to-date information about the availability of codecs.

- **G.729a.** Best for TeleVantage-to-TeleVantage connections. Offers a good balance between sound quality and bandwidth. (8.8 kbs.)
- **G.711 ALaw, G.711 MuLaw.** Supported by all H.323 gateways and terminals, but high bandwidth. (64 kbs.)
- **G.723.1.** Best for NetMeeting and other H.323 terminals. (5.3 kbs. or 6.3 kbs.)
- **MSGSM.** (13.0 kbs.)
- **GSM.** (13.0 kbs.)

To modify TeleVantage IP codecs

1. In the Trunks view, double-click the Internet span, then click the Codecs tab.
2. If necessary, click **Add** to add another codec, or select a codec and click **Edit** to change any of the parameters used with the codec.



3. In the Add Codec dialog box, select a **Codec name** from the list of codecs supported by the board in the drop-down list.
4. If you want to modify any of the parameters used with the codec, enter the new values. The fields you can change vary depending on the codec you select. If a field is enabled for a particular parameter, select **Any** to accept whatever parameter value the other device sends. Parameters include:
 - **Frame size.** Frame buffer size, in milliseconds. A larger frame size means more latency (time delay).
 - **Frames per packet.** Number of frames in a packet.
 - **Bit rate.** Rate at which data is transmitted over the network.
 - **Transmit audio only when voice is detected.** If checked, only actual voice audio signal is digitized for transmission, not silence.
5. Click **OK** to add the codec and return to the Codecs tab.
6. Continue to add codecs to the service, as needed. Click the arrows to arrange the listed codecs in the order you want. The first codec in the list is the most preferred.
7. Click **OK** on the Codecs tab save your changes.

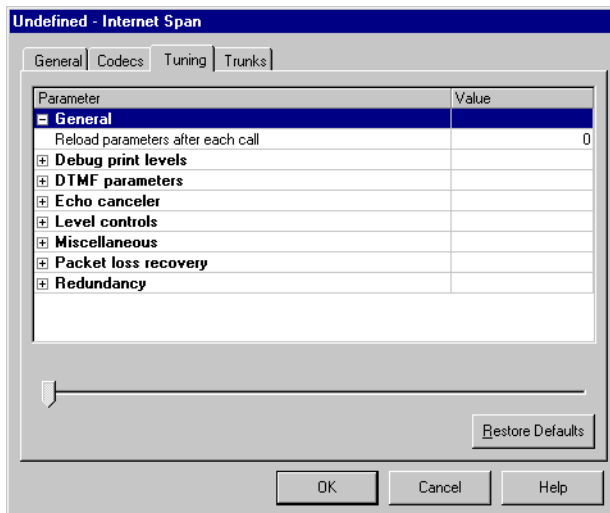
Fine-tuning your IP connection

TeleVantage's Internet Span dialog box includes a Tuning tab on which you can change the board parameters. Any changes you make take effect after the current call ends.

Parameters that may be useful to change include **Echo canceler** and the volume parameter that is located under **Level controls**.

To change a board parameter

1. In the Trunks view, double-click the Internet span to open its dialog box, and then click the Tunings tab.
2. Click the plus sign next to the **Parameter** to expand it.



3. Click in the **Value** column of the parameter that you want to change and select a new value by using the drop-down lists or the slider bar at the bottom of the dialog box.
4. Click **OK** to save your changes or click **Restore defaults** to restore the board defaults and cancel any changes.

Note: If you dial out on an IP-to-Phone Number dialing service and you cannot send digits to an external phone system, increase the values for DTMF Gain and DTMF On-time, under **DTMF Parameters** on this tab.

Entering trunk defaults for a span

When you create a new digital span, you can set the defaults for all the trunks in the span on the Trunks tab.

The screenshot shows a dialog box titled "Undefined - Robbed Bit T1 Span" with four tabs: "General", "Signaling", "Trunks", and "Caller ID Settings". The "Trunks" tab is selected. The dialog contains the following text and controls:

- Trunks on this span will be created using these settings.
- To change the properties of an individual trunk, click OK to create this span and its trunks, then select the trunk and open it.
- Accept Inbound calls
 - Calls are sent to:
 - Faxes are sent to:
- Allow Outbound calls

At the bottom of the dialog are three buttons: "OK", "Cancel", and "Help".

To enter trunk defaults for a span

1. Check **Accept inbound calls** if the trunk is used for inbound calls.
2. In **Calls are sent to**, select the auto attendant, user, or IVR Plug-in that answers all inbound voice calls on this trunk.

In **Faxes are sent to**, select the auto attendant, user, or IVR Plug-in that answers all inbound fax calls on this trunk. See “Setting up fax routing” on page 5-6 for more information.

3. Check **Allow outbound calls** if the trunk is used for outbound calls.

After you add the span, the Trunks tab is disabled. To modify the settings for an individual trunk after the span has been added, edit the trunk in the Trunks view.

Managing stations

This section presents information about adding a station and about phones that are supported in TeleVantage.

To add a station to your TeleVantage system

1. Using phone cable, connect the phone, fax machine, or other device to the TeleVantage Server's Dialogic board, BCP Control Panel, or breakout box, as described in *Installing TeleVantage*.
2. In the User's view of the TeleVantage Administrator, assign the appropriate station number to a user (see "Assigning a station ID" on page 6-11).

Supported phones

See Chapter 5 of *Installing TeleVantage* for a list of supported phones and phone types.

Supporting different types of analog CLASS phones

Two TeleVantage registry settings specify the format used to send Caller ID or visual message waiting indicator information to analog CLASS phones. See "MSI station board settings" on page A-30 for more information.

Important: These two registry settings change the message format sent to all phones connected to the specified MSI, DISI, or HDSI board.

Caller ID information

Caller ID information is sent to a CLASS phone in one of the following formats:

- Single Data Message Format (SDMF), which sends the date, time, and 10-digit Caller ID number.
- Multiple Data Message Format (MDMF), which sends the date, time, 10-digit Caller ID number, and 15-digit caller name.
- United Kingdom message format (UK), which sends the date, time, 18-digit Caller ID number, and 20-digit caller name. This information is only delivered as Caller ID on call waiting, that is, when the user is on another call.

The default format, MDMF, works for most CLASS phones, as does SDMF.

Note: These formats specify only how TeleVantage sends Caller ID information to CLASS phones. They do not affect how Caller ID information is passed along with a call by the phone company.

Visual message waiting indicator information

Visual message waiting indicator information is sent to a CLASS phone in either SDMF or MDMF.

The TeleVantage default is the SDMF format. If the message waiting light on your CLASS phone does not work, try changing the `VMWI_FSK_FORMAT` setting to MDMF.

Having a station automatically dial when picked up

You can configure a station to automatically dial a number whenever it comes offhook. You might want this feature in the following situations:

- A lobby or waiting-room phone that automatically calls the Operator.
- A hotline phone that calls a key person, like the company president.
- Phones that call an IVR Plug-in. You can use this feature to set up information kiosk phones that play messages in response to caller questions.

You can configure the station to dial any TeleVantage extension or external number.

To configure a station to automatically dial when picked up


1. In the TeleVantage Administrator, go to the Users view and double-click the user whose station you want to configure.

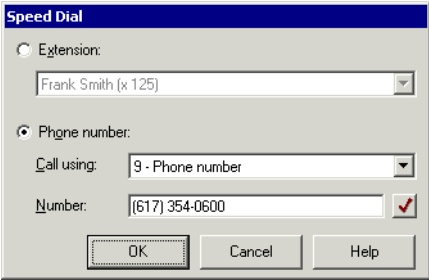
If the station you want to configure is shared by more than one user, double-click any of those users.

2. In the User dialog box, click the Phone tab.

3. Check **On off-hook, automatically speed dial**.

If unchecked, the station does no automatic dialing when taken offhook.

4. Click  to open the Speed Dial dialog box.



The Speed Dial dialog box has a title bar with the text "Speed Dial". It contains two radio buttons: "Extension:" and "Phone number:". The "Phone number:" radio button is selected. Below the "Extension:" radio button is a drop-down menu with the text "Frank Smith (x 125)". Below the "Phone number:" radio button is a "Call using:" drop-down menu with the text "9 - Phone number" and a "Number:" text box with the text "(617) 354-0600" and a checkmark icon. At the bottom are three buttons: "OK", "Cancel", and "Help".

5. Select or enter the number to automatically dial whenever the phone is taken offhook, as follows:
 - To choose an extension, click **Extension** and select the extension from the drop-down list.
 - To choose an external number, select the dialing service to use from the **Call Using** drop-down list, then enter the number in the **Number** field.
6. Click **OK** to close the Speed Dial dialog box.
7. Click **OK** to close the User dialog box.

Setting up stations to require logon before placing calls

You might want the area phones in your office—for example, phones in lobbies or conference rooms—to be unable to place calls unless a TeleVantage user logs in. Unauthorized people would then be unable to place external, perhaps long-distance calls from your office, and you would also ensure that all calls from those phones appeared in the Call Log with the name of the users who dialed them.

To require logon before placing calls

1. Create a Role called, for example, “Area Phones.” Set the permission **Place external calls from a station** to “Disallow.” See “Managing roles” on page 6-46.
2. For each area phone in your office, create a placeholder user named after the phone, for example, “Conference Room 1,” “Waiting Room,” and so forth. Give each placeholder user the station ID of the corresponding area phone. Assign the placeholder users the “Area Phones” role only. See “Adding users” on page 6-7.”

The area phones now cannot place external calls unless a TeleVantage user logs on. The following optional steps prevent the area phones from placing internal calls as well without user logon:

3. Create an auto attendant whose only menu choice is the **User login** action. Uncheck **Process all other digits as user extensions**. See “Setting up an auto attendant” on page 9-6.
4. Double-click each placeholder user to edit it. On the Phone tab, enter the auto attendant’s extension in **On offhook, automatically speed dial**.

After completing steps 3 and 4, the area phones are configured so that when someone picks one up, he or she is automatically connected to an auto attendant at which logging on is the only option. To place calls, users would pick up the phone, dial the auto attendant’s key for logon (by default #), followed by their extension and password, followed by #, then the number they want to dial.

Viewing station activity

For information about how to view station activity and restart a station that is experiencing problems, see “Monitoring station activity” on page 11-3.

Setting up a remote phone to work with the Call Monitor

Normally, users must be at a TeleVantage station to use the Call Monitor commands in the Client. For a workaround that enables users to use Call Monitor commands at other phones—for example, a remote phone or an IP phone—see Appendix F.

MANAGING USERS AND ROLES

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About users

Unlike a traditional PBX, TeleVantage manages phone traffic by user rather than by device, giving the system the flexibility to handle users who move from phone to phone. This chapter explains how to create and manage users and roles. Roles are collections of specific permissions that are used to grant permissions to users.

Your TeleVantage system can contain the following types of users (choose **File > New > User**):

- **User.** A person using a telephone in your office. Such a user can also use TeleVantage remotely (see *Using TeleVantage*).
- **ACD workgroup user.** A special type of user that routes calls to one or more Automatic Call Distribution (ACD) workgroups. For information about setting up ACD workgroups, see *TeleVantage Call Center Administrator's Guide*.
- **IP Gateway user.** A special type of user that represents a user on a remote TeleVantage Server that is linked to your Server by an IP Gateway connection over the Internet or other IP network. With IP Gateway users, the users on both TeleVantage Servers appear to be local, effectively creating a single large TeleVantage site. For more information, see “Connecting two Servers using IP Gateways” on page 13-8.

The instructions in this chapter refer to the standard User type.

The Admin and Operator users

Two default users are already defined in TeleVantage, as follows:

- **Admin.** The Admin user belongs to the Administrators role. The Admin user and all users who belong to the Administrators role are permitted to run the Administrator application and the Device Monitor application. They also can perform all administrative functions. You cannot delete or rename the Admin user, and you can only change select logon permissions for the Admin user (see “Managing roles” on page 6-46).

You can give individual administrative permissions to any user—for example, permission to shut down the phone system—without making the user a member of the Administrators role. See “TeleVantage permissions” on page 6-49.

- **Operator.** The Operator user is the user to whom all calls are sent by default if they cannot be handled in any other way. For example, if a user’s mailbox cannot be found, the call is sent to the extension assigned to the Operator. You cannot delete or rename the Operator, but you can change the Operator user’s roles and permissions. Operators are covered in detail in the next section.

Changing the Admin and Operator users’ passwords

Immediately after installing TeleVantage, you should change the passwords of the Admin user and Operator user, in order to make your system more secure from unauthorized access. For more information, see Appendix C, “Protecting Your Phone System Against Toll Fraud.”

Operators

Your system can have a main Operator user and also personal operators for other users. This section discusses operators from the Administrator's viewpoint. For more information, see "Customizing the Client for Operators" in *Using TeleVantage*.

Understanding personal operators

The TeleVantage system has one Operator user, but each user can specify a personal operator. A user's personal operator is the extension to which callers are transferred if the caller presses 0 from within the user's voice mailbox or routing list. By default, a user's personal operator is the Operator user, but a user can specify any extension as their personal operators (even that of an auto attendant, IVR Plug-in, or queue). See "Setting up a personal operator" on page 6-14.

How callers are transferred to Operators

The following table shows to which operator callers are transferred when they press 0 in different locations.

Caller presses 0 within	Caller is transferred to
Auto attendant	Operator user If the auto attendant is restricted by workgroup, the caller is transferred to the extension specified in the workgroup's If no answer, transfer field.
Dial-by-name directory	Operator user
User's voice mailbox	Personal operator
User's routing list	Personal operator As soon as TeleVantage knows what user is being called, the call enters that user's routing list.
On hold	Personal operator

Note: If a user does not set up a personal operator, callers are transferred to the Operator user in all cases.

Changing the Operator's extension from 0

You can change the Operator's extension to a number other than the default of 0 (for example, in order to use 0 as a dialing service access code). However, even when the Operator's extension is something other than 0, callers must press 0 to transfer to the Operator. For example, if a caller reaches a user's voice mail, and wants to transfer to the Operator instead of leaving a voice message, the caller dials 0, even if the Operator's extension is 111.

Extending ring duration for live Operator systems

If you have a system in which all calls are answered by a live Operator, you may want to increase the Operator user's ring duration, which determines how long a call rings the Operator's phone before proceeding to the next action on the routing list. An increased ring duration helps ensure that multiple calls continue to ring until they are answered, without being diverted.

By default the maximum ring duration is 120 seconds, but you can increase the maximum to 999 seconds by editing the MaxRingDuration setting as described in "Server\MaxRingDuration" on page A-37.

Setting up workgroups for the Operator

To make it easier for the Operator to transfer calls to different departments, you can set up a separate workgroup for each department in your system. The Operator's Call Monitor will then display a tab for each department, and the Operator will be able to see a list of people in a specific department by clicking on the appropriate tab. See Chapter 7, "Managing Workgroups," for details about setting up workgroups.

Configuring a system without an Operator

If you choose not to have a person act as an Operator in your system, the Operator extension still receives calls whenever callers press **0** from within the system. Even if the Operator user's extension has no station associated with it, voice messages left by callers are saved in the Operator user's mailbox.

If you do not want this to happen, create a new routing list for the Operator user that has a single action—transferring calls to another extension, such as an auto attendant. For instructions, see *Using TeleVantage*.

Setting up multiple Operators

To define multiple Operators—for example, for multiple businesses that share the TeleVantage Server—see "Configuring Operators for multiple Organizations" on page 10-5.

The Users view

The Users view presents information about individual users and roles in your organization. Roles appear in bold in the Users view. For more information about roles, see “Managing roles” on page 6-46.

To add, edit, or delete TeleVantage users, click **Users** in the view bar. The Users view opens. Double-click a user in the view to edit that user.

Name	Extension	DID	Station	Type	Title	Personal Status	ACD DND	Mail Usage	Greeting Usage
ACD Sales	106		6	ACD		Available		1.5%	3.1%
Admin	100		3	User		Available		2.0%	3.1%
Administrators									
Cecilia St. John	227		215	User		Available	✓	1.5%	2.6%
Cynthia Taylor	101		15	User		Do Not Disturb		70.1%	3.1%
Dick Yannopoulos	126		26	User		In A Meeting	✓	1.5%	3.1%
Dingo Fiye	222		0	User		Do Not Disturb		1.5%	2.6%
Doc group									
Frank Smith	125		25	User		Available		2.1%	4.0%
John Sargent	107		7	User		Out Of The Office		1.3%	2.6%
Joshua Fields	172		5	User		Available		2.2%	3.3%
Kenneth Deimoch	666		8	User		Available		2.5%	3.1%
Kevin Flaherty	102		10	User		Available		1.4%	2.9%
Miri Anatolia	555		2	User		Available		1.8%	1.9%
Ned Brown	104		1	User		Available (Non-Queue)		1.5%	3.2%
Operator	0		1	User		Available		0.2%	3.2%
Richard Roque	112		12	User		Available		1.5%	3.1%
Sales Queue user	155		0	User		Available		n/a	1.0%
Shannon Rose Ryan	223		0	User		Available		1.5%	2.6%
User test	129		9	User		Available		1.5%	3.1%
Users									
Vin Williams	171		0	User		Available		1.6%	2.6%

Each user that you add appears as a row in the Users view. The following table shows the information that is displayed for each user.

Column	Description
Name	User's name.
Extension	Extension number dialed to reach the user.
DID	Direct inward dial number used to dial the user directly.
Station	Default station ID (phone device) assigned to the user.
Type	The type of user: User. An individual with an extension on this Server. Can also be a conference room. ACD workgroup user. An automatic call distribution workgroup user. IP Gateway user. A user created to enable IP calls to a user on a remote Server.

Column	Description
Agent	If checked, the user is an agent in one or more call center queues. See the <i>TeleVantage Call Center Administrator's Guide</i> .
Locked Out	If checked, the user is unable to log in to his or her account, due to multiple failed attempts to access that account as defined in System Settings (see "Increasing password security" on page 3-16). To unlock the user's account, uncheck User is locked out on the Security tab of the User dialog box.
Personal Status	The name of the user's current personal status.
ACD DND	If checked, the user is not currently accepting ACD workgroup calls.
Mail Usage	Percentage of allocated voice mail space currently used. For details on how the information in this and the following two columns is calculated, see "Viewing the user's mailbox usage" on page 6-16.
Greeting Usage	Percentage of allocated greeting and voice title space currently used.
Disk Usage	Amount of disk space in megabytes used by the user's voice message, greeting, and voice title files.
Mailbox Size	Total space allocated to the user for voice messages, in minutes.
Greeting Size	Total space allocated to the user for greetings and voice titles, in minutes.
Forwarding To	Number to which the user is currently forwarding calls.
Listed	If checked, the user is listed in the dial-by-name directory.
Voice Title	If checked, the user has a recorded voice title. You can record titles for users on the Recordings tab of the User dialog box, or they can record their own.

Column	Description
Announce Callers	Displays the types of calls to which the user is applying call announcing.
Exchange Sync	If checked, TeleVantage and Microsoft Exchange Inboxes are synchronized.
Comments	Comments added about the user.
Must Change Password	If checked, the user must change his or her password at the next logon. Note: This column is checked only if the field User must change password on next logon is checked for the user (see “The Security tab” on page 6-38). The column is not checked if the user’s password has expired.
Password Never Expires	If checked, the user’s password never expires.
Title	The job title entered for this user. You can enter titles for users when you create them.
Organization	Name of the Organization with which the user is associated, if any.

Adding users

Adding a user to the system allows that person to make and receive calls using TeleVantage. Unlike other telephone systems, TeleVantage assigns access permissions to specific people rather than to devices. Users access the system with their own identities, not the identities of the telephone devices they use.

You must have a Station license available for each user that has an assigned station. It is possible, however, to add a user who does not have an assigned station number, in which case a station license is not used by that user. Such a user is commonly created for ACD workgroups, users with IP phones, users who have only voice mail, and remote users who always have their calls forwarded outside the office. Users without stations do not require Station licenses. For more information about license requirements, see *Installing TeleVantage*.

You can add a new user in the following ways:

- **At the telephone.** This is a convenient way to quickly activate phones when you are setting up a new TeleVantage system (see the next section). However, you must physically go to each user’s telephone to activate it, and must still use the Administrator to finish configuring the details (such as the name) of each user.
- **In the User dialog box.** This method allows you to set up all user options at one time from one location.

- **Using a template.** You can save time and reduce typing when adding new users in the Administrator by creating a template user with characteristics common to all users. You can then copy this template user and customize each new user that you create based on it. You can create different template users for various types of users who share specific properties, for example, ACD agents, remote users, and so on.

Adding a user at the telephone

At the new user's telephone, press ***0** and follow the prompts to create the user and assign an extension. After you successfully add a new user at the telephone, the system also prompts you to record a voice title or change user preferences.

Note: If a user has already been assigned to that phone, you will hear the station ID and extension numbers instead of the prompts.

A new user is created with default information in the User dialog box. For example, if you assign extension 123 to a new user, the User dialog box for that user shows "New" as the first name, "User123" as the last name, and a default password of "123" until you modify the information and set any additional user properties.

If TeleVantage cannot create the user at the telephone extension (for example, a user with that name already exists or there are no more Client licenses available), you must run the Administrator, resolve the issue, and add the user there.

Adding a user in the User dialog box

To create a user, choose **Users > New User**. The following tabs in the User dialog box allow you to add and modify user properties. These properties are described later in this chapter.

- **"The General tab" (page 6-10).** Enter basic information that defines the user to TeleVantage. Assign an extension, station ID, and DID number. Create a password, specify a personal operator, and select a language for telephone prompts.

You also use this tab to create a user for handling ACD agents (see *TeleVantage Call Center Administrator's Guide*) or an IP Gateway user that allows users to directly dial the extension of a user on a remote TeleVantage Server (see "Creating Gateway users to unify two TeleVantage Servers" on page 13-14).

- **"The Recordings tab" (page 6-15).** Allocate space for the user's voice messages, greetings, and voice title. Indicate where call recordings made by this user are sent. Record a voice title. Set up Microsoft Exchange synchronization.
- **"The Notifications tab" (page 6-18).** Set up and schedule e-mail, pager and call notifications of new voice messages.
- **"The Call Handling tab" (page 6-26).** Set up call screening. Specify how the user is listed in the dial-by-name directory. Personalize the user's hold music. Set up call forwarding for the user.
- **"The Phone tab" (page 6-31).** Enable features on the user's telephone, such as Caller ID and message waiting indicator. Specify how long the phone rings before a call is sent to voice-mail.

- **“The Dialing tab” (page 6-36).** Allow the user to make external calls, and specify phone numbers the user can or cannot call.
- **“The Security tab” (page 6-38).** Set permission values and assign roles that determine the options or features that the user can access. Adjust the user’s password-change settings.
- **“The Other tab” (page 6-41).** Enable hands-free mode, set outbound Caller ID and call logging options for the user.

Adding a user by using a template

Create a user, named, for example, “User Template” that has the settings you want all users to share, such as mailbox size and dialing permissions. You can also set up notification options in the template, and you can enable phone features that are applied to all users that are created using the template.

To add a new user based on the template, select the template user in the Users view, and then choose **Edit > Copy**. Choose **Edit > Paste** to open the User dialog box, in which you can customize the new user’s properties, such as first and last name, extension and station ID, e-mail address for notifications, and so on.

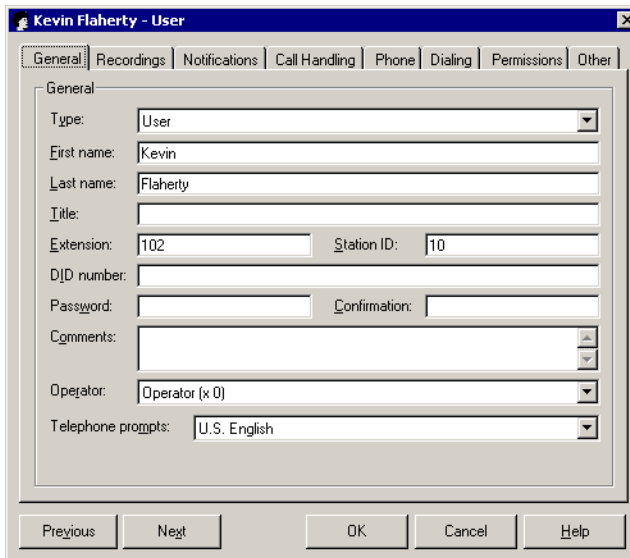
Where to set user options

User options are set in both the TeleVantage Administrator and Client.

- **Some options can only be set in the Administrator.** These options are described in detail in this chapter.
- **Some options can only be set in the Client.** These include the user’s routing list, contacts, voicemail greetings, call rules, and personal workgroups. To edit these options from the Administrator, select the user in the Users view and choose **Users > Edit All Client Settings**. See “Modifying a user’s Client settings” on page 6-44. Client options are described in detail in *Using TeleVantage*.
- **Some options can be set in both places.** You can set up users with standard defaults for your organization and then individual users can customize the settings further. You also can restrict the options that users can customize. These options are described in this chapter and in *Using TeleVantage*.

The General tab

Choose **File > New > User** in the Administrator, and then click the General tab.



The screenshot shows a dialog box titled "Kevin Flaherty - User" with a close button (X) in the top right corner. The dialog has several tabs: "General", "Recordings", "Notifications", "Call Handling", "Phone", "Dialing", "Permissions", and "Other". The "General" tab is selected. The "General" section contains the following fields:

- Type: User (dropdown menu)
- First name: Kevin (text field)
- Last name: Flaherty (text field)
- Title: (empty text field)
- Extension: 102 (text field) and Station ID: 10 (text field)
- DID number: (empty text field)
- Password: (empty text field) and Confirmation: (empty text field)
- Comments: (empty text area with up/down arrows)
- Operator: Operator (x 0) (dropdown menu)
- Telephone prompts: U.S. English (dropdown menu)

At the bottom of the dialog are five buttons: "Previous", "Next", "OK", "Cancel", and "Help".

Identifying the user

In **Type**, choose **User**. Then enter the user's **First name** and **Last name**. You must enter a name in one of the name fields. You can enter the user's **Title** and any **Comments** (such as the user's department) that you want to be displayed along with the user name in the User view.

It can be helpful to use the **Title** field for the user's department, for example, "Sales." When a caller requests to be transferred to someone in Sales, the Operator can see all the users in the Sales department grouped together in the Client's Transfer Call dialog box. You can also use workgroups to group users by department (see Chapter 7, "Managing Workgroups").

Assigning an extension

A user's extension is the number callers dial to reach the user. Extensions must comply with the following restrictions:

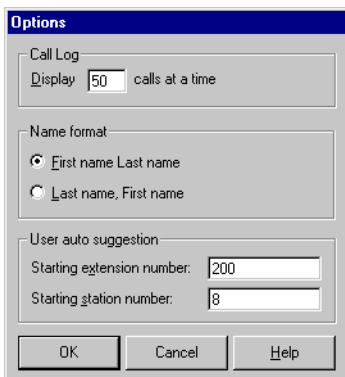
- No longer than 10 digits
- Numeric characters only
- Must be unique

In addition, follow these recommendations when assigning extensions:

- Avoid extensions that begin with another extension or access code. For example, if one user is given extension 17 and another extension 177, users who dial extension 17 will experience a brief delay while TeleVantage waits to see if another “7” is dialed. See “Avoiding dialing ambiguities” on page 8-6 for more information.
- Avoid extensions that begin with the same number used for an auto attendant menu choice. Callers will be unable to dial the extension at the auto attendant, because they will activate the menu choice instead. See “Setting up an auto attendant” on page 9-6.
- Avoid extensions that begin with frequently dialed area codes—if users forget to dial an access code, they may unexpectedly dial the extension instead. For example, if 1-617 is a commonly dialed prefix for your location, do not assign extension 161.

When you create a new user, you can accept the extension suggested automatically by TeleVantage or you can assign a different one. TeleVantage suggests the next-highest extension number that has not yet been assigned, and it reuses extensions that have been unassigned.

By default, new extensions are assigned starting with extension 100. If you want all your extensions to start with a different number, choose **Tools > Options**, and then enter the **Starting extension number** under **User auto suggestion**.



Note: You can give the Operator user an extension other than the default of 0. See “Changing the Operator’s extension from 0” on page 6-3.

Assigning a station ID

A user’s **Station ID** is the numeric identifier of the telephone at the user’s default location. To find the station ID of the user’s phone, pick up the phone and dial *0. For users without a telephone, remote users, or users with an IP phone, enter a station ID of 0. Note that station ID is not used for users of the type **ACD workgroup** or **IP Gateway**.

Station ID corresponds to the interface on the station board to which the station is connected. On systems using BCP Connection Panel, this number is often the same number as that displayed on the BCP connection jack to which the phone is attached.

TeleVantage handles a user's assigned station as follows:

- **Inbound calls.** Calls to the user's extension ring that station, unless the user routes calls elsewhere by using call forwarding or a routing list.
- **Outbound calls.** By default, TeleVantage treats all calls from the station as if the user is making them. They appear in the Call Log as being from the user and are subject to the user's dialing restrictions and permissions.

Other users can temporarily associate themselves with the station by logging in, using either the telephone commands at that station or the TeleVantage Client at that workstation. While logged in, TeleVantage treats outbound calls as being from them.

Changing the station ID default

When you create a new user, TeleVantage suggests the lowest unassigned station ID. By default, your first station IDs are assigned starting with station ID 1. To start with a different station ID, choose **Tools > Options** and enter a different **Starting station number**. The station ID you enter for a user, however, must always be the actual station ID of the user's phone for TeleVantage to work correctly.

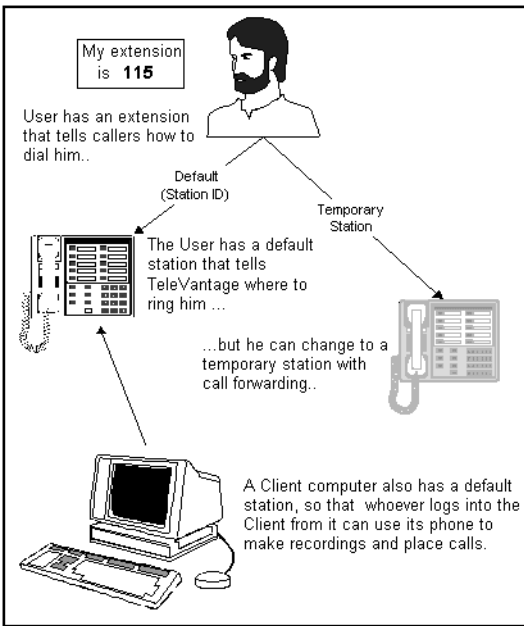
Assigning analog stations 1-4 for Watchdog mode

On analog systems using the BCP connection panel, TeleVantage's Watchdog mode provides limited phone service in the event of a power failure or Windows server failure, by automatically routing the first four incoming analog trunks to stations 1-4. If your site uses this analog setup, you should assign station 1 to your Operator and stations 2-4 to people who are assigned to answer phones in the event of a system failure.

About users, stations, and workstations

A TeleVantage *workstation* is the combination of a TeleVantage station and a computer running the TeleVantage Client (or other TeleVantage workstation application). Just like a user, a workstation computer has an assigned station, which is usually the phone closest to it. The computer rings its assigned station whenever you perform a TeleVantage Client command requiring a phone, for example speed-dialing a call or making a recording. The computer's station is assigned when you install the TeleVantage workstation applications, and you can change it at any time by clicking **Options** when you log on to the Client or Administrator (see "Logging on to the Administrator" on page 2-2).

Note: A workstation computer has one assigned station that holds true for all TeleVantage applications on it. For example, when you change the assigned station for the Client, it changes for the Administrator too.



It is important to understand the distinction between a user's extension and station ID:

- **Extension.** The number that callers dial to reach the user, not the number they dial to reach the telephone on the user's desk. Because users can set up call forwarding or routing lists to route their calls elsewhere, a call to a user's extension might actually ring another phone in the office, their home phone, a cell phone, and so on.
- **Station ID.** The station ID represents the physical telephone assigned to the user, and the user's default location. In the absence of call forwarding or other custom changes, calls to the user's extension ring his or her station. There is no way to dial a phone according to its station ID.

Setting up conference room, fax, or area phones

All stations must be assigned to a user, even phones that are not associated with an individual in the workplace, such as a conference room phone. To represent such phones, create dummy users called "Conference Room 1," "Mail Room," "Sales Fax Machine," and so forth, and assign the stations to them.

Assigning multiple users the same station

You can give multiple users the same station ID, which means they share the same phone. Outgoing calls from the phone are attributed in the Call Log to the user who logged on most recently.

For example, Steve and Dorothy work different shifts, but they share the same workstation. At the beginning of his shift, Steve logs on to the Client. In the Call Log, the **From** column for calls he makes contains “Steve”. At the end of his shift he logs off and exits the Client. Dorothy then starts work, and makes a call using the telephone. Because she forgot to log in, this call is also identified in the Call Log as having been placed by Steve. After Dorothy logs in, either via the Client or the telephone commands, the station is in her name and the calls she makes are attributed to her in the Call Log.

Assigning a DID number

You can assign a **DID number** to a user from the block of numbers provided by your telephone service provider. When TeleVantage recognizes this number as the final digits on an inbound call, the caller is automatically connected to this user, bypassing the main auto attendant.

To assign multiple DID numbers to a user, separate each number with a comma (.). For more information about DID, see “Telephone company services that help TeleVantage” on page 5-5.

Creating a password

Enter a numeric **Password** that controls access to the user's voice mail and account options. This password also allows the user to log on to the TeleVantage Client. The user's password can be changed either on this tab or in the Client.

Retype the new password in the **Confirmation** field.

Important: Assigning secure passwords is one of the key means by which you can protect your business from unauthorized access, and lost money due to toll fraud. See Appendix C, “Protecting Your Phone System Against Toll Fraud.”

User passwords must conform to your system's password requirements. See “The Security tab” on page 3-15.

Setting up a personal operator

By default, TeleVantage dials the Operator user's extension whenever a caller presses 0 while listening to a user's greeting or leaving a message. To transfer calls to another user instead (for example, a departmental operator, personal assistant, or other auto attendant), select the user to whom you want to transfer calls from the **Operator** drop-down list on the General tab. For more information about operators, see “The Admin and Operator users” on page 6-2. A personal operator can be also be set in the TeleVantage Client.

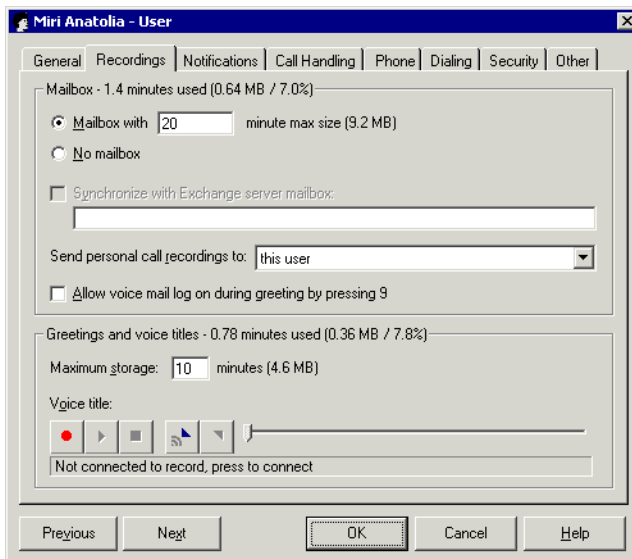
Choosing a language for telephone prompts

On the General tab, in the **Telephone prompts** drop-down list, select the language that you want to be used for this user. When the user logs on or is identified on the telephone, TeleVantage automatically switches to this language for all subsequent system prompts during the call. The language can be also be set in the TeleVantage Client. This setting does not affect any prompts that other callers or users hear.

If you see only one language listed, you must reinstall the TeleVantage Server to add other languages. See *Installing TeleVantage*.

The Recordings tab

Use the Recordings tab to configure the user's voice mailbox, record the user's voice title, and allocate space for greetings and voice titles.



Configuring the user's voice mailbox

In **Mailbox with __ minute max size**, enter the maximum size of the mailbox, in minutes. Mailboxes can be as large as 9999 minutes.

Choose the default setting of 20 minutes (9.2 MB of storage) for typical users. You may need to increase the default for users who record calls, because call recordings (including those that were e-mailed to the user) are stored in the user's mailbox.

To create an extension without a voice mailbox, for example, a conference room, fax machine, or an IP Gateway user, click **No mailbox**.

Enabling Microsoft Exchange Server synchronization

You can enable synchronization of a user's TeleVantage voice messages with the corresponding e-mail notifications in Exchange.

To enable synchronization

1. Check **Synchronize with Exchange Server mailbox**. If this control is disabled, first set up Exchange Server notification on the Other tab of the System Settings dialog box. For more information, see "Using Microsoft Exchange synchronization" on page 3-18.
2. Enter the user's Exchange Server mailbox. This can be obtained from Microsoft Exchange.

Note: Exchange Server mailboxes must not be confused with the e-mail address supplied when setting up e-mail notification for the user (see "Setting e-mail notification" on page 6-19). One of the e-mail addresses specified for the user for e-mail notification must route e-mail to the Exchange Server mailbox that you specify here.

Choosing the mailbox for call recordings

By default, call recordings that the user makes manually from the TeleVantage Client's Call Monitor are sent to the mailbox of the user who made them. Select a name from the **Send personal call recordings** to drop-down list on the Recordings tab to send personal recordings to another user's mailbox.

Note: This field applies only to call recordings manually made by the user. The destination for automatic call recordings made by the system and by queues are set separately. See Chapter 4 and the *TeleVantage Call Center Administrator's Guide*.

Viewing the user's mailbox usage

The **Mailbox** frame displays how full the user's voice mailbox currently is, in minutes, MB and percentage of total space.

To avoid slowing the opening and scrolling of the Users view, TeleVantage does not dynamically recalculate these totals. Totals are recalculated once a day at 1:00 a.m. However, you can recalculate the totals at any time by choosing **Tools > Recalculate Disk Usage**.

Allocating space for recorded greetings and voice titles

In **Maximum storage**, enter the number of minutes of recorded greetings and voice titles the user can save. These voice file types include the following:

- **Greetings.** All greetings displayed in the Client's Greetings view, plus the user's grab-and-hold greeting.
- **Voice titles.** The user's own voice title plus all voice titles for the user's contacts.

The default setting of 10 minutes requires 4.6 MB of storage. The Administrator opens a warning message if the total allotment of voice message and greeting space for all users exceeds the available disk space on the TeleVantage Server.

Enabling voicemail greeting logon

By default, users can log on to their TeleVantage accounts from a TeleVantage station or auto attendant only. You can also choose to let this user log on by pressing 9 during his voicemail greeting. If you have a DID-based system that uses no auto attendants, you should enable this feature for all users, because it is the only way for them to access their accounts remotely. To enable the feature, check **Allow voice mail log on during greeting by pressing 9**.

With this form of logon, the system prompts the user for password only, not extension.

Note: Voicemail greeting logon can be slightly less secure than auto attendant logon. If you enable voicemail greeting logon, you should enforce secure passwords. See “Restricting password options” on page 3-15.

Recording the user’s voice title

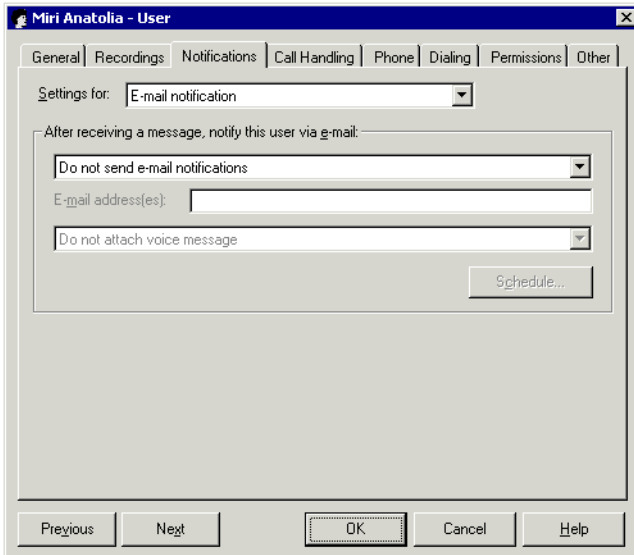
A user’s voice title is a short recording consisting only of the user’s name. TeleVantage uses the voice title in several prompts, for example, the call screening prompt when the user calls another user (the user receiving the call hears “Call from <voice title>”). Users can record their voice titles themselves in their own voices, using either the telephone commands or the Client. However, since the voice title is a critical part of the TeleVantage system (for example, users without a voice title are not listed in the dial-by-name directory), it is recommended that you record them, after which those users who want to re-record them can do so.

To record the voice title, use the audio controls under **Voice title**. See “Using the audio controls” on page 2-10.

The Notifications tab

You can set TeleVantage to send notification by e-mail, page, or phone call whenever a user receives a new voice message. This powerful feature enables users to keep abreast of their TeleVantage voicemail no matter where they are. Notification messages include important details about the call, and give users quick access to hearing the message and responding to it. TeleVantage can send notifications for all voice messages or for Urgent messages only. You can also send notifications only at certain days or times.

Users can also configure notifications in the TeleVantage Client.



Note: Notifications are sent only for new voice messages, not new call recordings that arrive in a user's Inbox.

Notification information

The following information is attached to notifications of each type, making them a powerful tool for voicemail management, even at a remote location.

E-mail notifications can contain:

- Caller's name
- Phone number at which the call originated
- TeleVantage extension at which the message was left
- Voice message length
- Notes associated with the message
- Voice message as a .WAV file attachment

Pager notifications can optionally contain:

- Caller ID for message
- TeleVantage extension that was dialed
- Voice message length

Call notifications contain:

- Voice title of the user who received the message
- Voice title or recorded name of the person who left the message, if available
- Identification of urgent messages
- Length of the voice message
- Ability to press # right from the call and hear the message, then press **43** to call them back.

Determining which voice messages send notification

For each notification type—e-mail, pager, and call—you can define how often notifications are sent, using the following drop-down list options:

- **Do not send notifications.** The user does not receive notification of new voice messages.
- **Send notification for all messages.** The user receives a notification whenever new voice messages arrive.
- **Send for Urgent messages only.** The user receives a notification whenever voice messages marked Urgent arrive.

Setting e-mail notification

Make sure e-mail notification is configured properly as described in *Installing TeleVantage*. See “Configuring e-mail notification support” in Chapter 10 of that manual for more information.

1. From the **Settings for** drop-down list, select **E-mail notifications**.
2. Select whether e-mail notifications occur, and if so, how often. See the previous section.
3. In the **E-mail address(es)** field, enter the e-mail address to which notifications are sent. Separate multiple addresses by semicolons (;).

Note: Valid e-mail addresses must be in the format `user@company.com` or be resolvable via the address book of the e-mail client configured on the TeleVantage Server. For example, the e-mail address “Bob Smith” will work if the address book is configured to look up or resolve on that name.

4. In the next drop-down list, choose whether the voice message is attached to the e-mail as a .WAV file, by selecting one of the following:
 - **Do not attach voice message.** The voice message is not attached to the e-mail.
 - **Attach voice message.** Messages are attached to the e-mail and also appear in the user's TeleVantage Inbox marked as unheard.
 - **Attach voice message and mark as already heard.** Messages are attached to the e-mail and appear in the user's Inbox marked as already heard.
 - **Attach voice message and delete from Inbox.** Messages are attached to the e-mail only, and do not appear in the user's TeleVantage Inbox. You cannot select this option if Exchange synchronization is enabled for a user (see "Enabling Microsoft Exchange Server synchronization" on page 6-16).

Setting pager notification

1. From the **Settings** for drop-down list, select **Pager notifications**.
2. Select whether pager notifications occur, and if so, how often. See "Determining which voice messages send notification" on page 6-19.
3. In the **Page using** field, select the dialing service that you want TeleVantage to use to dial the user's pager.
4. In the **Dial Sequence** field, enter the dial string for the pager, including the phone number of the paging service and the pager's PIN if required. The dial string can contain any touch tone digit (0-9, *, #). You can enter commas to indicate 1-second pauses in the dial sequence.

You can also use the following special characters to add information to the page:


- I or i sends the Caller ID number (for an external call) or TeleVantage extension (for an internal call).
- E or e sends the TeleVantage extension that the caller dialed.
- L or l sends the length of the voice message in seconds.

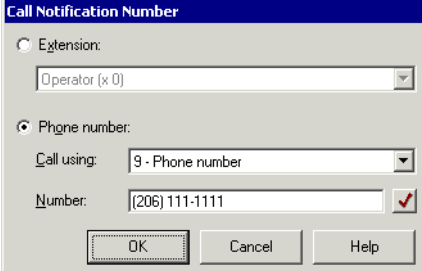
For example, the dial sequence 18007771000,,1245983#E causes TeleVantage to dial the paging service, pause for 3 seconds, enter the pager's PIN (1245983) followed by # to indicate end-of-PIN, enter your extension (where the voice message was left), and then hang up. In this example, your pager displays only the extension number.

If users receive only the last portion of the pager data specified, there are not enough pauses between the pager number and the information. If this problem occurs, add more commas.

Note: Do not enter multiple stars (*) in a row in the pager string. Use only one star to send a dash. Multiple consecutive stars can terminate the page message.

Setting call notification

1. From the **Settings for** drop-down list, choose **Call notification**.
2. Select whether call notifications occur, and if so, how often. See “Determining which voice messages send notification” on page 6-19.
3. Click  in the **Number** field to open the Call Notification Number dialog box.



The dialog box titled "Call Notification Number" has a blue header. It contains two radio buttons: "Extension:" (unselected) and "Phone number:" (selected). Under "Extension:", there is a drop-down menu with "Operator [x 0]" selected. Under "Phone number:", there is a "Call using:" drop-down menu with "9 - Phone number" selected, and a "Number:" text field containing "(206) 111-1111" with a red checkmark icon to its right. At the bottom are three buttons: "OK", "Cancel", and "Help".

4. Choose one of the following options:
 - Click **Extension** and select an extension from the drop-down list.
 - For an external number, use the **Call Using** drop-down list to select the access code and dialing service to use when placing notification calls. Then enter the number to dial in **Number**, exactly as it should be dialed.
5. Click **OK**.

Scheduling notifications

If you do not want to receive notifications 24 hours a day, 7 days a week, you can schedule notifications to occur at specific times only. For example, you can have TeleVantage send notifications only during business hours or after business hours on work days. You can also set up custom hours. You can create different schedules for e-mail, pager, and call notification. Notifications can also be scheduled in the TeleVantage Client.

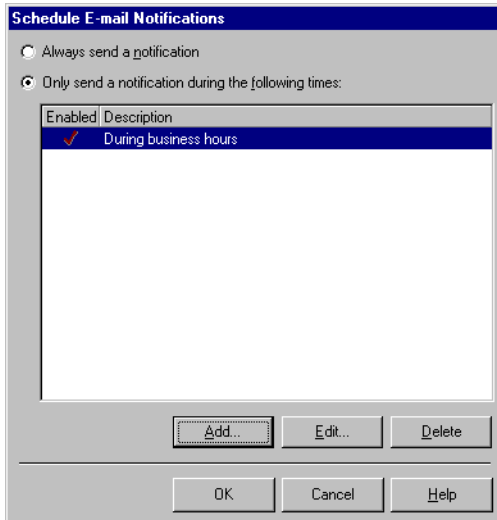
Note: When you turn notification on for a user, by default TeleVantage sends notifications 24 hours a day, 7 days a week. If this is what you want to do, you do not need to schedule notifications.

A schedule contains individual schedule entries. For example, if you want a user to be notified of new voice messages during business hours and all day on holidays, you would add a schedule entry for “during business hours” and another schedule entry for “on holidays.” You (or users) can define custom schedule entries for even greater precision.

You can enable or disable each schedule entry as needed. For example, if you do not want a user to be paged during a specific upcoming holiday, disable the schedule entry for “on holidays.” You can enable it after the holiday has passed.

Defining a schedule for notifications

After setting the options in the e-mail, pager, or call section on the Notifications tab, click **Schedule** in the appropriate section to define a schedule for notification. The Schedule (E-mail/Pager/Call) Notifications dialog box opens. The **Schedule** button is unavailable until you have created notification settings on the Notifications tab.

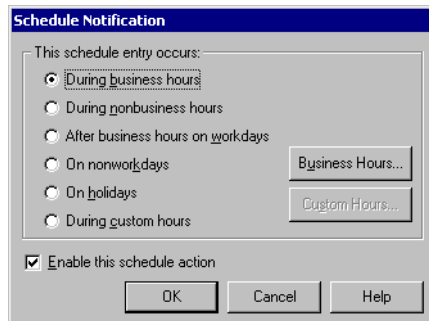


The Schedule Notifications dialog box lists the schedules that have been defined so far, if any. Click one of the following:

- **Always send a notification.** The schedule entries in the list (if any have been created) are ignored, and the user receives notification of new voice messages at all times.
- **Only send a notification during the following times.** The user receives notification only during the times specified in the schedule entries that appear in the list with a check mark in the Enabled column.

To add a schedule entry

1. To add a schedule entry, click **Add**. The Schedule Notification dialog box opens.



2. To view or change the business and holiday hours used for scheduling, or to create other sets of business hours, click **Business Hours**. See “To define business hours” on page 3-3.
3. Under **This schedule entry occurs**, choose one or more of the following time periods during which you want to notify the user of new voice messages. For purposes of illustration, each of the time periods in the following list show in parentheses what would be the result of selecting that time period in a company whose business hours are Monday through Friday, from 9:00 a.m. to 5:00 p.m.
 - **During business hours.** (Notifications are sent during business hours, Monday through Friday, from 9:00 a.m. to 5:00 p.m.)
 - **During nonbusiness hours.** (Notifications are sent at all times other than business hours, including early mornings, evenings, weekends, and holidays. Notifications are sent Monday through Friday, 5:01 p.m. to 8:59 a.m., and on Saturdays, Sundays, and holidays.)
 - **After business hours on workdays.** (Notifications are sent Monday through Friday, 5:01 p.m. to 8:59 a.m.)
 - **On nonworkdays.** (Notifications are sent on Saturdays and Sundays.)
 - **On holidays.** (Notifications are sent on holidays.) See “To define business hours” on page 3-3.
 - **During custom hours.** (Notifications are sent during specific days and hours independent of the business and holiday hours already defined.) See “Setting up custom hours” on page 6-24.
4. Be sure to check **Enable this schedule action**, and then click **OK**. Now the schedule in the Schedule Notifications dialog box includes the schedule entry you just created. Add more schedule entries as needed, and then click **OK** when you are finished.

Setting up custom hours

You can define custom hours that are not related to your office's business hours and holidays and use them to schedule notifications, auto attendant actions (described in Chapter 9), and routing list actions (described in Chapter 8). Custom hours are specific to the user, auto attendant, or routing list for which you create them. That is, the custom hours you set up for a user do not apply automatically to other users. Custom hours for a user can also be set up in the TeleVantage Client.

When setting custom hours, you can enter dates and times in most formats—they are converted to a standard format based on your Windows regional settings.

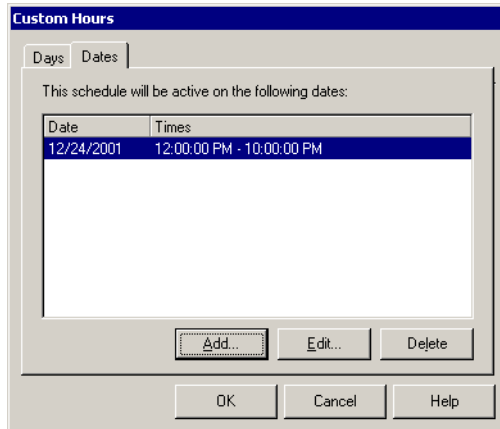
To set custom hours

1. Click **Custom Hours** in either the Schedule Notification dialog box (for users) or the Schedule Action dialog box (for auto attendants). The Custom Hours dialog box opens.

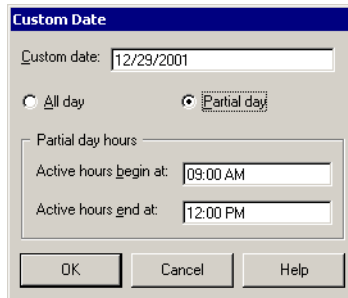
Days:	Hours:
<input type="checkbox"/> Monday	
<input checked="" type="checkbox"/> Tuesday	5:00 PM - 8:00 PM
<input type="checkbox"/> Wednesday	
<input checked="" type="checkbox"/> Thursday	5:00 PM - 8:00 PM
<input type="checkbox"/> Friday	
<input type="checkbox"/> Saturday	
<input type="checkbox"/> Sunday	

2. On the Days tab, check each day of the week for which you want the custom schedule to be active. If you leave the **Hours** field blank for a selected day, the entire day is included in the custom schedule. To include only part of a day, enter starting and ending hours.

3. On the Dates tab, click **Add** if you want to apply the custom schedule to a specific date.



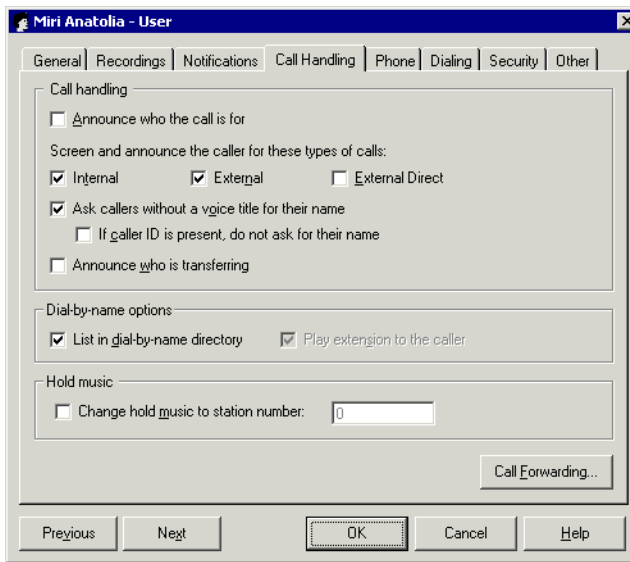
4. In the Custom Date dialog box that opens, enter the **Custom date**, and then click **All day** or **Partial day**. For a partial day, enter starting and ending times.



5. Click **OK** to add the custom date to the list on the Dates tab of the Custom Hours dialog box.

The Call Handling tab

You set up call screening, dial-by-name options, and hold music for a user on the Call Handling tab.



Setting up call screening and announcing

TeleVantage provides two call-screening features—call announcing and call screening—that verbally give the user information about incoming calls. The user can then decide whether to accept or decline a call. When turned on, a user picking up his or her ringing phone is not connected to the caller. Rather, the user hears a message identifying the call, then a prompt to accept or decline the call. These features are especially useful when the user is not running the TeleVantage Client. For more information about answering the phone with call screening and call announcing, see *Using TeleVantage*.

To turn off call screening and announcing, so that the user is connected directly to the caller when picking up the phone, uncheck **Announce who the call is for**, **Internal**, **External**, and **External Direct**.

Call announcing

Check **Announce who the call is for** to have TeleVantage announce whom the call is for when the user answers the phone. The user hears “Call for” followed by the name of the user whose extension was dialed. This feature is useful if the user shares a phone. It is also convenient if the user receives both personal and call center calls.

Call screening

When call screening is turned on, the user picking up the phone hears “Call from,” followed by the name of the caller.

To turn on call screening

1. Under **Screen and announce the caller’s name for these types of calls**, turn call screening on for any of the following types of calls by checking them:
 - **Internal.** Calls from TeleVantage users.
 - **External.** External calls routed to the user by an auto attendant or operator.
 - **External direct.** Calls dialed directly using the user’s DID number, or calls that come in on a trunk configured to send calls to this user.
2. Check **Ask callers without a voice title for their name** if you want TeleVantage to prompt callers to say their names if no voice titles have been recorded for them. The caller’s answer is then played to the user after the “Call from” message.

With this field unchecked, when the user receives a call from a caller without a voice title he or she hears either “Call from internal user,” “Call from external caller,” or “Call from contact.”

If the user has a phone with a Caller ID display, you can check **If Caller ID is present, do not ask for their name**, since the user can see who is calling. This avoids prompting callers to identify themselves unnecessarily. When Caller ID is not present, name prompting is used.

3. Check **Announce who is transferring** if you want TeleVantage to play the voice title of the user who is transferring a call.

Setting up call forwarding

Call forwarding directs the user’s incoming calls to ring at another phone, either another extension or an external number.

A change to call forwarding automatically updates the **Where I Am** location in all of the user’s routing lists. The **Where I Am** location is normally the first step in a routing list. Therefore, when call forwarding is turned on, a routing list rings the forwarding phone number as the first step, and does not ring the user’s default station. Call forwarding options can also be set in the TeleVantage Client. For more information about routing lists, see *Using TeleVantage*.

To turn on call forwarding

1. On the Call Handling tab of the User dialog box, click **Call Forwarding**. The Call Forwarding dialog box opens.

The screenshot shows the 'Call Forwarding' dialog box. It features a checked checkbox for 'Forward Calls (change "where I am")'. A list of forwarding destinations is shown, with 'to my home number...' selected. The 'Call using:' dropdown is set to '9 - Phone number'. There is a 'Number:' field with a checkmark icon. An unchecked checkbox for 'Attempt Centrex/PBX transfer' is present. Below, the 'When forwarding calls to an external number' section includes a 'Call number for' field set to '30' seconds, and two unchecked checkboxes: 'Prompt recipient for password' and 'Prompt recipient to accept or decline call'. At the bottom, there is an unchecked checkbox for 'Ignore call rules and use Standard routing list' and three buttons: 'OK', 'Cancel', and 'Help'.

Note: The call forwarding settings in this dialog box may be overridden if a user changes the active settings directly or applies a personal status with different call forwarding preferences. For more information, see *Using TeleVantage*.

2. Check **Forward Calls (change “where I am”)** and select one of the following from the list of locations:
 - To forward calls to another extension, select **to another extension** in the list of locations and then select the extension from the drop-down list.
 - To forward calls to an external phone number, Internet address, or other destination, select the appropriate category in the left pane, and then enter the dialing service in the **Call using** field and the number in the **Number** field.
 - See “Forwarding calls over Centrex/PBX trunks” on page 6-30 for an explanation of the **Attempt Centrex/PBX Transfer** field.
3. Under **When forwarding calls to an external number**, choose any of the following:
 - **Call number for __ seconds.** Determines for how long a call rings at the forwarded phone before proceeding to the next step on the user’s routing list (usually voice mail). If the option **Prompt recipient for password** or **Prompt recipient to accept or decline call** is checked (described below), you must allow at least 30 seconds. Otherwise the call might be sent to voice mail before the user finishes listening and responding to the prompts.
 - **Prompt recipient for password.** If checked, the person who picks up the phone hears, “Call for <the user’s voice title>. Please connect me.” To be connected to the caller, the user must enter a valid TeleVantage password. Choosing this option ensures that only users can receive their forwarded calls.

This option is used only when calls are forwarded to an external number and the user has a voice title recorded.

- **Prompt recipient to accept or decline call.** If checked, when the user picks up the phone, TeleVantage announces the caller (“Call from”) and intended recipient (“Call for”) and offers the option to accept or decline the call. Declined calls proceed to the next step in the user’s routing list, usually voice mail.

Note: When you forward calls to a mobile phone, make sure that you check **Prompt recipient to accept or decline call**. See “Mobile phone issues with forwarded calls” on page 6-29.

4. Select **Ignore call rules and use Standard routing list** if you want to send all of the user’s incoming calls to the forwarded phone. This setting disables the user’s call rules and uses the Standard routing list for all calls. See *Using TeleVantage* for an explanation of routing lists and call rules.

Leaving this field unchecked keeps the user’s active routing list and call rules in effect, which means that some calls might ring elsewhere than the forwarded phone.

5. Click **OK**.

To turn the user’s call forwarding off, uncheck **Forward Calls** in the Call Forwarding dialog box.

Mobile phone issues with forwarded calls

Calls to a mobile phone are picked up by the mobile phone company first and then passed to the individual phone. When TeleVantage detects the first pickup, it stops proceeding down the routing list, whether or not anyone has actually answered the mobile phone. For this reason, when forwarding calls to a mobile phone, always check **Prompt recipient to accept or decline call**. TeleVantage then relies on user input to signal a connection. TeleVantage proceeds down the routing list unless someone explicitly accepts the forwarded call.

Call forwarding and voice mail

If a forwarded call is not answered, it is sent to the user’s voice mail.

To completely transfer a user’s calls to another user’s phone, so that the other user receives voice mail as well as the calls themselves, do not use call forwarding. Instead, use the Client to create a routing list whose final (and only) action is Transfer to Extension, and make it the user’s active routing list. See *Using TeleVantage*.

Forwarding calls over Centrex/PBX trunks

If your Server uses Centrex trunks, is connected to an external PBX, or is connected to another TeleVantage server with an IP Gateway, you can forward calls using the option **Attempt Centrex/PBX transfer**, which economizes TeleVantage's trunk usage.

If this option is checked, TeleVantage does the following:

- If the incoming call is on an analog Centrex/PBX line, TeleVantage attempts to route the user's incoming calls out to the forwarding number on the same trunk line using a Centrex or external PBX transfer, thus saving two TeleVantage trunks. Incoming calls on other analog trunk types are routed to the forwarding number in the usual way, using a second trunk.
- In cases where a call is forwarded between three TeleVantage Servers using IP Gateways, TeleVantage performs call path replacement to conserve trunks. For example, if a call starts on Server A, goes to Server B, and is forwarded to Server C, TeleVantage automatically simplifies the path to a direct connection between Server A and Server C, thus saving trunk usage on Server B. For more information on IP Gateways, see "Connecting two Servers using IP Gateways" on page 13-8.

Note: Forwarding calls with this method avoids tying up extra trunks. However, when a call is routed out using a Centrex/PBX transfer, TeleVantage loses control of it and cannot send it to subsequent steps on the user's routing list. For example, after a call is transferred using Centrex/PBX, it does not go to voice mail.

This option is also available when specifying external phone numbers in a user's routing list. See *Using TeleVantage*.

Listing a user in the dial-by-name directory

To include a user's name in the dial-by-name directory that callers can search, check **List in dial-by-name directory** on the Call Handling tab, and make sure that the user has a voice title recorded.

To play a user's extension along with the user's name when callers choose the user from the dial-by-name directory, check **Play extension to the caller**.

Note: This checkbox is enabled only if **Present names using numbered list** is selected in System Settings. See "Creating dial-by-name directory settings" on page 3-17.

Setting the user's hold music

Users can have individualized hold music, that is different from the default system hold music. A user's hold music is heard by callers whenever the user puts them on hold. A user's hold music can come from any station that you have set up as a music-on-hold device.

To customize hold music for a user, check **Change hold music to station number**, and enter the station ID of the music-on-hold device that you want. If unchecked, the system-wide hold music is used for the user.

To set up default system hold music, see "Setting Server configuration" on page 3-5.

The Phone tab

Use the Phone tab to make settings relating to the user's phone. The Phone tab appears differently for the following types of phone:

- Any analog phone, including CLASS and ADSI feature phones
- IP phone
- Toshiba digital phone

Phone tab (analog phones)

Kenneth Deimoch - User

General | Recordings | Notifications | Call Handling | **Phone** | Dialing | Security | Other

Settings

Ring phone for: 20 seconds

On off-hook, automatically speed dial: _____

Send digits to station: Do not send digits

Use the following features on this user's phone

Analog phone type: Standard

Caller ID Message waiting indicator

Caller ID on call waiting Stutter dial tone

Voice-first answering

Pad extensions when sent as Caller ID

Padding position: After extension

Padding character: 0

Previous Next **OK** Cancel Help

Setting the number of seconds to ring the phone

In the **Ring phone** __ seconds field, enter the number of seconds TeleVantage rings the user's extension before proceeding to the next action in the user's routing list. This option can also be set in the TeleVantage Client.

Having the station automatically dial when taken off hook

To have the user's station automatically dial a number whenever it is taken off hook—for example, to create a hotline phone—enter the number in **On offhook, automatically speed dial**. For more information, see “Having a station automatically dial when picked up” on page 5-31.

Sending DTMF digits to stations

Use this feature if you are integrating a third-party device with TeleVantage, such as a fax server or voice mail system. For more information, see “Extending TeleVantage with third-party devices” on page 14-4.

Activating features for analog CLASS phones

Certain analog telephones support special features, known as CLASS features. Not all phones support all features. For a list of phones that have these features, see *Installing TeleVantage*. If a user has a phone that supports one or more of these features, you activate them on the Phone tab.

Under **Use the following features on this user's phone**, select the user's phone type and check any of the features that are supported on the user's phone. These options can also be set in the TeleVantage Client.

- **Analog phone type.** For most analog phone types, select Standard. If the user is using an Aastra Powertouch or Cybiolink phone, select that phone type instead.

Note: You must be using an Aastra Powertouch or Cybiolink phone, and have selected it here, to use voice-first answering, paging, or intercom with an analog phone. If your regular analog phone is in hands-free mode, you can use these features.

- **Caller ID.** TeleVantage sends Caller ID name and phone number to the user's phone on an incoming call, along with the date and time of the call. Caller ID is sent for TeleVantage users and external callers, as well as for contacts who can be identified by TeleVantage. TeleVantage may also send "P", indicating a private call, or "O", indicating an out of area call.

- **Caller ID on call waiting.** TeleVantage delivers Caller ID information while the user is on another call, so that the user can decide whether or not to accept the incoming call.

When this option is used, the first call waiting beep is a different tone than the second beep, because the first beep is a special ADSI Alert Tone. You can change the volume of the first beep by modifying the registry key DXCH_ADSIALERT_AMPL. See "VoiceBoard channel settings" on page A-23 for details.

- **Message waiting indicator.** TeleVantage notifies the user when a new voice message is received by activating the message waiting indicator on the user's phone.
- **Stutter tone.** TeleVantage alerts the user to the existence of unheard messages via a stutter dial tone when the user picks up the phone.
- **Voice-first answering.** Enables voice-first answering. With voice-first answering, internal calls are connected to the user's speakerphone automatically without the phone ringing or needing to be picked up. All external callers ring the phone as normal.

To use this field, voice-first answering must be enabled at the system level (see "The General tab" on page 3-5), and the user must have selected Aastra Powertouch or Cybiolink under **Phone Type** above. Voice-first answering is also available if your analog phone is in hands-free mode.

Padding extensions sent as Caller ID on internal calls

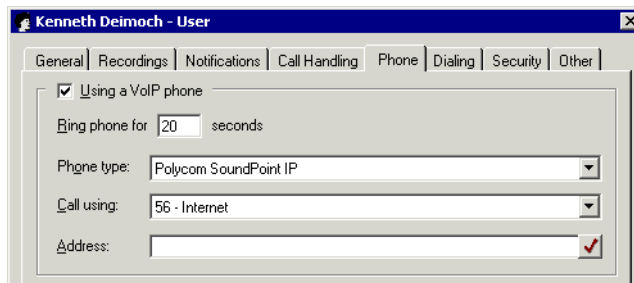
For internal calls, TeleVantage sends the user's extension as Caller ID. Some Caller ID displays cannot handle Caller ID strings of less than 10 digits. On the Phone tab, check **Pad extensions when sent as Caller ID** to add digits to a short string so the phones display extensions correctly. Choose a **Padding position**:

- **Before extension.** Add digits before the extension with the padding character you select, for example, *****186.
- **After extension.** Pads after the extension, for example, 186*****.

Phone tab (IP phone)

If the user uses an IP phone, such as a Polycom phone or an Intel PBX-IP Media Gateway, then do the following:

1. Assign the user a station ID of 0.
2. Click the Phone tab. The Phone tab has a different appearance for users with station ID 0.

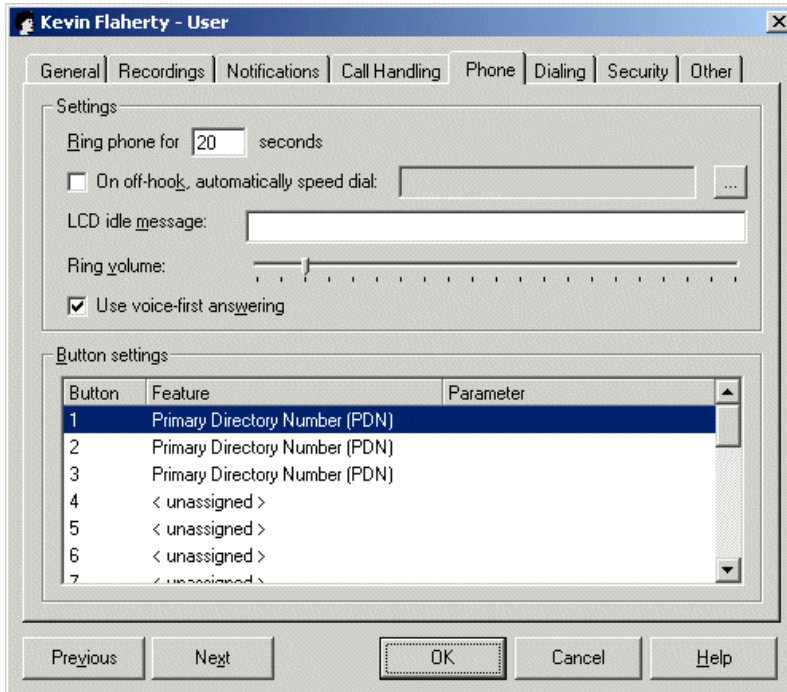


3. Check **Using a VoIP phone**.
4. Make the following selections relating to the IP Phone:
 - **Ring phone for ___ seconds.** Enter how long the phone should ring on incoming calls before the calls proceed to the next step on your routing list.
 - **Phone type.** Select the user's make of IP phone.
 - **Call Using.** Select the Internet dialing service used to place outbound calls from the IP phone.
 - **Address.** Enter the IP address of the IP phone.
5. Click **OK**.

For more information on setting up and using an IP phone with TeleVantage, see Appendix E.

Phone tab (Toshiba digital phone)

The Phone tab displays a set of options customized for the Strata's special features.

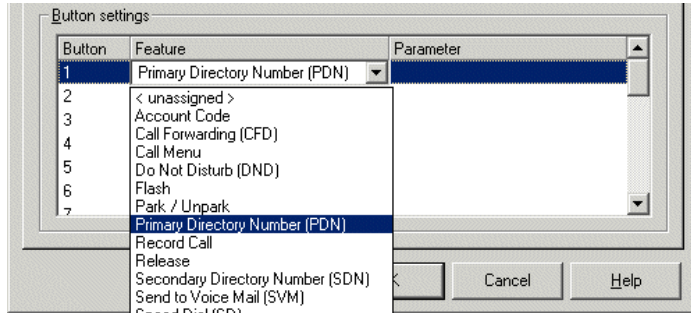


Make the user's phone settings as follows:

1. Under **Settings**, set the following options:
 - **Ring phone for __ seconds.** Enter the number of seconds that you want TeleVantage to ring the user's extension before continuing with the user's routing list or transferring to voice mail.
 - **On off-hook, automatically speed-dial.** Check to have the user's station automatically dial a number whenever it is taken off hook—for example, to create a hotline phone. Enter the number to dial. For more information, see "Having a station automatically dial when picked up" on page 5-31.
 - **LCD idle message.** Enter the message that you want to appear on the LCD display when the phone is not in use. This message usually shows the user name and extension for the phone.
 - **Ring volume.** The slider bar adjusts the default ring volume for the phone.
 - **Use voice-first answering.** Enables voice-first answering. With voice-first answering, internal calls are connected to the user's speakerphone automatically without the phone ringing or needing to be picked up. All external callers ring the phone as normal.

To use this field, voice-first answering must be enabled at the system level (see “The General tab” on page 3-5)

2. In the **Button settings** section, you can set each of the Toshiba phone’s programmable buttons. To set a button, click the button number in the **Button** column, then select a feature from the drop-down list in the **Feature** column.

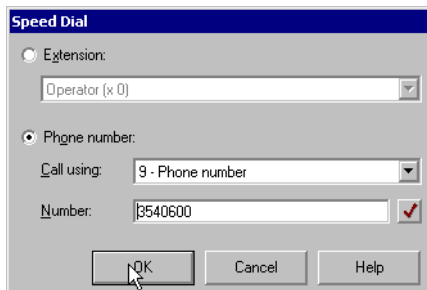


If you select **Speed Dial** or **Secondary Directory Number** in the Features list, see the following sections for instructions.

3. Click **OK**.

Setting Speed Dial parameters

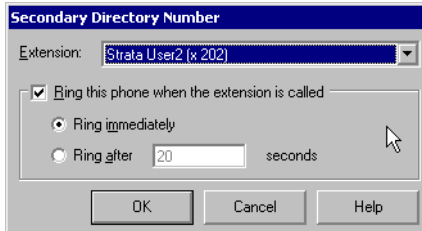
If you select the **Speed Dial** feature and click the button in the **Parameter** column, the Speed Dial window opens.



To speed-dial an extension, click **Extension** and select an extension from the drop-down list. To speed-dial an outside number, click **Phone number**, select the number used to get an outside line in the **Call using** field, and then enter the phone number that you want to dial in the **Number** field.

Setting Secondary Directory Number parameters

If you select the **Secondary Directory Number (SDN)** feature and click the button in the **Parameter** column, the Secondary Directory Number dialog box opens.

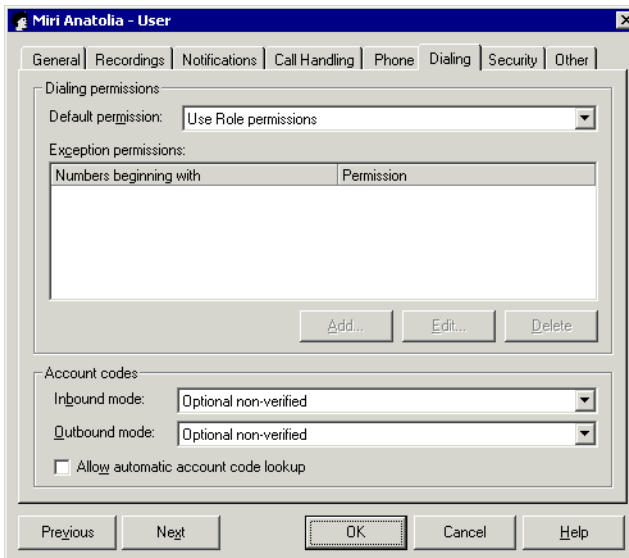


In the **Extension** field, you can select a secondary number from the drop-down list. If you check **Ring this phone when the extension is called**, you can set your phone to either ring immediately, or specify the number of seconds to wait before ringing.

The Dialing tab

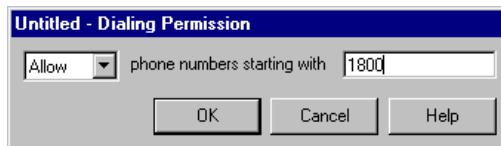
Use the Dialing tab to control which numbers the user is permitted to dial.

Note: It is recommended that you set dialing permissions at the Role or dialing service level, and set permission at the user level only for special exceptions. In cases of conflict, the more individual setting applies. See "Dialing permissions hierarchy" on page 6-53 for more information.



To set dialing permissions

1. Use the **Default permission** list to specify how to set the user's dialing permissions. Choose one of the following options:
 - **Use Role permissions.** Applies the dialing permissions set up for the role to which the user belongs. This is the easiest way to set up dialing permissions for users. See "Managing roles" on page 6-46 for more information.
 - **Use Role permissions except the following.** Applies the dialing permissions set up for the role, except for the numbers allowed or disallowed in the **Exception permissions** list. The listed settings override the role's settings.
 - **Allow all numbers except the following (ignore Role permissions).** Allows the user to dial all numbers except those disallowed in the list.
 - **Disallow all numbers except the following (ignore Role permissions).** Prevents the user from dialing any numbers except those allowed in the list.
2. Under **Exception permissions**, click **Add** to add a new exception permission to the list. Click **Edit** to modify an existing exception permission. The Dialing Permission dialog box opens.



3. In the Dialing Permission dialog box, choose to **Allow** or **Disallow** calls, and then enter the digits. Enter a phone number or the initial digits of a phone number. Be sure to include 1 before the number if it is normally be dialed as part of the number, for example, 1800.
4. Click **OK**. The exception permission appears in the **Exception permissions** list and is applied whenever the user dials a number beginning with the digits.
5. Click **OK** on the Dialing tab to save your changes.

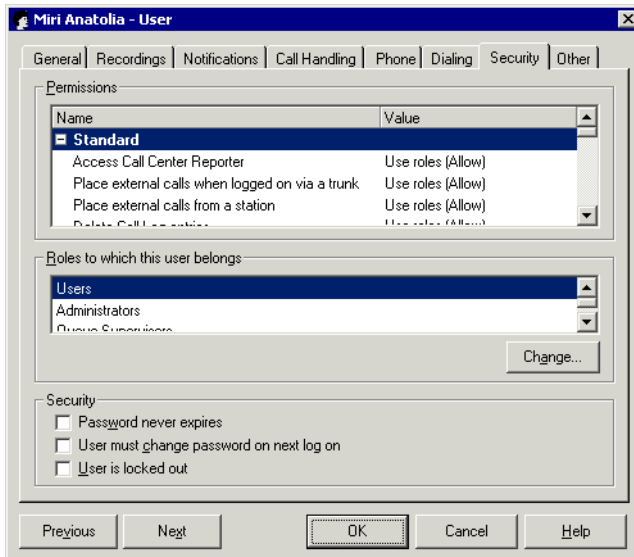
Setting account code modes

Account code modes determine whether and under what circumstances TeleVantage prompts the user to enter an account code. For instructions, see "Setting a user's account code modes" on page 10-10. For an overview of account codes, see "Using account codes to track phone usage" on page 10-6.

The Security tab

The Security tab controls the user's access to TeleVantage features by means of roles and permissions, and lets you manually control the user's password security.

For a description of permissions, see "TeleVantage permissions" on page 6-49.



Before assigning permissions

Before assigning permissions and roles to users, set up the roles the way you want (see "Managing roles" on page 6-46). A role is a template enabling you to apply the same group or collection of permissions to multiple users, so by setting up roles in advance, you can save time in giving each user the permissions he or she needs.

Assigning the user's permissions

A user's permissions determine which TeleVantage views and features he or she can use. To assign permissions, do the following:

1. Assign the user to a role if necessary. A role is a collection of permissions. By default, new users belong to the Users role. To assign the user to a new or different role, click **Change**. See the next section for instructions.

Note: A quicker way to assign batches of users to a role is to edit the role. See "Assigning users to a role" on page 6-46.

You can assign a user to more than one role. If the roles' permissions conflict, the most permissive setting is used. For example, users who belong to both the Users role and the Administrators role have their permission for **Place external calls when logged on via a trunk** set to Allow, which is the permission level for the Administrators role.

2. If you want to give the user unique permissions, different from those of the roles to which he or she belongs, edit the user's permissions using the **Permissions** pane. The user's **Permissions** pane settings override all role settings.

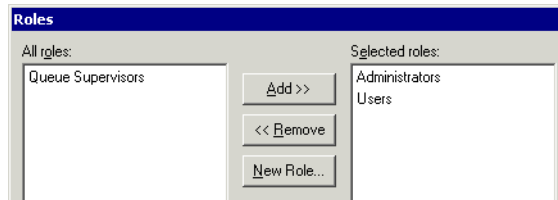
To adjust an individual permission for a user, click the **Value** column for that permission in the **Permissions** pane. Select one of the following from the drop-down list:

- **Use roles (value).** Permission for this item is determined by the user's role memberships (described in the following section). The actual value of the permission is displayed in parentheses.
- **Allow.** The listed feature (for example, exporting Contacts) is available to the user.
- **Disallow.** The function is not available to the user.
- **View and Edit.** The specified tab or folder (such as the Phone settings tab or the Call Log folder) can be viewed and edited by the user.
- **View only.** The user can view the folder or tab, but cannot change it.
- **No access.** The folder or tab cannot be used or viewed by the user.

Changing the user's roles

To change the roles to which the user is assigned, do the following:

1. Click **Change** on the Security tab. The Roles dialog box opens.



2. Use **Add** and **Remove** to place the roles to which the user should belong in the **Selected roles** list.

To create a new role, click **New Role**. See “Creating a new role” on page 6-47 for instructions.

3. Click **OK**.

Note: If the user belongs to no roles, by default the user's permissions are all set to deny access.

Securing the user's account

Use the options in the Security section of the Security tab to protect the user's account and your TeleVantage system from unauthorized access and toll fraud. For more information about toll fraud, see Appendix C, "Protecting Your Phone System Against Toll Fraud." For system-wide security options, see "The Security tab" on page 3-15.

The following security options are available:

- **Password never expires.** If checked, the user's password does not expire, although you can always manually change it or force the user to change it. If unchecked, the user's password may expire as determined by your system settings (see "Increasing password security" on page 3-16).

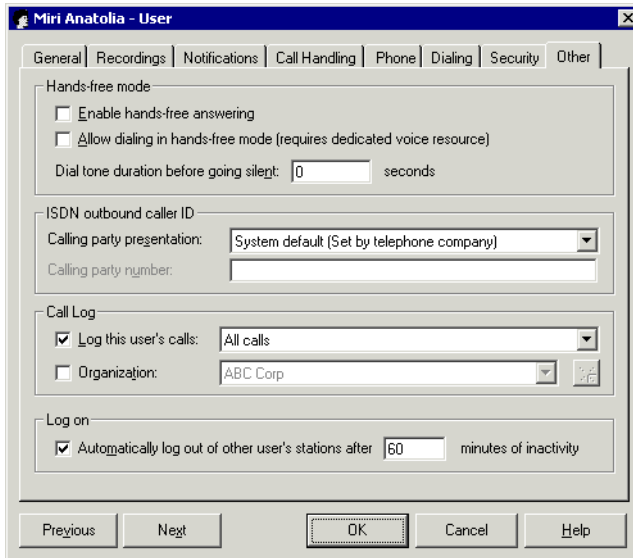
Checking this field is a security risk, as long-standing passwords are easier to guess.

Note: You should check this field for users of Polycom IP phones, because a changed password prevents the phone from working. See "Issues for users of Polycom IP phones" on page E-15.

- **User must change password on next logon.** If checked, the system requires the user to change his or her password the next time he or she logs on to any workstation application or by using the telephone commands.
- **User is locked out.** If checked, the account cannot log on to the system, even with the correct username and password. Depending on your system settings (see "Increasing password security" on page 3-16), lockout can occur automatically if someone repeatedly tried and failed to log on to the account. Uncheck the field to unlock the account and permit normal logging on.

The Other tab

The Other tab contains options for hands-free answering, outbound Caller ID, and call logging.



Enabling hands-free answering

Hands-free answering is especially helpful for headset and speakerphone users. Using hands-free answering, a user can leave his or her phone off-hook and still receive, place, and end calls. The dial tone does not play, and the phone does not ring. When an incoming call arrives, a beep plays to notify the user, then the call is connected. (For complete instructions on working in hands-free mode, see *Using TeleVantage*).

Note: If you are using a BCP Connection Panel with stations 1 through 4 in hands-free mode, and the Server goes down, the stations remain offhook and the Watchdog mode of Dialogic BCP panels will not work. For more information about Watchdog mode, see *Installing TeleVantage*.

To enable hands-free answering for the user

1. Check **Enable hands-free answering**. If unchecked, hands-free answering is turned off and the user's phone behaves normally.
2. To allow dialing while using hands-free answering, check **Allow dialing in hands-free mode**. If checked, the user can place calls by dialing them. If unchecked, the user must press **Flash** first to get a dial tone, then dial the call.

Note: This option requires the system to dedicate a voice resource for each user for whom it is checked. To see your system voice resource availability and current use, see "The TeleVantage performance counters" on page 11-6. For more information

regarding voice resource use, see *Installing TeleVantage*.

3. In **Dial tone duration before going silent**, enter the length of time in seconds that you want the dial tone to play after a call ends. To end a hands-free call, the user presses the **Flash** button or hangs up, and then waits for the phone to go off-hook again. During this time the user hears a dial tone. This setting allows you to control whether or not the user hears a dial tone for a specific amount of time before returning to off-hook status after disconnecting from a call. The default setting is 0, meaning that dial tone is not played at all after a call ends.

Changing the hands-free answering beep

You can change the beep that signals an incoming call during hands-free mode, by replacing or re-recording the sound file `HandsFreeBeep.vox`, located by default in `C:\Program Files\TeleVantage Server\Vfiles`.

Setting the user's ISDN outbound Caller ID

If supported by your ISDN provider, use the **Calling party presentation** drop-down list to select the type of Caller ID number that accompanies outbound calls placed by the user on ISDN trunks. Note that the user can make his or her own selection using the Client, but cannot specify a different custom number. If the user selects Custom, the Caller ID is what is entered under **Custom** here.

Note: On trunk types other than ISDN, outbound Caller ID is always set by the telephone company.

Choose one of the following options:

- **System default.** Outbound Caller ID will be whatever you have set for the TeleVantage system as a whole (see “Setting ISDN outbound Caller ID for the system” on page 3-6). The current setting is displayed in parentheses.
- **Custom.** You can specify a custom Caller ID number to make available to the user, for example the user's DID number. If the user selects it, it accompanies his or her outbound calls. Enter the Caller ID number in **Calling party number**.

When Custom is selected, outbound Caller ID name is set to the user's TeleVantage username.
- **Blocked.** Caller ID is blocked on outbound calls from the user.

For more information about ISDN outbound caller ID, see “Setting ISDN outbound Caller ID for the system” on page 3-6, and “Specifying ISDN outbound Caller ID” on page 5-20.

Logging the user's calls

The following sections cover how the user's calls appear in the Call Log, in terms of which calls are logged, whether they are associated with an Organization, and what happens if the user logs onto another user's station. For more information on the Call Log, see “Using the Call Log view” on page 11-10.

Determining which calls are logged

By default, all inbound and outbound calls made by the user appear in the Call Log. However, there are times when you might not want to log a user's calls due to space or readability reasons, for example if the user's station is connected to a fax server used for sending thousands of faxes daily.

To turn off call logging for the user, uncheck **Log this user's calls**. If checked, you can choose whether to log the user's inbound calls, outbound calls, or both.

Notes

- If you turn off call logging for a call center agent, you will not be able to run reports on the agent's personal calls. Reports on queue calls and all statistics in the Queue Monitor are unaffected.
- Users with call logging turned off cannot use the Client's callback feature (File > Return Last Call) or the list of recently dialed calls on the Client's File menu.
- If you have turned off internal call logging at the system level (see "Logging internal calls" on page 3-8), the user's internal calls will not be logged, regardless of this setting.

Associating the user with an Organization

If you have created one or more Organizations, you can associate the user with the Organization to which he or she belongs. All calls placed by the user will be logged with that Organization showing in the Call Log's Organization column. Organizations are a means of setting up multiple companies that share an office and a TeleVantage Server. See "Using Organizations" on page 10-2.

To associate the user with an Organization, check **Organization**, and select an Organization from the drop-down list.

If unchecked, outbound calls from the user will appear in the Call Log with the Organization column blank.

Resetting station logging after the user's visits

If the user has logged in at another user's workstation—using either the Client or the telephone commands—this setting determines how much time elapses before the station automatically resets to its default user. Enter the number of minutes in **Automatically log out of other user's stations after __ minutes of inactivity**.

This feature provides a way to automatically reset call logging in cases where the user walked away from someone else's desk without logging out. All calls are written to the Call Log according to the user logged in at the station, so a user can log in anywhere in the office and make calls that are logged correctly under his or her name. Calls from the station continue to be logged under the visiting user's name until one of the following happens:

- The visiting user logs out, either by pressing *00 at the dial tone or by choosing **File > Exit and Log Off** in the Client. This resets the station to its default user.
- Another user logs in to the station using the Client or telephone commands. This resets the station to the new user.

- The amount of time specified in **Automatically log out of other user's stations after ___ minutes of inactivity** is exceeded. This resets the station to the default user. Inactivity is defined as any time except during active calls (inbound or outbound) and when telephone commands are used that require entering a password (for example, logging into the phone to listen to voice mail). All other station activity, such as picking up the phone and dialing *14, or using the Client to play a voice message over the station, count as inactivity.

Note: Incoming calls for other users, such as calls forwarded to the station, do not count as activity even if they are answered.

Uncheck **Automatically log out of other user's stations after ___ minutes of inactivity** to prevent resetting the station after any amount of inactivity.

Modifying a user's Client settings ---

There are times when you may need to troubleshoot aspects of a user's account that can only be accessed using the TeleVantage Client. For example, with the Client you can modify the following user settings that cannot be modified in the Administrator:

- Routing lists
- Call rules
- Voicemail greetings
- Personal status settings
- Call waiting and ringback settings

TeleVantage lets you modify a user's Client-based settings directly from the Administrator, saving you the trouble of going to users' workstations and interrupting their work.

You must have the Client installed to use this feature.

To modify a user's Client-based settings from the Administrator

1. In the User's view, select the user whose Client settings you want to edit.
2. Choose **Users > Edit All Client Settings**.

A limited version of the TeleVantage Client opens with the selected user logged in. You can access all Client-based features except for the following:

- The user's Voice Messages view
- The user's Call Monitor

To modify many Client-based settings, choose **Tools > Options**. For complete instructions on using the Client, see *Using TeleVantage*.

Helping new users get started

To get new users up and running quickly on the system, give them copies of the *TeleVantage QuickStart Guide* and the *TeleVantage Pocket Reference Card*.

When you add a new user, a “Welcome to TeleVantage” voice message is copied automatically to the user’s voice mailbox. This message helps the new user get started by explaining how to record a voice title and create a custom voice mail greeting using the telephone commands.

The information that new users must know includes:

- Their extensions and passwords.
- Their Direct Inward Dial numbers, if any.
- A list of your office's dialing services and access codes, along with instructions about when to use each one.
- A list of special access codes, such as the codes for the TeleVantage dial-by-name directory and emergency services.
- The path they must use to install TeleVantage workstation applications, such as the TeleVantage Client, TAPI Service Provider, and Contact Manager Assistant. The default path is <Servername>\NetSetup\Setup.exe.
- The URL address for the Web Client, if your system supports it.
- The telephone key they must use at an auto attendant to log in from a remote phone, if you have changed it from #.
- Whether they have permission to make external calls:
 - From stations
 - When logged in from an outside phone
 - In call forwarding or routing list situations
- A list of any Client views or tabs in the Client’s Option dialog box that they cannot access.
- Whether they can record calls in the Call Monitor.

Note: The *TeleVantage QuickStart Guide* contains a form where the user can write down some of this information.

Deleting a user

Deleting a user prevents that user from using TeleVantage and removes all of the user’s voice mail files from the system (unless the voice mailbox is being shared with another user). A deleted user’s Call Log entries are left in place to maintain an accurate and complete call history on the system. Note that you cannot delete the Administrator or Operator user.

For information about deleting items in TeleVantage, see “Deleting items” on page 2-9.

Managing roles

Roles are templates that enable you to apply the same slate of permissions to multiple users. You can create as many different roles as you want, to represent different groups of users who have similar permissions. Roles appear in the Users view in bold.

When a user belongs to a role, he or she inherits the role's permissions. A user can belong to more than one role, in which case the most permissive settings apply in cases of conflict.

You can grant a user individual permission settings that override those of the role, by adjusting his or her permissions individually on the Permissions tab of the User dialog box. See "Assigning the user's permissions" on page 6-38.

TeleVantage comes with the following two roles:

- **Administrators.** You cannot delete this role, but you can edit some of its settings. By default the role has full permissions. You can disallow only the following permissions:
 - Place external calls when logged on via a trunk
 - Place external calls from a station
 - Forward or route calls to external numbers
 - Return calls when logged on via a trunk

The Admin user belongs to the Administrators role by default and cannot be removed.

- **Users.** By default new users belong to this role.

Assigning users to a role

The quickest way to assign a batch of users to a role is to edit the role and add the users. See "Creating a new role" on page 6-47.

You can also assign a user to a role by editing the user. See "The Security tab" on page 6-38.

Editing a role

To edit an existing role, double-click it in the Users view. For further instructions, see the next section.

When editing a role, be aware of the following:

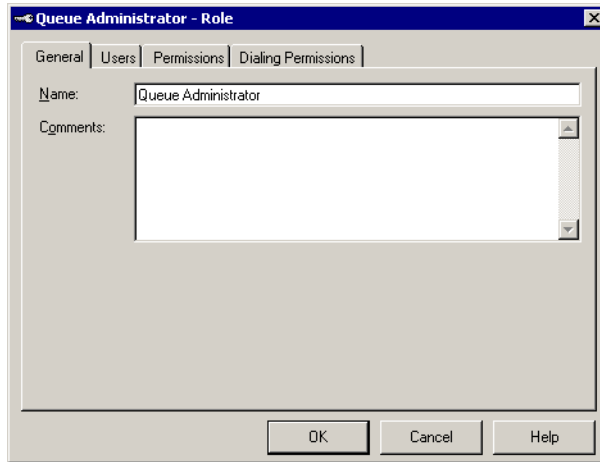
- When you change a role's permissions, those permissions change for all users belonging to the role, except where a user's individual permission setting overrides the role, or where a user's other role provides a more permissive setting.
- When you remove a user from a role, the user loses all permissions granted by that role.
- The Administrators role can only be edited in limited ways.

Creating a new role

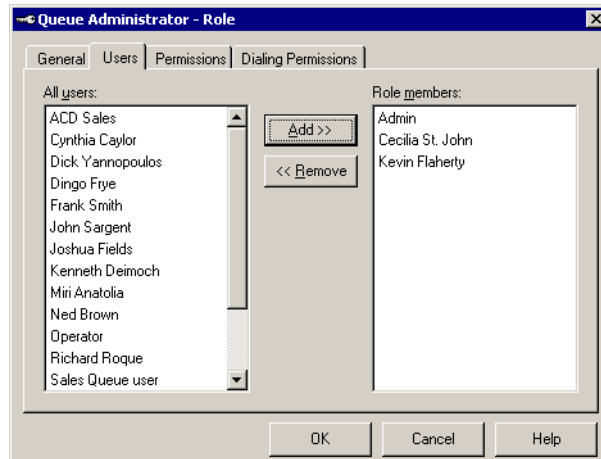
You can create a new role, for example Admin Assistant, for a group of users that require the same or similar permissions. All users that you assign to this role are automatically granted its permissions, except where their individual permission settings override roles.

To create a new role

1. Choose **File > New > Role**. The Role dialog box opens.



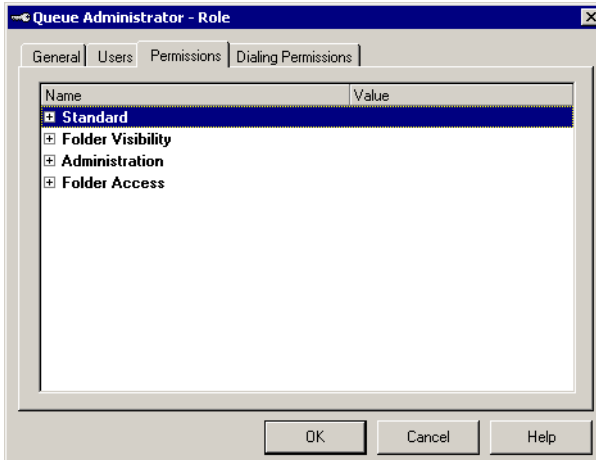
2. Enter the name of the role and any comments about its function.
3. Click the Users tab to assign users to the role.



To add users to the role, select them in the **All users** list and click **Add**. To select several users at once, hold down SHIFT or CTRL as you click.

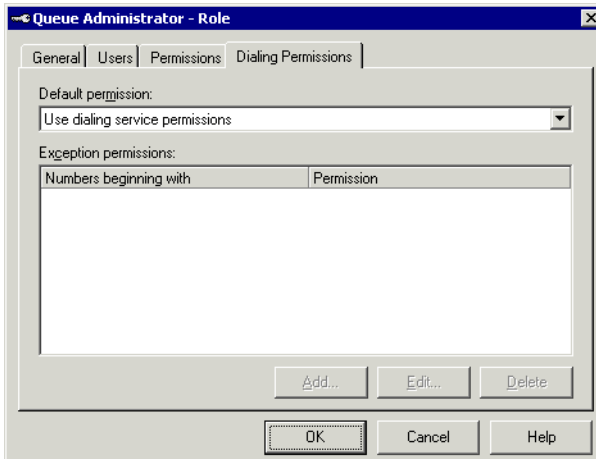
To remove a user from the role, select the user and click **Remove**.

4. Click the Permissions tab to choose the role's permission settings.



To set a permission, click its **Value** column and select the setting you want.

5. Click the Dialing Permissions tab to specify which numbers can be dialed by users belonging to this role. A disallowed number prevents the dialing of any number beginning with those digits.



Note: You can set dialing permissions globally for each Phone Number dialing service, and also individually for each user. In cases of conflict, the more individual setting applies. See "Dialing permissions hierarchy" on page 6-53.

6. Use the Default permission list to specify how to set the role's dialing permissions. Choose one of the following options:
 - **Use dialing service permissions.** The role applies no dialing permissions or restrictions to users belonging to it. Users' dialing is controlled by the permissions of the dialing service they use, and any individual exceptions they have.
 - **Use dialing service permissions except the following.** The exceptions you enter here override dialing services' permissions for users belonging to this role.
 - **Allow all numbers except the following (ignore dialing service permissions).** Users belonging to this role can dial all numbers except what you disallow here, regardless of dialing service permissions. Users are also prohibited from dialing any numbers disallowed at the individual level.
 - **Disallow all numbers except the following (ignore Role permissions).** Users belonging to this role cannot dial any numbers except what you allow here, regardless of dialing service permissions. Users are also permitted to dial any numbers allowed at the individual level.
7. Under **Exception permissions**, click **Add** to add exception permissions to the list. For instructions, see page 6-37.
8. When you are finished defining dialing permissions, click **OK** to close the Role dialog box.

TeleVantage permissions

A user's access to TeleVantage features is controlled by permissions. There are three types of TeleVantage permissions:

- **General user permissions.** These control what Client views and TeleVantage commands the user can use. See the next section.
- **Dialing permissions.** These control what phone numbers the user can dial. See "Dialing permissions" on page 6-52.
- **Call center agent permissions.** These apply to agents in a call center queue only, and control what queue features the agent can use. See the *TeleVantage Call Center Administrator's Guide*.

Users inherit general permissions and dialing permissions from the *roles* to which they belong. Roles are collections of permissions that you set up to define jobs or roles in your office. See "Managing roles" on page 6-46. Users can also have individual permissions that override the permissions of the roles to which they belong.

General user permissions

To assign permissions to a role, see “Creating a new role” on page 6-47. To assign individual permissions to a user, see “The Security tab” on page 6-38. You can assign the permissions in the following table:

TeleVantage General User Permissions	
Permission	Controls the ability to...
Standard	
Access call center reporter	Use the call center reporter to run reports.
Place external calls when logged on via a trunk	Dial in to TeleVantage from a remote location and place external calls through the Server that get billed to the Server. See also Forward or route calls to external numbers .
Place external calls from a station	Place outbound calls on TeleVantage trunks.
Change Personal Status	Change the user’s own personal status. You might disallow this for agents in a call center queue, to ensure that they take calls during their shifts. See the <i>TeleVantage Call Center Administrator’s Guide</i> .
Delete Call Log entries	Use the Edit > Delete command in the Client’s or Administrator’s Call Log.
Export data	Export contacts, extensions, or the Call Log, using the Client. Does not affect exporting audio files or using export commands in the Administrator.
Forward or route calls to external numbers	Specify an external number when forwarding calls or setting up routing lists.
Log on to the Web Client	Use the Web Client.
Log on to the Windows Client	Use the TeleVantage Client.
Log on via IP trunk	Log on when making an Internet call to TeleVantage .
Log on via station	Log on by pressing # at a station.
Log on via trunk	Log on when calling from a remote location, either via the auto attendant or by pressing 9 at a voicemail greeting.
Change password	Change the user’s own TeleVantage password.
Off-hook page	Use the *15 telephone command to place pages or intercom calls.
Pick up other ringing call	Use the *91 or *99 commands to answer one ringing station from another.

TeleVantage General User Permissions

Permission	Controls the ability to...
Record calls	Record calls using the Call Monitor.
Report on all call logs	Run the Call Log report on the Call Log of any user or queue. When set to Disallow (the default), the report can be run only on the Call Log of the user logged in to the Reporter. For instructions on running reports, see the <i>TeleVantage Call Center Administrator's Guide</i> .
Return external calls when logged in on a trunk	Use the 43 or 44 commands to call back a voice message from an external number, when calling in from a remote location.
Show 'All' tab in Client Extensions view	See a tab in the Client's Extensions view that shows all extensions in the system. With this tab turned off, the user can still see the filtered tabs, such as tabs for workgroup or call center queue extensions.
Access...	View and be able to use the specified features in the Client's Options dialog box (Tools > Options).
Access call forwarding	Forward calls, using the Client, Administrator, or telephone commands.
Access voice title	Record the user's own voice title, using the Client, Administrator, or telephone commands. Does not affect the ability to record or capture voice titles for contacts.
Folder Visibility	
View...	These permissions control whether or not the specified view or folder appears when the user logs into the TeleVantage Client or Web Client. To make a folder visible but not editable, use the Folder Access section.
Administration	
Access...	View and be able to use the specified features in the Administrator. Note that the permission Access Queues folder enables users to sign agents in and out of any queue, including themselves if they are non-observer agents. It overrides the per-queue permission Queue sign in/out (see the <i>TeleVantage Call Center Administrator's Guide</i>).
Edit all Client settings	Use the Edit all Client Settings button to edit a user's Client settings from the Administrator.

TeleVantage General User Permissions

Permission	Controls the ability to...
Export Call Log	Export the Call Log using the Administrator. Does not affect exporting the Call Log using the Client.
Export system prompt text	Export system prompts to a text file using the Administrator.
Select a specific trunk for outbound call	Dial 88 followed by a trunk number and a phone number to place a call on a specific trunk.
Backup and restore the database	Perform database backups and restores.
Edit system settings in TeleVantage settings editor	Use the TVSettings.exe application to modify registry settings.
Start and stop the Server	Use the Administrator or Device Monitor commands to start and stop the TeleVantage server.
Access...folder	These permissions control whether or not the specified view or folder appears when the user logs into the Administrator.

Folder Access

Access...	<p>These permissions control the degree of access the user has to the specified Client view or folder. Some folders permit the View only setting, which means the user can view but not edit or delete the folder's items.</p> <p>If set to No access, the view or folder does not appear in the Client.</p> <p>Note that a No access setting prevents the user from accessing the folder even using the TeleVantage API. Disallowing a folder using the Folder Visibility permission removes it from the Client, but still permits access via the API.</p>
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Dialing permissions

Dialing permissions determine what phone numbers can be dialed by TeleVantage users. By default, all numbers are allowed. You can use dialing permissions to disallow certain numbers, either globally, by role, or on a per-user basis. You can decide whether to permit all numbers except for a few, or disallow all numbers except for a few.

A user who dials a disallowed number hears the message, "I'm sorry, you do not have permission to dial that number." A user cannot include a disallowed number in a routing list or forward calls to a disallowed number.

A disallowed number means that the user cannot dial any number beginning with those digits. Commonly disallowed numbers include the following:

Prefix	Disallows
1	Long-distance calls. Be aware that in some areas this may block local calls as well.
011	International calls.
1550	Group conversation lines.
1554	Adult information services.
1900	Long-distance programs.
1976	General information programs.

Dialing permissions hierarchy

You can set dialing permissions separately for the following:

- **Phone Number dialing services.** Use this setting to create global dialing restrictions that affect everyone using the dialing service. See “The Permissions tab” on page 8-17.
- **Roles.** Use this setting to apply the same dialing restrictions to a group of users. See “Managing roles” on page 6-46.
- **Users.** Use this setting to give individual users exceptions to the more general dialing permissions. See “The Dialing tab” on page 6-36.

In cases where dialing permissions conflict, the more individual setting applies. User settings override role settings, and role settings in turn override dialing service settings. For example, if a dialing service disallows 011 numbers, and a role allows them, users belonging to the role can dial them. However, if a user has 011 numbers disallowed at the individual level, that user cannot dial them.

MANAGING WORKGROUPS

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About Workgroups

A workgroup is a group of related extensions or contacts. With TeleVantage workgroups you can do the following:

- Place or pick up calls to a group of users. You can direct calls to a workgroup so that all phones in the workgroup ring simultaneously, and the first to answer receives the call. Users in a workgroup can also use the ***99** telephone command to answer any ringing phone in their workgroup.
- Organize groups of extensions for display in the Client's Extensions view, making it easier for users to locate an extension for calling or transferring calls.

See *Using TeleVantage* for instructions on placing calls, routing calls to workgroups, and using the Extensions view.

Public and personal workgroups

TeleVantage provides two types of workgroups: public and personal.

Public workgroups are visible to all TeleVantage users. Only public workgroups can have extensions. Likewise, the ***99** telephone command only works with public workgroups. Administrators and users with the appropriate permissions can create public workgroups. Public workgroups are managed in the Administrator.

Personal workgroups created by users for ease of locating an extension in the Client's Extensions view. A personal workgroup is visible only to the user who created it. Personal workgroups do not have extensions. Personal workgroups are managed in the Client (see *Using TeleVantage*).

Benefits of using workgroups

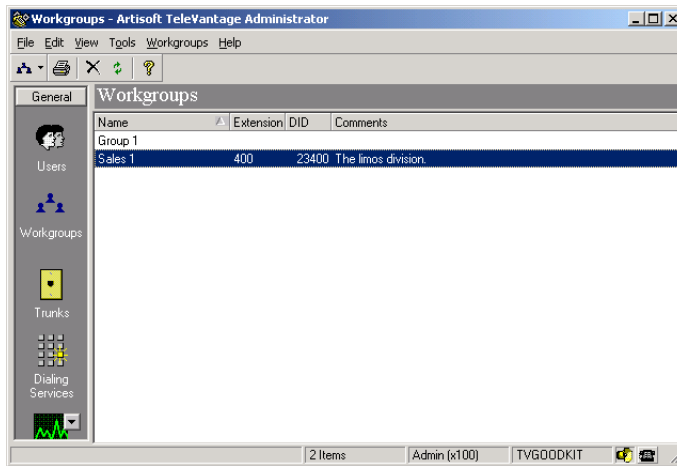
TeleVantage workgroups offer the following benefits:

- The process of finding an individual to take calls or to join a conference call is easier, because the Extensions view in the Client can be filtered by workgroup.
- Auto attendants, queues, contacts, or IVR Plug-ins can be added to a workgroup (for informational purposes) and viewed in the Extensions view.
- Contacts can be added to workgroups for caller identification via call rules (see *Using TeleVantage*).
- Any public workgroup member can pick up a ringing call within the workgroup by dialing ***99 <workgroup's extension>**.
- Calls to a workgroup simultaneously ring the phones of all the users who are members of that workgroup. IVR Plug-ins, auto attendants, queues, and contacts who are members of that workgroup are not called. Public workgroups can be called by their extension numbers or via the Client. Private workgroups can only be called via the Client.

- When workgroup members set their personal statuses to Do Not Disturb (see *Using TeleVantage*) their phones do not ring when the workgroup is called.
- When workgroup members forward their calls internally (see *Using TeleVantage*), calls to the workgroup ring at the number to which calls are being forwarded. When a workgroup member's calls are forwarded to an external number, workgroup calls do not ring the external number.

Workgroups view

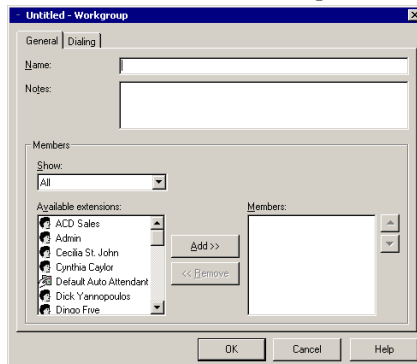
To add, edit, and delete public workgroups, click **Workgroups** in the view bar to open the Workgroups view:



Creating a Workgroup

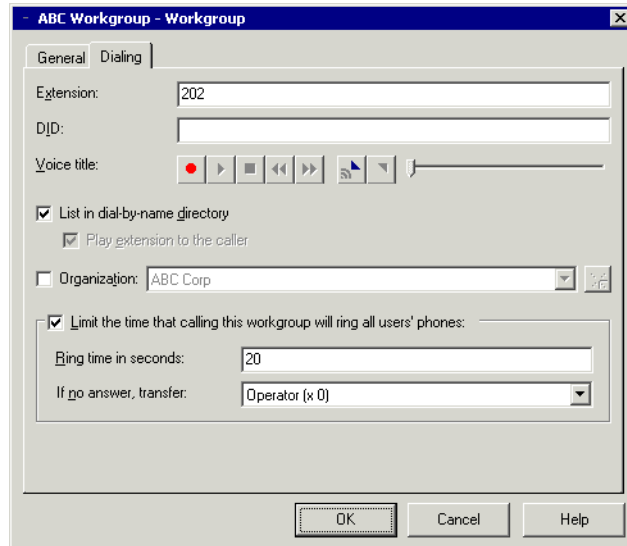
To create a public workgroup, choose **File > New > Workgroup** and enter information on the tabs in the Workgroup dialog box, as follows:

1. On the General tab, enter the **Name** of the workgroup and at least one member. You can optionally add a note about the workgroup in the **Description** field.
2. To add members to the workgroup, select names from the list of **Available extensions** and click **Add**. To select multiple names, hold down CTRL while clicking.



3. Use the arrows next to the **Members** list to arrange the order of the members. The order in which the names appear can be used in conjunction with a user who has a routing list that calls the members of this workgroup in a “top down” or “round robin” sequence (for more information about routing lists, see *Using TeleVantage*). You can also use the **Remove** button to delete members from the list

4. To give the workgroup a number so that it can be dialed using the telephone, click the Dialing tab. All of the information on the Dialing tab is optional. Use the following sections to configure dialing for this workgroup.



Note: The **Organization** field is not used in this version of TeleVantage. Outbound calls are always marked with the Organization of the user. See "Using Organizations" on page 10-2.

Calling, paging, or picking up calls from workgroups

Assign an **Extension** number that callers can dial to reach the workgroup. For more information about extension requirements and restrictions, see "Assigning an extension" on page 6-10.

When no extension number is entered, the workgroup can be called using the Client, but not from the auto attendant or telephone, and users cannot use the Workgroup pickup option (*99) to retrieve ringing calls within their workgroup, or the paging option (*15).

Assigning a DID number to a workgroup

You can assign a **DID number** to a workgroup from the block of numbers provided by your telephone company. When TeleVantage recognizes this number as the final digits on an inbound call, the caller is automatically connected to this workgroup, bypassing the main auto attendant.

To assign multiple DID numbers to a workgroup, separate each number by a comma (,). For more information about DID, see "Telephone company services that help TeleVantage" on page 5-5.

Recording a voice title for a workgroup

You can give the workgroup a voice title, which is played to callers whenever they select the workgroup from the dial-by-name directory. The voice title should be recording of just the workgroup's name, for example, "Sales Department." See "Using the audio controls" on page 2-10.

Listing the workgroup in the dial-by-name directory

If you have recorded a voice title, check **List in dial-by-name directory** to list the workgroup in your company's dial-by-name directory and play the workgroup's extension when the extension number is dialed after the time limit has expired for the phone to ring.

When no one answers a call to a workgroup

Calls to the workgroup's extension ring the phones of all users in the workgroup. As an option, you can set a time limit for how long such calls can ring unanswered. If the time limit is exceeded, TeleVantage transfers the call to an extension of your choice. If you do not choose this option, calls to the workgroup continue to ring all users' phones until the call is answered or the caller gives up.

To set a time limit for ringing on calls to the workgroup

1. Check **Limit the time that calling this workgroup will ring all users' phones**.
2. In **Ring time in seconds**, enter how long calls can ring unanswered before being transferred.
3. In **If no answer, transfer**, select the extension to which TeleVantage transfers unanswered calls.

Note: The extension you specify is also the workgroup's personal Operator. If the workgroup is used for dial restrictions in an auto attendant, callers who dial 0 at the auto attendant are transferred to the **If no answer, transfer** extension.

MANAGING OUTBOUND CALLS

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About dialing services

Dialing services route outbound TeleVantage calls over your trunks. Users must select a dialing service to make an external call, though this can be as simple as dialing 9 before the number. By creating multiple dialing services, you can intelligently manage your outbound trunk use and place the full variety of TeleVantage trunk types at your users' fingertips, including the ability to dial Internet addresses, extensions on remote TeleVantage Servers, and more.

Each dialing service has a name and an *access code*. The access code is a number (such as 9) that users dial to begin an external call. The access code tells TeleVantage which dialing service to use. When placing external calls from the Client, users select a dialing service by name with the **Call Using** drop-down list.

Call using:	9 - Phone number
Name/Number:	(617) 225-2442

Each dialing service routes calls over a group of trunks. For example, a Phone Number dialing service (for example, access code 9) can route calls over your telephone company trunks, while an Internet Address dialing service (for example, access code 71) can route calls over your Internet trunks. Users would dial **9** plus a phone number to place a normal phone call, or **71** plus an IP address to place an Internet call.

By default, TeleVantage comes with one dialing service, called "Phone number," with an access code of 9. It routes calls over any of your available telephone company trunks (analog or digital). For some installations this will be the only dialing service needed. If so, you can skip this chapter.

Dialing service types

You can add the following types of dialing service:

- **Phone Number service.** Used to dial standard phone numbers over the public telephone network. You can specify prefixes and suffixes to automatically take advantage of phone company services, restrict the dialing of unwanted numbers, and configure the service for accurate processing of dialing rules, such as when calling back voice messages.
- **Centrex/PBX Extension service.** Used to dial Centrex extensions, PBX extensions, or other custom numbers over trunks that are connected to external switches such as the phone company's Centrex service or an external PBX. You can specify the minimum and maximum digits your Centrex/PBX service uses.
- **Internet Address service.** Used to dial Internet addresses over Internet trunks. With this service, users can pick up a phone and dial an Internet address (for example, a number such as 123*456*78*90) to connect to H.323 devices such as a PC running Microsoft's NetMeeting software. Users can also place such calls from the Client using either IP addresses or domain names (for example, a name such as voip.mycompany.com).
- **Internet-to-Phone Number service.** Gateway service used to dial a phone number through another TeleVantage Server at a remote location. The call connects to the remote Server using the Internet or a private TCP/IP network, and then the phone number is dialed from that Server.

- **Internet-to-Centrex/PBX Extension service.** Gateway service used to dial Centrex or PBX extensions or other custom numbers through another TeleVantage Server at a remote location. The call connects to the remote Server using the Internet or a private TCP/IP network, and the number is dialed from that Server. This type of service accesses an internal dial tone on the remote Server, so you can dial any valid number that can be dialed at that Server’s dial tone, such as an extension, **411**, or **#** to log in to a remote account.
- **Routing service.** A special dialing service that routes calls through other dialing services. You can use routing services to route calls differently based on different routing rules, such as time of day, number dialed, or the user placing the call. With routing rules you can offer your users one access code for all outbound calling—including phone service and Internet calling—while still taking advantage of advanced dialing service features.

For more information, see “Using routing services” on page 8-20.

Examples of using dialing services

By creating new dialing services, you can do any of the following:

- **Segregate trunks for different uses.** For example, you might want to use your long-distance T1 and Internet trunks for all long-distance calls and route all your local calls over your analog trunks. You can create one dialing service that manages your long-distance T1 and Internet trunks and another that manages your analog trunks. Users can select the appropriate dialing service manually by access code or name, or you can set up a routing service that distinguishes between local and long-distance numbers and automatically routes calls over the appropriate trunks.
- **Enable Internet calls.** Any use of Internet telephony requires that you create one of the Internet dialing services. This includes using IP Gateways to connect two TeleVantage Servers over the Internet (see “Connecting two Servers using IP Gateways” on page 13-8).
- **Set up global dialing restrictions.** You can use dialing services to control what numbers users can dial over your telephone company trunks. For example, you could prevent the dialing of international calls by disallowing calls beginning with 011. (Roles and individual users can have dialing exceptions that override a dialing service’s permissions. See “Dialing permissions hierarchy” on page 6-53).
- **Use the same trunks in different ways.** For example, you can send both Centrex numbers and regular phone numbers over your Centrex trunks. You can create a Centrex/PBX dialing service (access code 6) and a Phone Number dialing service (access code 9) that route calls to the same group of trunks. You can define the Phone Number dialing service to automatically prefix another 9 to the number dialed by the user, so that the user gets an outside line from the Centrex system.
- **Take advantage of use telephone company services.** For example, you can create a Cost Saving dialing service that automatically prefixes all numbers with the “10-10-xxx” code belonging to the carrier of your choice. The user dials only the access code and the phone number.

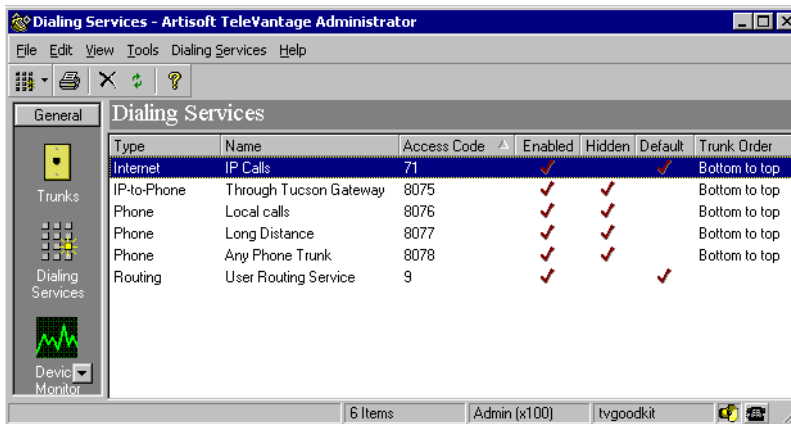
Testing trunks with dialing services

You can also use dialing services to install and test new trunk lines without interfering with live call handling on the TeleVantage Server. You add the new trunks to a service that you use for testing. After the trunks work properly, you can move them to the default Phone Number service or another dialing service that users access to place calls.

You can also use dialing services to isolate problem trunks from your system without interrupting service. Remove them from the dialing service and the Server will no longer use them to place calls.

The Dialing Services view

To add, edit, and delete dialing services, click **Dialing Services** in the view bar. The Dialing Services view opens.



Each dialing service appears as a row in the Dialing Services view. Double-click a dialing service to edit it.

The following table describes the information displayed for each dialing service.

Column	Description
Type	Dialing service type. For the different types, see the previous section.
Name	Name that you assign to a dialing service when you create it.
Access Code	Number that users dial to select this service. For example, 9 to access a dialing service that routes all phone number calls. See “Managing access codes” on page 8-6 for more information. Note: You can see the access code for a call in the From code and To code columns of the Call Log view.

Column	Description
Enabled	If checked, TeleVantage allows users to dial phone numbers using this service. See “Disabling dialing services while creating them” on page 8-6.
In Client	If not checked, TeleVantage does not display this service in the Client (see “Hiding dialing services” on page 8-5).
In Dial Plan	If not checked, the dialing service cannot be accessed by dialing its access code.
Default	If checked, this is a default service. See “Setting default access codes for callbacks” on page 8-8 for more information.
Trunk Order	Order in which the dialing service’s list of trunks is prioritized (see “The Trunks tab” on page 8-12 for more information). This column is blank for routing services, because they always get their lists of trunks from other dialing services.

Deleting or disabling a dialing service

Deleting a dialing service means that users can no longer use that dialing service when placing calls. If you delete the last remaining dialing service assigned to a trunk, you have in effect disabled that trunk for outbound calls. Client contacts and routing lists that refer to the access code for the deleted service will not work until you specify an alternate access code (see “Changing an access code in users’ saved numbers” on page 8-7). For information about deleting items in TeleVantage, see “Deleting items” on page 2-9.

To disable a dialing service temporarily, edit the dialing service and uncheck **Enabled** on the General tab.

Hiding dialing services

You can hide a dialing service if you do not want users to see it in the Client or dial it. Hiding dialing services can be useful when you want to use them for testing purposes, or make them available to users only through a routing service.

For example, you can set up dialing services for each of several long-distance carriers and then set up a single routing service that chooses the least expensive dialing service for each call. You can then hide the dialing services for the individual carriers so that users can only make long-distance calls through the routing service.

To hide a dialing service, edit it and uncheck the following on the General tab:

- **Show in Client.** This hides the dialing service from all **Call Using** lists in the TeleVantage Client.
- **Include in dial plan.** This hides the access code so that dialing it does not select the dialing service.

To hide a dialing service for purposes of testing, clear **Show in Client**, leave **Include in dial plan** checked, and give the service a multi-digit access code for testers to use, that would be hard for users to select accidentally.

Disabling dialing services while creating them

While you are creating a dialing service, it can be helpful to uncheck **Enabled** on the General tab. Doing this disables the dialing service, and makes it unavailable to users. With the dialing service disabled, you can click **OK** to save the dialing service at any time during the creation process without giving users access to an incomplete service. When you have finished creating the dialing service, check **Enabled** again.

Managing access codes

This section covers choosing access codes for new dialing services that avoid dialing ambiguities and help your system run smoothly.

Tips on access codes and names for services

If your system has multiple dialing services that users will access directly, it is important to choose their names and access codes carefully, because these are the points of contact for the users who place outbound calls. Typically, you set up dialing services with names like “Phone Number,” “Centrex Extension,” or “Cambridge IP Gateway” and access codes of 9 or 7, which makes it easy for users to remember the dialing service to use when they place a call.

For dialing services that you do not want users to access directly and that you may have hidden (see “Hiding dialing services” on page 8-5), consider using 4-digit access codes of the form 80xx. Doing this places the access codes in the same numbering space as is used for auto attendants, which helps prevent dialing ambiguities. It is important not to select access codes that begin with the same digit as extensions.

Avoiding dialing ambiguities

When setting up access codes and extensions, it is possible to introduce ambiguities that will delay dialing. For example, if you have a dialing service with an access code of 9 and a user with the extension 901, a user who dials either one will experience a delay while TeleVantage waits to see if the number is complete.

Note: Users can bypass the delay by pressing # after dialing. You can change the length of the delay by modifying the internal dialing ambiguous time-out system setting (see “Setting dialing time-outs” on page 3-12).

TeleVantage warns you when you try to save an extension or access code that starts with the same digits as one that already exists.

Creating a dialing service with access code 0

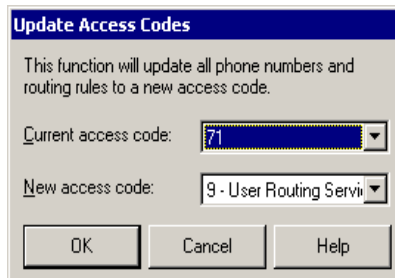
By default, 0 is the Operator user's extension. To use 0 as a dialing service access code (for example, to have users dial 0 to get an outside line), you must first change the Operator user's extension to a number other than 0. See "Changing the Operator's extension from 0" on page 6-3.

Changing an access code in users' saved numbers

When users save phone numbers in the Client that can be speed-dialed or auto-dialed, the dialing service used to make the call is saved with them. Such numbers include contact phone numbers and the phone numbers specified in call forwarding and routing lists. You can do a global replace of one dialing service for another across all users' saved numbers. For example, you can specify that all numbers saved with the "9 - Phone number" service now use your "8 - Centrex" service.

To replace all occurrences of one saved dialing service with another

1. Choose **Tools > Update Access Codes**. The Update Access Codes dialing box opens.



2. Choose the dialing service you want to replace under **Current access code** and the dialing service you want to replace it with under **New access code**.
3. Click **OK**.

All phone numbers that users have entered in the TeleVantage database with the **Current access code** are changed to use the **New access code**.

Setting default access codes for callbacks

When users return calls or voice messages using the telephone commands or the Client, the system automatically uses a default access code. You can set one default access code for phone numbers and one default access code for Internet addresses. The defaults are used system-wide.

You set the default access codes on the Dialing tab of the System Settings dialog box as follows:

- **Default phone number access code.** Select the access code for the dialing service that will be used to return a call from a phone number from the Call Log and Voice Messages views. The default is 9. You can select a routing service (see “Using routing services” on page 8-20) or any dialing service that takes phone numbers as inputs. You typically would use a routing service or a Phone Number dialing service.
- **Default Internet address access code.** Select the access code for the Internet Address dialing service that will be used to return an IP call—typically a NetMeeting call—that did not come from a remote TeleVantage Server. When returning a call that came from a remote TeleVantage Server, the system automatically uses the correct access code required to reach the remote Server.

Where the default access codes appear

In the Administrator, the Default column of the Dialing Services view shows the current defaults for phone number and Internet callbacks.

In the Client, the Place Call To dialog box always opens with the current default dialing service for phone numbers selected (the user can also choose a different dialing service to place a call). When you import contacts, new phone numbers and IP addresses automatically receive the default access codes.

Adding a dialing service

This section describes adding a new dialing service of any type other than Routing service. For instructions on adding a routing service, see “Using routing services” on page 8-20. For a description of the dialing service types, see “Dialing service types” on page 8-2.

To add a new dialing service

1. Choose **File > New > Dialing Service**, and the type of dialing service to create. The Dialing Service dialog box for that type opens.
2. Define the dialing service using some or all of the following tabs. Which tabs are available depends on the type of service being added. The tabs are described in detail in the following sections.
 - **General tab.** Use to enter the service’s name and access code, hide or show the service, and enter other general information. See the next section.
 - **Trunks tab.** Use to specify on which trunks the service routes outbound calls, and how the trunks are prioritized. See page 8-12.

- **Codecs tab.** Internet services only. Use to optimize the codecs for the Internet connections that the service makes. See page 8-13.
 - **Location Settings tab.** Phone number services only. Use to specify the location of the TeleVantage Server to enable accurate dialing. See page 8-14.
 - **Dialing Exceptions tab.** Phone number type only. Use to add dialing rules for exchanges in your area code that require different dialing. See page 8-15
 - **Permissions tab.** Phone number type only. Use to control which numbers can be dialed using the service. See page 8-17.
3. When you have finished defining the dialing service, click **OK** on any tab to close the Dialing Service dialog box.

The General tab

Use this tab to enter the service’s name and access code, enable or disable the service, hide or show the service, and enter other information specific to the service type. The following sections describe the General tab for each service type.

General information for all dialing service types

The screenshot shows a dialog box with the following elements:

- Tabbed interface with tabs: General, Trunks, Location Settings, Dialing Exceptions, Permissions.
- Field: Name: []
- Field: Access code: []
- Checkboxes: Enabled, Show in Client, Include in dial plan.

The following fields of the General tab are the same for all dialing service types:

- **Name and Access code.** Choose a name and access code that will make it easy for users to select this dialing service when placing a call. See “Tips on access codes and names for services” on page 8-6.

Note: If you change the access code of a dialing service here, you must use **Tools > Update Access Codes** before the change can take effect. See “Changing an access code in users’ saved numbers” on page 8-7.
- **Enabled.** To make this dialing service available to users, leave **Enabled** checked. Clearing the check box disables the dialing service so that users cannot select it. Disabling can be useful while you are in the process of creating or troubleshooting the dialing service.
- **Show in Client.** To hide this dialing service in the Client, uncheck this field. Hiding a service from the Client is typically done for testing purposes or to make the service available only via a routing service. See “Hiding dialing services” on page 8-5.
- **Can be dialed.** To prevent users from using the dialing service’s access code, uncheck this field. Making the access code non-dialable is typically done to make the service available only via a routing service. For testing purposes, you would leave this field checked.

Completing the General tab

To complete the General tab, enter the following information if it applies to the service type you are adding. Each field is described in the following sections.

- **Collect all digits before dialing on trunk.** See the next section.
- **Dial prefix and suffix.** See page 8-10.
- **Minimum and maximum number of digits.** See page 8-11
- **IP Gateway and remote Server information.** See page 8-11.

Collect all digits before dialing on trunk

Check this field to have TeleVantage wait until the user finishes dialing before sending the complete dial string to the phone company. Uncheck it to have TeleVantage send digits to the phone company as the user dials them, and let the phone company determine when the dial string is complete.

Normally, digits are sent as the user dials them. In certain cases, however, you can collect all digits:

- To simulate a dial tone for carriers that do not generate a dial tone after a Primary Interexchange Carrier (PIC) code (in the U.S., you can create a dialing service that uses a PIC code prefix to access a particular carrier).
- To improve tone detection when users attempt to place an outbound call while logged into TeleVantage remotely from a digital cell phone or other low-quality connection.

If you check this option, TeleVantage assumes that all digits have been dialed when the dialing service ambiguous time-out elapses, and places the call (for more information, see “Setting dialing time-outs” on page 3-12). Users can dial # when they are done dialing to skip the time-out and place the call immediately.

Dial prefix and suffix

When you create a Phone Number or Centrex/PBX Extension dialing service, you can enter a dialing prefix and suffix. A dialing prefix consists of digits dialed automatically by the dialing service before the number that the user dialed. Similarly, a dialing suffix consists of digits dialed automatically after the number the user dialed.

The following are examples of how you can use a dialing prefix or suffix:

- To create a Phone Number service (“Outside Line”) used to dial phone numbers over a Centrex trunk. Enter a dialing prefix, typically 9, to get an outside line from Centrex. You can also support the dialing of Centrex/PBX extensions over the same trunks by creating a Centrex/PBX Extension dialing service without entering a dialing prefix.
- To create a Centrex/PBX Extension service (“Voice mail”) that accesses a PBX that provides voice mail. Enter a prefix that takes users into voice mail. Enter a suffix that takes them directly to their new messages.
- To create a Phone Number service (“Calling Card”) that makes it easy for users to charge calls to a calling card company. Enter a dial prefix that is the entire number used to

access the calling card company (including the calling card number), and then enter a dialing suffix that is the number of the credit card used to pay for these calls.

All users need to do to charge a call is dial the access code for the dialing service, then the number they want to call. The dialing service automatically dials the number of the calling card (the prefix), then dials the number the user dialed, and finally supplies the credit card number (the suffix).

Minimum and maximum number of digits

When a user dials a Centrex/PBX extension, TeleVantage waits to collect all of the digits up to the minimum number of digits you specify here, and does not dial them until one of the following occurs:

- A time-out occurs (see “Setting dialing time-outs” on page 3-12).
- The user presses # to signify that all digits have been entered.
- The maximum number of digits (that you specify below) have been entered.

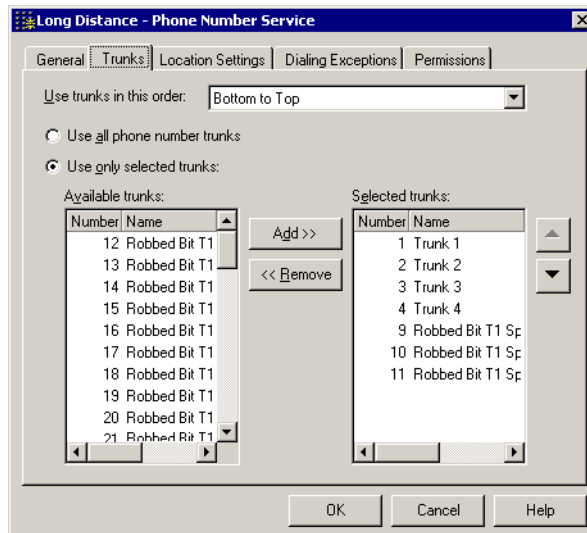
If every Centrex/PBX extension that users can dial is the same length, you can expedite dialing by entering that information here. For example, if the extensions are 3 digits long, set both values to 3.

IP Gateway and remote Server information

Enter the following information when defining an Internet-to-Phone Number or Internet-to-Centrex/PBX Extension dialing service:

- **IP Gateway.** Select the IP Gateway that will direct calls from this dialing service to a remote TeleVantage Server. To create a new IP Gateway, click the IP Gateway button. See “Creating an IP Gateway” on page 13-10.
- **Remote Server’s Phone Number service access code.** (Internet-to-Phone-number services only.) Use this field to specify the dialing service that the remote Server will use to place outbound calls. Enter the access code of a Phone Number dialing service on the remote Server (typically 9).
- **Place Centrex/PBX calls on remote Server using.** (Internet-to-Centrex/PBX Extension services only). Select one of the following options, depending on the type of IP Gateway calling you want to perform using this dialing service:
 - **To call TeleVantage extensions on the remote Server.**
Select **Remote Server’s internal dial tone**. With this selection, callers are connected directly to the internal dial tone on the remote Server, from which they can dial extensions, log into accounts, or use the TeleVantage telephone commands.
 - **To place Centrex/PBX calls through the remote Server.**
Select **Remote Server’s Centrex/PBX service access code**, and enter the access code of a Centrex/PBX Extension dialing service on the remote Server. This option lets users dial Centrex/PBX extensions that are external to the remote Server, for example, to connect to a legacy PBX on the remote Server or dial a Centrex extension.

The Trunks tab



The Trunks tab is used by all dialing service types except routing services (see page 8-20). This tab specifies the trunks to which calls will be routed and the order in which those trunks will be allocated. In this procedure, the Trunks tab from the Phone Number Service dialog box is used for illustration. All dialing service types except routing services have the same tab, but the options on the tab refer to the trunks appropriate to the dialing service you are creating, and the **Available trunks** list will show the appropriate trunks.

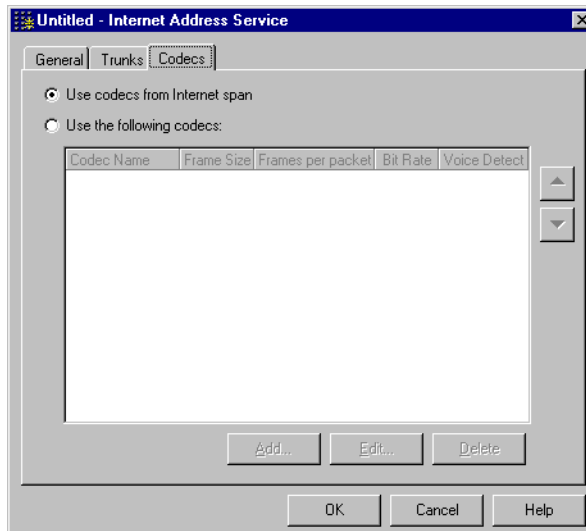
To complete the Trunks tab

1. In **Use trunks in this order**, choose one of the following:
 - **Bottom to Top.** Trunks are allocated starting at the bottom of the list each time. If a trunk is busy, the next trunk up is allocated.
 - **Top to Bottom.** Trunks are allocated starting at the top of the list each time. If a trunk is busy, the next trunk down is allocated.
 - **Round Robin.** Trunks are allocated in the same sequence as Bottom to Top, but starting with a different trunk for each call.
2. Select one of the following:
 - **Use all <trunk type>.** If selected, this dialing service will allocate all trunks listed under **Available trunks** and will use the algorithm selected in the previous step.
 - **Use only selected trunks.** If selected, this dialing service will allocate only the trunks in the **Selected trunks** list on the right and will use the algorithm selected in the previous step. Click **Add** to add a trunk to the **Selected trunks** list. Click **Remove** to remove it.

- **Available trunks.** Lists all the trunks in the TeleVantage system that can be used by this type of dialing service:
 - Phone Number service: analog and digital trunks
 - Centrex/PBX Extension service: analog and digital trunks
 - Internet Address service: Internet trunks
 - Internet-to-Phone Number service: Internet trunks
 - Internet-to-Centrex/PBX Extension service: Internet trunks

- **Selected trunks.** Lists the trunks that this dialing service will allocate. Use the arrows to move a trunk higher or lower in the list.

The Codecs tab



When you add a dialing service of the type Internet Address, Internet-to-Phone Number, or Internet-to-Centrex/PBX Extension, you can use the default codecs specified for the Internet span or override the defaults and specify one or more codecs. For a complete description of codecs, including which ones to choose, see “Modifying TeleVantage IP codecs” on page 5-26.

You can create different Internet dialing services optimized for specific uses, for example, one Internet dialing service with codecs optimized for NetMeeting, and another with codecs optimized for TeleVantage Server-to-TeleVantage Server communication over the Internet.

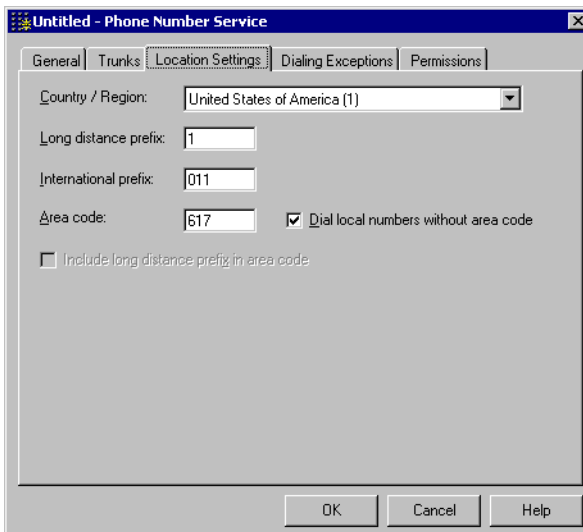
Note: To view your default codecs, display the Internet span properties in the Trunks view. If you want to use the default codecs, you do not need to make any changes on the dialing service’s Codecs tab.

If you decide to override the default codecs for the span, arrange the codecs in the order in which you prefer to use them. For example, you may prefer one codec over another to get greater bandwidth or better voice quality.

To change the codecs used by a dialing service

1. To override the codecs set up at the Internet span level, click **Use the following codecs**.
2. Click **Add** to add another codec, or select a codec and click **Edit** to change any of the parameters used with the codec. For more information about how to use the Add Codec dialog box, see “Adding an Internet span” on page 5-25.
3. Click the up or down arrows to promote or demote a specific codec within the list.

The Location Settings tab



The Location Settings tab is used by Phone Number and Internet-to-Phone Number dialing services. TeleVantage uses location information to format and dial telephone numbers entered in the Client or collected from Caller ID information.

Identify the local and long-distance phone number formats used to dial using this service, as follows:

- **Country/Region.** Choose the location of the TeleVantage Server.
- **Long-distance prefix.** Enter the prefix required to dial a long-distance number from the Server location.

In the U.S., enter 1. Outside of the U.S. and Canada, the long-distance prefix is typically 0.

- **International prefix.** Enter the prefix required to dial an international number from the Server location. In the U.S., enter 011. Outside of the U.S., the international prefix is typically 00.
- **Area code.** Enter the city or area code for local phone numbers, if applicable. If not, leave blank.

- **Dial local numbers without area code.** Check to have TeleVantage strip the area code from local numbers before dialing. In most areas, this field should be checked, unless the service allocates trunks that only support long-distance numbers or if it always expect numbers to include area codes.
- **Include long-distance prefix in area code.** Check to have TeleVantage assume that the long-distance prefix is always included with the area code, as in the U.K., for example, 0181. This field is only available for a Phone Number service, and it is disabled in the U.S.

Note: When using this tab to create an Internet-to-Phone Number dialing service, these values must match those on the remote TeleVantage Server.

The Dialing Exceptions tab

The Dialing Exceptions tab is used only for Phone Number dialing services. If **Dial local numbers without area code** on the Location Settings tab is checked (see “The Location Settings tab” on page 8-14), TeleVantage dials all calls within your area code as local calls. All other calls are dialed as long-distance calls. You can change this default behavior or add other dialing rules to cover exceptions for certain exchanges.

Dialing exceptions apply only to calls placed from the Client. When placing a call using the telephone, you must dial it with the correct area code usage.

Note: If you did not check **Dial local numbers without area code**, you usually do not need to specify dialing exceptions. Dialing exceptions are used to only to convert numbers entered into the Client, and callback numbers from Caller ID. Dialing exceptions do not affect manually dialed numbers.

The Dialing Exceptions tab displays dialing exceptions created so far. If these settings are incorrect, calls dialed automatically to local exchanges will be dialed as long-distance calls.

To enter dialing exceptions

1. Click **Add** to create a new dialing exception, or **Edit** to modify an existing one. The Dialing Exception dialog box opens.

For information about importing and exporting dialing exceptions, see “Exporting and importing dialing exceptions” on page 8-17.

2. In the Dialing Exception dialog box, add a default dialing rule for each city or area code for which you want to define exceptions.
 - **City/Area code.** Enter the city or area code.
 - **Dial as.** Select a dial string from the drop-down list. This string will be used to dial all calls to this city or area code that do not match any of the exceptions that you define. In this example, the default dialing rule for the 617 area code has been defined. Click **Apply** to save the default dialing rule.
3. In **Number**, enter the exchange within the selected **City/Area code** that requires a dialing exception. Select the **Dial string** to be used for calls to this exchange from the drop-down list. In the following figure, the dialing exception for the 235 exchange has been defined.

4. Click **Apply** to save the dialing exception.

You can define several dialing exceptions for a city or area code to cover different exchanges. Continue to enter exchanges for which dialing exceptions are needed. When you are done, click **OK**.

The Dialing Exceptions tab displays the default dialing rule and the dialing exceptions you defined.

City / Area Code	Number	Dial As
617	default	xxx...
617	235	1-617-235...

You can continue to add default dialing rules for other city or area codes, or add additional dialing exceptions. Enter only those city or area codes for which local calling applies. If a city or area code is not in the list, all calls to it are dialed as long-distance calls.

Exporting and importing dialing exceptions

Exporting and importing dialing exceptions allows you to copy dialing exceptions from one TeleVantage Server to another, or from one Phone Number service to another on the same TeleVantage Server, so that you do not have to retype them on each system. Dialing exceptions are exported into a comma-separated value (.CSV) file.

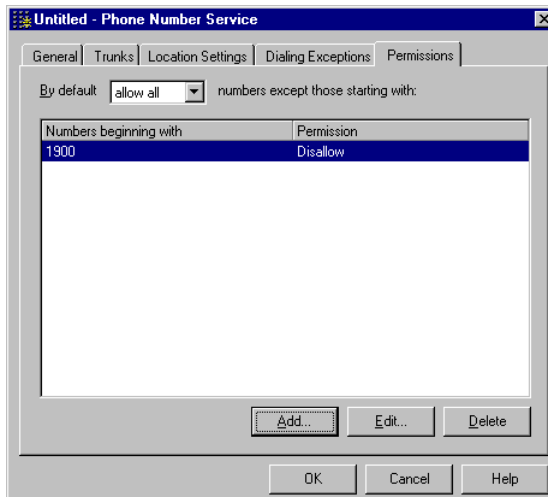
To export dialing exceptions

1. In the Phone Number Service dialog box, click the Dialing Exceptions tab.
2. Click **Export**. The Export Dialing Exceptions dialog box opens.
3. Enter a file name for the exported file. Click **Browse** to specify a destination.
4. Click **Finish** to export the file.

To import dialing exceptions

1. In the Phone Number Service dialog box, click the Dialing Exceptions tab.
2. Click **Import**. The Import Dialing Exceptions dialog box opens.
3. Click **Browse** to locate the file to import.
4. Click **Finish** to import the file.

The Permissions tab

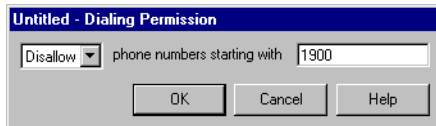


The Permissions tab is used only for Phone Number dialing services. It enables you to control which numbers can be dialed when using the dialing service. Dialing service permissions can be inclusive (“allow all numbers except for...”) or exclusive (“disallow all numbers except for...”).

Note: Dialing service permission settings can be overridden by dialing permissions set at the role or user level. See “Dialing permissions hierarchy” on page 6-53.

To set dialing permissions

1. Specify the default behavior when users dial a number using this service by selecting one of the following:
 - **Allow all.** Users can dial all numbers using this dialing service except those numbers that appear in the list under **Numbers beginning with**.
 - **Disallow all.** Users cannot dial any numbers using this dialing service except those numbers that appear in the list under **Numbers beginning with**.
2. Click **Add** to add a new permission, or **Edit** to modify an existing one.



3. Choose to **Allow** or **Disallow** calls, and then enter the digits. The permission is applied whenever a user selects this dialing service and then dials a number beginning with the digits you entered.
4. Click **OK** to close the Dialing Permission dialog box.

An example of how to set dialing service permissions

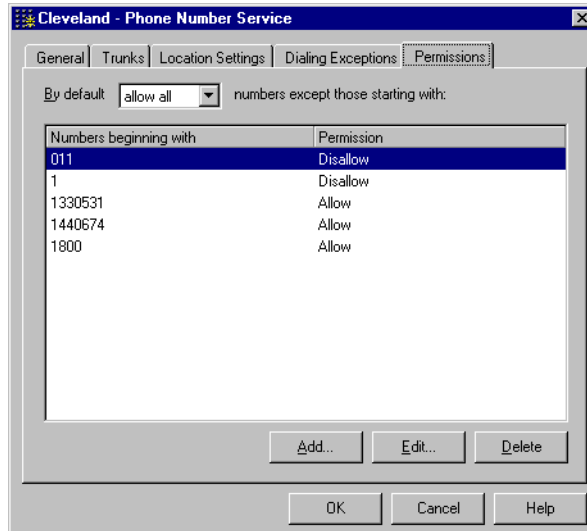
The following example illustrates how to set dialing service permissions:

- You want to allow users to dial all local numbers in the 216 area code. These calls are dialed without the area code because they are local calls as set up on the Location Settings tab (see “The Location Settings tab” on page 8-14).
- You want to allow calls to some exchanges in the 330 and 440 area codes, which are dialed with a 1 in front of them because they are long-distance calls, for example, 1-330-531-1234 and 1-440-674-4321.
- In addition, you want to prevent calls to all other long-distance and international numbers, but allow calls to 1800 and other toll-free numbers.

To do this with the fewest steps, set up the following dialing service permissions:

- By default, **allow all numbers** except those starting with:
 - **Disallow 1.** This prevents calls to long-distance numbers.
 - **Disallow 011.** This prevents calls to international numbers.
 - **Allow 1330531.** This allows calls to numbers in the 531 exchange of the 330 area code. You must enter a separate permission for each valid exchange in the 330 area code.
 - **Allow 1440674.** This allows calls to numbers in the 674 exchange in the 440 area code. You must enter a separate permission for each valid exchange in the 440 area code.

- **Allow 1800.** This allows calls to toll-free numbers. You must create a separate permission for each valid toll-free area code that you want to allow users to dial.



In this example, the rules are applied in this order, longest to shortest:

```
1330531-allow
1440674-allow
1800-allow
011-disallow
1-disallow
```

The following numbers are allowed:

```
1 330 531 1234
1 800 123 4567
731 4521 (in the local area code)
```

The following numbers are disallowed:

```
1 347 555 1212
1 330 532 1212
011 44 181 555 1212
```

Using routing services

If you have created several different dialing services, you may be able to simplify dialing for your users by creating a *routing service*. A routing service is a special type of dialing service that routes the number dialed to other dialing services. The routing service can choose how to route a call based on the phone number dialed, the time of day or day of the week, or the user placing the call. By using routing services you can do the following:

- Allow users to dial a single access code (for example, 9) for all their phone calls. Routing rules can automatically determine the best dialing service for a given call, and are not limited to a single type of trunk.
- Automatically route a call to trunks on an alternate dialing service when all the trunks of the preferred dialing service are in use.
- Prevent certain users from dialing certain numbers, at all times or only at certain times of the day.

For specific examples of using routing services, see “How you can use routing services” on page 8-21.

You can add as many routing services as you want, but typical installations need no more than one routing service.

How routing services work

A routing service uses *routing rules* to identify which dialing service will be used for the number dialed. For example, the following table shows a simple routing rule that identifies local calls. If the dialed number matches the pattern in the **Digits dialed** column, then the **Local calls** dialing service will be used to place the call. **Local calls** is referred to as the *target dialing service* for this rule.

Schedule	Digits dialed	New digits	Action	Service/Reason	Notes
Always	Nxxxxxx	Nxxxxxx	Route	76 - Local calls	

This example shows the routing rule as it would appear on the Routing Rules tab of the Routing Service dialog box (see “The Routing Rules tab” on page 8-27).

All routing rules contain the following information:

- **Digits dialed.** A pattern that matches the dialed numbers that you want the routing rule to process. The pattern **Nxxxxxx** matches any seven-digit number starting with the digits 2 through 9. See “Defining patterns to match the dialed digits” on page 8-30 for details.
- **Schedule.** One or more scheduled times at which the rule will be applied. This field is set to **Always** if no schedule is defined, and the rule is always applied.
- **Membership.** A rule can be used to restrict the dialing of certain numbers or the use of certain trunks to a specific group of users. If this is the case, the Membership column is checked. If no membership is defined, the rule applies regardless of the user who placed the call.

- **New digits.** The pattern of the number to be passed to the target dialing service. In the example shown in the previous table, the number is unchanged.
- **Action.** A rule’s action can be **Route**, which attempts to route the call through the target dialing service, or **stop**, which stops processing of any further routing rules that use this pattern.
- **Service/Reason.** The example shown in the previous table gives the access code and name of the target dialing service for this rule. If the rule’s action was **stop**, this field would list the reason for stopping, which can be played over the phone as an error prompt.
- **Notes.** Comments that you can enter when you create the rule.

A routing service can have an unlimited number of routing rules. The routing service attempts to match the number dialed to each routing rule from the topmost rule down to the end of the list of routing rules. If one or more valid rules are found, the routing service attempts to route the call through the target dialing service. If all trunks on the target dialing service are busy, the routing service tries the next matching routing rule and corresponding target dialing service until the call is placed or all valid routing rules have been tried. If the routing service finds a rule that tells it to stop processing the number, no further attempts to match a number dialed to a routing rule are made. If the number dialed does not match any rules, then the user will hear “The dialing service you selected is not properly configured. Please contact your administrator.”

If a routing rule matches the dialed digits, the target dialing service checks the rule’s **New digits** against the dialing permissions defined for the user, the user’s roles, and the target dialing service. If the dialed digits are blocked by these permissions, the target dialing service is not used. For information about dialing permissions, see Chapter 6, “Managing Users and Roles.”

Before the routing service passes the number to a dialing service, it modifies the number according to the pattern specified in **New digits** (the number is unchanged if **New digits** matches **Digits dialed**). The dialing service then applies any prefixes, suffixes, and dialing exceptions (see pages 8-10 and 8-15) to the modified number before the call is placed.

How you can use routing services

By setting up multiple dialing services and using a routing service, you can do any of the following:

- **Route local calls and long-distance calls to different trunks.** Write one or more routing rules that identify local calls and route them to dialing services that offer the lowest cost for local calls. Write other routing rules that identifies long-distance numbers and routes them to the trunks that offer the lowest price for long distance.
- **Restrict the outbound use of certain trunks to specific users.** A rule can be limited to specific users or Roles only, enabling you restrict the use of a certain phone number, dialing service or collection of trunks to those users. You might use this feature if one organization sharing the Server has special dialing privileges or has ownership of several trunks. To restrict a rule to a group of users, either specify the individual users in the membership or create a Role containing the appropriate users and then specify the Role in the rule.

- **Schedule the use of different dialing services for the same number to implement least-cost routing.** For example, you have three different carriers for long-distance calls. One is the least expensive during business hours, one during the evening hours of business days, and one during nights and weekends. You can set up three dialing services for the three carriers. In your routing service, create three routing rules. Each routing rule matches long-distance numbers but is in effect only during the specified time period. Each rule routes calls to the appropriate dialing service for the lowest price.
- **Route long-distance calls over an Internet gateway so that they are made as local calls from a remote TeleVantage Server.** For example, you are in the New York office. Your company also has an office in Boston. Your New York users make many calls to a Boston area code (617). You can set up an Internet-to-Phone Number dialing service named Call Through Boston that routes calls over the TeleVantage Server in Boston. You can then create a routing rule that matches numbers with the 617 area code (1617Nxxxxxx) and routes the calls to the Call Through Boston dialing service.
- **Perform least-cost routing by selecting the least expensive dialing service for a given phone number and time.** For example, you might have two different carriers for long-distance calls. One carrier is the least expensive during business hours, and the other is the least expensive during evenings and weekends. You can set up a dialing service for each of the two carriers. You can then set up a routing service that can route the call through either dialing service. The routing service automatically assigns the highest priority to the dialing service of the least expensive carrier, based on the call's time of day. Users do not have to remember separate access codes for the two carriers because they always dial the access code for the routing service.

An example of routing rules

Arrange your routing rules in the order that you want them to be evaluated and applied, from top to bottom (see the next figure). You can create multiple rules to match the same phone number. The first routing rule can be the least expensive long-distance option, for example, while subsequent rules route to progressively more expensive options.

The routing service in the following example has four routing rules (rules 6 through 9) that match the same set of numbers. Rule numbers are provided in the figure for purposes of illustration only.

Rule	Schedule	Membership	Digits dialed	New digits	Action	Service/Reason
1	Always	XYZ users			Route	79 - T1 line
2	Always	All	011		Stop	Invalid number
3	Always	All	1900		Stop	Invalid number
4	Always	All	411	411	Route	79 - T1 line
5	Always	All	411		Stop	All lines busy
6	Weekdays	All	1NxxNxxxxxx	1010321NxxNxxxxxx	Route	79 - T1 line
7	Always	All	1NxxNxxxxxx	+1NxxNxxxxxx	Route	79 - T1 line
8	Always	All	1NxxNxxxxxx	+1NxxNxxxxxx	Route	78 - All trunks
9	Always	All	1NxxNxxxxxx		Stop	All lines busy
10	Always	All	~	~	Route	79 - T1 line

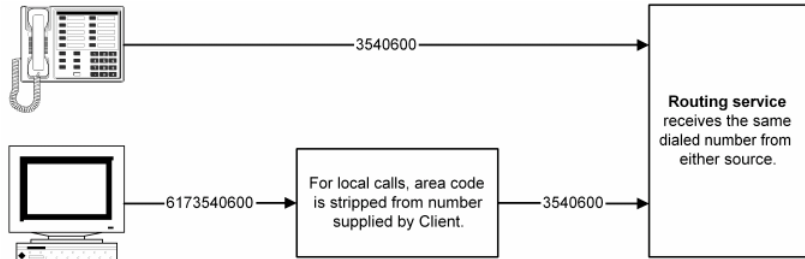
Rules 1-10 in the preceding figure work as follows:

1. This rule is defined so that calls from specific users (for example, all users in the XYZ Organization) are routed to the **T1 line** dialing service. You might do this if your other trunks are paid for by a different business that is sharing the system. (See “Using Organizations” on page 10-2 for more information about handling multiple businesses on a system.)
2. This rule is defined so that users are not permitted to place international calls with this routing service. This could be useful if you only want international calls to be placed by users who have been given a special access code that corresponds to a different dialing service.
3. This rule is defined so that calls to 900 pay-per-minute numbers are prevented. You could replace 900 with a routing variable that matches all pay-per-minute numbers. See “Adding custom routing variables” on page 8-30.
4. This rule is defined so that 411 calls are routed to the **T1 line** dialing service, which was created to place calls over a T1 line.
5. This rule is defined so that call processing stops and a message plays if all trunks are busy on **T1 line**. The message says that all lines are currently busy. Without this stop rule, rule 9 would match 411 calls also, so this stop rule causes a much quicker time-out when no lines are available.
6. This rule is defined so that long-distance calls placed during hours defined by the Weekdays schedule use the least expensive carrier. The PIC code 10-10-321 (a code used to save money by using a particular carrier) is added to the dialed digits before the number is passed to the **T1 line** dialing service.
7. This rule is defined so that long-distance calls that are not placed during Weekday hours use the same target dialing service as rule 5. The PIC code is not used.
8. This rule is defined so that if all of the **T1 line** dialing service trunks are busy, calls are routed to the **All trunks** dialing service.
9. This rule is defined so that call processing stops if the dialed digits match this rule and the call has not yet been processed. With the stop rule in place, if no trunks are available from the previous rules, the routing service stops the processing of the call and plays a system prompt to the user saying that no lines are available. Without such a stop rule, the routing service would search for another matching rule and therefore rule 9, which was not created to handle long-distance calls, would then handle the call.
10. This rule is defined so that all other numbers, for example, local numbers, are passed to the **T1 line** dialing service unchanged.

How the Client reformats phone numbers

Phone numbers dialed from a telephone reach the routing service exactly as dialed. On the other hand, the Client can automatically reformat phone numbers before they are received by a routing service.

For example, the Client may strip the area code from a local number, even if the user has entered the area code in the Client's Check Phone Number dialog. Putting local numbers from the Client and the telephone into the same seven-digit form allows you to use the same routing rules for local phone numbers from both the Client and the phone.



Your routing rules must be able to handle numbers received from the Client, so it is important that you understand when and how the Client reformats them. Here are the main points to remember:

- **The Client stores information about whether or not a number can be reformatted.** In the Client's Check Phone Number dialog, the **use country code and area code dialing rules** checkbox specifies whether or not the number may be reformatted.

Check Phone Number

Mobile: +1 (617) 555-8888

Country/Region: United States of America (1)

City/Area code: 617

Local Number: 555-8888

Use country code and area code dialing rules

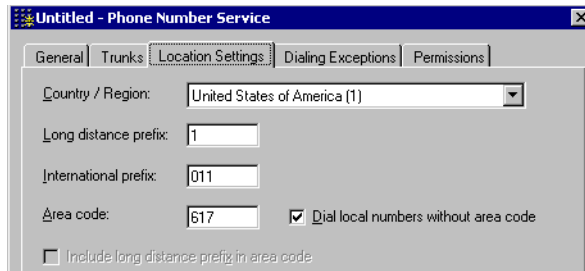
Show this again when a phone number is unclear

OK Cancel Help

If this checkbox is not checked, the Client will never reformat this number. (For more information, see “Using dialing services” in *Using TeleVantage*).

- **If the number can be reformatted, the Client uses the dialing rules specified in the Location Settings tab of the routing service's default dialing service.** A routing service does not have location settings of its own, but every routing service is configured with a default dialing service (see “Adding a routing service” on page 8-26). The

location settings of the default dialing service supply the rules that the Client will use to reformat the number.



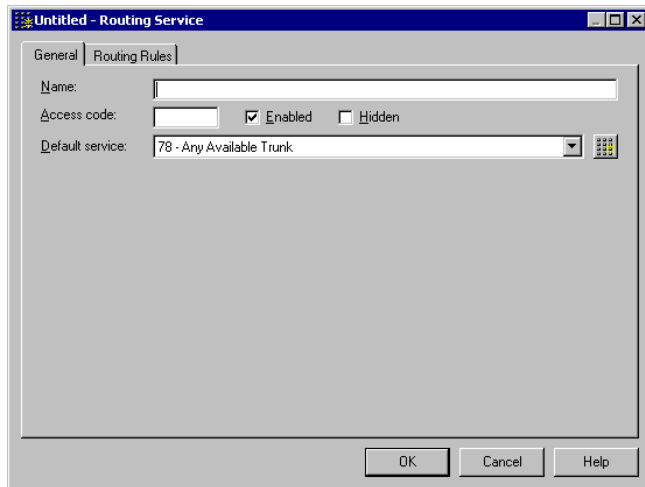
The number can be reformatted in the following ways:


- If a user enters a number without an area code, the Client can use the dialing service's area code and country code settings to add that information. For example, if the user types 3540600 in the Client's Place Call To dialog box, the Client can add the area code, and the number received by the routing service will be 6173540600.
- If the routing service's default dialing service has **Dial local numbers without area code** checked, the Client will strip the area code from the number before sending it to the routing service. For example, even if the user enters 6173540600, the Client will strip the area code from the number, and the number received by the routing service will be 3540600.

It is important to remember that all reformatting takes place before the routing service receives the number and begins to apply routing rules to it. Dialing services specified in routing rules will never receive a number until after the Client has had a chance to reformat the number based using the routing service's default dialing service.

Adding a routing service

1. Choose **File > New > Dialing Service > Routing Service**. The Routing Service dialog box opens.



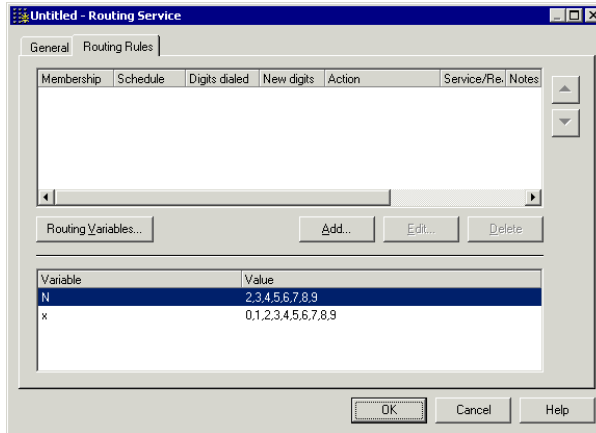
2. On the General tab, enter the basic information about the routing service. For instructions on **Name**, **Access code**, **Enabled**, **Show in Client**, and **Can be dialed**, see “General information for all dialing service types” on page 8-9.
3. From the **Default service** drop down-list, select the dialing service whose location settings are applied to numbers dialed from the Client. Select a dialing service from the drop-down menu, click  to create a new dialing service, or press ALT and click to edit the selected default service.
4. Click the Routing Rules tab and add routing rules (see “Adding a new routing rule” on page 8-27) until you have provided coverage for all phone numbers that you expect users to dial.
5. Click **OK** to add the routing service.

The Routing Rules tab

The top pane on the Routing Rules tab displays routing rules for this routing service.

The bottom pane displays the routing variables that are currently available. Click **Routing Variables** if you need to create or edit routing variables for use in your routing rules.

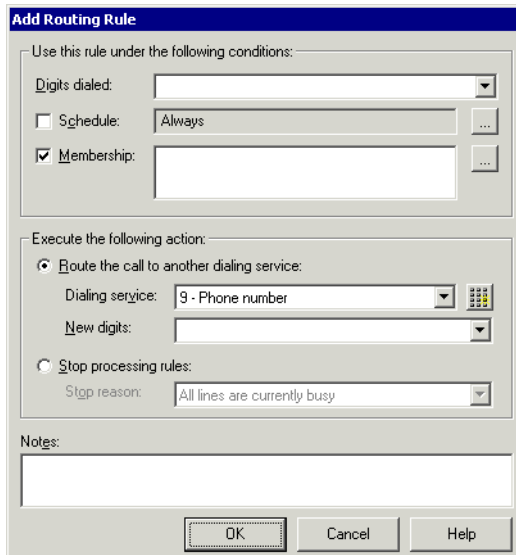
See “Adding custom routing variables” on page 8-30 for more information.



To create a new routing rule, click **Add** (see the next section).

Adding a new routing rule

When you click **Add** On the Routing Rules tab, the Add Routing Rules dialog box opens.



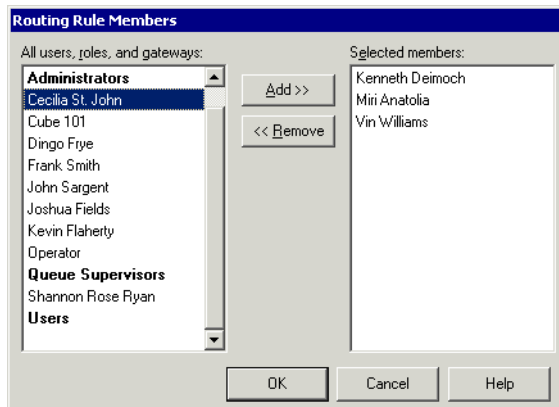
Use this rule under the following conditions

In this section of the dialog box, you can define what calls the rule handles. You can have the rule handle calls on the basis of the digits dialed, the time or date when the calls are placed, and the users placing the calls, in any combination.

- **Digits dialed.** Type the pattern that will match the dialed numbers you want the routing rule to process. For example, Nxxxxxxx would match any seven-digit local number. See “Defining patterns to match the dialed digits” on page 8-30 for details. The pattern entered here appears in the Dialed digits column of the Routing Rules tab. This field cannot be left blank.

To have the routing rule process calls without regard to the number dialed, enter ~ here. For example, you might have a routing rule that processes calls solely on the basis of schedule or membership. Stop rules cannot use the ~ character.

- **Schedule.** If you want to apply the rule only at scheduled times, check this field and click . In the Custom Hours dialog box that opens, define the hours and days of the week or the specific dates that this rule will be in effect. See “Setting up custom hours” on page 6-24 for more information. If you enter a schedule, it appears in the Schedule column of the Routing Rules tab.
- **Membership.** If you want to apply the rule only to outbound calls from certain users, check this field and click . In the Routing Rule Members dialog box that opens, add the users or roles you want to the **Selected Members** list by selecting them and clicking **Add**. If a role is selected, all users in the role are members.



Click **OK** to return to the Add Routing Rule dialog box. The rule will be used only on calls from the users in the Selected Members list.

Note: If your TeleVantage Server is shared between different organizations, you can use the Membership feature to restrict the use of some trunks to members of a role that has the same members as the organization. You might do this, for example, if one company had paid for certain proprietary trunks. See Chapter 10, “Managing Multiple Organizations.”

Execute the following action

In this section of the dialog box, you can specify the action to be performed with the dialed digits. You can choose one of two actions: you can either **Route**, which passes the number to the target dialing service, or **Stop**, which stops processing any further routing rules that use this pattern. The action you choose appears in the Action column of the Routing Rules tab.

- **Route the call to another dialing service.** Select this option if you want the number passed to the target dialing service.
 - **Dialing Service.** From the drop-down list, select the target dialing service for this rule. The dialing service you select appears in the Service/Reason column of the Routing Rules tab.
 - **New Number.** Type the pattern that defines the number that you want to pass to the target dialing service. If you do not want to change the number, use the same pattern that you entered in **Digits dialed**. See “Defining a new number for a routing rule” on page 8-32 for more information. If you enter a pattern, it appears in the New digits column of the Routing Rules tab.
- **Stop processing rules.** Select this option if you want to prevent the routing service from looking further for rules that match the dialed number.

If no rules have matched when the stop rule is reached, or if no trunks are available from the target dialing services of the rules that matched, TeleVantage plays an appropriate system prompt to the user. The available prompts include “I’m sorry, all lines are currently busy,” “I’m sorry, the phone system has not been configured to dial this number. Please contact your administrator,” and “I’m sorry, the number you entered was invalid. Please try again.” The name of the prompt you select appears in the Service/Reason column of the Routing Rules tab.

Most routing services will include stop rules. You can use them for the following purposes:

- **Prevent numbers from being dialed over inappropriate trunks.** For example, create routing rules that route 411 calls to dialing services that support 411. Add a stop rule so that TeleVantage does not attempt to dial 411 on dialing services with trunks that do not support 411 calls. Restrict 1800 numbers to specific trunks in the same way.
- **Eliminate time-outs when a user is dialing from the telephone.** For example, with 911 calls, you can create one or more routing rules for the dialing services that can handle 911 calls. Add a stop rule for 911 that will cause TeleVantage to pass the call to a 911 dialing service immediately instead of evaluating all of the remaining rules for matches before routing the call.
- **Block calls to numbers.** You can set up stop rules for 1900 numbers, for example, to prevent users from calling them (this could also be done with dialing permissions, but stop rules can provide a more versatile solution in some cases).

Defining patterns to match the dialed digits

You can include any of the characters identified in this section in the **Digits dialed** that the routing rule uses to match digits received (see “Use this rule under the following conditions” on page 8-28). The **Digits dialed** field cannot be left blank.

Routing rules can match the exact digits in phone numbers, such as 16173540600, or use number patterns that include variables to match all dialed digits that fall into a more general category. For example, using the pattern 1617Nxxxxxx to match the dialed digits would match all phone numbers in the 617 area code. The pattern 1NxxNxxxxxx can be used to match any long-distance number in the North American Numbering Plan.

Note: Variables are case-sensitive. For example, upper-case N and lower-case n would be interpreted as two different variables.

By default, the system defines the following routing variables:

- **N** matches any digit from 2-9. These are the initial digits used in exchanges and area codes.
- **x** matches any digits (0-9).
- **~** matches any sequence of digits and asterisks to the end of dialed digits. This creates an ambiguous time-out (see “Avoiding dialing ambiguities” on page 8-6).

Note: You cannot use this character when defining a stop rule.

You also can define your own routing variables to match combinations of digits, as described in “Adding custom routing variables.”

The following list presents examples of match patterns and the phone numbers that match them:

- **1617Nxxxxxx** matches 16173540600 and any other seven-digit phone number in the 617 area code.
- **1617~** matches 1617, 16173540600, 16173540600123456789, or any other set of digits that follows the digits 1617.
- **Nxxxxxx** matches 3540600, 2000000 and any other seven digits in which the first digit is from 2-9.
- **~** matches any number dialed.

Adding custom routing variables

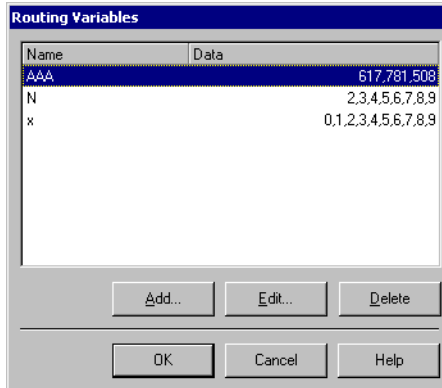
Routing rules use a set of variables to define the phone numbers to be matched. As explained previously, by default the system defines the routing variables **N**, **x**, and **~**. You can define additional routing variables that match individual digits or combinations of digits, such as area codes or exchanges.

For example, if you are in the 617 area code and calls to the 617, 781, and 508 area codes have the same low cost over certain trunks, you can create a new routing variable **AAA** that matches the digit sequences 617, 781, and 508. By using the **AAA** routing variable, for example, in a

1AAANxxxxxxx match pattern, you can match calls to any seven-digit phone number in these three area codes. Doing this would enable you to consolidate your handling of 617, 781, and 508 calls in a single routing rule.

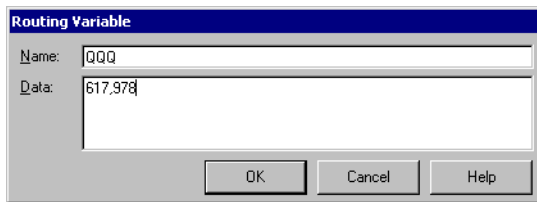
To add a routing variable

1. Click **Variables** on the Routing Rules tab (see page 8-27). The Routing Variables dialog box opens.



Note: You also can open this dialog box by choosing **Tools > Routing Variables**.

2. Click **Add**. The Routing Variable dialog box opens.



3. Enter a name for the new variable in the **Name** field, and then enter the set of values that the variable will match in the **Data** field. The name must be a string that consists of a repeating upper case letter (for example, W, RRR or HHHHH).

Note: The number of characters in the **Name** of the routing variable must be the same as the number of digits being matched. For example, you can use a variable named BBB to match the area codes 617 and 781, but you cannot use a variable named BBBB to match those area codes, and a variable BBB cannot contain anything but 3-digit numbers.

4. Click **OK** to return to the Routing Variables dialog box. Click **Add** to add another routing variable or click **OK**.

Defining a new number for a routing rule

You can include any of the characters shown in the following table in the **New number** that you define for a routing rule (see “Adding a new routing rule” on page 8-27).

See “Examples of number patterns and dialed digits” on page 8-33 for examples of dialed digits and new numbers that use these characters.

Characters	Digits placed in the new number
N, x	Places the digit that the variable matched into the new number. The position of the variable within the match pattern is preserved in the new number. For example, if the match pattern Nxxxxxx matches the dialed digits 5551212, including xxxxx in the new number would yield the digits matched by the first four x variables: 5512.
+	If + is the first character in the New Number field, the routing rule’s target dialing service will apply its area code and country code rules to the basic number. If a + is not present, the target dialing service’s area code and country code rules are not used.
0, -, 9, *, #	Valid telephone digits.
, &	A comma in the dialing sequence causes a 2-second pause. An ampersand causes a Flash on analog trunks, and is ignored on other trunk types.
[n]	The <i>n</i> th digit in the dialed digits.
[n-m]	The <i>n</i> th through <i>m</i> th digits in the dialed digits.
[n-]	The <i>n</i> th through the last dialed digit.
~	All digits matched by the ~ in the dialed digits. (Can only be used when the match pattern uses ~.)
"<string>"	Use quoted strings without modification. For example, the following new number begins with the MyNetPhone gateway as a quoted string, incorporates all the dialed digits, and then adds an account name and password as a suffix: "gateway.mynetphone.net/"[1-]*1234*1234.

Examples of number patterns and dialed digits

The following table illustrates some of the possibilities for defining the new number used by a routing rule. The first column shows number patterns and dialed digits that match those patterns. The second column shows New Number patterns that incorporate some or all of the dialed digits and the number that results from applying the new number pattern to the dialed digits.

Note: The last example in the following table assumes that the U.S. is the country and 617 is the area code that was selected on the Location Settings tab of the routing rule's dialing service.

Match pattern/ Dialed digits	New Number pattern/ Number produced by pattern
1NxxNxxxxxx 16173540600	NxxNxxxxxx 6173540600
1NxxNxxxxxx 16173540600	Nxx[5-11] 6173540600
1NxxNxxxxxx 16173540600	[5-11] 3540600
1NxxNxxxxxx 16173540600	[5][6][7][8][9][10][11] 3540600
1NxxNxxxxxx 18005551111, ,1211#E	[1-] 18005551111, ,1211#E
1Nxx~ 16173540600	18002255288, 1Nxx~, 4321 18002255288, 16173540600, 4321
Nxxxxxx 3540600	1010321Nxxxxxx 101032116173540600
Nxxxxxx 3540600	+1617Nxxxxxx +16173540600

HANDLING INBOUND CALLS

CHAPTER CONTENTS

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Routing calls to extensions 9-17

Using custom data to add information to calls 9-18

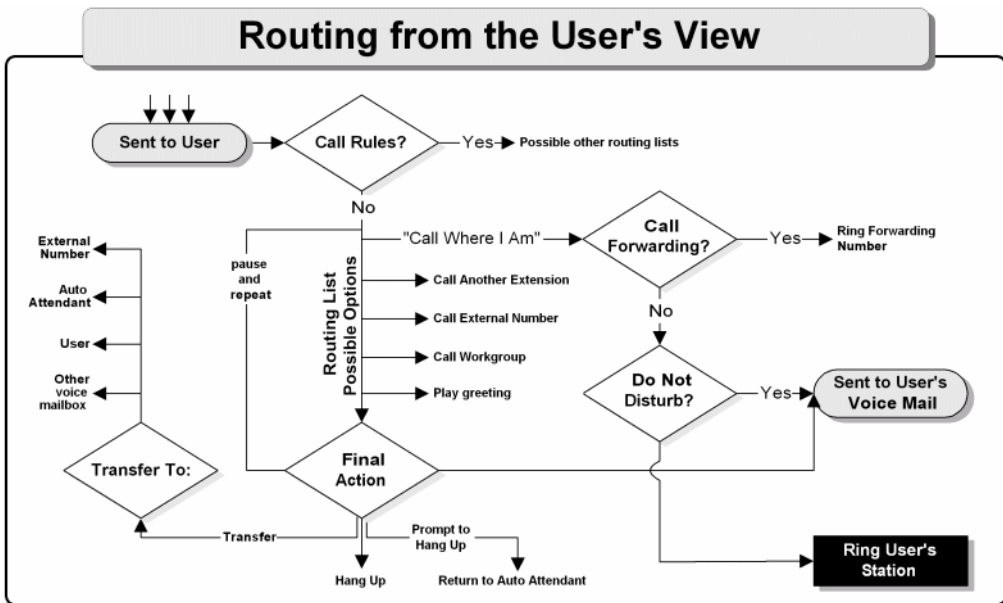
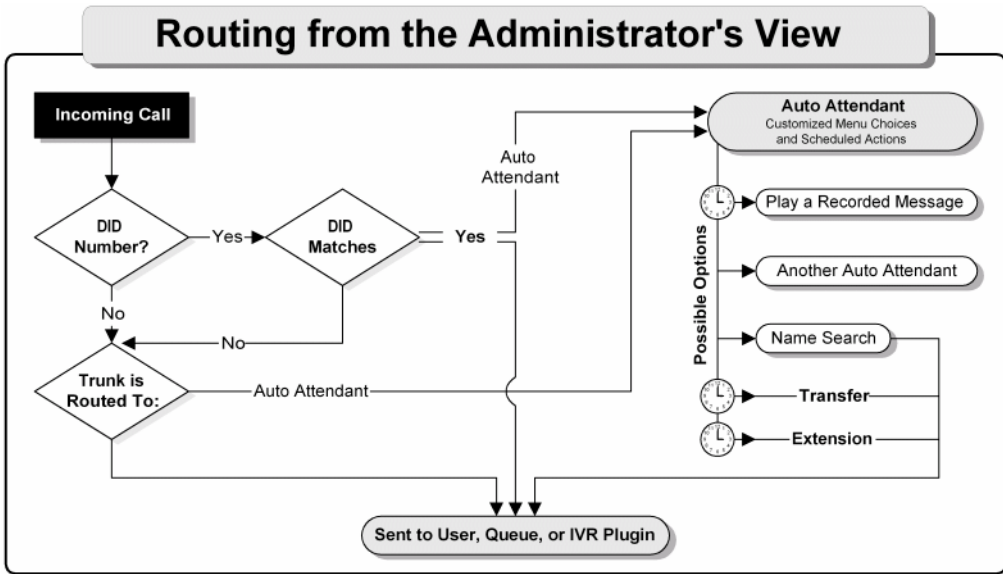
About inbound call routing

This chapter provides an overview of inbound call routing methods in TeleVantage and directs you to the chapters in this manual that explain in detail how to use them.

With TeleVantage, you can route incoming calls in the following ways. You can use one of these methods or several of them in combination:

- **Route calls to an auto attendant.** Incoming calls go to an auto attendant, at which callers enter an extension number. Auto attendants can also provide a dial-by-name directory for callers who do not know a user's extension.
- **Route calls on a trunk directly to a user.** All incoming calls on a specific trunk go to a specified user's phone. With this method, you can send calls to a live operator who then transfers them to users. You can also give a user a dedicated private line.
- **Ring multiple users simultaneously.** Incoming calls simultaneously ring the phones of all users in a specific workgroup. The first user in the workgroup who answers is connected to the caller. Workgroups can contain an unlimited number of users. For more information about workgroups, see Chapter 7, "Managing Workgroups."
- **Route calls to a call center queue or an ACD workgroup.** Incoming calls are automatically put on hold in a call center queue or an ACD workgroup until an agent becomes available. See *TeleVantage Call Center Administrator's Guide* for details about setting up and using call center queues and ACD workgroups.
- **Route calls directly to an IVR Plug-in.** Incoming calls are transferred to an IVR Plug-in for further processing. For more information about IVR Plug-ins, see Chapter 14, "Extending TeleVantage."
- **Assign DID (Direct Inward Dial) numbers.** Incoming calls on any trunk are routed to the appropriate user, auto attendant, workgroup, IVR Plug-in, or queue using the DID numbers that callers dial. Departments in your company can have their own phone numbers and auto attendants without requiring your system to use dedicated trunks. For more information, see "Telephone company services that help TeleVantage" on page 5-5.
- **Route calls to a fax machine or a pool of fax machines.** For more information, see "Setting up fax routing" on page 5-6.

In addition, users can route calls by setting up call forwarding or using routing lists. For more information, see *Using TeleVantage*.



About auto attendants

By default TeleVantage uses auto attendants to route calls to users. Auto attendants automatically answer incoming calls and offer callers options for directing their calls. For example, your main auto attendant might say: “Welcome to Barchetta Industries. You may dial an extension at any time. For Sales, press 1. For Customer Support, press 2. To hear a recorded message about our special offers, press 3. To speak to the Operator, please hold.”

What callers can do at an auto attendant

You can set up an auto attendant to let callers do any of the following:

- Dial an extension
- Dial a user by name in the dial-by-name directory
- Log in using a TeleVantage extension and password
- Hear a recorded message
- Transfer to a user, queue, workgroup, or IVR Plug-in
- Transfer directly to a voice mailbox to leave a message
- Transfer to another menu (another auto attendant)

You can also specify an automatic action to take if callers do nothing.

How you can use auto attendants

You can use auto attendants in powerful ways, as follows:

- You can create additional auto attendants and assign them to different trunks or DID numbers. For example, if you distribute different phone numbers for your sales department and your accounting department, you can create a custom auto attendant for each department.
- TeleVantage lets you nest auto attendants, so that one option on an auto attendant menu can take callers to a menu of other options on another auto attendant. By creating multilevel auto attendants you can offer callers a nearly unlimited number of choices.
- You can customize an auto attendant to automatically change its behavior by time of day by scheduling greetings and call transfer behavior. For example, after 6:00 pm (and on weekends) your auto attendant could automatically play a “We’re closed” greeting that reads your business hours, then transfer calls to a voice mailbox.
- You can create auto attendants that are recorded in different languages but contain the same menu choices. A master auto attendant tells callers, “To continue in English, press 1. To continue in Spanish, press 2.” Pressing the appropriate choice transfers the caller to the auto attendant recorded in that language. The language choice also changes the system prompts that TeleVantage presents to the caller to the specified language.
- Different auto attendants can have different hold music (for example, sales pitches for sales reps or soothing music for support lines).

- Auto attendants can set a Custom Data variable depending on the menu choice that the caller selects. For example, you could have callers to your Customer Support line press 1 for Product A, or 2 for Product B. Each option would transfer the caller to your customer support queue, but would set the “Product” variable differently. Agents using the Client’s Call Monitor would see a “Product” column showing the product that each caller had selected.
- Auto attendants can be dedicated to a specific workgroup, so that callers can dial only the extensions of users who belong to that workgroup. The dial-by-name directory is similarly restricted. In this way you can have multiple companies share your office, and ensure that callers to one company do not reach users in another company by accident.

What callers hear

The auto attendant recording that callers hear is composed of a series of short individual recordings. The individual recordings are the following:

- **A greeting.** The greeting is the first thing the auto attendant plays when it answers a call, for example, “Thank you for calling Barchetta Industries.”
- **Menu prompts.** Each menu prompt recording tells callers about a single option. For example, “For Sales, press 1.” You must record each such prompt individually and specify the sequence in which you want the auto attendant to play them.

Note: Callers do not have to wait for a menu prompt to press the key for it. They can press the key as soon as they reach the auto attendant. This can be useful for pressing multiple keys quickly in cases where one menu choice leads to another menu.

The Default Auto Attendant

When TeleVantage is installed, all incoming trunk lines are assigned to the Default Auto Attendant at extension 8000. The Default Auto Attendant is also assigned to any new trunk that you add. You can change these assignments at any time.

The Default Auto Attendant plays a greeting and offers the caller the following options:

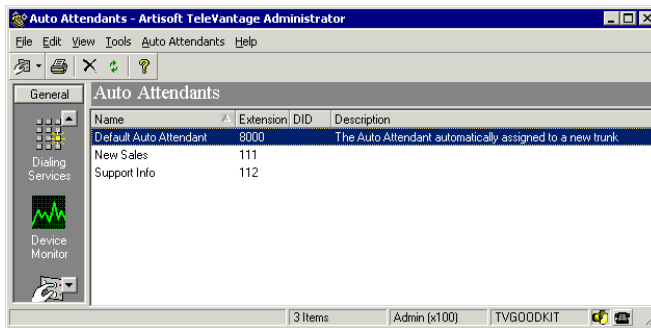
- Dial any TeleVantage extension.
- Press 9 to access a dial-by-name directory.
- Press 0 to transfer to the Operator.
- Press # to log in to TeleVantage.

If three seconds pass after the greeting has played without the caller pressing a key, the call is transferred to the Operator.

Note: Although you can edit the Default Auto Attendant, it is recommended that you leave it unmodified and create another auto attendant to customize for your use. The Default Auto Attendant is used if a trunk is assigned to an auto attendant that was later deleted (see “Deleting auto attendants” on page 9-16).

The Auto Attendants view

To create and manage auto attendants, click the Auto Attendants icon in the view bar to open the Auto Attendants view.



Each auto attendant that you create appears as a row in the Auto Attendants view. A nested auto attendant is considered a separate auto attendant and appears on its own row.

Double-click an auto attendant in the view to edit it in the Auto Attendant dialog box.

Auto attendants that you create are not used until you assign them to a trunk in the **Calls are sent to** field in the Trunk dialog box, as described for the various trunk types in Chapter 5. In this way you can create multiple auto attendants for various situations and then activate the one you want at the appropriate time.

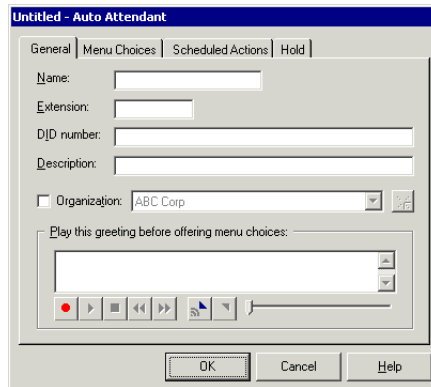
Setting up an auto attendant

The following aspects of setting up an auto attendant are described in the sections that follow:

- “Creating a new auto attendant” (see the next section)
- “Defining menu choices” (page 9-8)
- “Restricting an auto attendant to members of a workgroup” (page 9-13)
- “Scheduling transfers and greetings” (page 9-13)
- “Setting up hold music” (page 9-16)
- “Assigning an auto attendant to a trunk” (page 9-16)

Creating a new auto attendant

1. Select **File > New > Auto Attendant**. The Auto Attendant dialog box opens.



2. Enter the following information:
 - **Name** (required). Descriptive name for the new auto attendant, for example, “Sales auto attendant.”
 - **Extension** (required). Extension used to reach the auto attendant. TeleVantage users can transfer callers to the auto attendant at this extension. See “Assigning an extension” on page 6-10 for recommendations and restrictions.

To test the auto attendant, dial the auto attendant’s extension. The default auto attendant is assigned an extension of 8000.
 - **DID number**. To give this auto attendant a DID number, assign one from the block of numbers provided by your telephone company or T1 provider. When TeleVantage recognizes this number as the final digits of an inbound call, the caller is automatically connected to this auto attendant, instead of the main auto attendant. To assign multiple DID numbers to an auto attendant, separate each number by a comma.
 - **Description**. Information that describes the auto attendant.
 - **Organization**. This field is reserved for future use. To restrict auto attendant dialing by membership, see “Restricting an auto attendant to members of a workgroup” on page 9-13.
3. Record a greeting that plays when callers first reach the auto attendant. A typical greeting is, “Thank you for calling Barchetta Industries. If you know your party’s extension, you can enter it at any time.” For more information, see “Using the audio controls” on page 2-10.

4. Click each of the remaining tabs to finish creating the new auto attendant:
 - Menu Choices (described in the next section)
 - Scheduled Actions (described in “Scheduling transfers and greetings” on page 9-13)
 - Hold (described in “Setting up hold music” on page 9-16)
5. Click **OK** on any tab to save the new auto attendant.
6. To activate the auto attendant to handle incoming calls, assign it to a trunk (see “Assigning an auto attendant to a trunk” on page 9-16).

You can save time and reduce typing when you want to create a new auto attendant by right-clicking an existing auto attendant in the Auto Attendants view and clicking **Copy** on the shortcut menu. Then right-click anywhere in the view and click **Paste** on the shortcut menu. The Auto Attendant dialog box opens with a copy of the existing auto attendant and you can now customize it.

Defining menu choices

An auto attendant can present a series of menu choices to callers. For example, callers might press 1 to transfer to the Sales department, 2 to transfer to the Customer Service department, etc. When a caller reaches an auto attendant, its greeting plays, followed by its menu choice prompts in the order you specify.

Important: If your auto attendant supports extension dialing, make sure that its menu choices do not conflict with extension numbers. For example, if you assign the 2 key to a menu choice, make sure there are no extensions beginning with 2. Otherwise callers trying to dial the extension will select the menu choice instead. See “Assigning an extension” on page 6-10.

Each menu choice can contain the following:

- **Prompt.** A recorded message that explains the option to the caller. For example, “For Sales, press 1.”
- **Key.** The telephone key callers must press to select the option.
- **Action.** The action the system takes when the key is pressed.
- **Language.** The language for subsequent system prompts. When callers enter the key associated with this menu choice, all subsequent prompts are in the specified language. Your system supports the languages that were installed with the TeleVantage Server. For more information, see *Installing TeleVantage*.
- **Custom data.** Extra information attached to the call. Whenever a caller selects the menu choice, a custom data variable receives the value you define (text or numeric). That value is attached to the call and can be seen by users or used to automate call handling. For more information, see “Using custom data to add information to calls” on page 9-18.

Menu choice actions

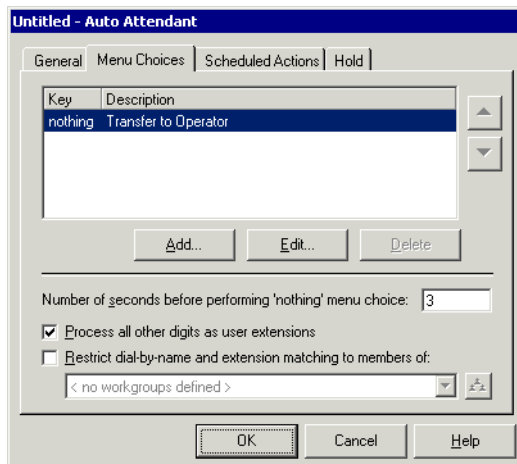
The following table lists the actions that you can choose.

Action	Description
Transfer to user	Transfers the call to a TeleVantage user
Send to voice mail	Transfers the call to a user's voice mailbox
Play message	Plays a message that you record
User login	Offers callers the TeleVantage login prompt
Dial by name	Offers callers the dial-by-name directory
Jump to auto attendant	Transfers the call to another auto attendant (see the Note following this table)
Transfer to IVR Plug-in	Transfers the call to an IVR Plug-in for processing
Transfer to Queue	Transfers the call to a call center queue

Note: TeleVantage automatically disconnects calls if callers do not press a key during three consecutive jumps between auto attendants (for example, if you set up an auto attendant to jump to itself for the “nothing” menu choice action). Callers are presumed to have hung up. To change the number of auto attendants that can execute without caller input, see Server\MaxAutoAttendantLoops on page A-37.

Setting general menu options

1. In the Auto Attendant dialog box, click the Menu Choices tab.



2. In **Number of seconds before performing 'nothing' menu choice**, enter the number of seconds that the auto attendant will wait without a menu choice being selected, before performing the action associated with the **Nothing** menu choice. The wait begins after the final menu choice prompt finishes playing. You can choose the action for the **Nothing** menu choice using the following steps.

Note: If you have turned on fax detection for your trunks, the combined time for this setting plus the auto attendant prompt (greeting and menu choice prompts) should be at least 10 seconds. If the combined time is less than 10 seconds, the system might fail to detect fax tones and route them before the “nothing” menu choice takes over.

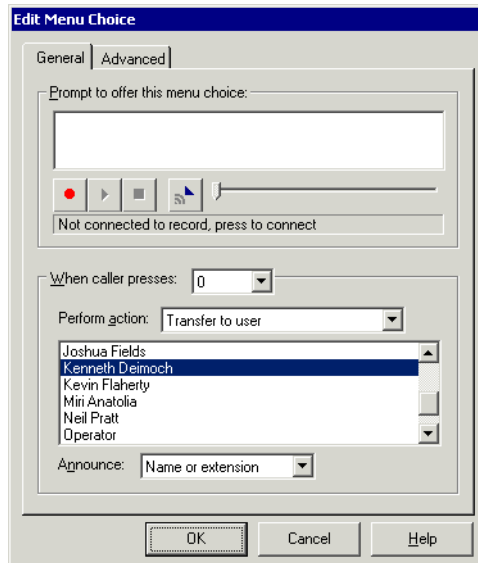
3. To permit callers to dial extensions from this auto attendant, leave **Process all other digits as user extensions field** checked. For information on unchecking it, see “Creating auto attendants without extension access” on page 9-13.

Note: Auto attendant extensions (for example, 8001) cannot be dialed at an auto attendant.

4. To dedicate this auto attendant to a workgroup, so that only users in the workgroup can be dialed from it, check **Restrict dial-by-name and extension matching to members of**, and select the workgroup. For more information, see “Restricting an auto attendant to members of a workgroup” on page 9-13.

Adding or editing a menu choice

1. On the Menu Choices tab of the Auto Attendant dialog box, click **Add** to create a new menu choice. Click **Edit** to modify the selected menu choice. The Edit Menu Choice dialog box opens.

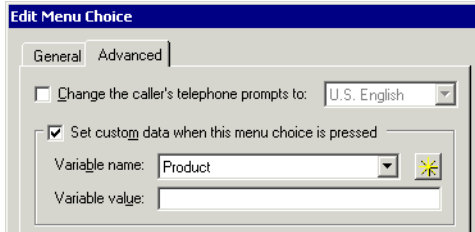


2. On the General tab, type the text of the **Prompt to offer this menu choice**, for example, “For Sales, press 1.” Use the audio controls to record the prompt. For more information, see “Using the audio controls” on page 2-10.
3. In **When caller presses**, select the key that callers must press to select the menu choice. Valid keys are 0-9, *, or #.
4. In the **Perform action** drop-down list, select the action to perform when callers press the key. For a list of actions, see “Menu choice actions” on page 9-9.

For transfers to a user, IVR Plug-in, or queue, select an optional **Announce** prompt, that determines what callers hear when they select this menu choice:


- **Nothing.** The call is transferred with no announcement.
- **Name or extension.** Announces the name of the user, IVR Plug-in, or queue, using the voice title if available. If no voice title is available, the auto attendant announces the extension to which the call is transferring.
- **One moment please.** Announces “One moment please” as the call is transferred.

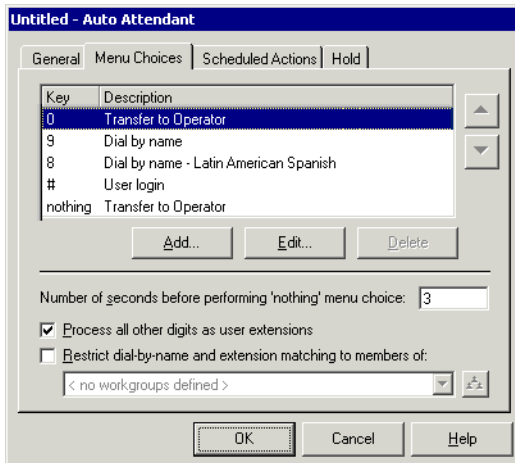
- Click the Advanced tab.



- To change the language of subsequent prompts, check **Change the caller's telephone prompts to**. Then select another language that was installed with TeleVantage from the drop-down list. When callers press the key for this menu choice, all subsequent prompts are in the language you specify here.

For example, to give callers the option of accessing a dial-by-name directory in Spanish, set up a dial-by-name menu choice on the General tab, and then select **Spanish** on the Advanced tab.

- To set the value for a custom data variable whenever this menu choice is selected, check **Set custom data when this menu choice is pressed**. Select the **Variable name** from the drop-down list and enter a **Variable value**. For more information, see "Using custom data to add information to calls" on page 9-18. To create a new variable, click  to open the Custom Data dialog box.
- Click **OK** to save the menu choice and return to the Auto Attendant dialog box.
- On the Menu Choices tab, use the arrows to change the order in which menu choices are presented to callers.



- Add more menu choices or click **OK** to save the auto attendant.

Creating auto attendants without extension access


By default, all auto attendants permit the caller to dial extensions. However, sometimes you might want an auto attendant to offer menu choices only, for example an auto attendant whose only purpose is to transfer callers to call center queues, or an informational auto attendant that provides recorded messages based on caller choices. In such cases you might want to disallow extension dialing, to ensure that callers entering digits do not get transferred to extensions by accident.

To disallow extension dialing, uncheck **Process all other digits as user extensions** on the Menu Choices tab. When unchecked, the auto attendant responds only to the digits you define as menu choice selections.

When checked, the auto attendant permits the dialing of extensions.

Restricting an auto attendant to members of a workgroup

You can restrict an auto attendant to be able to reach only the extensions within a workgroup. When you do so, callers to the auto attendant can dial the extensions of workgroup members only, and the dial-by-name directory is restricted to workgroup members only. If they dial other extensions in the system, they receive an invalid extension message. You can use this feature when separate businesses share a TeleVantage Server, to make sure that callers to one business don't reach users in another business. For more information about handling multiple organizations in a TeleVantage system, see Chapter 10.

To restrict auto attendant dialing to the members of a workgroup, check **Restrict dial-by-name and extension matching to members of** on the General tab, and select the workgroup. Click  to define a new workgroup (see "Creating a Workgroup" on page 7-4).

Note: When you restrict auto attendant dialing to a workgroup, callers who press 0 at the auto attendant are transferred to the workgroup's **If no answer, transfer** extension, not the system's Operator extension.

Scheduling transfers and greetings

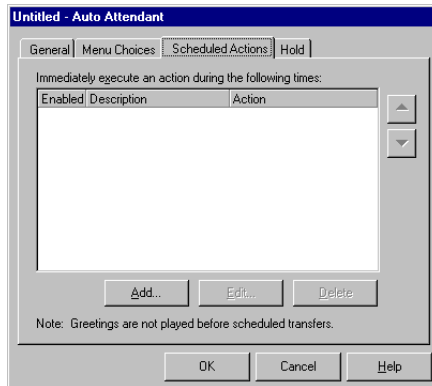
You can customize an auto attendant to automatically change its behavior based on time of day or on special dates. You can schedule the following actions:

- Playing of a different main greeting, which replaces the auto attendant's regular greeting. For example, you can schedule a "We're closed" greeting to be played to all callers after business hours and on weekends.
- A transfer to any other extension, including another auto attendant, user, queue, IVR Plug-in, or workgroup. For example, to provide extended customer support coverage, support calls that arrive after your California office closes in the evening can transfer automatically to the main auto attendant at your facility in New Zealand.

Note: If you have scheduled a greeting and a transfer to occur at the same time, the transfer always takes precedence and the greeting does not play. Also, if you have two greetings or two transfers scheduled for overlapping times, the top-most scheduled item always takes precedence.

To schedule transfers or greetings

1. In the Auto Attendants view, create a new auto attendant or double-click an existing auto attendant to edit it. The Auto Attendant dialog box opens.
2. Click the Scheduled Actions tab.



The following table shows the information that appears for each scheduled action already defined for this auto attendant.

Column	Description
Enabled	If checked, the action will be performed as scheduled. If unchecked, the action is temporarily disabled.
Description	Time period during which the action will be performed.
Action	Action that will be performed.

3. Click **Add** to schedule a new action. Click **Edit** to modify the selected action. The Schedule Action dialog box opens.

Schedule Action

This schedule entry occurs:

- During business hours
- During nonbusiness hours
- After business hours on workdays
- On nonworkdays
- On holidays
- During custom hours

Business Hours...
Custom Hours...

This schedule entry:

- Transfers to: Default Auto Attendant (x 8000)
- Plays greeting:

Ready to play

Enable this schedule action

OK Cancel Help

4. Under **This schedule entry occurs**, select one of the periods of time during which the action will occur.

Note: If your TeleVantage system uses several sets of business hours, click **Business Hours** before you click **OK** in the Schedule Action dialog box and verify that the action will take place according to the set of business hours that you want to use. For more information about business hours, see “Setting Business Hours” on page 3-3.

If you choose **During custom hours**, click **Custom Hours** and see “Setting up custom hours” on page 6-24.

5. Under **This schedule entry**, select the action that the auto attendant will perform immediately when a call arrives during the period covered by the schedule entry:
 - **Transfers to.** Immediately transfers callers to the extension that you select from the drop-down list during the scheduled time period.
 - **Plays greeting.** Immediately plays the greeting that you record during the scheduled time period. For more information, see “Using the audio controls” on page 2-10.
6. Check **Enable this schedule action** to activate this action as soon as you save the auto attendant. If unchecked, the action is temporarily disabled.
7. Click **OK**. The Schedule Action dialog box closes.
8. On the Scheduled Actions tab in the Auto Attendant dialog box, use the arrows to move a scheduled transfer or greeting to a different position on the list. If you have two greetings or two transfers scheduled for overlapping times, the one that is at the top of

the list will be used. If a greeting and a transfer are scheduled for the same time, the greeting is not played.

9. Click **OK** in the Auto Attendant dialog box to save your changes.

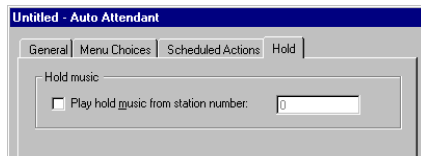
Setting up hold music

An auto attendant can play music that is different than the system-wide hold music. Callers hear an auto attendant's hold music while the auto attendant is transferring them to an extension, and they continue to hear it while on hold until they reach a part of TeleVantage that uses different hold music, such as a queue or another auto attendant that has different hold settings. Each auto attendant can have its own hold music setting.

If you do not specify hold music for an auto attendant, the auto attendant uses the system default hold music. To configure system default hold music, see "Setting Server configuration" on page 3-5.

To set up different hold music for an auto attendant

1. In the Auto Attendant dialog box, click the Hold tab.



2. Check **Play hold music from station number** and enter the station number of an attached CD player or other music-on-hold device.
3. Click **OK**.

Assigning an auto attendant to a trunk

In the Trunk dialog box or on the Trunks tab of an Internet span, select the auto attendant under **Calls are sent to**.

Deleting auto attendants

If you delete an auto attendant, all trunks using that auto attendant will use the Default Auto Attendant. You cannot delete the Default Auto Attendant.

For more information about deleting items in TeleVantage, see "Deleting items" on page 2-9.

Routing calls to users

When you route calls directly to users, all incoming calls on the dedicated trunk are sent to that user. If the user is busy or does not answer, the calls follow the user's routing list.

By routing calls directly to a user, you can do the following:

- Send incoming calls on the trunk to a live Operator who then transfers the calls to the appropriate destination. You can do this on all your trunks.
- Send incoming calls on the trunk to a user. If your phone lines do not support direct inward dial (DID), this is the only way to let callers dial a user directly (without going through an auto attendant).

To route calls on a trunk to a user, select a user in the **Calls are sent to** drop-down list on the Trunk dialog box. See “Adding an analog trunk” on page 5-9.

Routing calls to extensions

To route calls on a trunk to any extension (user, auto attendant, queue, IVR Plug-in, or workgroup), modify the trunk in the dialog box specified in the next table.

Trunk type	To modify trunk, open this dialog box
Analog trunk	Trunk dialog box
Robbed Bit T1 span	Robbed Bit T1 Span dialog box, Trunks tab
Internet span	Internet Span dialog box, General tab
ISDN/CAS T1/E1 span	ISDN/CAS T1/E1 Span dialog box, Trunks tab

For more information about routing inbound calls on a trunk, see Chapter 5, “Managing Trunks, Spans, and Stations.”

Routing calls to workgroups

You can have incoming calls ring the phones of all users in a workgroup at the same time. The first user to answer the call is connected to the caller. This feature is handy for departments or small offices in which it does not matter who answers an incoming call.

To route calls on a trunk to a workgroup, select a workgroup in the **Calls are sent to** drop-down list on the Trunk dialog box. See “Adding an analog trunk” on page 5-9.

Note: You can also select a workgroup in the **Faxes are sent to** drop-down list on the Trunk dialog box, to direct incoming faxes to a bank of fax machines or a fax server with many ports. The first fax machine to answer receives the fax.

If you want to route calls to a group of people using a distribution algorithm other than simultaneous ring, create a placeholder user whose routing list calls the workgroup, and route calls to the placeholder user. See *Using TeleVantage* for instructions on creating routing lists.

Using custom data to add information to calls _____

TeleVantage lets you attach extra information to incoming calls, using *custom data variables*. The information is displayed to users in the Client's Call Monitor, and can also be used to automate call handling. Examples of attaching extra information to calls using custom data variables include the following:

- Based on the caller's auto attendant choice, set a variable called Product to the name of the product that the caller is calling about. For example, callers who press 1 have Product="Widget," while callers who press 2 have Product="Advanced Widget." When users answer the calls they see the product name in the Call Monitor in a column labeled "Product."
- Based on contact recognition, set a variable called Priority to a higher number for VIP callers to a call center queue. For example, a normal caller has Priority=1, while a VIP caller has Priority=10. VIP callers are automatically bumped closer to the head of the queue.

Using custom data variables is a two-step process, as follows:

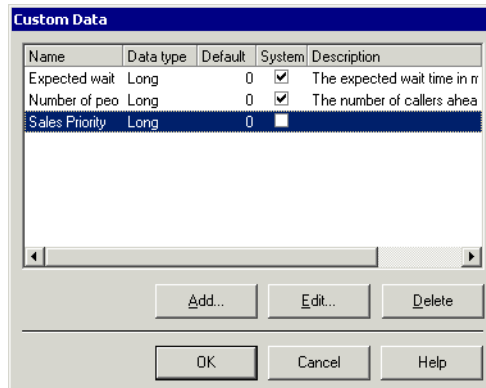
1. Defining a custom data variable.
2. Setting the value for a custom data variable.

These steps are described in the following sections.

Defining a custom data variable

You can define as many custom data variables as you want.

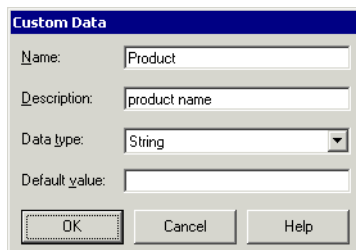
1. In the Administrator, choose **Tools > Custom Data**. The Custom Data dialog box opens, listing all the custom data variables you have created so far.



Each custom data variable is attached to every incoming call, though a given variable might not be used for every call.

Note: If you have purchased the TeleVantage Call Center module, two system variables are present by default, Expected wait time and Number of people ahead. For instructions on using them, see the *TeleVantage Call Center Administrator's Guide*.

2. To create a new custom data variable, click **Add**. The second Custom Data dialog opens.



3. Enter the following information for the custom data variable:
 - **Name.** Enter a name for the variable. Keep the name relatively short, as it will appear in a column header in the Client's Call Monitor.
 - **Description.** Enter a description of the variable if needed.
 - **Data Type.** This determines the type of information that the variable holds. Select one of the following:
 - **Long.** An integer number.
 - **Double.** A number that have decimal places.

- **Boolean.** The value must be either 0 or 1.
 - **String.** Text. Numbers can be part of the text string, but they are treated as text characters.
 - **Default value.** Enter the value that the variable receives if no other action sets a value. For string variables you can leave the field blank, meaning the variable is empty by default. For numeric variables you must enter a number, usually 0.
4. Click **OK** to add the custom data variable to the list.
 5. Click **OK** to close the Custom Data dialog box that shows the list.

The variable you created is now attached to every incoming call, and users have a corresponding column in the Call Monitor where they can view the variable's value for each call.

Setting the value for a custom data variable

You can have TeleVantage set the value of a custom data variable in the following ways:

- **Auto attendant choice.** When defining an auto attendant menu choice, you can have it set the value of a custom data variable. See “Defining menu choices” on page 9-8.
- **Call center queue.** If you purchased the TeleVantage Call Center module, you can have a queue set the value of a custom data variable based on caller data entry. See the *TeleVantage Call Center Administrator's Guide*.
- **IVR Plug-in.** An IVR Plug-in can set the value of custom data variables based on a variety of methods, including when it was called and caller data entry. For more information see Chapter 14, “Extending TeleVantage.”

MANAGING MULTIPLE ORGANIZATIONS

CHAPTER CONTENTS

About multiple organizations	10-2
Using Organizations	10-2
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About multiple organizations

With TeleVantage you can have multiple businesses or contractors in an office that share the same Server and trunks, yet are independent of each other in terms of caller experience and internal billing. TeleVantage refers to such groups as *Organizations*.

With the Organizations feature, callers to a user hear an auto attendant greeting specific to that user's Organization, and from the auto attendant can dial only the extensions of users within that Organization. The Call Log also shows which outbound calls belong to each Organization, allowing easy accounting and billing to the appropriate Organizations for the calls their users make.

TeleVantage also provides full support for user-entered account codes. With account codes you can distinguish any group of calls for reporting and accounting purposes. The calls can include both outbound and inbound calls. For example, if your office contains employees or contractors whom you bill separately for their phone use, you can use account codes to mark calls by the user they belong to. Other uses of account codes include marketing campaigns, case and issue tracking, and more.

Using Organizations

Once you define one or more Organizations, and assign each user to the appropriate Organization, you can do the following:

- Log outbound calls by Organization for purposes of tracking or billing.
- Restrict callers at the auto attendant to dialing only the extensions of users in the Organization they're calling.
- Distribute outbound trunk use between Organizations.

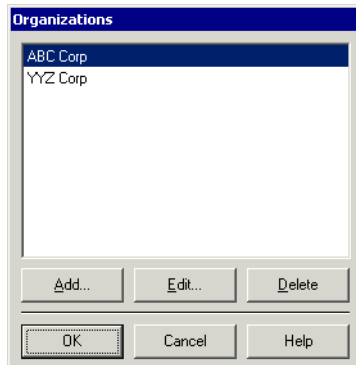
This section covers the following aspects of using Organizations:

- "Defining an Organization" (page 10-3).
- "Assigning users to Organizations" (page 10-3).
- "How calls are logged by Organization" (page 10-4).
- "Creating an auto attendant for each Organization" (page 10-4).
- "Restricting outbound trunk use by Organization" (page 10-4).
- "Configuring Operators for multiple Organizations" (page 10-5).

Defining an Organization

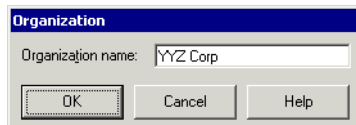
To use Organizations, you must first define them.

1. Choose **Tools > Organizations**. The Organizations dialog box opens, listing all the Organizations you have defined so far.



Use this dialog box to edit or delete an existing Organization. Click the Organization, then click **Edit** or **Delete**.

2. To add a new Organization, click **Add**. The Organization dialog box opens.



3. Enter the name of the Organization, for example, the name of the company that is sharing the TeleVantage Server.
4. Click **OK** to return to the Organizations dialog box.
5. Click **OK**.

Assigning users to Organizations

Once you have defined Organizations, you can mark outbound calls by which Organization they belong to. You can view a call's Organization using the Organization column in the Call Log, and TeleVantage reports, and easily sort by Organization for tracking or accounting purposes. You can also display a call's Organization in the Client's Call Monitor.

To assign a user to an Organization, edit the user, and use the **Organization** field, on the Other tab of the User dialog box.



See “Adding users” on page 6-7 for complete information about setting up a user's account.

All calls placed by the user are associated with the user's Organization.

How calls are logged by Organization

Only outbound calls are logged by Organization. Incoming calls appear in the Call Log with the Organization column blank.

Outbound calls are logged with the Organization of the user who placed the call.

Note: If a call center queue agent uses the *14 telephone command to place calls as the queue, the call is still logged with the Organization of the agent, not the Organization of the queue.

Conference calls are logged with the Organization of the user who started the conference call.

Creating an auto attendant for each Organization

Assuming that each Organization has its own phone number, you can define a separate auto attendant for each Organization. Callers will then hear a greeting and menu choices specific to the Organization they're calling, and they will be unable to accidentally dial users in other Organizations, either by extension or dial-by-name.

To create an auto attendant for an Organization

1. Create a public workgroup containing the same users that are the members of the Organization. For instructions see "Creating a Workgroup" on page 7-4.
2. Define an auto attendant as described in "Setting up an auto attendant" on page 9-6. Check **Restrict dial-by-name and extension matching to members of** on the Menu Choices tab, and select the workgroup.
3. Route the trunk(s) corresponding to the Organization's phone number to the auto attendant. See "Assigning an auto attendant to a trunk" on page 9-16. Alternately, edit the auto attendant to give it the appropriate DID number. See "Creating a new auto attendant" on page 9-7.

Restricting outbound trunk use by Organization


You can restrict the use of one or more outbound trunks to specific users, such as the members of an Organization. For example, if one company within an office has paid for extra trunks for its business, you can ensure that only members of that business use those trunks for outbound calls.

To restrict outbound trunk use by user, you set up dialing services and a routing service as follows:

1. Create one dialing service for each group of trunks. Set up each dialing service to route calls to the trunks appropriate for that group.

When creating these dialing services, make sure that **Include in dial plan** is unchecked, so users cannot access these dialing services directly.

For example, if the members of company ABC can use trunks 1-4, and the members of Company YYZ can use all trunks 1-8, create two dialing services, one that routes calls to trunks 1-4, and a second that routes calls to trunks 1-8.

2. Create a routing service as described in “Adding a routing service” on page 8-26. Give it an easily-to-use access code, for example, 9.
3. In the routing service, make sure there are routing rules for each dialing service you created in step 1. For each routing rule, do the following:
 - Click **Route the call to another dialing service** and specify one of the dialing services from step 1.
 - Check **Membership** and click . Add as members all the users (or other entities) who can use the dialing service’s trunks.

Optionally, click **Schedule** if you want to restrict an Organization’s calls over a set of trunks to a particular time.

For added convenience, you can define a role for each company that contains all the employees of that company, then add the role as a member here. See “Managing roles” on page 6-46.

For example, if you selected the dialing service for Company YYZ, add as members all the users from Company YYZ.

For detailed instructions on setting up routing services, see “Adding a new routing rule” on page 8-27.

When you have completed these steps, all users can dial the same access code to place outbound calls (for example, 9), but each company’s users will have their calls routed on the trunks reserved for that company.

Configuring Operators for multiple Organizations

At several places in the TeleVantage system, callers can press 0 to transfer to an Operator (see “Operators” on page 6-3). With multiple Organizations, you might want to have a different Operator for each Organization. To set up multiple Operators and make sure that callers reach the right Operator for the Organization they are calling, do the following:

1. Decide which extensions will be the Operators for the different Organizations. For example, 101 for Company ABC, and 102 for company YYZ. These examples are used in the following steps.
2. Edit each user. On the General tab under **Operator**, select the Operator extension appropriate to the user’s Organization. For example, if a user belongs to Organization ABC, select extension 101. This ensures that callers pressing 0 while leaving a user voicemail are handled correctly.

For full instructions, see “The General tab” on page 6-10.

3. If you have restricted one or more auto attendants by workgroup (see “Creating an auto attendant for each Organization” on page 10-4), edit each workgroup specified by an auto attendant. On the Dialing tab under **If no answer, transfer**, select the Operator extension appropriate to the Organization. For example, if the workgroup holds the

members of Organization YYZ, select extension 102. This ensures that callers pressing 0 at an auto attendant are handled correctly.

For full instructions, see “When no one answers a call to a workgroup” on page 7-6.

4. If you are using TeleVantage call center queues, edit each queue. On the General tab under **Operator**, select the extension appropriate to the queue’s Organization. For example, if the queue belongs to Organization ABC, select extension 101. This ensures that callers pressing 0 while leaving the queue voicemail are handled correctly.

See the *TeleVantage Call Center Administrator’s Guide* for complete information on creating and using a call center.

5. You can set up the default Operator at extension 0 to automatically transfer calls to the correct custom Operator based on who is calling. To do so, you must have created a workgroup for each Organization, containing all the users in that Organization. Edit the default Operator in the Client. For each Organization, create a call rule that activates for that Organization’s workgroup, and sends calls to the appropriate custom routing list. For each Organization, define a custom routing list to have no steps, only a final action that transfers the call to that Organization’s custom Operator. For example, the call rule that activates for workgroup ABC would send calls to a routing list that transfers them to extension 101.

See *Using TeleVantage* for instructions on creating call rules and routing lists.

Using account codes to track phone usage

TeleVantage allows you to track your phone traffic by either forcing or optionally allowing users to enter an account code for each call. Account codes can represent any aspect of your phone traffic—customer number, product line, department, and so forth—that you want to track. You can define the available account codes and tell your users the codes that they should or must enter under specific circumstances.

Some of the ways you can use account codes are as follows:

- **For billing clients.** With account codes you can track calls to various customers whom you bill for the phone time you spend with them. You can associate account codes with contacts for automatic customer tracking.
- **For internal accounting.** If phone bills are a significant part of your company’s expenses, you can use account codes to perform detailed expense analyses. For example, you can track phone use by department.
- **For marketing campaigns.** By setting up an account code for the campaign and having agents use it whenever they place or receive campaign calls, you can track the time, resources, and results of the campaign.

Account code information appears in the Call Log (see “Using the Call Log view” on page 11-10), and you can generate reports using the TeleVantage Call Center Reporter that show calls by account code. For information about the Call Center Reporter, see *TeleVantage Call Center Administrator’s Guide*.

Example: Your office is working on the Gould case and the Avellanos case. You give the Gould case an account code of 88 and the Avellanos case an account code of 55. Whenever users place or receive calls relating to the Gould case, they enter 88. Whenever they place or receive calls relating to the Avellanos case, they enter 55. You can then run a report that sorts calls by account code and see the phone traffic for the Gould and Avellanos cases separately. You can also run a report that sorts by user, so that you can see how much phone time a specific user spent on each case.

Account code modes

On a per-user basis, you can set account code entry to be voluntary or required. You can also choose to have the system verify account codes against a list of valid account codes.

The following account code modes are available:

- **Optional non-verified.** The user is not prompted to enter account codes, but can enter one if desired. If the user does enter an account code, it is not checked against the list of valid account codes.
- **Optional verified.** The user is not prompted to enter account codes. If the user does enter an account code, it is checked against the list of valid account codes. If the account code is invalid, the user is prompted to enter it again.
- **Forced non-verified.** The user is required and prompted to enter an account code when placing an external call. The account code is not checked against the list of valid account codes. This option is not available for inbound or internal calls.
- **Forced verified.** The user is required and prompted to enter an account code when placing an external call, and the account code is checked against the list of valid account codes. If the account code is invalid, the user is prompted to enter it again in order to make an external call. This option is not available for inbound or internal calls.

How users enter account codes

Users can enter account codes for calls in the following ways:

- **When prompted by the system while placing an outbound call.** Only users forced to enter account codes encounter this prompt. Exactly where the prompt occurs in the dialing sequence depends on whether you checked **Collect account code before dialing number** (see “Setting general account code options” on page 10-9).

By default the account code prompt is a beep. To change it, see “Using a verbal account code prompt” on page 10-12.

- **During a call.** On an inbound or outbound call, users can press **Flash** to put a caller on hold, then ***11** to enter an account code for the current call. In the Client, they can right-click the call in the Call Monitor and choose **Enter account code** from the shortcut menu. Users can use this command as many times as they want during a call to change or correct the account code. The last account code entered is the one that is used for the call.

- **Before dialing a call.** A user can press *11 before dialing a call to enter an account code for that call. The user picks up the phone and dials *11 <account code> <access code> <phone number>. In the following example, spaces are shown for clarity:

*11 8877 9 212 123 4567

In this example, 8877 is the account code and 9 is the access code.

In the Client, users can enter an account code before placing a call by using the Place Call To dialog box (or the **Dial** field in any view). To do so, they type the phone number, then a vertical bar (|), then the account code.

- **After a call has finished.** In the Client, a user can enter an account code for a completed call by selecting the call in the Call Log and choosing **Actions > Enter account code**. The user must have the permission **Access Call Log folder** set to “View and Edit” (see “TeleVantage permissions” on page 6-49).

Indicating the end of an account code

When users use the phone to specify account codes, TeleVantage detects the end of an account code when any of the following occurs:

- The account code reaches the maximum number of digits. To define the maximum number of digits, see “Setting general account code options” on page 10-9.
- The user presses #.
- Three seconds elapse after the user entered a digit. The system uses the digits already entered as the account code that the user intended to enter.

If a user does not enter an account code before 5 seconds have elapsed after the beep, the system beeps again to prompt the user to enter the account code.

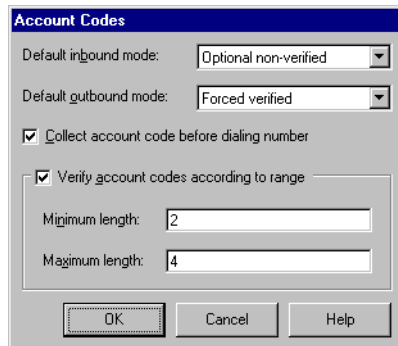
Note: If you have a high maximum number of digits and your account codes can be of variable lengths, you should encourage users to press # when they reach the end of an account code.

Users can cancel an account code entry while they are entering it by pressing *.

Setting general account code options

Before setting up account code modes for individual users, you should configure the system-wide account code options as follows:

1. Choose **Tools > Account codes**. The Account Codes dialog box opens.



2. Under **Default inbound mode** and **Default outbound mode**, choose the account code modes that you want to be active at stations to which a user has not been assigned. For an explanation of the modes, see “Account code modes” on page 10-7.
3. Check **Collect account code before dialing number** to prompt users for an account code immediately after they dial a dialing service access code (for example, 9). Uncheck the box to prompt users for an account code after they have finished dialing the entire phone number.
4. Check **Verify account code according to range** to have the system verify account codes by length. If an account code contains too many digits or too few digits, users are prompted to enter it again. Under **Minimum length** and **Maximum length**, specify the acceptable range for account code length. For example, if account codes in your system can be two, three, or four digits, enter a **Minimum length** of 2 and a **Maximum length** of 4.

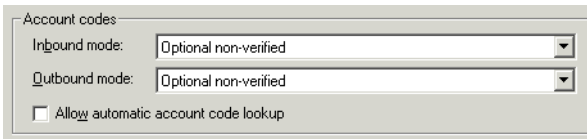
Note: It is more efficient to set **Minimum length** and **Maximum length** to the same number and use account codes that are all the same length. When set up this way, the system immediately recognizes when users finish entering an account code, so they do not need to press # at the end of the account code. When account codes are of variable length, users must press # to end the account code or there will be a slight pause while the system waits for more digits.

If **Minimum length** and **Maximum length** are both set to 0, account codes will not be verified by length.

5. Click **OK**.

Setting a user's account code modes

For each user, you can define whether account code entry is voluntary or forced, and whether the system verifies entered account codes against a list of valid account codes.



Account codes

Inbound mode: Optional non-verified

Outbound mode: Optional non-verified

Allow automatic account code lookup

For complete instructions on defining a user, see “Adding users” on page 6-7.

To set a user's account code modes

1. Double-click a user in the Users view. The User dialog box opens. You can also set account code modes when you create a new user.
2. Click the Dialing tab.
3. Under **Account codes** at the bottom of the dialog box, select the user's account code modes for inbound and outbound calls. See “Account code modes” on page 10-7.
4. Check **Allow automatic account code lookup** to enable automatic association of account codes with contacts for this user. If enabled, the user can enter an account code for each contact, and the system automatically applies the account code to calls to and from the contact. See *Using TeleVantage* for more information about using contacts.
5. Click **OK**.

Creating a valid account code list

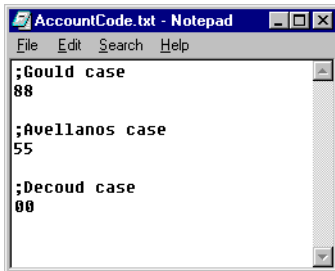
If you want to use verified account codes for some or all users, you must create a text file that lists your valid account codes. The text file must be called `Accountcode.txt` and must reside in the `\Accountcode` directory on the TeleVantage Server computer. By default, the complete path is:

```
C:\Program Files\TeleVantage Server\Accountcode\Accountcode.txt
```

When a user whose account code mode is set to “Verified” enters an account code, TeleVantage checks the account code against the contents of the text file. If the account code is not listed in the text file, TeleVantage prompts the user to enter it again.

Formatting the text file

Type each account code as a separate line in the text file. Blank lines are permitted and are ignored by the system. If you want to add a comment line that is ignored by the system, begin the line with a semicolon (;).



Account codes can contain only the numbers 0 through 9 and the wild card characters ? and % (see the next section).

Note: Account codes in the text file must meet your account code length requirements or they will not be added to the list of valid account codes. For example, if your account codes must be between 2 and 4 digits, a 5-digit account code will be rejected even if it appears in the text file. See "Setting general account code options" on page 10-9 for instructions on setting account code length requirements.

Using wild card characters

You can use the wild card characters ? and % when you enter valid account codes in the text file:

- **Question mark (?).** Indicates any single digit. For example, an account code entry of 12? would make 123, 124, and 129 all valid account codes. In this case, however, neither 12 nor 1233 would be valid account codes.
- **Percent sign (%).** Indicates any number of digits, including none. For example, an account code entry of 12% would make 12, 123, 1233, and 12789213120 all valid account codes.

If you use either of these wild card characters in an account code, it must be the final character in an account code, and if you use both of these wild card characters in the same account code, the % character must be the final character.

Valid	Invalid
12?	1?2
12??	1%2
12%	?12
12?%	%12
12?????%	12%?

Note: Account codes that are identical except for wild card characters conflict with each other. For example, 1234 conflicts with 1234? and 1234%. In the case of conflicting entries, only the first entry is used to verify account codes.

Using a verbal account code prompt

By default, the account code prompt is a single beep. You should explain to your users that they must enter an account code when they hear the beep. TeleVantage provides an alternate account code sound file, with a verbal prompt that says, “Please enter an account code.”

To use the verbal account code prompt instead of the beep

1. Find the file `AccountCodePrompt.vox` in the user directory. This file contains the beep. By default the path is `C:\Program Files\TeleVantage Server\Vfiles\User\AccountCodePrompt.vox`.
2. Rename the file, for example, to `AccountCodePrompt.vox.beep`.

Users now hear the verbal prompt instead of the beep when they are prompted to enter an account code.

Note: By renaming the beep file, TeleVantage automatically uses another `AccountCodePrompt.vox` file, which is found in your language directory and which contains the verbal prompt. The default path for the English language verbal prompt file is the following. It (or any other language version of this file) can be rerecorded using the System Prompts view.

`C:\Program Files\TeleVantage Server\Vfiles\EN00\AccountCodePrompt.vox`

Viewing account codes in the Call Log or Call Monitor

The Call Log view contains an Account Code column that shows the account code associated with each call. If the Account Code column is blank, no account code was entered for the call. Click the Account Code column header to sort the Call Log by account code. For more information, see “Using the Call Log view” on page 11-10.

Note: In the Call Log you can change a call’s account code or enter a new one. Select the call and choose **Call Log > Enter Account Code**. You must have the permission **Access Call Log folder** set to “View and Edit” (see “TeleVantage permissions” on page 6-49).

The Client’s Call Monitor view also contains an Account Code column, but it is hidden by default. In the Call Monitor view, choose **View > Current View > Show Columns** to display it.

Generating account code reports

For information about generating reports that show account code usage, see the *TeleVantage Call Center Administrator’s Guide*.

You can also export the Call Log, with its account code information, to a .CSV file that you can view in spreadsheet applications. See “Exporting the Call Log” on page 11-13.

MONITORING AND BACKING UP

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About monitoring and backing up your TeleVantage system

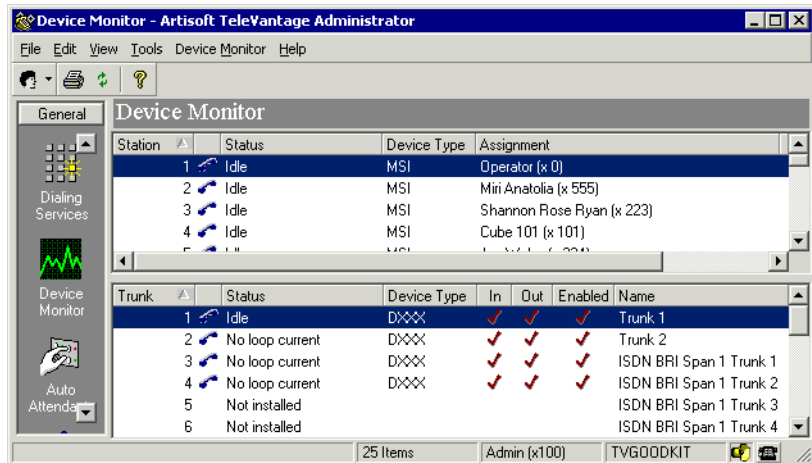
This chapter describes several aspects of monitoring and backing up your TeleVantage system.

You can also monitor your system using the TeleVantage Call Center Reporter, which lets you run reports on a variety of system elements, including trunk use, call traffic, queues, agents, identified callers, account code use, and more. For more information on running the Call Center Reporter, see *TeleVantage Call Center Administrator's Guide*.

You can also automatically record system calls. See Chapter 4.

Using the Device Monitor view



The Device Monitor view shows current station and trunk activity on your TeleVantage system. This information is useful when you are monitoring current usage and identifying potential bottlenecks.



Note: You can view the same information and perform the same tasks by using the Device Monitor utility, which runs independently of the Administrator. The Device Monitor utility (TVDevmon.exe) is located in the TeleVantage Server directory, by default C:\Program Files\TeleVantage Server.

Monitoring station activity



The following table shows the information that is presented in the upper pane of the Device Monitor view for each TeleVantage station (internal telephone).



Column	Description
Station	Number that corresponds to the MSI board resource to which a phone is attached.
	Idle station. (Also called <i>on-hook</i> .)
	Active station. (Also called <i>off-hook</i> .)
Status	<p>Current station activity. Station status codes include:</p> <ul style="list-style-type: none">Startup. TeleVantage system is starting.Pre-idle. A brief period just before the station goes idle.Hands-free. Station is in hands-free mode.Idle. Station is free (on-hook).In Call. Station is in use (off-hook).Playing hold music. Station is used for music on hold.Reorder. Station has been left off-hook for too long or is in an error condition.Navigating TUI. User is logged in on the trunk and listening to the auto attendant menu.Not responding. Station is not responding to device status queries. <p>The Status column can also show custom status information set by an IVR Plug-in that has been called by a station.</p>
Device Type	<p>The type of station. The types are:</p> <ul style="list-style-type: none">MSI. Analog phoneDKT. Toshiba digital phone

Column	Description
Assignment	Name and extension of the user permanently assigned to this station. This column may also contain: Not assigned. Station is not currently used. Not installed. Station has been configured for a user, but the supporting hardware has not yet been installed.
Logged In	Name of the user currently logged in at the station.

Monitoring trunk activity

The following table shows the information that appears in the lower pane of the Device Monitor view for each trunk configured in TeleVantage.

Column	Description
Trunk	Trunk number that corresponds to the resource on the trunk board to which the line is connected.
	Idle trunk.
	Active trunk.

Column	Description
Status	<p>Current trunk activity. Some of the trunk status codes are:</p> <p>Idle Trunk is free (on-hook). </p> <p>In call Trunk is in use (off-hook). </p> <p>Dialog Node. Caller is listening to the auto attendant menu or going down a routing list.</p> <p>Calling. TeleVantage is ringing the trunk.</p> <p>No loop current. Trunk is not connected to the telephone company.</p> <p>Reorder. Trunk is in an error condition.</p> <p>Navigating TUI. User is logged in on the trunk and listening to the auto attendant menu.</p> <p>Not configured. Trunk is not currently used.</p> <p>Not installed. Trunk has been configured, but the supporting hardware has not yet been installed.</p> <p>The Status column can also show custom status information set by an IVR Plug-in that is connected to a trunk.</p>
Device Type	<p>The type of trunk. The trunk types are:</p> <p>DXXX. Analog trunk.</p> <p>DTI. Digital trunk (Robbed Bit T1, ISDN, or BRI).</p> <p>DM3. Internet trunk</p>
In	If checked, the trunk is used for inbound calls.
Out	If checked, the trunk is used for outbound calls.
Enabled	If checked, the trunk is enabled for use by TeleVantage.
Name	Optional descriptive name for the trunk.

Enabling and disabling trunks

For testing purposes, you can enable or disable one or more trunks without shutting down TeleVantage. Select the trunk and choose **Device Monitor > Disable/Enable Trunk**. You can disable multiple trunks at once by CTRL-clicking them in the Device Monitor. The **Enabled** column in the Device Monitor view reflects the current state of a trunk.

When a device is disabled, TeleVantage does not process any events for the device. No calls, either inbound or outbound, can be placed on the disabled device. While the device is disabled, you can run various Dialogic utilities on the trunk, such as ISDIAG or DMU, to determine the correct call parameters or troubleshoot the trunk. You can then apply these parameters to the TeleVantage registry, enable the device, and try placing a call again.

Disabling a trunk does not allow you to modify Dialogic settings. The following restrictions on modifying Dialogic settings still apply:

- You cannot modify Dialogic .PRM file settings and have them take effect without restarting the Dialogic drivers.
- You cannot modify Dialogic DCM settings while the drivers are running.
- You cannot disable a Dialogic board via the DCM without first stopping the TeleVantage Server and the Dialogic drivers.

The TeleVantage performance counters

When the TeleVantage Server is installed, the installer registers with Windows a set of TeleVantage-specific performance counters for tracking statistics of the Server as it runs. The counters are organized into two groups: Phone System Calls and Phone System Devices. The counters can be monitored by system administration tools such as the performance monitoring utilities provided with Windows.

The Phone System Calls group has the following counters:

- **Existing calls.** Total number of active calls currently being handled by TeleVantage.
- **Total calls.** Total number of calls handled by the Server since it was last started.

The Phone System Devices group has the following counters:

- **Stations.** Total number of configured stations (phones) in the system.
- **Station in use.** Number of stations off-hook.
- **% stations in use.** Percentage of stations off-hook.
- **Trunks.** Total number of configured trunks in the system.
- **Trunks in use.** Number of trunks allocated to calls.
- **% trunks in use.** Percentage of trunks allocated to calls.
- **Voice Resources.** The total number of shared voice devices, plus any disconnected voice devices. A disconnected voice device is an LSI port without a physical trunk plugged in, that displays as “No Loop Current” in the Device Monitor. For example, if a system had one D/160SC-8LS trunk board with physical trunks plugged into four of

the eight slots, the Performance Counters voice resource figure would be 12—eight shared plus four disconnected.

- **Voice Resource in use.** Number of voice resources currently being used.
- **% voice resources in use.** Percentage of voice resources currently being used.

Viewing performance counters in Windows

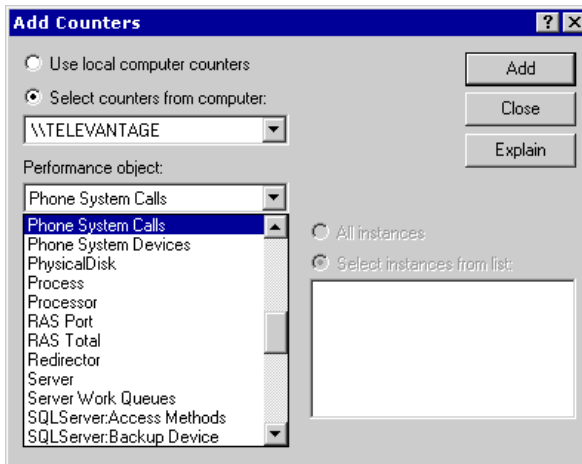
The performance monitoring utility that comes with Windows is the application most commonly used to view performance counter information. You can add TeleVantage counters to a performance monitor's display just as you can with the pre-installed Windows counters.

Note: This appendix does not describe the performance monitoring utility in depth. See the utility's Help if you need more detailed information.

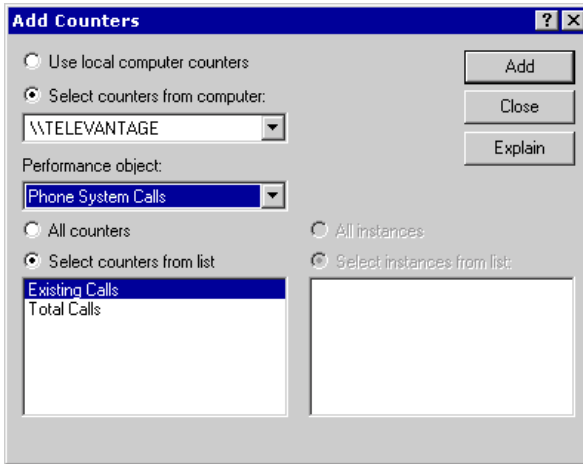
In Windows NT, the utility is a stand-alone application called the Performance Monitor. To start Performance Monitor, choose **Start > Administrative Tools > Performance Monitor**.

In Windows 2000, the utility is part of the Microsoft Management Console and is called the System Monitor. To start the Management Console, choose **Start > Administrative Tools > Performance**. The following examples use the System Monitor from Windows 2000.

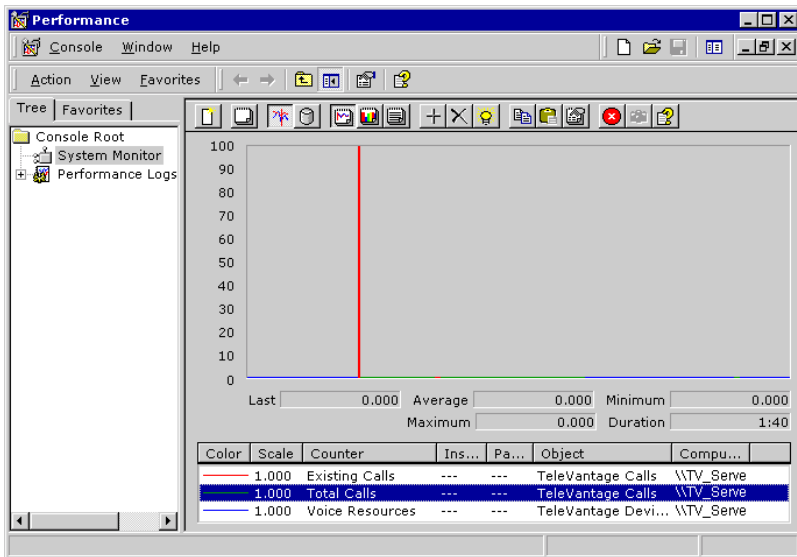
To add the TeleVantage counters to the System Monitor display, right-click on the display and choose **Add Counters** from the shortcut menu. In the Add Counters dialog box, choose one of the TeleVantage groups from the **Performance object** drop-down list.



As shown in the next figure, TeleVantage performance counters for the group you have chosen are listed under **Select counters from list**. To add a counter, select it from the list and click **Add**. Repeat this process for each counter that you want to display. When you have selected all of the counters that you want to view, click **Close**.



The counters you have selected are listed below the performance graph in the main System Monitor window.



Restarting stations or trunks

The TeleVantage Server periodically tests stations and trunks to see if they are responding. If a device is not responding, TeleVantage writes the following warning message to the Windows Event Log: “Device n is not responding.”, where “n” is the device number (positive numbers are stations, negative numbers are trunks.) The default testing interval is 5 minutes. For information about modifying the interval or turning off the setting, see “MonitorInterval” on page A-4.

Some error conditions may make a trunk or station unusable, and you must restart the device manually. For example, if a single station shows the status “Reorder” and does not respond to picking it up and hanging it up again, then you must restart it to re-establish the connection to TeleVantage. Generally, if the status of a device does not seem to reflect its actual status and you have checked the phone or trunk line to see if it is working, you must restart the device.

Similarly, you can manually restart a trunk that has become unstable because of an error condition. You also must restart a trunk using the Device Monitor view to detect loop current on a newly added trunk before TeleVantage can use it. With digital trunk types you can choose to restart the entire span.

Both automatic and manual restarts are logged in the Windows Event Log. For more information about how to use the Windows Event Log with TeleVantage, see “Viewing the Windows Event Log” on page 11-19.

Note: Be aware that restarting a device may take up to 30 seconds. During that time, you cannot perform any other operations in the Device Monitor view.

To restart a station or trunk

1. Do one of the following:
 - To restart a single device, select the device and choose **Device Monitor > Restart Station, Restart Trunk, or Restart Span**. The **Restart Span** command is available for digital trunk types, and restarts all trunks in the span.
 - To restart multiple devices, press CTRL or SHIFT while you select trunks or stations, right-click, and then choose **Restart Devices** on the shortcut menu. You cannot restart both trunks and stations in the same operation.
2. Click **Yes** to confirm the restart.

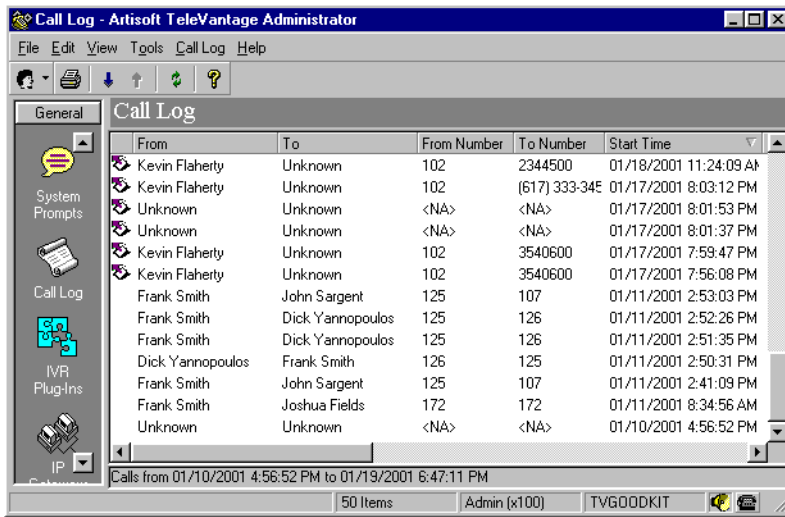
Starting a new Server log

Choosing **Device Monitor > Start new Server log** creates a new TeleVantage Server log file. Perform this operation only under the direction of your TeleVantage provider.

Using the Call Log view

The Call Log view displays a record of the calls placed and received on the TeleVantage system. Each call appears as a row in the view. You can use the Call Log view to analyze system usage patterns, and you can export Call Log records to generate traffic analysis reports.

To open the Call Log view, click its button in the view bar.



The following table shows the information that is displayed for each call.

Column	Description
From	Name of the person who placed the call. On incoming calls, "Unknown" appears unless the user identified the caller as a contact. On outgoing calls, this column contains the user's name.
To	Name of the party who received the call. On incoming calls, the user's name appears. On outgoing calls, "Unknown" appears unless the user identified the person as a contact.
Answered By	Name of the user who answered an incoming call. Useful for analyzing data for ACD workgroups.
Number	On incoming calls, Caller ID name and number if available. On outgoing calls, the number the user dialed. On a call to or from another TeleVantage user, this field contains <NA>.

Column	Description
From Number	On incoming calls, the caller's extension or external phone number. On outgoing calls, the user's extension.
To Number	On incoming calls, the user's extension or, if the user called into TeleVantage externally, the external number. On outgoing calls, the external number or extension the user called.
Callback Number	If a caller enters a callback number, it appears with the prefix "Callback:"
Called Number	On incoming calls, your Direct Inward Dial (DID) number if the caller used it to call you. The field is blank for incoming calls without DID. On outgoing calls, the number you dialed.
Start Time	Date and time that the call started.
Wait Time	On incoming calls, the length of time between dialing the user's extension and the call being answered. On outgoing calls, Wait Time is always 00:00.
Duration	Length of time that the parties are connected.
Result	<p>How the caller's wait ended. The assigned values for the possible outcomes are:</p> <p>Abandoned. Caller hung up before call was answered.</p> <p>Connected. Caller was connected to a party.</p> <p>To voice mail. Caller went to voice mail, but did not necessarily leave a message.</p> <p>Blind transfer. A blind transfer sent the caller to another party.</p> <p>Supervised transfer. A supervised transfer sent the caller to another party.</p> <p>Unknown. TeleVantage was unable to identify the outcome of the call.</p> <p>Login. Caller logged in to a valid TeleVantage user account.</p>
Account Code	The account code entered for the call, if any.
Message	If checked, the caller left a voice message.
Recorded by User	If checked, this call was recorded by a user who handled it.

Column	Description
Recorded by Queue	If checked, this call was automatically recorded by a call center queue.
From Device	On incoming calls, the trunk or extension from which the call originated. On outgoing calls, the user's station number.
To Device	On incoming calls, the user's station number. On outgoing calls, the trunk used for the call. If an incoming call was transferred, this column shows the last station that took the call.
Parties	Number of people who took part in the call, including the caller, the called party, anyone to whom the call was transferred, and any conference call participants.
Dial String	Digits that TeleVantage actually dialed over the trunk, which may be different than the digits TeleVantage displays in a contact's phone number. For example, a dial string may contain an international or long-distance access code, a dialing prefix, or a dialing suffix.
From Type	Type of incoming call: Phone, IP Gateway, or Internet.
From Code	Access code of the dialing service that will be used to return this call. Only applicable to calls coming in from remote TeleVantage Servers over an Internet trunk.
From Rules	If checked, TeleVantage's routing rules will be applied when returning this call.
To Type	Type of outgoing call: Phone, Centrex, or Internet.
To Code	Access code used to dial an outbound call.
To Rules	If checked, routing rules were used to make an outbound call.
Organization	Organization associated with the call, if any. Organizations are associated with outbound calls only, and represent the Organization to which the calling party belongs. For more information see "Using Organizations" on page 10-2.
Custom Data	Custom data, if any, associated with the call.

Displaying a specific number of Call Log entries

The Call Log can become very large over time and its size can cause a delay in its display. To reduce this delay, you can view fewer Call Log items at one time and not load the full database.

To set the number of calls displayed in the Call Log

1. Choose **Tools > Options**. The Options dialog box opens.
2. In **Display __ calls at a time**, enter the number of entries that you want to appear when you open the Call Log view, using the following as a guide:
 - A high setting will likely cause a delay while the specified number of entries are copied over the network, but you can navigate within the information easily using the scrolls bars after the entries have been retrieved.
 - A low setting minimizes the delay before information is displayed, but you must retrieve entries more often in order to view the entire Call Log.
3. Click **OK**.

Note: This option controls how many entries are transferred in one request, but does not limit the entries available for view. All Call Log entries are always available by choosing **Call Log > Next __ Calls** or **Previous __ Calls**, or using the buttons on the toolbar.

By default, only external calls are logged. For information about logging internal calls, see “Logging internal calls” on page 3-8. For information about archiving the Call Log, see “Archiving the Call Log” on page 11-14.

Entering an account code for a call

To enter an account code for a call or change the one already entered, select the call and choose **Call Log > Enter Account Code**.

Account codes are a means of marking calls for tracking or billing purposes. For more information, see “Using account codes to track phone usage” on page 10-6.

Exporting the Call Log

You can export the Call Log to a comma-separated value (.CSV) file that can be read by most spreadsheet and database applications. Exported Call Log entries are not deleted from the TeleVantage database, and the size of the TeleVantage database does not change after an export.

1. Choose **File > Import and Export**. The Import and Export Wizard opens.
2. Under **Select an import or export action**, select **Export Call Log** and click **Next**.
3. In **Save exported file as**, enter the path and file name for the exported file or click **Browse** to specify a destination.
4. Under **Options**, enter the **Start date** and **End date**.
5. Click **Finish** to export the file. Depending on the size of your Call Log, an export may take several minutes to complete.

Result codes when exporting the Call Log

When the Call Log is exported, the Result field appears as a code. Use the following table to interpret the result codes:

Code	Result
0, 3	Abandoned
1, 2	Connected
4	Left message
5	Blind transfer
6	Supervised transfer
8	Login to telephone commands
12	Login failed max number of times

Archiving the Call Log

Over time, Call Log information will begin to fill up your TeleVantage database. To recover database space, you can archive old Call Log information that is no longer needed to a location outside the database.

Important: Archived information is permanently removed from the TeleVantage database. You cannot run Call Center reports on the time period that has been archived.

Call Log information is written to a comma-separated value (.CSV) text file that can be read by most spreadsheet and database applications. The default path for this file is C:\Program Files\TeleVantage Server\Archive\Calllog.csv.

You can archive Call Log data in the following ways:

- Set up automatic archiving, which takes place at 1:00 a.m. every day.
- Automatically overwrite the Call Log after a number of days that you specify.
- Perform a manual archive on an as-needed basis, in addition to daily automatic archiving. You can do a manual archive whether or not automatic archiving is turned on.

You do not need to stop the TeleVantage Server or any other TeleVantage components to perform an archive. However, because archiving is database-intensive, you may want to perform it during off-peak hours so that it does not affect normal system operation.

To archive Call Log information

1. Choose **Tools > System Settings**. The System Settings dialog box opens.
2. Click the Call Log tab and specify in the following fields how you want to perform archiving:
 - **Archive Call Log daily**. If checked, the Call Log is archived automatically at 1:00 a.m. every day. If unchecked, the Call Log will continue to grow unless you manually archive it.
 - **Archive calls older than ___ days**. Number of days a call remains in the Call Log until it is archived.
 - **Archive file name**. Location of the Call Log archive file on the TeleVantage Server. This file is in .CSV format and can be viewed with most spreadsheet or database applications.
 - **Overwrite archive every ___ days**. Number of days that archived information will be appended to the Call Log archive file. After that number of days, archived information in the file will be deleted and the file will be reused.
 - **Archive will be overwritten on**. Date and time that the Call Log archive file will next be overwritten and the data in it deleted. To preserve the archived data, back up the file just before it will be overwritten.
3. Click **Archive Now** to manually archive the Call Log according to the settings specified above. The archive begins immediately and may take several minutes to complete. You cannot perform any other Administrator functions until the archive completes. You can perform a manual archive at any time whether or not automatic archiving is turned on.
4. Click **OK** to save your archiving settings.

Note: Use the Import and Export Wizard (see “Exporting the Call Log” on page 11-13) to create a file containing Call Log information without removing the information from the database.

Changing the Call Log archive location

Click **Move** to specify a new location for the archive file. Changing the archive path starts a new archive file in the new location the next time the archive is made. Any existing archive files remain in the old location.

Monitoring database and disk usage

TeleVantage's database stores your system configuration settings (information about trunks, users, auto attendants, and so forth), the Call Log, and an index to voice prompts, greetings, voice titles, and voice message files in a database. The voice files themselves are stored separately on disk.

Tasks associated with monitoring database and disk space include:

- Allocating database space
- Allocating disk space

See "The Storage tab" on page 3-8 for information about how to perform these tasks. See also *Installing TeleVantage* for information on the limits of MSDE and SQL Server databases.

Shutting down the TeleVantage Server

Choose **Tools > Shut down Server**. Select one of the following options, and then click **OK**:

- **Immediately shut down and terminate all calls.** Shuts down the Server when you click **OK**, terminating any calls currently in progress.
- **Prevent new calls in __ minutes, then shutdown when existing calls are finished.** Preserves calls in progress by waiting the number of minutes you specify before starting to shut the Server down. When you click **OK**, all Client users receive a message that states that the Server is shutting down. After the number of minutes you enter, TeleVantage prevents any new outbound or inbound calls from beginning and waits until all current calls have ended. During this time, station-to-station calls are still allowed and will prevent the Server from shutting down until they are completed. When any station-to-station calls are completed, the Server shuts down.

While the Server is in the process of shutting down and blocking new calls, incoming callers hear ringing. The same is true after the Server has shut down.

- **Cancel scheduled shutdown.** Cancels a shutdown that was scheduled using the previous option. You can cancel only the shutdown before the time that you specified expires.

Identifying security risks

You can analyze your system for potential security risks by choosing **Tools > Analyze Security**. For more information, see "Identifying users with security-risk passwords" on page C-3.

Backing up TeleVantage

It is critically important to back up the TeleVantage database on a regular basis. The system configuration information stored in the TeleVantage database, the `accountcode.txt` file, and the voice files (stored separately) are vital to the proper operation of TeleVantage.

You must also regularly back up the TeleVantage voice files by copying them to another location.

Important: After upgrading TeleVantage to a new version, you cannot restore a database backup that was created using the previous version. You can only restore a database backup that was created using the currently running version of TeleVantage.

Note: For the most accurate backup, schedule the backup for a time when the system is not being heavily used. Backing up during times of heavy activity can result in an occasional voice message being lost from the backed-up files.

Backing up TeleVantage data

Use the following procedure to back up the TeleVantage database and other critical files:

1. Optionally, stop the TeleVantage Server as described in “Shutting down the TeleVantage Server” on page 11-16. Stopping the Server is not necessary, but ensures that the database and voice files match (because voice messages cannot be left while the system is stopped).
2. Choose **Tools > Backup Database**.
3. Click **OK** to confirm the backup. The TeleVantage Administrator creates a backup copy of your TeleVantage database and also copies your current TeleVantage registry settings to a `TVServer.reg` file.
4. Copy the following files to tape or to another disk.

If your TeleVantage 5.0 system was a new installation:

- `C:\Televantage Server\Data\Backup\Tvdb.dmp`
- `C:\Televantage Server\Data\Backup\TVServer.reg`

If you have had your TeleVantage system since version 3.5 or earlier:

- `C:\MsSQL7\Artisoft\Backup\Tvdb.dmp`
- `C:\MsSQL7\Artisoft\Backup\TVServer.reg`

5. Copy the contents of the following directory and all its subdirectories to tape or to another disk. The default location is:

`C:\Program Files\TeleVantage Server\Vfiles\`

Note: Be sure to include `Temprecs` and its files.

You must also back up the file `C:\Program Files\TeleVantage Server\account code\accountcode.txt` by backing it up to a safe location on a regular basis.

Note: For instructions on moving a backup of the database or voice files, see “The Storage tab” on page 3-8.

Restoring TeleVantage data

You can restore the database from the backup that you have created previously on the same version of the TeleVantage software.

For a successful restoration, the backup used to restore the TeleVantage database must match the backup voice files exactly. For example, you must not use a backup of the database made on Monday and a backup of the voice files made on Tuesday. The best way to insure a successful restoration is to use database and voice file backups made at the same time.

Important: After upgrading TeleVantage to a new version, you cannot restore a database backup that was created using the previous version. You can only restore a database backup that was created using the currently running version of TeleVantage.

To restore the TeleVantage database

1. Make sure that the TeleVantage Server has been shut down (see page 11-16) and that there are no copies of the TeleVantage Client or Administrator running (except the one you are using).
2. Choose Windows NT/2000 Services in the Control Panel to stop and restart the MSSQL service (doing this ensures that no one is connected to the database Server).
3. Copy the most recent version of the Tvdb.dmp and TVServer.reg files from your backup device to one of the following:
 - **For an upgraded system.** Copy the file to:
C:\MsSQL\Artisoft\Backup\
 - **For a fresh system.** Copy the file to:
C:\Program Files\TeleVantage Server\Data\BackupIf the file already exists, overwrite it.
4. From the TeleVantage Administrator, choose **Tools > Restore Database**.
5. Click **Yes** to confirm that you want to restore the database.
6. If a file (TVServer.reg) containing backed-up TeleVantage Server registry settings is present when you restore the database, click **Yes** when you are prompted to restore the registry settings as well.
7. Delete all the files in the \Vfiles directory. The default location for this directory is:
c:\Program Files\TeleVantage Server\Vfiles
8. Copy the latest version of the files from your backup device to the \Vfiles directory. Be sure to include the \Vfiles\Temprecs directory and its files.
9. If necessary, copy the file accountcode.txt to C:\Program Files\TeleVantage Server\account code\accountcode.txt. Overwrite the old version.

Moving a TeleVantage Server to another PC

You can restore the TeleVantage database from an online backup to another PC. The backup and restore function copies all Server registry settings and automatically resolves different source and target path names to simplify the process of moving a TeleVantage Server.

To restore TeleVantage data to another PC

1. It is critical to make sure that the new TeleVantage Server is running exactly the same version of TeleVantage, including service packs or patches.
2. Perform a backup of the original Server as described in “Backing up TeleVantage data” on page 11-17.
3. Restore the backup to the new Server as described in “Restoring TeleVantage data” on page 11-18.

Viewing the Windows Event Log

The Windows Event Log contains informational messages from Windows and from applications running on the Server. Both TeleVantage and the database Server post startup, shutdown, error and warning messages to the Windows Event Log. By viewing the Windows Event log and receiving automatic notification of warnings, you can stay informed of critical problems like low disk space no matter where you are.

You can examine the Windows Event Log on the TeleVantage Server locally or remotely from any machine running Windows NT/2000.

You can set up TeleVantage to send e-mail notifications when TeleVantage-related events are logged to the Windows Event Log. For more information, see “The General tab” on page 3-5.

To view the Windows Event Log

1. Choose **Start > Programs > Windows NT Administrative Tools (Common) > Event Viewer**. If you are not running the Event Viewer on the TeleVantage Server, choose **Log > Select Computer**.
2. Choose **Log > Application**.
3. Review the log for TeleVantage or the database Server messages.

TeleVantage-related Windows Event Log messages

Messages are identified in the Windows Event Log by application and message number. Double-click a message to see its text.

The following messages are posted to the Event Log by TeleVantage:

100 - Informational Server Started -- Version ##

An informational message indicating when the TeleVantage Server started.

101 - Informational Server Stopped

An informational message indicating when the TeleVantage Server was shut down. This message indicates an orderly shutdown, not a shutdown caused by a problem.

105 - Error No Voice Resource Available

This message indicates that the trunk boards in your Server were unable to provide a voice resource for a requested operation. This error should not be encountered in normal operation and may indicate that you need additional voice resources for your current load. Contact your TeleVantage provider.

106 - Informational Device ## Restarted

This message indicates a trunk or station was restarted to recover from an error condition. The restart may have been initiated automatically by the TeleVantage Server or manually by the administrator. If this message appears only infrequently, it can be ignored. If it is seen often, contact your TeleVantage provider.

107 - Informational Inbound call detected on outbound trunk ##

This message indicates a call was received on a trunk allocated for outbound calling only. The TeleVantage Server played a wrong number message and disconnected the call. If this message is seen frequently, it may indicate that the number for the line in question has been distributed to potential callers or that the line is included in an inbound hunt group.

108 - Informational Inbound IP Gateway authentication failed. Trunk ##, Gateway extension: ##, Source: nnn.nnn.nnn.nnn

This message indicates that an inbound gateway call failed to provide the correct password.

109 - Warning Warning: Low Voice Resources Detected

This message indicates that the trunk boards in your system had to use a voice resource normally reserved for another purpose for a requested operation. This message is a less severe version of message 105.

If this message occurs only occasionally, and when the system is under heavy load, it can be ignored. If the error occurs frequently, however, it may indicate you must purchase additional resources for your current load. Contact your TeleVantage provider.

111 - Error**Unable to start Mail Server. Voice Mail notifications via Email will be disabled.**

On startup, the TeleVantage Server was unable to start the e-mail notification process. For example, it could not establish a MAPI connection with your mail post office. Mail notification will be disabled until the problem is resolved. Contact your TeleVantage provider.

112 - Informational**Started Mail Server.**

An informational message indicating that the TeleVantage Mail Server started successfully when the Server started.

115 - Error**Server Restarted**

The TeleVantage Server had to be restarted by the TeleVantage Watchdog process.

116 - Error**Server cannot record any more voice messages or calls. Disk space is low.**

TeleVantage cannot perform call recording on voice messages or calls, because the disk space on the voice files disk is low.

117 - Informational**Server can now record voice messages and calls. Disk space is available.**

Call recording can resume, after having been disabled due to low disk space. Sufficient disk space on the voice files computer is now available.

118 - Error**Stopped using trunk ##: the trunk may have been disconnected.**

TeleVantage Server has stopped using a trunk.

119 - Error**Failed to Restart Server: Total Restarts Exceeded.**

TeleVantage Server failed to restart after trying several times.

120 - Error**Failed to Stop Device Handle ##.****121 - Error****Unable to start Exchange Server synchronization. Exchange Server synchronization will be disabled.**

Unable to start TeleVantage Exchange Server synchronization.

122 - Informational Started Exchange Server synchronization.

TeleVantage Server started Microsoft Exchange Server synchronization.

123 - Error Unable to open device: ##

TeleVantage Server was unable to open the Dialogic device.

124 - Error Unable to delete temporary message file for device ##.

This is recorded when there is a problem deleting a temporary message file for a device. The temporary message file for station 2 is S2-m.vox. For example, if this file cannot be deleted, an invalid message will be left for the recipient.

125 - Error T1 Alarm: <Alarm Information>

A T1 alarm occurred on the trunk.

T1 alarms

The following two T1 alarms are written to the Windows Event Log:

- **Red Alarm.** Signals that the Robbed Bit T1 line has lost synchronization with the switch to which it is connected. TeleVantage disables all channels on the affected digital span so that spurious signals are not processed as incoming calls.
- **Red OK.** Signals that synchronization has been restored. All channels on the affected digital span are re-enabled.

All T1 alarms are written to the TeleVantage Server logs.

126 - Error Unable to start IVR Plugin '<ProgID>': License count exceeded.

Unable to start the IVR Plug-in because the number of your Station licenses is less than the total number of stations assigned to users plus the total number of IVR Plug-ins currently running (every running IVR Plug-in uses 1 Station license).

127 - Error Insufficient licenses: <message>

TeleVantage Server detects an insufficient number of Trunk, IP Port, Client, or Server licenses, and the Server was unable to start. Make sure that you have TeleVantage licenses for every user, trunk, and IP trunk you have added in the Administrator.

128 - Error

Notification via pager failed; Unable to allocate trunk; user '<username>', number '##', access code ##

An attempt to send a pager notification of a new voice message failed. The error message shows the user's name and the full dial string of the pager number that was dialed unsuccessfully. Alert the user that the pager number might be incorrect or that pause characters should be added to the dial string.

129 - Error

Server attempted to load a T1/E1 ISDN/CAS span but could not find the Dialogic GlobalCall Package. If you plan on using a T1/E1 ISDN/CAS span, please reinstall the Dialogic Drivers and make sure you have selected the GlobalCall package.

You tried to add or use a T1/E1 ISDN/CAS span without having installed the Dialogic GlobalCall package.

130 - Error

Disabling Exchange Server synchronization. Unable to connect to database.

TeleVantage could no longer access the SQL Server database and disabled Exchange Server synchronization.

132 - Error

Ring failed on station ## with error 14. Please restart the station.

133 - Error

Device ## is not responding, restarting...

TeleVantage was unable to open the Dialogic device and is automatically restarting it.

134 - Error

Unable to offer call to IVR Plug in '<ProgID>'. Reason: '<reason>'.

Started the IVR Plug-in but OfferCall failed.

135 - Error

CallPlaced Event failed IVR Plug in '<ProgID>'. Reason: '<reason>'.

Failed to hand off and outbound call to an IVR Plug-in.

136 - Error

Unable to start IVR Plug in '<ProgID>'. Reason: '<reason>'.

137 - Error

Device ## is not responding.

The trunk or station has stopped responding to events. Try restarting it.

**138 - Informational
Device ## Disabled.**

Disabled via the Admin.

**138 - Error
Email notification thread is not responding.**

E-mail notifications will be disabled until the problem is resolved.

**139 - Error
Device ## Disabled.**

This station or trunk was disabled by a user through the Administrator.

**140 - Informational
Device ## Enabled.**

This station or trunk was re-enabled by a user through the Administrator.

**141 - Informational
Device ## DChannel State Changed. Reason: '<reason>'.**

**142 - Informational
Emergency: <Username> at extension x## dialed <emergency number> from
<station ##>**

The specified user dialed TeleVantage's emergency number (usually 911) from the specified station.

**143 - Informational
Timed Out Waiting For Response from IVR Plugin '<AppID>'. Reclaiming voice
device.**

The specified IVR Plug-in did not respond to the TeleVantage Server. The Server assumed that the Plug-in was hung, and has terminated it and reclaimed its associated voice resource.

**146 - Warning
No Low Priority Voice Resource Available**

There are no low-priority voice resources in the pool available for CLASS features such as message waiting light, Caller ID display, intercom, and paging, or ADSI features such as voice-first answering. Voice resources will continue to be allocated for other tasks such as placing calls. For more information on managing voice resources, see the Vox advanced settings beginning on page A-40.

149 - Warning

Database size is nearing critical limit. Archive call log or upgrade to full version of SQL Server.

Your TeleVantage database is nearing the 2GB limit of MSDE. Archive the Call Log to make more room (see “Archiving the Call Log” on page 11-14), or upgrade to the full version of SQL Server if you have not done so already. See the database server requirements in *Installing TeleVantage*

150 - Error

Database size has passed the critical limit and call logging has been stopped. Archive call log or upgrade to full version of SQL Server.

New calls are not being written to the Call Log because the TeleVantage database has passed the critical MSDE size limit (about 2 GB). Archive the Call Log to make more room (see “Archiving the Call Log” on page 11-14), or upgrade to the full version of SQL Server if you have not done so already. See the database server requirements in *Installing TeleVantage*.

The following two errors occur when you start the Dialogic drivers, if you do not have any DM3 telephony boards installed:

7000 - Error

The dlgcmpd service failed to start due to the following error: The system cannot find the device specified.

7001 - Error

The dlpcmcd service depends on the dlgcmpd service which failed to start because of the following error: The system cannot find the device specified.

These errors are benign and should be ignored.

Using the Maintenance Log view

The Maintenance Log view displays tracked actions and presents details about each action. Information contained in the log is stored in the database. To open the Maintenance Log view, click its button in the view bar.

The Maintenance Log tracks many administrative actions, including:

- Restarting a device
- Starting the Server
- Stopping the Server
- Scheduling a Server shutdown
- Changing a user's password
- Changing a queue's password
- Logging on to the Administrator or Device Monitor
- Logging out of the Administrator or Device Monitor
- Account lockout
- Trunk hangup after maximum login attempt
- Changing any editable item in any Administrator view
- Enabling or disabling a device

The following columns appear in the Maintenance Log view:

- Action taken
- Item that was acted upon (if applicable)
- Date and time of the action
- Name of the user who was logged on when the change was made
- Name of the computer from which the change was made
- Details about the action

Clearing the Maintenance Log

To clear the Maintenance Log, click  in the toolbar.

Reporting problems to your TeleVantage provider

Use the Problem Report Wizard to report any problems you experience with your TeleVantage system to your provider. Your TeleVantage provider has the expertise to debug, correct, and expand your TeleVantage system, and has access to Artisoft Technical Support resources for further assistance.

The Problem Report Wizard asks you to describe the frequency, patterns, and circumstances of the problem you are reporting. Based on the information you supply, the Problem Report Wizard isolates exactly when and where the problem occurred and automatically collects the appropriate TeleVantage log files and other information from your computer. By assembling all the relevant information, the Wizard helps your provider quickly identify the problem and begin to solve it.

Note: For information about known issues and workarounds for currently reported problems, see the Known Issues topic in the online Help for the TeleVantage Administrator.

Using the Problem Report Wizard

Use the Problem Report Wizard according to the following guidelines:

- For TeleVantage Server problems, run the Wizard on the TeleVantage Server. See “Reporting TeleVantage Server problems” on page 11-28.

Examples of Server problems include:

- The TeleVantage Server stops unexpectedly.
- Caller ID is not sent correctly.
- There is no dial tone.
- A call-handling problem occurred. For example, TeleVantage does not answer incoming calls, calls are being disconnected, or calls are handled improperly (calls cannot be transferred, put on hold, and so forth).
- For problems with any of the workstation applications—Client, Administrator, or TAPI Service Provider—run the Wizard on the computer that is experiencing the problem. See “Reporting workstation application problems” on page 11-29.

Examples of workstation application problems include:

- Workstation application behaves unexpectedly.
- User cannot connect to the network.
- User cannot connect to the TeleVantage database.
- Workstation application does not start.
- Workstation application closes unexpectedly.
- Data or commands executed in a workstation application don’t look or behave properly.

- For distributed problems (problems that occur with both a workstation application running on a user's computer and the TeleVantage Server) run the Wizard on the user's computer. Then run the Wizard on the Server so that you create a single problem report package. See "Reporting distributed problems" on page 11-29.

Examples of distributed problems include:

- Problems with specific calls in the Client or Administrator.
- Problems with specific voice messages in a Client Voice Messages folder.
- Call-handling problems that involve the Client or Administrator (calls cannot be conferenced, for example).
- User cannot make outbound calls from the Client.

Reporting TeleVantage Server problems

If you experience a problem with the TeleVantage Server, run the Problem Report Wizard on the Server. The Wizard automatically collects the required information from the Server, including the appropriate Server logs.

Server log files are critical to successfully identifying and solving many problems. Because these files can be large, by default the Wizard collects TeleVantage Server log information only for the period of time during which the problem occurred.

Important: You can choose to include all the available Server log information when you run the Problem Report Wizard. Be aware that doing this can result in a very large problem report package. A large package can make it more difficult for your provider to identify the problem. Therefore, use this option (described in the following procedure) on a case-by-case basis and only if you need to capture as much history information as possible before the log files are overwritten. Be sure to delete the problem report package from your system as soon as you send it to your provider to regain disk space.

To report a TeleVantage Server problem

1. On the TeleVantage Server, choose **Start > Programs > Artisoft TeleVantage Server > TeleVantage Problem Report Wizard**. The Problem Report Wizard opens.

To report a problem with a specific call or voice message, select the problem call (or the call that left the problem message) in the Call Log view and choose **Actions > Report a Problem**. The Problem Report Wizard starts with information about the call already entered.

2. Answer the questions presented in each Wizard window.

To include all the available Server log information in the problem report package, uncheck the **Limit logs to the following time frame**.

Reporting workstation application problems

For a problem with any of the TeleVantage workstation applications—Client, Administrator, Contact Manager Assistant, or TAPI Service Provider—run the Problem Report Wizard on the computer that is experiencing the problem. The Wizard automatically collects the required information.

To report a workstation application problem

1. On the computer that is experiencing the problem, choose **Start > Run**. Enter the following path and then click **OK**. The path on your system may be different.

`C:\Program Files\Common Files\Artisoft\TeleVantage\TVPRwizard.exe`

Alternately, to report a problem with a specific call or voice message, select the problem call (or the call that left the problem message) in the Call Log view and choose **Actions > Report a Problem**. The Problem Report Wizard starts with information about the call already entered.

2. Answer the questions presented in each Wizard window.

Reporting distributed problems

For a problem that involves both a workstation application running on a user's computer and the TeleVantage Server (a distributed problem usually involves the Client Call Monitor view), you should gather information from both computers before contacting your TeleVantage provider. The Problem Report Wizard assembles all the information so that your provider receives all the necessary information about the problem in one .CAB file.

To report a distributed problem

1. Run the Wizard on the user's computer to collect information about that computer and create a problem report package (perform the steps for reporting a workstation application problem on page 11-29).
2. Run the Wizard on the TeleVantage Server to gather all the necessary Server information (perform the steps for reporting a Server problem on page 11-28).
3. Check **This report includes a Problem Report Package from the TeleVantage Client**.

The Wizard automatically browses the Packages folder on the Server so that you can select the .CAB file that was produced on the user's computer. The Wizard then includes that file in the problem report package it creates on the Server.

If the Packages folder is not found, or the file was saved to another location, click **Browse** to select the .CAB file that was produced on the user's computer.

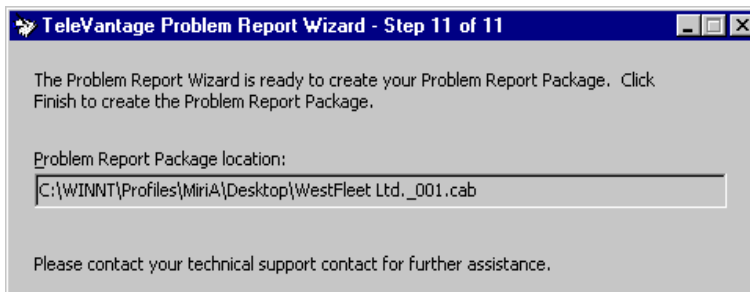
The problem report package

The problem report package is a single .CAB file. It contains all the information gathered about the problem by the Problem Report Wizard. The Wizard saves the problem report package to the location you specify. If you save the problem report package to the default location—your Desktop—it is represented by the following icon:



The Wizard summarizes the information reported, including the date and time the report was created, in a `ProblemInfo.txt` file within the .CAB file. You can open a .CAB file with any zip utility (for example, WinZip).

To prevent problem report packages from being overwritten, the Wizard gives each one a unique name based on your company name and a sequence number.



The Wizard increments the sequence number in the file name each time it creates a new problem report package.

Send the problem report package to your TeleVantage provider by attaching it to an e-mail message or using another method of transfer recommended by your provider. Because a problem report package can be large, after you send it to your provider, delete it from your system to regain disk space.

To e-mail a problem report package

1. Right-click the problem report package icon on your desktop (or the .CAB file name if you saved the problem report package to a different location.)
2. Choose **Send To > Mail Recipient**. Your e-mail application opens.
3. Address the message and send it.

SYSTEM PROMPTS

CHAPTER CONTENTS

About system prompts 12-2

The System Prompts view 12-2

Managing system prompts 12-3

Recording system prompts 12-5

Localizing the telephone commands. 12-12

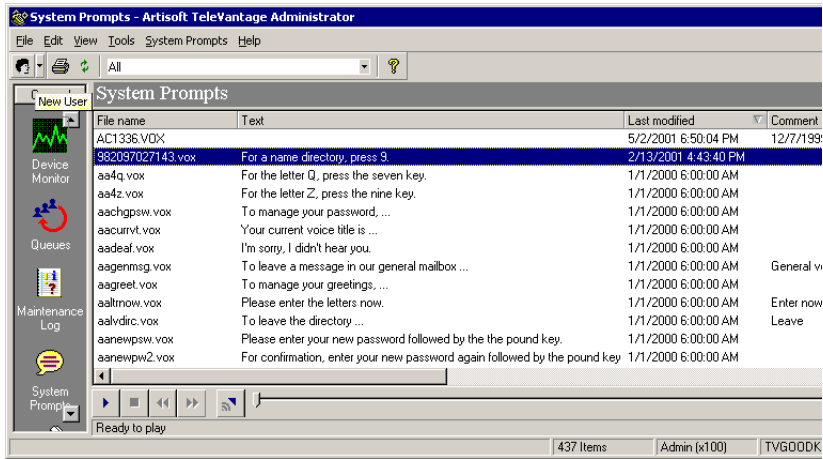
About system prompts

System prompts are audio prompts that TeleVantage plays to callers and users. System prompts offer callers menu choices and provide menus and instructions to users.

This chapter explains how to play and rerecord the system prompts used throughout TeleVantage. You can use the standard prompts included with the system or record over them to create customized prompts.

The System Prompts view

The System Prompts view in the Administrator allows you to listen to and change the recordings used for standard system prompts and auto attendants. For example, when you are setting up your TeleVantage system, you typically go to this view to change the default Greeting prompt so that it contains your company name. Click the System Prompts button in the view bar to open the System Prompts view.

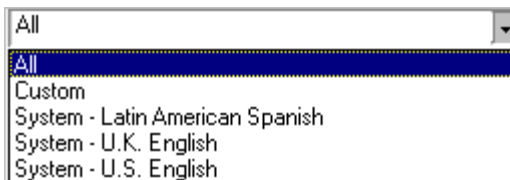


Each system prompt appears as a row in the view. The information in the following table is displayed for each system prompt.

Column	Description
File name	File name of the prompt.
Text	Contents of the file in text form. The text displayed here is accurate only if it is updated each time the file is changed. If you are unsure of the accuracy of the text, play the file to confirm what it says.
Last modified	Last time that the file was modified.
Comment	How the prompt is used in TeleVantage. Applies to custom prompts and auto attendant prompts only. The column is blank for all other prompts.
Language	The set of language prompts to which this system prompt belongs. User-recorded prompts such as auto attendant prompts have this column blank.

Controlling the prompt display

By default the System Prompts view displays all system prompts on the TeleVantage Server. Use the control on the toolbar if you want to display only the custom prompts you have recorded or only the prompts for a single language.



Note: To install additional language prompts, you must run the TeleVantage Server installation again and select the languages you want.

Managing system prompts

This section explains the following aspects of managing system prompts:

- “Playing system prompts”
- “Exporting system prompt text” (page 12-4)
- “Exporting and importing system prompt audio files” (page 12-5)
- “Changing the encoding format of system prompts” (page 12-5)

Playing system prompts

You can play system prompts to confirm that they contain the correct information. System prompts play over the telephone or through your computer speakers. If you choose to play a prompt over the telephone, your phone rings and the prompt plays when you answer. See “Using the audio controls” on page 2-10 for more information.

To play a system prompt

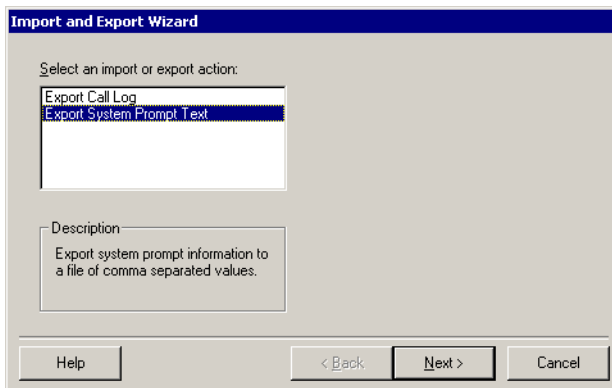
1. Select the name of the prompt that you want to play.
2. Choose **System Prompts > Play**.

Exporting system prompt text

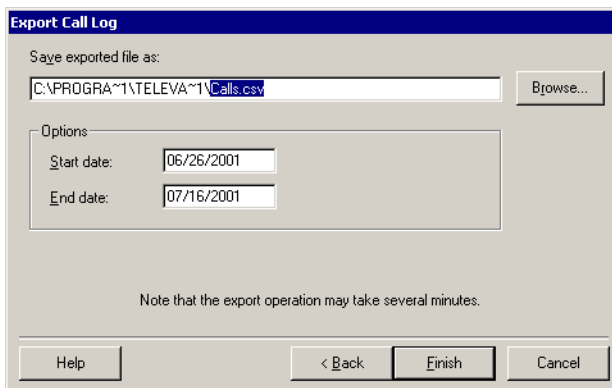
Use the following procedure to export system prompt text into a .CSV file for processing by a professional recording studio or for maintenance purposes.

To export system prompt text

1. Choose **File > Import and Export**. The Import and Export Wizard opens.



2. Select **Export System Prompt Text** and click **Next**.



3. Under **Save exported file as**, accept the suggested location and file name or click **Browse** and choose a different location and enter a file name.
4. Under **Options**, accept the suggested dates or enter new ones.
5. Click **Finish**. The file is exported.

Exporting and importing system prompt audio files

You can export a system prompt from your Server for use on another TeleVantage Server. You also can import an existing sound file and use it as a system prompt. For more information, see “Importing and exporting voice files” on page 2-11.

Changing the encoding format of system prompts

TeleVantage supports two .VOX file formats, MuLaw format for use in the United States and Japan, and ALaw format for use in other countries. When TeleVantage is installed, the correct format is used based on the location of the TeleVantage Server.

On rare occasions, it may be necessary to convert the voice files on a TeleVantage system from one encoding format to another, for example, if you are staging a TeleVantage system in one location that will be deployed in another.

To change the encoding format of all .VOX files in the system

1. Choose **Tools > Shutdown Server** to temporarily stop the TeleVantage Server.
2. Run the utility `TVConvert.exe`, which is located in the directory in which the TeleVantage Server was installed.
3. Choose **Tools > Start Server** to restart the Server.

`TVConvert.exe` checks the Windows NT/2000 registry for the current .VOX file format, converts all files to the other format, and updates the Windows registry.

Recording system prompts

You may want to record over system prompts for some of the following reasons:

- You want your custom prompts and system prompts to be recorded with the same voice.
- You want to change the message text of a prompt, for example, the Welcome message.
- You have access to voice talent that you prefer over the existing TeleVantage voices.
- You have localized the telephone commands for a language not provided with TeleVantage (see “Localizing the telephone commands” on page 12-12) and want to record all of the prompts in that language as well.

Recording options

You can record system prompts in either of the following ways:

- “Recording system prompts professionally” (page 12-7)
- “Recording over system prompts yourself” (page 12-8)

The sentence file

The sentence file is a text file that contains all the voice prompts and the sentences they form. The American English sentence file is located in:

```
C:\Program Files\TeleVantage Server\TVLEN00.INI
```

Note: “EN00” identifies American English files. TeleVantage includes two other sets of system prompts. EN10 identifies British English files. ES00 identifies Latin American Spanish files.

The .VAP and .VOX files

TeleVantage prompts are contained in:

- The .VAP file, an indexed file containing individual .VOX recordings of variable information. Variable information, for example, numbers and dates, is used to build more complex prompts.
- .VOX files. There is a separate .VOX file for each sentence and phrase in TeleVantage.

The .VAP and .VOX files are used together to produce the complete prompts that callers and users hear. For example, in the sentence prompt, “You have three new messages, and twelve saved messages”, the words “three” and “twelve” come from the .VAP file.

The American English .VAP and .VOX files are located in:

```
C:\Program Files\TeleVantage Server\vfiles\EN00
```

The American English .VAP file is called TVLEN00.VAP.

The recording process

To record a complete set of system prompts, you must do the following:

- Record the .VAP file.
- Build the indexed .VAP file.
- Record the .VOX files.
- Test the new prompts.
- Deploy the new prompts.

Recording system prompts professionally

If you choose to obtain professional recordings, you should choose a voice vendor with experience in telephony recording, and then:

- Select a voice
- Provide the appropriate files to the vendor in formats they can use
- Test the new prompts for voice quality, usability, file-naming accuracy, and indexing accuracy
- Deploy the new prompts

Selecting a voice

The vendor will often provide you with 44kHz, full-bandwidth voice samples from which to choose. Ask your vendor to provide voice samples that have been re-sampled or recorded as MuLaw PCM Mono 8 kHz, which is the format used in TeleVantage. This will ensure that your selection is based on how the voice will actually sound when used in your TeleVantage system.

Keep in mind that high-pitched voices and high-frequency sounds degrade more as a result of this type of re-sampling, which may result in considerable change in higher frequency sounds at telephony bandwidth.

Using the standard TeleVantage voices

To add or modify prompts using one of the standard TeleVantage voices, contact the companies shown in the following table that provided the original set of prompts. These companies can record new voice files using the standard voices.

Language	Voice	Contact
U.S. English	“Ellen”	Marketing Messages 51 Winchester Street Newton, MA U.S. 02461 800-486-4237 (phone) 617-527-3728 (fax) http://www.marketingmessages.com
Latin American Spanish	“Claudia”	Marketing Messages
U. K. English	“Helen”	Marketing Messages

Providing files to the vendor

After you have selected a voice, you must provide your vendor with the list of prompt files and the text of each prompt to be recorded. The list of prompt files is available in the System Prompts and Prompts section of the TVLEN00.INI file.

You also need to provide your vendor with the TVLEN00.VAP file, so that your voice vendor can match the indexing of the new .VAP file to the existing file.

Testing the new prompts

It is important that you thoroughly test all voice files that you receive from the vendor to ensure:

- Accuracy of file names
- Synchronization of written and spoken prompt content
- Quality of voice recording
- Accuracy of index order and format of the .VAP file

See “Testing system prompts” on page 12-10 for information about using the Sentence Tester to assist with some of these tasks.

Deploying the new prompts

After all files are tested, you can replace the existing prompt files with the new ones. Place all new .VOX files and the .VAP file in the following directory:

```
C:\Program Files\TeleVantage Server\Vfiles\User
```

The following auto attendant prompts must also be copied to the User directory.

- AACLOSED.VOX
- AAHI.VOX
- AA4SBN.VOX
- AAOPORWT.VOX

The default location is C:\Program Files\TeleVantage Server\Voice Files\EN00.

Recording over system prompts yourself

When you record over system prompts yourself, you can record all of the .VOX files as well as the .VAP file, as with professional recording, or record just the .VOX files and use the .VAP file included with TeleVantage.

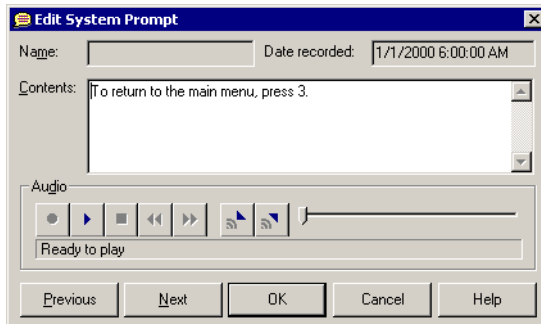
If you do not record over all the files, be aware that since prompts are combined with other prompts when presented to callers or users, recording some but not all prompts may result in a mismatch of voices.

Recording over .VOX files

You use the TeleVantage Administrator to record over these files (see the next procedure).

To record over a prompt

1. In the System Prompts view, double-click the prompt. The Edit Prompt dialog box opens.
2. Under **Contents**, enter the text of the new prompt. Use this text as a script when you record the prompt.



3. Record the prompt. See “Using the audio controls” on page 2-10 for instructions.
4. Click **OK** to save the new version of the prompt.

Recording over the .VAP file

You can record over the .VAP file by using a variety of recording tools and VAP tools. If you do not already have such a tool, you should consider VFEEdit, which is available on the Internet.

Testing and deploying the new prompts

Use the Sentence Tester to test the new prompts. See “Testing system prompts” on page 12-10. For information about deploying the new prompts, see “Deploying the new prompts” on page 12-8.

Testing system prompts

You can test system prompts by listening to them in context over your telephone. By joining individual prompts into sentences and playing them as they are used in TeleVantage, you can evaluate intonation, emphasis, and consistency.

Note: Computers must run on Windows NT/2000 to test system prompts.

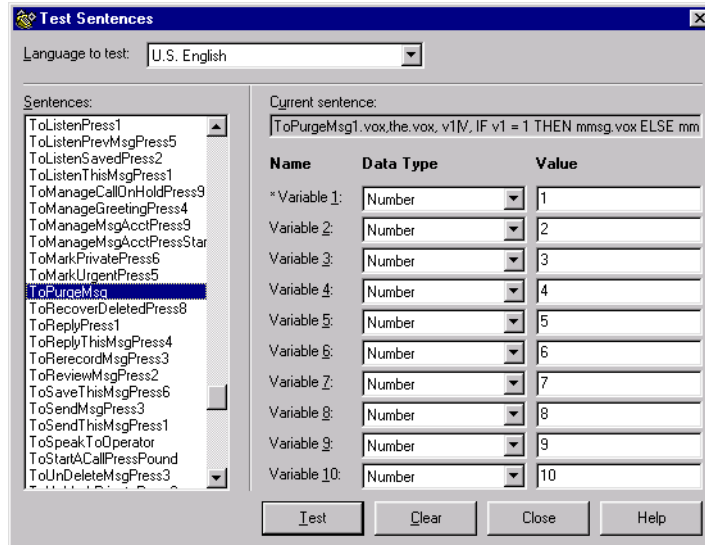
To test system prompts

1. Start the Administrator using the /sentence command line option (see page B-1 for more information).
2. Choose **Tools > Test Sentences**. The Test Sentences dialog box opens.

Name	Data Type	Value
* Variable 1:	Number	1
Variable 2:	Number	2
Variable 3:	Number	3
Variable 4:	Number	4
Variable 5:	Number	5
Variable 6:	Number	6
Variable 7:	Number	7
Variable 8:	Number	8
Variable 9:	Number	9
Variable 10:	Number	10

3. In **Language to test**, select the language of the prompts that you want to test.

- Under **Sentences**, select a sentence from the list.



The **Current sentence** box displays how that sentence is described in the sentences.ini file. Many sentences consist of a single .VOX file. Other sentences are made up of several joined .VOX files, and may contain variables as well.

- You can double click a sentence to test it, or select it and press **Test**. When your phone rings, pick it up and listen to the sentence in the language you selected. You can continue to play messages, and even change languages, without hanging up your phone.
- If the sentence contains variables, they are indicated in the **Name** column with an asterisk. You can enter a new **Value** for a variable, and optionally select a different variable **Data Type**.

For example, by default the sentence ToPurgeMsg sentence plays as:

“To permanently delete the 1 message in your Client’s Deleted folder, press 3.
Otherwise, press 4.”

By changing the **Value** of Variable 1 to 6, the sentence plays as:

“To permanently delete the 6 messages in your Client’s Deleted folder, press 3.
Otherwise, press 4.”

Click **Clear** to return all **Values** to their original settings.

Localizing the telephone commands

The TeleVantage Localization Kit is available if you want to localize and record the telephone commands in another language. The Localization Kit includes all the necessary documentation and tools for localization.

Although the process for recording system prompts is the same for localized system prompts, the localization process requires several more steps, which are described in the Localization Kit.

For more information about the TeleVantage Localization Kit, contact your TeleVantage provider.

Changing the TeleVantage ringback tone

By default, the ringback tone (the sound you hear when the phone you dialed is ringing) is the United States tone. To rerecord this tone, rerecord the file Ringback.vox, located in the following directory on the TeleVantage Server computer:

```
C:\TeleVantage Server\vfiles\User
```

For instructions on rerecording the file, see “Recording system prompts” on page 12-5.

CONFIGURING INTERNET TELEPHONY SUPPORT

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About IP telephony and TeleVantage

TeleVantage seamlessly supports Internet telephony through an integrated Internet gateway that eliminates the need for external IP Gateway devices. Combined with dialing services, TeleVantage's Internet telephony support makes it as easy to place and receive Internet calls as it is to place and receive regular telephone calls—whether you are calling from a station phone, a remote phone, or using the TeleVantage Client.

TeleVantage's integrated Internet gateway supports the following Internet telephony features:

- Placing and receiving calls from H.323 terminals, for example, NetMeeting (see page 13-3) or Phone Dialer (see page 13-7).
- Enhancing a Web page with a “Call Us!” button (see page 13-7).
- Connecting TeleVantage Servers over the Internet or over private IP networks (which can guarantee quality of service). See page 13-8. Over a properly configured IP Gateway, users can:
 - Call extensions on a remote TeleVantage Server.
 - Place calls to phone numbers from a remote TeleVantage Server.
 - Place calls on a remote Centrex/PBX service through a remote TeleVantage Server.

Internet telephony requirements

Before using any of TeleVantage's Internet telephony features, you must first:

- Install the hardware and software required to support Internet telephony. See *Installing TeleVantage* for more information.
- In the TeleVantage Administrator, add and configure one or more Internet spans (see “Adding an Internet span” on page 5-25).
- Ensure that the IP address of the Internet span on each Server is completely accessible by the other TeleVantage Server. To do this, you may have to configure firewalls at each location appropriately.

This chapter explains in detail how to configure and use TeleVantage to make various types of Internet telephony connections.

Placing calls to H.323 terminals such as NetMeeting

You can use TeleVantage to place and receive IP calls from H.323-based terminals like Microsoft NetMeeting, a real-time conferencing and collaboration tool. The figure under “Placing calls to NetMeeting from the TeleVantage Client” on page 13-3 shows how the process of making TeleVantage-to- NetMeeting calls works.

After you have installed the proper Internet telephony hardware (see *Installing TeleVantage*), configured an Internet Address dialing service, and assigned it an access code, users can place calls to H.323 terminals such as NetMeeting from the Client or using the phone.

Note: Users who call NetMeeting terminals might hear an echo on the line. To avoid the echo, the NetMeeting user must use an echo-cancelling microphone.

NetMeeting is included with Windows 2000. To download NetMeeting for other operating systems:

1. Go to www.microsoft.com/downloads.
2. Select NetMeeting from the top list, select your operating system from the bottom list, and then click **Find It!**

To allow TeleVantage users to place calls to Microsoft NetMeeting or other H.323 terminals

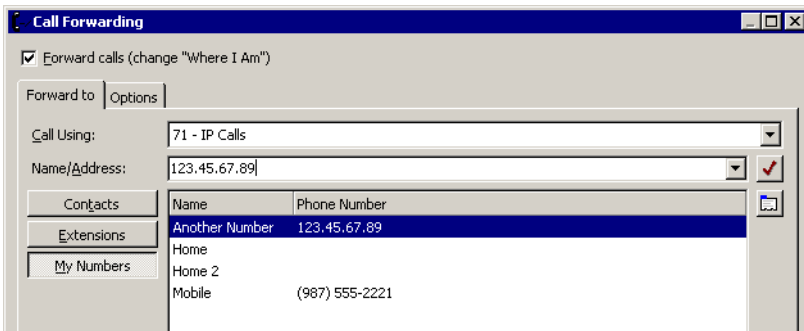
1. In the TeleVantage Administrator, create an Internet Address dialing service (see “Adding a dialing service” on page 8-8).
2. Assign the service a name and an access code, for example, “Internet” and “71”.

Placing calls to NetMeeting from the TeleVantage Client

Users can place Internet calls from anywhere in the TeleVantage Client that allows them to enter phone numbers. For example, users can place Internet calls from the Place Call To dialog box, when they are adding a contact or adding a routing list action or when forwarding their calls. Users select an Internet Address dialing service and then enter the IP address or DNS host name of the computer that is running NetMeeting.

For example, if a user enters either `namemycomputer.mycompany.com` or `123.45.67.89` in the **Name/Address** field of the Forward To tab of the Call Forwarding dialog box, calls will be forwarded to NetMeeting at the specified location (see the next figure).

Note: If you use a name, such as `namemycomputer.mycompany.com`, instead of an IP address, DNS must be properly configured on this PC, or else the name cannot be resolved to an IP address and the call will fail.

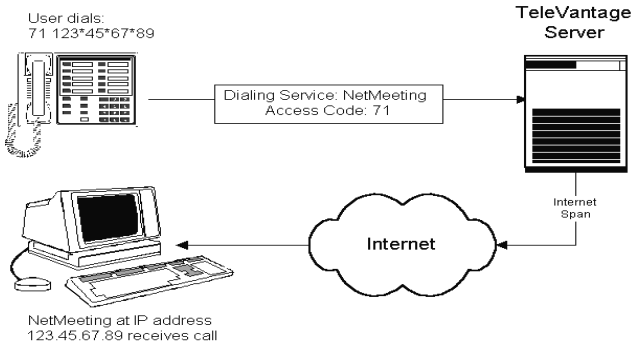


Placing calls to NetMeeting from a TeleVantage phone

Users can place calls to PCs running NetMeeting from any TeleVantage phone by dialing the access code followed by the IP address of the computer running NetMeeting.

IP addresses are dialed with each part of the IP address separated by an asterisk (*). For example, dialing 71 123*45*67*89 calls the computer running NetMeeting at the IP address 123.45.67.89, where 71 is the access code of the TeleVantage Internet dialing service.

TeleVantage to NetMeeting Calls



Calling TeleVantage from H.323 terminals such as NetMeeting

Depending on how your TeleVantage Internet span and company firewall is configured, TeleVantage can receive calls from any H.323 terminal such as NetMeeting.

To receive calls from an H.323 terminal such as NetMeeting

1. Configure your firewall to allow access to the IP address of one or more TeleVantage Internet spans.
2. In the TeleVantage Administrator, edit the TeleVantage Internet span to allow incoming calls.
3. Optionally, do one of the following:
 - Send Internet calls to the desired user, auto attendant, or IVR Plug-in.
 - Assign DID numbers to any user, auto attendant, or IVR Plug-in that you want to allow H.323 terminals to call directly.

Note: For the purpose of receiving Internet calls, you can give users DID numbers in TeleVantage only. You do not need to order DID service from your telephone company.

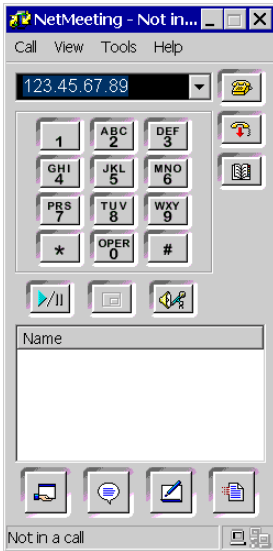
Internet trunks behave almost identically to regular trunks, and provide inbound Caller ID and direct inward dialing (DID). Internet calls are routed and processed just like regular calls to ACD workgroups, routing lists, and so forth.

Note that the name of the TeleVantage system is displayed when NetMeeting calls TeleVantage. To change the name, edit the following registry key:

```
HKLM\Software\Artisoft\TeleVantage\Company
```

Calling a TeleVantage Server from NetMeeting

To call a TeleVantage Server from NetMeeting, enter the IP address or DNS name of the TeleVantage Internet span. This is the IP address assigned to the Ethernet interface on the Internet telephony board. Callers with NetMeeting 3.0 or later can navigate TeleVantage using NetMeeting's built-in touch tone keypad.



Calling a TeleVantage DID number from NetMeeting

If you configure NetMeeting to use a TeleVantage Server as a gateway, TeleVantage interprets numbers dialed by NetMeeting as DID. Therefore, NetMeeting users can call any TeleVantage user, auto attendant, ACD workgroup, or IVR Plug-in with a DID number.

To configure NetMeeting to use a TeleVantage Server as a gateway

1. Start NetMeeting.
2. Select **Tools > Options**.
3. Click **Advanced Calling Options** to open the Advanced Calling Options dialog box.
4. Check **Use an IP Gateway to call telephones and video conferencing systems**.
5. Enter the IP address or DNS name of the TeleVantage span, for example, 123.45.67.89 or myiplinkaddress.mycompany.com.
6. Click **OK**.

Any numbers entered in NetMeeting now are sent to TeleVantage as DID. For example, placing a call to 1234 in NetMeeting will call the TeleVantage auto attendant, user, or IVR Plug-in that has a DID of 1234.

Using Windows 2000 Phone Dialer as an H.323 terminal

A standard installation of Windows 2000 includes Phone Dialer, which has H.323 capabilities similar to those of NetMeeting. Phone Dialer allows you to make voice calls from your computer.

To make a voice call, all you need is the recipient's IP address or DNS (Domain Name System) name. The active call window has buttons that let you access a keypad to manually dial numbers.

To receive calls, you must have Phone Dialer running. When you make or receive a call, a dialog box opens.

Enhancing a Web page with a "Call Us!" button

By using a CallTo: URL on your Web page, any Internet user with NetMeeting installed can click on a "Call Us!" link on your Web page to place a call to any TeleVantage DID number. If you assign a DID number to a TeleVantage ACD workgroup user or queue, you can send Internet users directly into your ACD workgroup or queue for processing by an agent.

Note: The CallTo: tag is supported in Internet Explorer but is not supported in Netscape version 4.7.

For example, you can insert the following CallTo: tag on your Web page:

```
<A HREF="callto:600+gateway=123.45.67.89+type=phone">Call Us!</A>
```

When a user with NetMeeting installed clicks the Call Us! link, NetMeeting starts and calls the TeleVantage user who has a DID of "600" using the TeleVantage Internet span with an IP address of 123.45.67.89.

Note: On your Web page, it is a good idea to include a link to the NetMeeting download page for those users who do not have NetMeeting installed (www.microsoft.com/downloads).

Connecting two Servers using IP Gateways

You can configure TeleVantage's integrated Internet gateway to connect two TeleVantage Servers over the Internet or a private IP network (sometimes called an IP tie-line connection). Doing this allows users on one TeleVantage Server to make calls as if they were on the other TeleVantage Server.

When two TeleVantage Servers are properly configured, users can do the following:

- **Place calls to extensions on the remote Server.** In addition to calling extensions, users can dial # to log in and check remote voice mailboxes, or dial 411 for the remote Server's dial-by-name directory.
- **Place external phone calls through the remote Server.** Users can call remote phone numbers as if they were local phone numbers, such as calling directory assistance in another city.
- **Place outbound Centrex/PBX calls through the remote Server.** Users can dial remote Centrex/PBX extensions as if they were local, such as extensions on a legacy PBX system connected to the remote Server.
- **Unify two Servers into a single user environment.** By creating users of the type **IP Gateway user** on each TeleVantage Server, you can make all users appear to be on the same TeleVantage Server. Users on each TeleVantage Server can dial each other directly or select extensions for call forwarding and routing lists regardless of whether they are local (of the user type **User**) or remote. Local and remote users appear together in the Client's Extensions view, in the Place Call To dialog box, and other lists of extensions.

Placing calls involving a remote TeleVantage Server

To make an IP Gateway call, users must choose the appropriate dialing service when placing the call, either by dialing the access code over the phone or by selecting it in the Client. See "Creating IP Gateway dialing services" on page 13-13.

By creating users of the type **IP Gateway**, you can also enable users to dial remote extensions directly, without dialing an access code, or to place calls to remote extensions from the Client. See "Creating Gateway users to unify two TeleVantage Servers" on page 13-14.

Receiving Internet calls from a remote TeleVantage Server

Incoming calls from a remote TeleVantage Server appear in the Client as if they were local calls. For example, Caller ID name and number are delivered just as they are for regular internal or external calls, which allows users to identify and call back remote users easily.

Codec use with IP Gateway connections

When you connect two TeleVantage Servers over an IP Gateway connection, be sure that the Servers use the same codec lists. If they do not, audio failure can occur during calls. See "Modifying TeleVantage IP codecs" on page 5-26 for more information.

Overview of creating an IP Gateway connection

Setting up an IP Gateway connection involves the following steps. It is important to do them in the correct order:

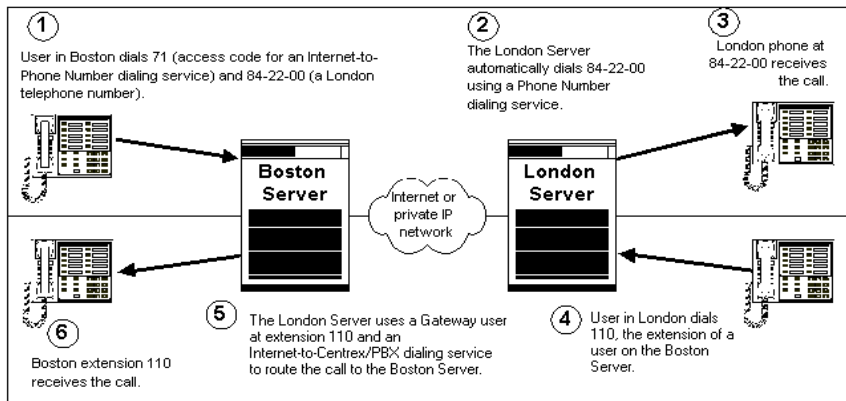
1. On each Server, create an IP Gateway that points to the other Server. See “Creating an IP Gateway” on page 13-10.
2. On each Server, create one or more IP Gateway dialing services to cover the types of Internet calling you want to perform. See “Creating IP Gateway dialing services” on page 13-13.
3. To unify two Servers so that all users appear to be local users, create an IP Gateway user for each remote extension. See “Creating Gateway users to unify two TeleVantage Servers” on page 13-14.

Using the IP Gateway Configuration Worksheet

Appendix D of this manual provides a worksheet to help you set up multiple TeleVantage Servers for an IP Gateway connection. Use the IP Gateway Configuration Worksheet to help plan consistent access codes for dialing services and avoid conflicts such as overlapping extensions or passwords.

Illustration of an IP Gateway

The following figure illustrates TeleVantage Servers in London and Boston that are connected using an IP Gateway.



In the top of the figure, the administrator at the Boston Server set up an Internet-to-Phone Number dialing service with an access code of 71. The London Server has a Phone Number dialing service. Users in Boston can now dial phone numbers in London by dialing 71 followed by the phone number.

In the bottom of the figure, the administrator at the London Server set up an Internet-to-Centrex/PBX Extension dialing service—configured to connect to the Boston Server’s internal dial tone, and gateway users, one for each user on the Boston Server. Users in London can now dial the extensions of users in Boston directly.

To establish the connection, each administrator creates an IP Gateway that points to the other Server. The administrator can use the IP Gateway on the local Server to control dialing permissions for incoming calls. For example, the London administrator can prevent Boston users from making long-distance calls through the London Server by changing the dialing permissions of the Boston IP Gateway.

You can think about TeleVantage IP Gateways as an authentication mechanism similar to a Windows Domain trust relationship. These relationships allow users on one Server to place calls on a remote Server without having a user account on the remote Server.

Creating an IP Gateway

To connect two TeleVantage Servers over IP Gateways, administrators on each Server must create an IP Gateway that points to the other Server. For example, on an IP Gateway connection between Boston and London, the Boston Server has an IP Gateway called “London,” and the London Server has an IP Gateway called “Boston.” Each IP Gateway has an extension and password that the other IP Gateway uses to log in when connecting IP Gateway calls.

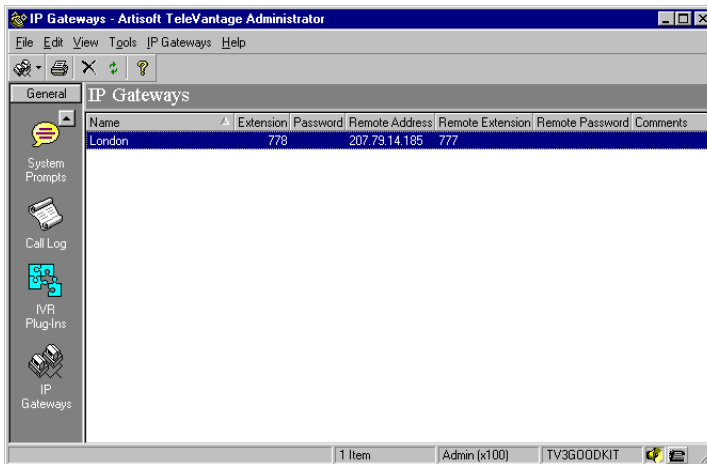
The IP Gateway’s extension is not meant to be dialed directly. It does not appear in the Client or the dial-by-name directory, and calls to that extension do not go through. The extension is used behind the scenes only to let remote Servers connect.

You can use the IP Gateway to control remote users’ dialing permissions when placing calls through your Server. For example, if you are the administrator of the London Server, and you want to prevent Boston users from placing long-distance calls through your Server, you can edit the dialing permissions of the IP Gateway “Boston.”

Each remote TeleVantage Server to which you connect over the Internet requires a separate IP Gateway. For example, if your Server connects to Servers in London and Chicago, you must create two IP Gateways—“London” and “Chicago.”

The IP Gateways view

To add, edit, and delete IP Gateways, click the IP Gateways button in the view bar to open the IP Gateways view:



Each of your IP Gateways is shown as a line in the view. The following table shows the information that is displayed for each IP Gateway.

Column	Description
Name	Name of the local IP Gateway, usually the name of the remote Server's location or the name of the remote Server computer itself.
Extension	Extension of the IP Gateway on the local Server, used by IP Gateways on remote Servers to log on when connecting IP calls.
Password	Password of the IP Gateway on the local Server, used by IP Gateways on remote Servers to log on when connecting IP calls.
Remote Address	IP address or hostname of the remote Server.
Remote Extension	Extension of the IP Gateway on the remote Server, used by the local Server to log on when connecting IP calls.
Remote Password	Password of the IP Gateway on the remote Server, used by the local Server to log on when connecting IP calls.
Comments	Any comments pertaining to the remote Server.

Double-click an IP Gateway in the view to see its properties.

Creating an IP Gateway

The following procedure uses an IP Gateway created on a Boston Server that connects to a remote London Server as an example.

To create and set up an IP Gateway

1. Have the following information ready:
 - The Internet address of the remote Server
 - The extension and password of the IP Gateway on the remote Server
2. Choose **File > New > IP Gateway**.
3. Enter a **Name** for the IP Gateway. Typically the name describes the remote Server's location, for example, "London."
4. Assign the IP Gateway a unique extension. The extension is not meant to be dialed, and does not appear in the Client or the dial-by-name directory. Calls to the extension will not be connected. The IP Gateway's extension is used behind the scenes to connect to the remote Server to complete IP Gateway calls.

The screenshot shows a dialog box titled "Untitled - IP Gateway" with two tabs: "General" and "Permissions". The "General" tab is active. It is divided into two sections: "Local" and "Remote".

Local Section:

- Name: London
- Extension: 777
- Password: 777
- Comments: (empty text box)
- Operator: Operator (x 0) (dropdown menu)
- Telephone prompts: U.S. English (dropdown menu)

Remote Section:

- Remote Server's IP address: 124.64.77.68
- Remote IP Gateway's extension: 888
- Remote IP Gateway's password: 888

At the bottom of the dialog box are three buttons: "OK", "Cancel", and "Help".

5. Enter a **Password** for the IP Gateway.
6. Add **Comments** to further identify the IP Gateway.
7. Under **Operator**, select the extension to which callers using this IP Gateway are transferred when they press 0 from within the local system. For example, a user on the remote Server might call a user on this Server using this Gateway, and press 0 while in the local user's voice mailbox.

8. Under **Telephone prompts**, select the language of the telephone commands as heard by users on the remote Server who log on to the local system using this IP Gateway.
9. Under **Remote**, specify the following information about the remote Server:
 - **Remote Server's IP address.** Enter the IP address in the format nnn.nnn.nnn.nnn. You can also enter the DNS name.
 - **Remote IP Gateway's extension.** Enter the extension of the IP Gateway on the remote Server that points to this Server.
 - **Remote IP Gateway's password.** Enter the password of the IP Gateway on the remote Server that points to this Server.
10. On the Permissions tab, assign dialing permissions that limit the types of calls that can be made by remote users who make calls through this IP Gateway. For example, you might edit the local IP Gateway's permissions to prevent London users from making unrestricted long-distance calls from London. See "The Dialing tab" on page 6-36.
11. Click **OK**.

Important: The administrator on the remote Server needs to know the extension and password of your IP Gateway in order to correctly configure the IP Gateway on the remote Server.

Creating IP Gateway dialing services

To use an IP Gateway connection, you must create at least one dialing service of the Internet-to-Phone Number or Internet-to-Centrex/PBX Extension type. To create a dialing service for IP Gateway use, do the following:

1. Refer to the table in this section to determine the type of dialing service you must create.
2. See "Adding a dialing service" on page 8-8 for complete instructions on creating the dialing service.

Note: Before creating an IP Gateway dialing service, make sure you have created an IP Gateway that points to the remote Server. See "Creating an IP Gateway" on page 13-10.

The type of dialing service you must create depends on the type of IP Gateway calling you want to do, as described in the following table.

Type of calling	Dialing service needed	Special instructions
Calling TeleVantage extensions on the remote Server	Internet-to-Centrex	On the General tab, select Remote Server's internal dial tone
Placing phone calls through the remote Server	Internet-to-Phone Number	
Placing Centrex/PBX calls through the remote Server	Internet-to-Centrex/PBX Extension	On the General tab, select Remote Server's Centrex/PBX service access code .

For each remote Server, you must create a separate dialing service for each type of IP Gateway calling you want to perform.

Troubleshooting Internet-to-Phone Number dialing services

If, when dialing out over an Internet-to-Phone-Number dialing service, you have problems sending digits to external phone systems, try increasing the DTMF Gain and DTMF On-time parameters in your Internet span's Tuning tab. See "Fine-tuning your IP connection" on page 5-28.

Creating Gateway users to unify two TeleVantage Servers

Gateway users are a way to unify the users on two TeleVantage Servers connected by an IP Gateway, so that all users display and function as if they were local. Once you create Gateway users, users on each Server can:

- Dial any user's extension directly, without an access code.
- See local users and remote users listed together in the Client's Extensions view, Place Call To dialog box, and all other places where a list of users appears.
- Select any user when placing a call, transferring a call, or creating a conference call.
- Search for any user in the dial-by-name directory.
- Forward calls to any extension, or include any extension in a routing list.

By connecting two Servers over a private IP network and unifying them with IP Gateway users, you can effectively double the number of stations your TeleVantage system supports.

Overview of IP Gateway users

An IP Gateway user is a special type of user that you create to mirror a user on the remote Server. For each user on the remote Server, you create an IP Gateway user on the local Server. For example, if the remote Server has a user named Pete Storpin, you would create a user of the type **IP Gateway** named Pete Storpin on the local Server that points to the remote user.

The administrator on the remote Server performs the same action, creating an IP Gateway user on the remote Server to mirror each normal user on your Server.

When a user dials an IP Gateway user's extension, behind the scenes the IP Gateway user automatically forwards the call over your Server's Internet-to-Centrex/PBX Extension dialing service to the matching user on the remote Server.

Before creating IP Gateway users

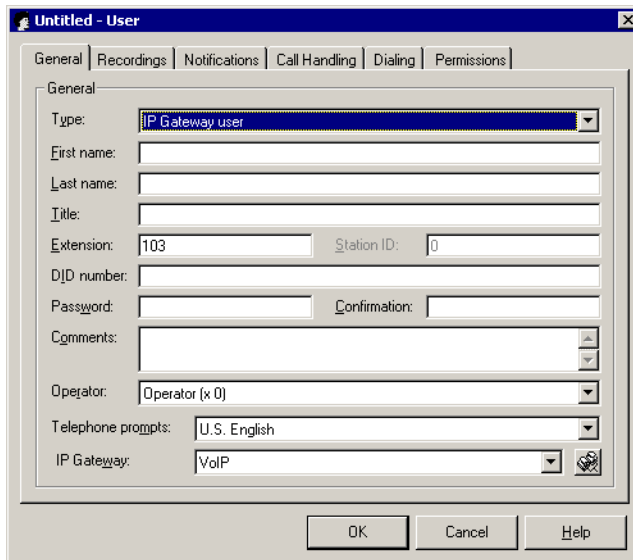
To create an IP Gateway user, you must have already done the following on each Server:

- Created an IP Gateway to point to the remote Server. See "Creating an IP Gateway" on page 13-10.
- Created an Internet-to-Centrex/PBX Extension dialing service that connects to the remote Server's internal dial tone. See "Adding a dialing service" on page 8-8.
- Made sure that no extensions on one Server conflict with extensions on the other. To avoid conflicts, you can have all the extensions on one Server begin with 1, while all the extensions on the other Server begin with 2.

The IP Gateway Configuration Worksheet in Appendix D can help you plan your IP Gateway connection so that no conflicts occur.

To create an IP Gateway user

1. In the Users view, choose **Users > New User**. The User dialog box opens.



The screenshot shows a dialog box titled "Untitled - User" with several tabs: General, Recordings, Notifications, Call Handling, Dialing, and Permissions. The "General" tab is selected. The "Type" dropdown menu is set to "IP Gateway user". Below this, there are input fields for "First name:", "Last name:", and "Title:". The "Extension:" field contains "103" and the "Station ID:" field contains "0". There are also fields for "DJD number:", "Password:", and "Confirmation:". A "Comments:" text area is present. The "Operator:" dropdown is set to "Operator (x 0)". The "Telephone prompts:" dropdown is set to "U.S. English". The "IP Gateway:" dropdown is set to "VoIP". At the bottom, there are "OK", "Cancel", and "Help" buttons.

2. Under **Type**, select **IP Gateway user**.
3. At the bottom of the dialog box, under **IP Gateway**, select the IP Gateway that points to the remote Server on which this user resides. To create a new IP Gateway, click the IP Gateway button.
4. Make sure that the Gateway user's **Extension** matches the user's extension on the remote Server. This field is the only field that must be identical to the remote user's setup. However, to reduce confusion, it is recommended that you use the same **First Name** and **Last Name** on both Servers.
5. Click the Call Handling tab, then click **Call Forwarding**. Click **To another number**. Under **Call using**, select the Internet-to-Centrex dialing service with which you connect to the remote Server. Under **Number**, enter the extension of the user on the remote Server.

To economize trunk usage on calls sent between two or more Servers, check **Attempt Centrex/PBX Transfer**. For more information, see "Forwarding calls over Centrex/PBX trunks" on page 6-30.

6. Enter the rest of the user information, which governs how the IP Gateway user behaves on the local Server. For complete instructions on adding users, see "Adding users" on page 6-7.
7. Click **OK**.

Using Contact PINs with IP Gateway users

When a contact employs a Contact PIN to dial an IP Gateway user, the Contact PIN is lost when the call is transferred to the actual user on the other Server. The contact might then appear in the Call Monitor as an unknown caller.

To make sure that Contact PINs are recognized in all cases, users must duplicate their contacts on the other Server. For example, if Pete Storpin has defined his wife as a contact with a PIN of 55, he must log in to his Gateway user account on the remote Server and define his wife again, using the same PIN of 55.

Note: The first time a user receives a Contact PIN call over the IP Gateway connection, the user must associate the call with the contact. Then the contact will be recognized on subsequent calls.

An easy way to duplicate contacts is to export them from the local Server's account and import them to the remote Server's Gateway user account. For a full description of Contact PINs and instructions on exporting and importing contacts, see *Using TeleVantage*.

Enabling call path replacement to economize trunk use

TeleVantage can perform call path replacement on calls transferred or forwarded between Servers, so as to economize trunk use. For example, if a call starts on Server A, goes to Server B, and is forwarded to Server C, TeleVantage automatically simplifies the path to a direct connection between Server A and Server C, thus saving trunk usage on Server B.

To enable call path replacement, make sure that each IP Gateway user has the Attempt **Centrex/PBX transfer** field checked in their call forwarding settings. The field is checked by default for IP Gateway users.

Fine-tuning your IP connection

TeleVantage's IP Span dialog box includes a Tuning tab that you use to change any of the IPLink board parameters between IP calls. Changes you make while a call is in progress on the board will not be reflected until the call completes and a new call is initiated. See "Fine-tuning your IP connection" on page 5-28.

EXTENDING TELEVANTAGE

CHAPTER CONTENTS

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About extending TeleVantage

Versatility is what makes TeleVantage so powerful, and that versatility is enhanced even further by the ability to integrate other applications into the TeleVantage Server. You can extend a TeleVantage system in the following ways:

- **In-band signaling applications.** Software designed to interact with PBX or Centrex systems can be configured to work with TeleVantage, providing custom IVR or call-handling functions (fax back, touch tone data retrieval, and so on).
- **TAPI applications.** TAPI-compatible phone dialers and contact managers such as Act!, GoldMine, FrontOffice 2000, and Microsoft Outlook can be integrated into TeleVantage through the TeleVantage TAPI Service Provider.
- **Third-party telephony devices.** Devices such as fax servers and voice mail systems can be integrated into the TeleVantage Server.
- **Custom software.** If you have a requirement that cannot be met by one of the many off-the-shelf applications available from third-party vendors, programmers can use the TeleVantage Software Development Kit (SDK) to integrate custom-built software with your TeleVantage system.

The next section of this chapter describes extending TeleVantage with off-the-shelf applications. The rest of the chapter provides an overview of what programmers can accomplish using the TeleVantage SDK. This chapter includes the following topics:

- **“Extending TeleVantage with off-the-shelf applications” (page 14-3).** Describes how in-band signaling and TAPI applications can be integrated into the TeleVantage Server.
- **“Extending TeleVantage with third-party devices” (page 14-4).** Describes how to integrate third-party telephony devices.
- **“The TeleVantage SDK” (page 14-8).** Gives an overview of the SDK, which contains the following tools:
 - **“The Client API” (page 14-9).** A set of software components that gives custom applications the ability to access all functions found in the TeleVantage Client.
 - **“The IVR Plug-in API component and sample applications” (page 14-9).** A powerful way to integrate virtually any interactive voice response or voice processing application with your TeleVantage system.
 - **“The Device Status API” (page 14-11).** A software component that gives custom applications the ability to get detailed information about trunks and stations from the TeleVantage Server.

Extending TeleVantage with off-the-shelf applications

Many off-the-shelf applications produced by third-party vendors can be integrated into the TeleVantage Server without any custom programming. These applications are integrated in one of the following ways:

- In-band signaling applications can be configured to work with most Centrex and PBX systems, including TeleVantage.
- TAPI applications can use the TeleVantage TAPI Service Provider to communicate with the Server.

In-band signaling applications

A human caller can send commands to any PBX, including TeleVantage, by generating a *flash hook command* by quickly pressing and releasing the hang-up button (or hook) on a telephone handset cradle. The flash hook command signals the PBX that special instructions will follow, such as placing a call on hold or transferring a call to another extension. For example, a TeleVantage user can generate a flash and then press 1 to transfer a call.

This method of sending instructions is called in-band signaling. Many telephony applications use this same method, communicating with PBX or Centrex systems through flash hook commands.

Most PBXs use their own proprietary sets of flash hook commands. An application that uses in-band signaling will usually provide you with a way to configure it for a specific set of flash hook commands, such as those used by TeleVantage. For example, **&3** (a flash followed by a 3) is the flash hook command that TeleVantage uses to disconnect from a call, so you can configure the in-band signaling application to use **&3** as its disconnect command. For a complete list of the TeleVantage telephone commands, see the “Telephone Commands Quick Reference” in *Using TeleVantage*.

TAPI applications

TAPI applications can communicate with the Server through the TeleVantage TAPI Service Provider (TSP). The TSP can be installed on the TeleVantage Server and on any workstation networked to the Server. When it is installed, users can use TAPI-enabled phone dialers, contact managers, and similar applications. No modem is required, and the TeleVantage Client does not need to be installed on the user’s computer.

The TSP runs in the background, establishing a connection between the TAPI application and the TeleVantage Server. Whenever a call is transferred to the station being monitored by the TSP, any TAPI-compatible application running on the same computer is notified of the call. The application can then perform functions such as getting Caller ID or DID, transferring the call, putting the call on hold, parking the call, or hanging up. TAPI applications can also place new calls.

While any TAPI-compatible application should work with TeleVantage, the following contact managers are actively supported:

- Act! 3.0, 4.0, and 2000
- GoldMine 4.0 and 5.0
- GoldMine FrontOffice 2000
- Goldmine Business Contact Manger 5.7
- Microsoft Outlook 98, 2000 and XP

For detailed instructions on how to install the TSP and use it with the supported contact managers, see *Installing TeleVantage*. If you are writing a TAPI-compatible application, see the online *TeleVantage SDK Developer's Guide* (TVSDK.PDF) for a description of the TAPI features that the TSP supports. (The developer's guide is installed with the SDK.)

Automatic reconnect to Server

The TSP validates the connection to the Server every 10 minutes by default. If the connection is lost, the TSP tries to reconnect. You can specify the validation interval in minutes by editing the following registry key:

```
HKLM\Software\Artisoft\Client\TSP\ServerPingInterval
```

See "ServerPingInterval" on page A-11.

Extending TeleVantage with third-party devices

Many telephony devices produced by third-party vendors, such as fax servers or voice mail systems, can be integrated into the TeleVantage Server. This option is only available for devices connected to MSI boards.

To use a third-party device with TeleVantage, attach the device to a TeleVantage station and configure it using the tabs in the User dialog box.

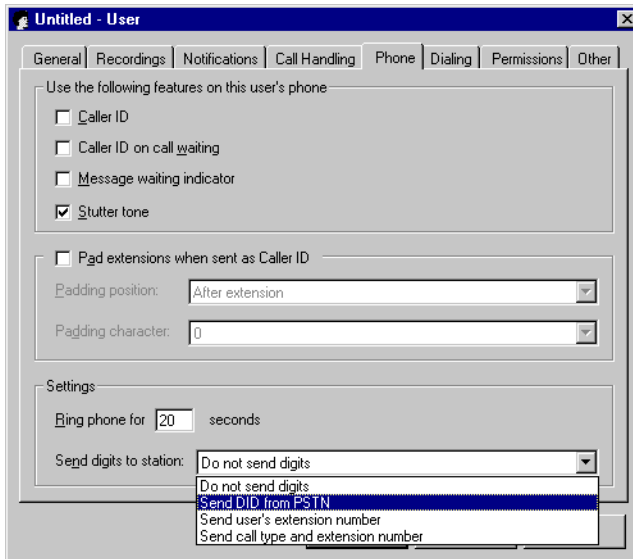
When you integrate a third-party device, you may need to indicate how to send DID, or extension numbers, to the station as touch tone digits (DTMF). Consult the documentation for your third-party device for more information about the kind of DTMF information that is required.

Note: Some third-party devices require a delay before DTMF digits are sent to the device. To specify this delay, change the SendDigitsToStationDelay registry setting (see "Modifying other supported TeleVantage settings" on page A-33).

To send DID information to a device as DTMF, on the Phone tab select one of the following methods from the **Send digits to station** drop-down list:

- **Do not send digits.** If you are not integrating a third-party device, accept the default method. No DTMF digits are sent.
- **Send DID from PSTN.** Send the DID number as DTMF digits from the trunk on which the call arrived.

- **Send user's extension number.** Send the extension number of the calling user as DTMF digits.
- **Send call type and extension number.** Send the call type and extension number as DTMF digits. This method is described in detail in the next section.



Note: If you choose any setting except the default **Do not send digits**, all call screening options are disabled for the station.

Sending call type and extension number to a device

The **Send call type and extension number** method sends DTMF digits that represent the call type and one or more extension numbers to help the third-party device determine where the call came from. Using this information, the third-party device can customize call handling for individual calls.

For example, a third-party voice mail system can use the extension number to preselect a specific user's voice mailbox. Using the call type, the system can then customize how the call is handled. When users dial in from their desks, they are connected directly to their voice mailboxes and offered a "retrieve voice mail" menu. For external callers, the voice mail system offers a "leave message" menu with the user's voice mailbox already selected.

The possible combinations of DTMF digits that are sent to the device are described in the following table.

Type of call	DTMF digits sent
Direct call to this extension from an external caller.	"1"
Direct call to this extension from an internal caller at another TeleVantage source extension.	"2{source extension}#"
Call from an external caller to a different target extension.	"5{target extension}#"
The call was sent to this extension via a routing list action because the target extension was busy or the call was not answered.	
Call from an internal caller at another source extension to a different target extension.	"6{target extension}#{source extension}#"
The call was sent to this extension via a routing list action because the target extension was busy or the call was not answered.	

The following example illustrates one way that TeleVantage can be configured to send DID digits to stations:

- Frank Smith is assigned extension 101. Miri Anatolia is assigned extension 102.
- A third-party voice mail system is attached to several TeleVantage stations. The system administrator creates a user for each device and assigns each one an extension, as in "Voice Mail Port 1" at extension 301, "Voice Mail Port 2" at extension 302, and so forth. When setting the **Send digits to station** option for each user, the system administrator selected **Send call type and extension number**. Finally, each voice mail port is added to a workgroup called Voice Mail, at extension 300 (for more on setting up workgroups, see "Creating a Workgroup" on page 7-4).
- Both Frank and Miri have a routing list that rings them first at their own extensions, and then sends calls to the workgroup Voice Mail at extension 300. Any calls for Frank and Miri that they do not pick up go to the first available voice mail port in the workgroup.

Note: In the previous example it is highly recommended that you use more than one voice mail device. A single device at extension 300, for example, can only handle one call at a time—either a user checking for voice messages or an external caller leaving a message. If a second call comes in to the device while it is busy, the second call goes to the final action of extension 300's routing list, which may be TeleVantage's voice mail, or any other final action that you configured.

Using the previous example again for illustration, the possible DTMF combinations that may be sent to one of the voice mail systems are described in the next table. In all cases, the call is handled by the first available voice mail device in the workgroup Voice Mail.

Type of call	DTMF digits sent
<p>An external caller calls Voice Mail directly at extension 300 in order to leave a message for a user.</p> <p>For a direct external call, the DTMF digits do not contain any information about the extension that was dialed. The caller follows the prompts offered by the device to identify the user who will receive the message.</p>	<p>"1"</p>
<p>Frank Smith at extension 101 calls Voice Mail directly at extension 300 in order to retrieve his voice messages.</p> <p>For a direct internal call, the DTMF digits identify Frank's extension. The voice mail device can send Frank directly to his own voice mailbox.</p>	<p>"2101#"</p>
<p>An external caller calls Miri Anatolia at extension 102. If there is no answer or a busy signal at extension 102, the call rings Voice Mail at extension 300.</p> <p>For an external call re-routed by a routing list, the DTMF digits contain Miri's extension. The voice mail device can send the caller directly to Miri's voice mailbox to leave a message for her.</p>	<p>"5102#"</p>
<p>Frank Smith at extension 101 calls Miri Anatolia at extension 102. If there is no answer or a busy signal at extension 102, the call rings Voice Mail at extension 300.</p> <p>For an internal call re-routed by a routing list, the DTMF digits contain Frank's and Miri's extensions. The voice mail device can send Frank directly to Miri's voice mailbox where he can leave her a message, and he may be identified as the sender.</p>	<p>"6102#101#"</p>

The TeleVantage SDK

The TeleVantage SDK is a powerful set of software libraries that programmers can use to achieve the tightest possible integration between their applications and the TeleVantage Server. A programmer can use the SDK to integrate custom voice and call processing applications such as:

- Order processing systems with interactive voice response (IVR)
- Customer identification and screen pop applications
- Smart operators that transfer calls based on Caller ID or other information
- Automatic customer support call handling
- Custom applications that monitor the status of TeleVantage devices
- Anything the Client can do

For complete information about the SDK, see *TeleVantage SDK Developer's Guide*.

Applications that use the TeleVantage SDK can be created by programmers who have experience with a Windows programming platform such as Visual Basic, Visual C++, or Delphi. Artisoft maintains a list of consultants qualified to develop applications using the TeleVantage SDK.

Most custom applications can use TAPI or in-band signaling (as described in “In-band signaling applications” on page 14-3) to perform Caller ID and call control. Applications that need to perform interactive voice-processing tasks (collecting and interpreting touch tone digits, playing and recording voice files, generating spoken messages, and so on) require that you use the IVR Plug-in API (see “Developing IVR Plug-ins” on page 14-10 for details).

Installing the TeleVantage SDK

The TeleVantage SDK consists of sample programs and Help files as well as the software libraries that programmers will use to integrate their applications with TeleVantage. You can print *TeleVantage SDK Developer's Guide* (TVSDK.PDF) and provide it to programmers.

To install the TeleVantage SDK

1. Run the TVSDK.exe program located in \TeleVantage on the TeleVantage master CD.
2. Follow the instructions in the TeleVantage SDK Setup window.

The TeleVantage SDK Application Programming Interfaces

The TeleVantage SDK consists of three APIs (Application Programming Interfaces) that can be incorporated into custom applications. Each API is a software library that the application can use to access specific functions and data within TeleVantage. The following APIs are provided:

- **The Client API.** Using the Client API, applications can perform any operation that the Client can perform, including all call handling and interacting with the TeleVantage Server database.

- **The IVR Plug-in API.** Using the IVR Plug-in API, programmers can tightly integrate a custom application with the TeleVantage Server to perform complex call-handling or voice-processing tasks (order entry, customer service, e-mail readers, and so on). The application (called an IVR Plug-in) is a virtual extension on the TeleVantage Server. The IVR Plug-in can be dialed from a phone or auto attendant, called from an internet trunk, or have calls forwarded or transferred to it, just like a regular extension assigned to a user.
- **The Device Status API.** Using the Device Status API, an application can monitor the status of all devices on the TeleVantage Server. For example, it can monitor current users on the system, obtain the name of a user currently logged on at a station, or identify the trunk to which a station is connected. The application can generate custom reports concerning the calls handled by TeleVantage.

The remainder of this chapter provides an overview of each API. For more detailed information, see *TeleVantage SDK Developer's Guide*, which is available in the \Manuals directory on the TeleVantage master CD.

The Client API

The Client API is an extensive collection of the COM objects used to write the TeleVantage Client. It contains objects that are typically used to interact with the TeleVantage Server database and the call-processing engine. Using the objects available in the Client API, your applications can use any function found in the TeleVantage Client.

The IVR Plug-in API component and sample applications

The IVR Plug-in API enables a custom application to function as a virtual extension on the TeleVantage Server. The application (called an IVR Plug-in) can act just as if it were using a regular extension assigned to a user. IVR Plug-ins run on the TeleVantage Server and are assigned an extension in the TeleVantage Administrator's IVR Plug-in view. Programmers use the IVR Plug-in API to get notification of new calls from the TeleVantage Server, retrieve Caller ID, DID, or other call data, and then optionally perform any voice processing (get digits, play or record greetings, perform database lookups, and so forth) by using the Plug-in API's built-in voice processing commands to play files, get digits, play tones, etc. After an IVR Plug-in finishes processing the call, it can hang up or transfer the call back to any TeleVantage extension, auto attendant, voice mail box, or even another IVR Plug-in. IVR Plug-ins can also make outbound calls, which can be useful for predictive dialing applications.

The IVR Plug-in API is exposed to your applications through a TeleVantage software component. Sample applications are provided to illustrate how the IVR Plug-in API is used.

- **TVIVRLib type library.** This software component exposes the IVR Plug-in API so your applications can use it to process calls. The library is contained in *tvivr.tlb*, which is located in the \Program Files\Common Files\Artisoft\TeleVantage directory when you install the TeleVantage Server or install the TeleVantage SDK.

Several sample IVR Plug-ins written in Visual Basic 6.0 are installed with the TeleVantage SDK. The samples are provided in two versions: PlugInMedia samples that use the Plug-in API's built-in voice processing capabilities and CallSuite samples that require Intel's Call Suite for voice processing. By default, all samples are located in either the \Program Files\TeleVantage SDK\PluInMedia or \Program Files\TeleVantage SDK\PluInMedia directories. You must have Visual Basic 6.0 installed to use the sample programs as is, or modify them to meet your needs. The following samples are provided:

- **First.** This small IVR Plug-in demonstrates the most basic layout and design of an IVR Plug-in for a telephony server. It answers a call, plays a file, and then returns the caller to the active routing list.
- **CustID.** This IVR Plug-in demonstrates how to transfer customers to different agents automatically, based on the customer's area code obtained from their caller ID or their customer record. It also includes a CustomerID database manager to maintain the Customer and Agent database tables accessed by the CustomerID IVR Plug-in. The program can be used to customize the customer and agent data for your location.
- **OutBound.** This sample includes two IVR Plug-ins (PlaceCall and ReceiveCall) that demonstrate how an IVR Plug-in (PlaceCall) can place outbound calls that are handled by the ReceiveCall Plug-in. It then plays a voice prompt, and then transfer the calls to a TeleVantage user.
- **OrderStatus.** This IVR Plug-in answers calls, prompts the caller for their 5 digit order number, searches a Orders database for a matching record and then reads back the order status, e.g. *"Your order number [12345] was shipped on [December 31, 2002] and totalled [\$123.56]"*

Developing IVR Plug-ins

The TeleVantage SDK allows a programmer to integrate an application with the TeleVantage Server, including the ability to perform tasks such as dialing a phone number, interpreting touch tone digits, playing or recording voice files, or generating spoken messages. It also allows you to use telephony toolkits such as CallSuite to perform actions such as text-to-speech synthesis, voice recognition, accurate call progress analysis and faxing (which the IVR Plug-in API does not perform).

Telephony toolkits can be used to build applications such as:

- Order entry systems
- Benefits enrollment hotlines
- Real estate fax lines
- Voice mail and paging systems
- Product literature fax-on-demand systems
- Movie rating and information lines
- Talking classifieds
- Predictive dialers

- Golf tee reservation systems
- Ski condition hotlines

IVR Plug-in licensing

IVR Plug-ins are licensed at runtime and count against your Station licenses. Your system may be configured to support an unlimited number of IVR Plug-ins, but each simultaneous call to an IVR Plug-in will consume one Station license for the duration of the call.

For example, if you have a system with 16 Station licenses, and 15 of those stations are assigned to users, you have one free Station license that can be applied to calling an IVR Plug-in. If one person makes a call to an IVR Plug-in, and during the call another user makes a call to the same or a different IVR Plug-in, at that point the caller hears a message that the extension is not available, and an error is logged to the TeleVantage Server's Windows NT/2000 Event Log saying that the license count has been exceeded.

Note: If you use Callsuite, additional Callsuite licenses will apply. See Callsuite's documentation for more information.

The Device Status API

The Device Status API provides functions that allow an application to monitor the status of all devices (stations and trunks) on a TeleVantage Server. The application can obtain the device name, number, hook state, current activity, and extensions for each device on the system. Each extension can be examined for the extension number, the user's name, and whether the extension is in a Do Not Disturb personal status. Using these functions, the application could:

- Monitor current users on the system and maintain a call log in a format customized for your special needs.
- Obtain a current list of users permanently assigned to a station.
- Obtain the name of a user currently logged in at a station.
- Identify the trunk to which a station is connected.

All Device Status information is read-only. The API can be used in combination with the IVR Plug-in API to provide IVR applications with device information.

The Device Status sample program

The Device Status sample program is a Visual Basic project for a simple device monitor that displays a constantly updated list of status reports on each device in the system. Programmers can use this sample program as a starting point for their own applications, expanding and customizing it as desired. It requires no hardware or software beyond what is already required for the TeleVantage Server and Visual Basic.

Appendixes

TELEVANTAGE CONFIGURATION SETTINGS

CHAPTER CONTENTS

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About TeleVantage configuration settings

This appendix lists the TeleVantage configuration settings that store information that is rarely changed, or that cannot be changed using the Administrator.

There are two ways to edit TeleVantage's advanced configuration settings:

- Editing the Windows registry. See the next section. Many configuration settings are stored in the Windows registry on the Server computer and on client computers where one or more TeleVantage workstation applications are installed. Some settings are stored at the machine level and apply to all users on that machine while others are stored for the current user. The Windows registry settings can be edited using `Regedit.exe` or `Regedt32.exe`.

Note: In this chapter, `HKLM` is the abbreviation for `HKEY_LOCAL_MACHINE` and `HKCU` is the abbreviation for `HKEY_CURRENT_USER`.

- Using the TeleVantage Advanced Settings Editor. This TeleVantage application allows Administrators to edit settings that are stored in the TeleVantage database. See "Using the TeleVantage Advanced Settings Editor" on page A-31.

Note: In this chapter, all registry entries are shown as decimal, rather than hex, values. In RegEdit the default entry format is hex.

TeleVantage Server registry settings

Many registry settings are set at installation time. In this appendix, the default values shown for registry settings refer to the values that will be used when there is no registry entry, not to defaults set by the TeleVantage installer.

One TeleVantage Server registry setting is found (or can be created) under the following registry key:

`HKLM\Software\Artisoft\TeleVantage\`

..\Artisoft\TeleVantage

COMPANY

STRING value sent to incoming IP callers who are directed to an auto attendant or IVR Plug-in. Some terminals such as NetMeeting will be able to display this name in their user interface. Calls that go directly to users will use the user's name instead. Note that this value is written by the installer. This setting takes effect when `SendDisplayOnAnswerCall` (see page A-6) is non-zero. See also `Q931DefaultSourceName` on page A-5.

Default is "TeleVantage".

One TeleVantage Server registry setting is found under the following registry key:

HKLM\Software\Artisoft\System\

..\Artisoft\System

LOCKOUTRESETINTERVAL

DWORD value that sets the time frame in which multiple failed logon attempts must occur to result in a lockout (see “Increasing password security” on page 3-16). The value is in minutes and by default is set to 30. Increasing the value means that lockout will be more likely, while decreasing the value means that lockout will be less likely. A value of 0 will result in lockout never occurring.

Default is 30 minutes.

The TeleVantage Server registry settings in the following list are found (or can be created) under the following registry key:

HKLM\Software\Artisoft\TeleVantage\Server\Settings

..\Server\Settings

AnalogMinTrunkOnhookTime

DWORD value specifying the minimum on-hook time in milliseconds before the trunk will be used for another outbound call.

Default is 3000 milliseconds.

BCPComPort

DWORD value specifying the COM port used to connect to the BCP panel for Watchdog mode. The watchdog signal is transmitted by TeleVantage over a serial cable that connects the PC COM port to the “RS-232 Watchdog Signal” port on the connection panel.

Default is 1, indicating that the serial cable is connected to the COM1 port. If you are using the COM1 port for another device, such as a mouse, change this setting to 2 and use the COM2 port.

DbCacheInterval

DWORD value specifying the number of minutes between database cache refreshes.

Default is 5 minutes. Setting to zero turns off cache refreshes.

DisableDevices

See “Disabling Dialogic devices” on page A-15 for details.

Default is 0.

..\Server\Settings\

EnableIPLogin

DWORD value specifying whether or not to enable IP caller login.

Default is 1 (login is enabled).

EmptySentItemsFolder

DWORD value specifying whether or not to purge the Sent box in a Lotus Notes-based e-mail system each time an e-mail notification includes an attached voice message. If you are not using an e-mail system based on Lotus Notes, you do not need to define this setting. For more information, see "Using Lotus Notes for e-mail notification" in *Installing TeleVantage*.

Default value is 0 (Sent box should not be purged). A value of 1 indicates that the Sent box should be purged.

LogHours

DWORD value specifying the number of hours to log. The Server will adjust NumLogs based on available disk space. Set to 0 and the Server will not adjust logging settings. A different value may be specified during installation.

LogPath

STRING value specifying the subdirectory in which TeleVantage Server log files (Tvlogxxx.TXT) will be created. If this registry value does not exist, or points to an invalid directory, Server logging will be disabled.

Default path is: "" (empty string).

MaxNonSilence

DWORD value specifying the maximum length of uninterrupted sound (in 10 ms units) that will be recorded before the recording is terminated.

Default is 0 (no time-out).

MinDiskFreeSpace

DWORD value specifying the minimum amount of disk space (in megabytes) that must be available for logging and saving voice messages. If the minimum amount is not available, no logging will occur and no voice messages will be saved.

Default value is 50MB.

MonitorInterval

DWORD value specifying the interval in minutes between TeleVantage Device Monitor checks for devices that are not responding.

Default is 1 minute.

..\Server\Settings\

Monitortimeout

DWORD value in milliseconds. If a device has not responded for this length of time, TeleVantage checks the `MonitorRestart` setting to see if the device should be restarted, and adds the message "Device %1 is not responding" to the Windows Event Log.

Default is 300000 milliseconds (5 minutes).

MonitorRestart

DWORD value. If this value is non-zero, the system will attempt to restart a nonresponding device after the interval specified by `Monitortimeout` is exceeded. A non-zero setting can cause problems when a device is not responding, because it can result in slow database access.

Default is 0 (system will not attempt to restart the device).

NumLogs

DWORD value specifying the number of TeleVantage Server log files (`Tvlogxxx.TXT`) kept before they are overwritten.

Default is 1. A different value may be specified during installation. To disable logging, set to 0.

PartyCustomDataMax

DWORD value specifying the maximum size allowed (in bytes) for custom data attached to each party. If a Client attempts to set custom data for a party that exceeds this size, the attempt will be disallowed.

Default is 10000 bytes.

Q931DefaultSourceName

STRING value used when forwarding incoming PSTN calls without Caller ID to an Internet Address or IP Gateway service. The IPLink drivers will substitute the string "Name" unless another string is provided in the source address. This key should have the same value as the `Company` setting (see page A-2).

Default is "TeleVantage".

..\Server\Settings

SendDisplayOnAnswerCall

DWORD value specifying whether or not to display the company or user name to inbound Internet callers. You may need to disable this setting to use certain IP boards that do not support this feature.

Default is 0 (automatic), specifying that all boards except the IP041 boards provide a display string when answering a call. A setting of 1 always provides a display string. A setting of 2 never provides a display string.

TruncateRecordings

DWORD value specifying whether or not TeleVantage should truncate extra silence at the end of voice message recordings.

Default is 1 (silence is truncated). A value of 0 specifies that extra silence is not truncated.

UnknownCallerName

STRING value specifying the name to display in the call log when the actual caller name is unknown.

Default is "Unknown".

UseConferencesForEchoCancellation

DWORD value specifying whether or not TeleVantage uses additional echo cancellation and gain control to improve the audio quality of forwarded calls on analog trunks. In particular, this feature can improve audio quality for the D/120-JCT board. However, the feature uses a conference resource when it connects an analog trunk to another trunk. It also may decrease call volume on some Dialogic ISA boards.

If you have PCI analog trunk boards, you must set the Receive Gain of those boards appropriately depending on whether the feature is on or off. If the feature is on, set the Receive Gain to P1. If the feature is off, set the Receive Gain to N1. For instructions on changing Receive Gain, see *Installing TeleVantage*. Note that if you have ISA analog trunk boards, you do not need to change Receive Gain.

When set to 0, the feature is off.

When set to 1, the feature is on.

..\Server\Settings

UseDedicatedVoiceDevices

DWORD value specifying whether or not TeleVantage will allocate dedicated voice devices when it allocates a voice device. When the Server requires a voice device (for playing/recording audio, or playing/detecting tones), it attempts to allocate one in the following order:

- Allocate a shared voice device.
- Allocate a dedicated, disconnected voice device (i.e. attached to LSI front end that is not plugged in).
- If UseDedicatedVoiceDevices is enabled, allocate a dedicated, connected voice device.

Default is 1 (enabled. Server will attempt to allocate dedicated voice devices if necessary). A value of 0 disables this setting.

UserVoxPath

STRING value specifying the path for local user voice prompts. Path string must end in a backslash.

Default is set during installation.

VoxHighEventInterval

DWORD value specifying the time interval (in milliseconds) for generating the Event log message "No Voice Resource Available."

Default is 800000 (15 minutes).

WaitLoopCurrenttimeout

DWORD value specifying the number of milliseconds to wait for loop current before dialing an outside number. Set this to zero to skip loop current checks when making outbound calls.

Default is 1400 milliseconds.

TeleVantage Workstation applications registry settings _____

All supported TeleVantage workstation registry settings are found (or can be created) under the registry keys presented in this section. The workstation application settings are divided into those that apply to the current user (in the next section) and those set for the local machine (beginning on page A-9).

Current User Settings

The workstation application settings in this section are located in HKEY_CURRENT_USER..

HKCU\Software\Artisoft\TeleVantage\Client

..\Client

ShowStatusBarServerInfo

DWORD value specifying whether the Client displays on the status bar the name of the Server to which it is connected. A setting of 0 does not display the Server name; a setting of 1 does display it.

Default is 0 on installation.

HKCU\Software\Artisoft\TeleVantage\Client\Admin\App

..\Client\Admin\App

LoggedInUserId

STRING value indicating the ID of the user who last logged in.

Default is "" (empty string) on installation.

HKCU\Software\Artisoft\TeleVantage\Client\Layout

..\Client\Layout

RedrawMode

DWORD value used to control the "flicker" effect in the Client display. The default setting of 1 (Normal) is less CPU-intensive but may result in a flicker. A setting of 2 (Buffered) eliminates the flicker, but performance may suffer.

Default is 1 on installation.

HKCU\Software\Artisoft\TeleVantage\Client\Logon

..\Client\Logon

Address

STRING value specifying the user's station ID.

Default is "0".

AutoLogon

DWORD value specifying whether or not autologon is on.

Default is 0 (false).

..\Client\Logon

Database

STRING value specifying the name of the database.

Default is "TVDB".

History

STRING value specifying the list of recently logged in users. Specify an empty string to clear the list.

Default is "" (empty string).

Server

STRING value specifying the name of the TeleVantage Server computer. May be either a NetBios name (for example, "TeleVantage") or an IP Address (for example, "123.12.76.102").

Default is "" (empty string).

Username

STRING value specifying the user's TeleVantage login name.

Default is "" (empty string).

HKCU\Software\Artisoft\TeleVantage\Client\Call Monitor

..\Client\Call Monitor

PersistentSort

DWORD value specifying how the Client's Call Monitor displays newly arriving calls, after the view has been sorted by clicking on a column header. A setting of 1 turns on persistent sorting, so that newly arriving calls appear in the correct place according to the sort order. A setting of 0 turns off persistent sorting, so that new calls always appear on the bottom row. After a call appears on the bottom row, you can click a column header to sort the new call correctly with the others.

Note that turning on persistent sorting can result in slower Client performance.

Default is 0 (persistent sorting off) on installation.

Local Machine Settings

The workstation application settings in this section are located in HKEY_LOCAL_MACHINE.

HKLM\SOFTWARE\Artisoft\TeleVantage\Client\SecBridge

..\Client\SecBridge

MaxTraceFileSize

DWORD value specifying the maximum size (in bytes) of the SecBridge log file.

Default is 1 mb.

TracePath

STRING value specifying the path at which SecBridge log files are created.

Default is Program Files/Common Files/<Company><Product Name>/Logs

OutputToTraceFileOn

DWORD value specifying whether tracing should go to a file on disk.

Default is 1 (yes)

MaxRevisions

DWORD value specifying the number of log file revisions.

Default is 5.

HKLM\SOFTWARE\Artisoft\TeleVantage\Client\Server

..\Client\Server

Pingtimeout

DWORD value specifying the ping time-out duration. If this is not set to 0, users who log on to the Terminal Server remotely will need administrator permissions to run the Client (see “Installing the Client on Microsoft Terminal Server” in *Installing TeleVantage*).

Default is 5000 milliseconds.

HKLM\SOFTWARE\Artisoft\TeleVantage\Client\TSP

..\Client\TSP

HangUpCalls

DWORD value specifying whether or not the current user can hang up calls in a TAPI client application that is using the TeleVantage TAPI Service Provider (“TSP”). This setting is important for GoldMine users.

Default is 1 (Clients can hang up calls using TAPI functions). A setting of 0 will prevent Clients from hanging up calls via TAPI.

..\Client\TSP

ServerPingInterval

DWORD value specifying how often the TAPI Service Provider validates the connection to the TeleVantage Server. If the connection is lost, the TSP tries to reconnect.

If the Server is restarted, there is a maximum delay of about 10 minutes before the CMA, for example, will start popups again for incoming calls.

Default is 10 minutes.

TraceMaxRevisions

DWORD value specifying the maximum number of backup log files that will be generated on this machine before the TeleVantage TAPI Service Provider (“TSP”) starts overwriting the oldest files.

Default is 10 log files.

TraceToFile

DWORD value specifying whether or not the TSP will log activity for this user to a disk file.

Default is 1 (TSP will log).

TraceDirectory

STRING value specifying the path to the TSP log file folder.

Default is the \Logs subdirectory of the TeleVantage Client install folder.

TraceLevel

DWORD value specifying a number used to limit logging output from the TSP. The higher it is, the more events will be logged.

Default is 10 events.

..\Client\TSP\Logon

Address

STRING value specifying the station ID that the TAPI Service Provider (“TSP”) will monitor for incoming calls. TAPI client applications are notified of all calls to this station.

The user can set and change this value using the TeleVantage TAPI Configuration Wizard.

No default. Must be set before the TSP can run.

Server

STRING value specifying the name of the TeleVantage Server computer to which the TSP will call. May be either a NetBios name (for example, “TeleVantage”) or an IP Address (for example, “123.12.76.102”).

The user can set and change this value using the TeleVantage TAPI Configuration Wizard.

No default. Must be set before the TSP can run.

TeleVantage Server language locale settings

TeleVantage currently uses the following locale codes:

EN00	U.S. English
EN10	U.K. English
ES00	Latin American Spanish

HKLM\SOFTWARE\Artisoft\TeleVantage\Server\TUI

..\Server\TUI

DefaultLocaleCode

STRING value specifying the default locale code.

Default value is determined during installation.

Locale definitions

Each installed locale code has its own set of registry entries, as follows:

HKLM\SOFTWARE\Artisoft\TeleVantage\Server\TUI\<LocaleCode>

..\Server\TUI

Description

STRING value specifying the language description for this locale code.

Defaults are: EN00 = "US English", EN10 = "UK English", ES00 = "Latin American Spanish".

LocaleDLL

STRING value specifying the DLL to use for this locale code.

Defaults are: EN00 = "TVLEN00.DLL", EN10 = "TVLEN10.DLL", ES00 = "TVLES00.DLL".

SentenceFile

STRING value specifying the sentence file for this locale code.

Defaults are: EN00 = "TVLEN00.INI", EN10 = "TVLEN10.INI", ES00 = "TVLES00.INI".

VapFile

STRING value specifying the system voice file for this locale code.

Defaults are: EN00 = "TVLEN00.VAP", EN10 = "TVLEN10.VAP", ES00 = "TVLES00.VAP".

Defining custom tones

Custom tones can be defined for incoming fax detection and disconnect detection. You can define one incoming fax tone and up to ten different disconnect tones under the following Windows NT registry keys:

```
HKLM\SOFTWARE\Artisoft\TeleVantage\Server\ToneDefinitions  
  \IncomingFaxTone
```

```
HKLM\SOFTWARE\Artisoft\TeleVantage\Server\ToneDefinitions  
  \DisconnectTone<n>
```

where <n> is a digit from 1 through 9 (for example, \DisconnectTone1, \DisconnectTone2, and so forth).

Custom trunk disconnect detection tones are used in installations where a PBX sits between the central office and TeleVantage, and where the PBX provides a tone to indicate trunk hangup. By default, defines a DisconnectTone1 as a fast busy tone.

After you enter custom tones, you must restart the TeleVantage Server. At startup, TeleVantage will read the definitions for all custom tones and define them to the Dialogic drivers.

Each custom tone is defined by the DWORD values of the keys listed in the following table.

Custom Tone Keys	
Key	Description
freq1	First frequency (in Hz) for the tone
freq1dev	Allowable deviation for the first frequency (in Hz)
freq2	Second frequency (in Hz) for the tone
freq2dev	Allowable deviation for the second frequency (in Hz)
cadence	1 = cadenced tone, 0 = noncadenced tone
minrep	Number of repetitions for the cadence (that is, the number of times that the on/off signal is repeated)
dualtone	1 = dualtone, 0 = single tone
cadenceon	Length of time for which the cadence is “on” (in 10ms units)
cadenceon_dev	Allowable deviation for “on” time (in 10ms units)
cadenceoff	Length of time for which the cadence is “off” (in 10ms units)
cadenceoff_dev	Allowable deviation for “off” time (in 10ms units)
leadingedge	1 = tone detection on leading edge, 0 = on trailing edge

Example: Defining a disconnect tone

The keys in the next table are DWORD values that define the default disconnect tone for TeleVantage. The tone has the following characteristics:

- A Dual Tone Frequency with a first frequency of 450Hz – 510 Hz (that is, 480 +/- 30) and a second frequency of 580ms – 660ms (that is, 620 +/- 40)
- On and off times are both between 200ms – 300ms (that is, 250ms +/- 50ms)
- Cadence must repeat 2 times
- Cadence begins on the leading edge of the tone

Custom Tone Keys		
Key	DWORD	Description
freq1	480	First frequency (in Hz) for the tone
freq1dev	30	Allowable deviation for first frequency (in Hz)
freq2	620	Second frequency (in Hz) for the tone
freq2dev	40	Allowable deviation for second frequency (in Hz)
cadence	1	1 = cadenced tone, 0 = noncadenced tone
minrep	2	Number of repetitions for the cadence
dualtone	1	1 = dualtone, 0 = single tone
cadenceon	25	Time for which cadence is “on” (in 10ms units)
cadenceon_dev	5	Allowable deviation for “on” time (in 10ms units)
cadenceoff	25	Time for which cadence is “off” (in 10ms units)
cadenceoff_dev	5	Allowable deviation for “off” time (in 10ms units)
leadingedge	1	Tone detection: 1 = leading edge, 0 = trailing edge

Disabling Dialogic devices

By default TeleVantage allocates and opens all Dialogic devices that are present on the Server for itself. If you do not want TeleVantage to allocate all of the available devices, use the procedure described later in this section to disable the Dialogic devices.

You might need to disable Dialogic devices for any of the following reasons:

- **Disable devices to allow non-TeleVantage applications to run on the TeleVantage Server.** For example, you may have another CT application installed on the TeleVantage Server that must own some Dialogic devices. You would identify the specific Dialogic devices and channels required by the CT application, and then disable those devices. When TeleVantage opens Dialogic devices at startup, it will ignore the disabled devices, making them available to the CT application.

Note: You do not need to reserve devices when developing an IVR Plug-in, which will automatically share TeleVantage's Dialogic resources as needed.

- **Disable devices to connect a fractional T1 or E1 line to TeleVantage.** For example, you may have a T1 line with 12 channels instead of 24. To connect this T1 line to TeleVantage, you still connect it to a Dialogic card with 24 channels, but you disable half of the channels. When TeleVantage starts, it will see 12 instead of 24 trunks, which will match the fractional T1 line. You must be sure to disable the correct half, for example, trunks 1-12 or trunks 13-24, whichever matches the fraction of the T1 line you have.
- **Disable devices to ignore several trunks on a telephony board and use its voice processors only.** For example, you may want to support a 1T1-by-24-station configuration in the minimum number of slots. The best way would be to install a D480SC-2T1 card that supports two T1 lines and 48 voice processors in one slot, and an MSI240 board to support 24 stations in a second slot. You would install the 2T1 line card even though you only have one T1 line because the D480SC-2T1 card has 24 extra voice processors that you can use to provide dial tone and voice prompts for the 24 stations. Installing a D240SC-T1 card and a D240SC card for the voice processors would require more slots. For this configuration, you would disable the network resources for the second T1 line on the D480SC-2T1 card. TeleVantage will not see them when starting up, but it will see all the voice processors.

To disable Dialogic devices in the Windows registry

1. Using the conventions described in “Dialogic device names” on page A-18, determine the device names for the Dialogic devices you want to disable.
2. Run Regedit.
3. Create the following key (if it does not already exist):
 - HKLM\SOFTWARE\Artisoft\TeleVantage\Server\Settings
4. Create a string value under Settings named DisableDevices.
5. Set the contents of DisableDevices to a comma-separated list of the device names you are disabling.

For example, to disable the third and fourth channels on the first telephony board in a system, set the contents of DisableDevices as follows:

```
DXXXB1C3,DXXXB1C4
```

To disable all the channels on a board, set DisableDevices to the board name without any channel, for example:

```
DXXXB1
```

6. Save the changes to the registry.

Note: If you add or remove Dialogic boards, you must update the DisableDevices list.

Disabling Dialogic conferencing resources

By default, TeleVantage may utilize any Dialogic board in the system to perform conference calls. Some boards support more parties in a conference than others, and if a conference call grows too big for the board currently handling it, TeleVantage will automatically switch to a higher-capacity board. By altering registry settings, you can disable the conferencing resources of individual Dialogic boards so that they are never used for conference calls by TeleVantage. One reason to do this would be to keep a board's conferencing resources free for use by another application, while still enabling its station resources to be used by TeleVantage.

To see how many conference call parties a given Dialogic board can support, see *Installing TeleVantage*.

To disable a Dialogic board's conference resources in the Windows registry

1. Run Regedit.
2. Create the following key (if it does not already exist):

HKLM\SOFTWARE\Artisoft\TeleVantage\Server\Settings\DisableDevices

3. Create a string value under `DisableDevices` for the board whose conference resources you want to disable. The values are as follows:

Board	Value	where
MSI station boards	/MSIConfBn	n is the board number
DMV/2400/A DI/Hi station boards	DCBConfBnDy	n and y are the board number

Changing conference board priority

When a conference call is created, TeleVantage chooses which telephony board handles the conference based on a priority setting. The available board with the lowest priority number gets chosen first. If the number of participants in the conference exceeds the capabilities of the current board, the conference is moved to a board that supports the increased requirements, if one is available. See *Installing TeleVantage* for more information regarding telephony boards and their conference capabilities. If multiple boards in the system meet the conference requirements, then TeleVantage chooses the board based the following priority order:

1. Dialogic MSI boards - 100
2. Dialogic DMV boards and DISI boards - 200
3. Toshiba Strata boards - 300

The lower a board's priority number is, the more often it will be used for conference calls. By altering the registry you can change these priorities.

To change the order in which TeleVantage selects boards for conferencing

1. Run Regedit.
2. For each board whose conference priority you want to change, add a DWORD value to the following setting:

HKLM\Software\Artisoft\TeleVantage\Server\\ConfPriority

Name the value as follows, where *n* is the board number:

Board	Value
Dialogic MSI boards	/MSIBoard <i>n</i>
Dialogic DMV and DISI boards	/DCBBoard <i>n</i>
Toshiba Strata boards	/DKTBoard <i>n</i>

3. Set the value to the priority number you want.

Note: The priority between Dialogic DMV and DISI boards depends on which physical PCI slots they are installed in, and the board's ID. If you want to have TeleVantage distinguish these boards based on priority, make sure they are arranged in correct order in your PCI slots. For example, to have TeleVantage use a DISI board before a DMV, make sure that the DISI board is installed in a PCI slot with a lower number than the slot which holds the DMV board. You can also set the board's priority through the registry, as described in this section.

Dialogic device names

Dialogic system software creates standard names for devices and channels within devices. These names are used to open the devices to receive device handles, which are used in all subsequent Dialogic driver functions.

Dialogic telephony board device names

A Dialogic telephony board device name has the form **DXXXBnCn**, where **Bn** is the board number and **Cn** is the channel number. For example, Channel 1 on Board 1 would be named **DXXXB1C1**. If multiple telephony boards have been installed, the board number 1 is assigned to the Dialogic telephony board that was installed in the TeleVantage Server with the lowest board ID. (For information about setting Dialogic board IDs, see *Installing TeleVantage*.) The board number is then incremented by 1 for every four voice ports. The channel number is assigned sequentially starting with 1 each time the board number changes and incremented by 1 for each voice channel. Whenever all the devices on one Dialogic telephony board have been named, the board-numbering sequence continues on the Dialogic telephony board that was installed with the next lowest board ID.

For example, if you installed a Dialogic D/80SC-4LS in the TeleVantage Server with the board ID set to 0 and a D/41ESC with the board ID set to 1, the devices on these boards would have the names shown in the following table.

Board	Board ID	Channel
D/80SC-4LS	0	DXXXB1C1 - LSI/VOX
		DXXXB1C2 - LSI/VOX
		DXXXB1C3 - LSI/VOX
		DXXXB1C4 - LSI/VOX
		DXXXB2C1 - VOX
		DXXXB2C2 - VOX
		DXXXB2C3 - VOX
		DXXXB2C4 - VOX
D/41ESC	1	DXXXB3C1 - LSI/VOX
		DXXXB3C2 - LSI/VOX
		DXXXB3C3 - LSI/VOX
		DXXXB3C4 - LSI/VOX

If you assigned the lower board ID to the D/41ESC board, the devices on the same boards would have the names shown in the following table.

Board	Board ID	Channel
D/41ESC	0	DXXXB1C1 - LSI/VOX
		DXXXB1C2 - LSI/VOX
		DXXXB1C3 - LSI/VOX
		DXXXB1C4 - LSI/VOX
D/80SC-4LS	1	DXXXB2C1 - LSI/VOX
		DXXXB2C2 - LSI/VOX
		DXXXB2C3 - LSI/VOX
		DXXXB2C4 - LSI/VOX
		DXXXB3C1 - VOX
		DXXXB3C2 - VOX
		DXXXB3C3 - VOX
		DXXXB3C4 - VOX

Dialogic modular station interface (MSI) device names

The device name for a Dialogic modular station interface has the form **MSIBnCn**, where **Bn** is the board number and **Cn** is the channel number. For example, Channel 1 on Board 1 would be named **MSIB1C1**. The board number is assigned sequentially starting with 1 and is incremented by 1 for each board. Board number 1 is assigned to the MSI board installed in the TeleVantage Server with the lowest board ID. Board number 2 is assigned to the MSI board installed with the next lowest board ID, and so on. (For information about setting Dialogic board IDs, see *Installing TeleVantage*.) The channel number is assigned sequentially starting with 1 on each board, incremented by 1 for each channel.

For example, if a TeleVantage Server had a single MSI/80SC Dialogic MSI board installed, the MSI devices would have the names shown in the following table.

Board	Channel
MSI/80SC	MSIB1C1
	MSIB1C2
	MSIB1C3
	MSIB1C4
	MSIB1C5
	MSIB1C6
	MSIB1C7
	MSIB1C8

For more information, see the Device Name Assignment technical bulletin on the Dialogic support site at:

<http://support.dialogic.com/tnotes/tnbyos/winnt/tn188.htm>

Dialogic Internet telephony board device names

You can disable Dialogic Internet telephony boards to make them available for non-TeleVantage use, but you cannot disable individual channels on the boards. Board names use the form **DM3Boardn**, where **n** is the board number. The board number is assigned sequentially starting with zero and is incremented by 1 for each board.

Dialogic telephony board settings

Dialogic telephony board settings consist of VoiceBoard keys, which apply to all channels for a specified board number, and VoiceBoard Line keys, which apply to individual channels on the board.

VoiceBoard settings

VoiceBoard keys are located under:

```
HKLM\SOFTWARE\Artisoft\TeleVantage\Server\VoiceBoard<n>
```

where <n> is the Dialogic board number (see “Dialogic telephony board device names” on page A-18 for an explanation of board numbering conventions).

..Server\VoiceBoard<n>		
Key	Default	Description
DXBD_FLASHCHR	&	Flash Character. Character that causes a hook flash when detected.
DXBD_FLASHTM	50	Flash Time. Length of time onhook during flash.
DXBD_MAXPDOFF	50	Maximum Pulse Digit Off. Maximum time loop current may be off before the existing loop pulse digit is considered invalid and reception is re-initialized.
DXBD_MAXSLOFF	25	Maximum Silence Off. Maximum time for silence being off, during audio pulse detection.
DXBD_MINIPD	25	Minimum Loop Interpulse Detection. Minimum time between loop pulse digits during loop pulse detection.
DXBD_MINISL	25	Minimum Interdigit Silence. Minimum time for silence to be on between pulse digits for audio pulse detection.
DXBD_MINLCOFF	40	Minimum Loop Current Off. Minimum time before loop current drop message is sent.
DXBD_MINPDOFF	2	Minimum Pulse Detection Off. Minimum break interval for valid loop pulse detection.
DXBD_MINPDON	2	Minimum Pulse Detection On. Minimum make interval for valid loop pulse detection.
DXBD_MINSLOFF	2	Minimum Silence Off. Minimum time for silence to be off for valid audio pulse detection.
DXBD_MINSLOON	1	Minimum Silence On. Minimum time for silence to be on for valid audio pulse detection.

..\ServerVoiceBoard<n>

Key	Default	Description
DXBD_MINTIOF	5	Minimum DTI Off. Minimum time required between ring-received events.
DXBD_MINTION	5	Minimum DTI On. Minimum time required for rings received event.
DXBD_OFFHDLY	50	Off-hook Delay. Period after off-hook, during which no events are generated (no DTMF digits detected during this time).
DXBD_PAUSETM	200	Pause Time. Delay caused by a comma in the dialing string. Value indicates the number of 10 millisecond units.
DXBD_P_BK	6	Pulse Dial Break. Duration of pulse dial off-hook interval.
DXBD_P_IDD	100	Pulse Interdigit Delay. Time between digits in pulse dialing.
DXBD_P_MK	4	Pulse Dial Make. Duration of pulse dial off-hook interval.
DXBD_R_EDGE	2	Ring Edge. Detection of ring edge: 1 - Beginning of ring 2 - End of ring
DXBD_R_IRD	80	Inter-ring Delay. Maximum time to wait for the next ring (100ms units). Distinguishes between calls. Set to 1 for T-1.
DXBD_R_OFF	5	Ring-off interval. Minimum time for ring not to be present before qualifying as “not ringing” (100 ms units).
DXBD_R_ON	3	Ring-on Interval. Minimum time ring must be present to qualify as a ring (100ms units).
DXBD_S_BNC	4	Silence and Non-silence Debounce. Length of a changed state before Call Status Transition message is generated.
DXBD_TTDATA	10	Duration of DTMF digits for dialing. Value indicates the number of 10 millisecond units.
DXBD_MFMINON	0	Minimum MF On. The duration to be added to the standard MF tone duration before the tone is detected. The minimum detection duration is 65ms for KP tones and 40ms for all other tones. This parameters affects all the channels on the board (10ms units).

..\ServerVoiceBoard<n>

Key	Default	Description
DXBD_MFTONE	6	MF Minimum Tone Duration. The duration of a dialed MF tone. This parameter affects all the channels on the board. Max value 10 (10ms units).
DXBD_MFDELAY	6	MF Interdigit Delay. The length of silence period between tones during MF dialing. This parameter affects all the channels on the board (10ms units).
DXBD_MFLKPTONE	10	MF length of LKP Tone. The length of the LKP tone during MF dialing. This parameter affects all the channels on the specified board. Max value 15 (10ms units).
DXBD_T_IDD	5	DTMF Interdigit Delay. Time between digits in DTMF dialing.
DXBD_MINOFFHKTM	250	Minimum Off-hook Time. Specified in 10ms units.

VoiceBoard channel settings

Channel-level settings are controlled by the VoiceBoard Line registry keys, which are located under:

```
HKLM\SOFTWARE\Artisoft\TeleVantage\Server\VoiceBoard<n1>\Line<n2>
```

where <n1> is the Dialogic board number and <n2> is the channel number (see “Dialogic telephony board device names” on page A-18 for an explanation of board and channel numbering conventions).

..\ServerVoiceBoard<n1>\Line<n2>

DXCH_ADSIALERT_AMPL

DWORD value that specifies the volume of the ADSI alert tone, which is the first Caller ID beep when sending Caller ID with call waiting. The Dialogic default is -13, which is louder than the TeleVantage setting.

TeleVantage default is -23.

DXCH_D_FLAGS

DWORD value for DTMF detection edge select.

Default is 0.

..\Server\VoiceBoard<n1>\Line<n2>

DXCH_DTINITSET

DWORD value that specifies the DTMF digits on which to initiate play on. You can OR values of different DTMF digits to form the bit mask.

Legal values are as follows:

Value	Digit	Value	Digit
-DM_1	1	-DM_9	9
-DM_2	2	-DM_0	0
-DM_3	3	-DM_S	*
-DM_4	4	-DM_P	&
-DM_5	5	-DM_A	a
-DM_6	6	-DM_B	b
-DM_7	7	-DM_C	c
-DM_8	8	-DM_D	d

Default is 0.

DXCH_DTMFTLK

DWORD value for **DTMF Talk**. Sets the minimum time for DTMF to be present during playback to be considered valid. Increasing the value provides more immunity to talkoff/playoff. Set to -1 to disable.

Default is 5.

DXCH_DTMFDEB

DWORD value for **DTMF debounce time**. Maximum length of time in which DTMF can be absent and then come back on again and still be considered the same DTMF tone.

Default is 0.

DXCH_MFMODE

DWORD value for **MF Mode**. A word-length bit mask that selects the minimum length of KP tones to be detected. Possible values:

- **0** - detect KP tone > 40ms
- **2** - detect KP tone > 65ms
- **Greater than 2** - KP tone returned to application during MF detection. Ensures only standard length KP tones (100ms) are detected. If set to 0 any KP tone greater than 40ms will be detected.

Default is 2.

..\Server\VoiceBoard<n1>\Line<n2>

DXCH_MAXRWINK

DWORD value for **Maximum Loop Current for wink**. Maximum time loop current needs to be on before recognizing a wink (10ms units)

Default is 20.

DXCH_MINRWINK

DWORD value for **Minimum Loop Current for wink**. Minimum time loop current needs to be on before recognizing a wink (10ms units)

Default is 10.

DXCH_WINKDLY

DWORD value for **Wink Delay**. The delay after a ring is received before issuing a wink (10ms units)

Default is 15.

DXCH_RINGCNT

DWORD value for **Ring Count**. Number of rings to wait before returning a ring event.

Default is 4.

DXCH_WINKLEN

DWORD value for **Wink Length**. The duration of a wink in the off-hook state (10ms units).

Default is 15.

E1 and T1 board settings

In the following lists, Board<n> refers to a Dialogic board number. See “Dialogic telephony board device names” on page A-18 for an explanation of board numbering conventions.

HKLM\SOFTWARE\Artisoft\TeleVantage\Server\DTIBoard<n>\GlobalCall

..\Server\DTIBoard<n>\GlobalCall

CIDName...

The CIDName settings allow you to customize how your system receives Calling Name Identification on PRI lines. See the next section, “Configuring Calling Name Identification on PRI boards.”

..\Server\DTIBoard<n>\GlobalCall

DumpCallInfo

DWORD value specifying whether or not to include raw call-event information elements from E1 and T1 trunks (ISDN PRI, robbed-bit, CAS) in the TeleVantage Server log (TvLogxxx.txt).

Default is 0, which suppresses the information element logging. Set to 1 to include the information elements in the log.

HandleProgressInd

DWORD value specifying whether TeleVantage uses IE-based audio connection on ISDN trunks. Add for each PRI board in your system. When this feature is turned on, audio is connected on IEs of 1 and 8 on PROCEEDING, SETUP_ACK, and ALERTING.

When set to 0, this feature is turned off. Audio connects on all ISDN calls regardless of Progress IEs.

When set to 1, this feature is turned on. Audio connects on ISDN calls only with the IEs described above.

Default is 0.

InProtocol and OutProtocol

These values define the CAS protocol on E1 boards. For details, see “Manually entering E1 CAS protocols” in *Installing TeleVantage*.

DNISLength

DWORD value specifying the number of expected DNIS (DDI) digits (in milliseconds) to be received by the TeleVantage Server before attempting to process the inbound call.

No default, but the TeleVantage Server attempts to get the DNIS 9 digit string upon notification of an inbound call.

DNISWaitTime

DWORD value specifying the expected DNIS (DDI) time (in milliseconds) that the TeleVantage Server will wait for digits to be received before attempting to process the inbound call.

Default is 2000 milliseconds (2 seconds) after it receives the notification of an inbound call.

..\Server\DTIBoard<n>\GlobalCall

OverlappedDNIS

DWORD value specifying how DNIS digits are delivered on your system. Normally, DNIS digits are delivered completely on the SETUP message. Some European switches deliver DNIS digits one at a time after the SETUP message (overlapped digits).

Set to 0 (the default) if DNIS digits are delivered completely on the SETUP message.

Set to 1 if DNIS digits are delivered as overlapped digits.

Configuring Calling Name Identification on PRI boards

Depending on your ISDN provider, Calling Name Identification is delivered in an Information Element (IE) either when the incoming call is offered (in the SETUP message), or on a subsequent FACILITY message.

This information is controlled via the registry values described below. The default values represent commonly-used settings, but you may need to customize the defaults based on how your provider delivers Calling Name Identification.

Add the following for each PRI board in your system, under:

```
HKEY_LOCAL_MACHINE\SOFTWARE\Artisoft\TeleVantage\Server\DTIBoard1\GlobalCall
```

- **CIDNameOnSetup** (DWORD). Message that contains the calling name field. When set to 0, calling name is delivered in the FACILITY message. When set to 1 (the default), calling name is delivered in the SETUP message.
- **CIDNameIE** (DWORD). IE in which the calling name field is delivered. default is 28 (0x1C).
- **CIDNameOffset** (DWORD). Offset within the IE where the calling name field begins. Default is 14 (0x0E).
- **CIDNameLength** (DWORD). Length of the calling name field within the IE. Default is 15 (0x0F).
- **CIDNameTimeout** (DWORD). Used only when CIDNameOnSetup = 0. Maximum length of time TeleVantage waits for the FACILITY message to arrive. The default, 2000, specifies a 2-second wait.

The following is a sample IE taken from a TeleVantage Server log that conforms to the default CIDNameIE, CIDNameOffset, and CIDNameLength values described above. The IE is displayed in hexadecimal and ASCII:

```
IE: 0x1C: 9F 8B 01 00|A1 17 02 01|01 02 01 00|80 0F 52 4F|42 42 49 4E|53 20 45 4E|47 49 4E 45|45  
".....ROBBINS ENGINEE"
```

BRI board settings

HKLM\SOFTWARE\Artisoft\TeleVantage\Server\BRIBoard<n>\ISDN

..\Server\BRIBoard<n>\ISDN

DumpCallInfo

DWORD value specifying whether or not to include raw call-event information elements from BRI trunks in the TeleVantage Server log (Tvlogxxx.txt).

Default is 0, which suppresses the information element logging. Set to 1 to include the information elements in the log.

DNISWaitTime

DWORD value specifying the expected DNIS (DDI) time (in milliseconds) that the TeleVantage Server will wait for digits to be received before attempting to process the inbound call.

Default is 2000 milliseconds (2 seconds) after it receives the notification of an inbound call.

HandleProgressID

DWORD value specifying whether TeleVantage uses IE-based audio connection on ISDN trunks. Add for each BRI board in your system. When this feature is turned on, audio is connected on IEs of 1 and 8 on PROCEEDING, SETUP_ACK, and ALERTING.

When set to 0, this feature is turned off. Audio connects on all ISDN calls regardless of Progress IEs.

When set to 1, this feature is turned on. Audio connects on ISDN calls only with the IEs described above.

Default is 0.

OverlappedDNIS

DWORD value specifying how DNIS digits are delivered on your system. Normally, DNIS digits are delivered completely on the SETUP message. Some European switches deliver DNIS digits one at a time after the SETUP message (overlapped digits).

Set to 0 (the default) if DNIS digits are delivered completely on the SETUP message.

Set to 1 if DNIS digits are delivered as overlapped digits.

..\Server\BRIBoard<n>\ISDN

PointToPoint

DWORD value specifying whether the board uses point-to-point protocol.

To use point-to-point protocol, set to 1. You must also change the firmware file for the board (see *Installing TeleVantage*).

Default is 0 (Multipoint protocol)

ISDN Megacom service settings

These settings enable you to make outbound international calls using ISDN Megacom service. The first setting is required, and the last two settings are optional.

For each outbound call, TeleVantage checks the dial string to see if it is prefixed with the number specified in **InternationalPrefix**.

If it does not contain the international prefix, the call proceeds like a normal domestic call, and no further steps occur.

If it does contain the international prefix, TeleVantage strips the prefix from the dial string, and then checks whether **InternationalType** and **InternationalPlan** are present. If they are, TeleVantage uses them to override the called number and calling number call parameters.

```
HKLM\SOFTWARE\Artisoft\TeleVantage\Server\DTIBoard<n>\GlobalCall\
MakeCall
```

..\DTIBoard<n>\GlobalCall\MakeCall

InternationalPrefix

STRING value for your international dialing prefix. For example, InternationalPrefix="011".

Default is "011".

InternationalType

DWORD value used to override the called number call parameter.

Default is 1, INTL_NUMBER.

InternationalPlan

DWORD value used to override the calling number call parameter.

Default is 1, ISDN_NUMB_PLAN.

MSI station board settings

HKLM\SOFTWARE\Artisoft\TeleVantage\Server\MSIBoard<n>

..\Server\MSIBoard<n>

CID_FSK_FORMAT

DWORD value specifying the format used by MSI board <n> to send Caller ID information to CLASS phones.

Valid settings are:

- **0** - SDMF (Single Data Message Format) sends the date, time, and 10-digit Caller ID number.
- **1** - MDMF (Multiple Data Message Format) sends the date, time, 10-digit Caller ID number, and 15-digit caller name.
- **2** - UK_MDMF (UK Multiple Data Message Format) sends the date, time, 18-digit Caller ID number, and 20-digit caller name.

Default is 1 (MDMF format).

MSG_DBONTM

DWORD specifying the duration (50 ms units) that stations on MSI board<n> must be on-hook before a hangup is detected. This value should usually be equal to MSG_MAXFLASH + 1.

Default is 21 (1050 milliseconds).

MSG_DBOFFTM

DWORD specifying the duration (50 ms units) that stations on MSI board<n> must be off-hook before an off-hook transition is detected. The valid range is 2 - 20.

Default is 3 (1050 milliseconds).

MSG_MAXFLASH

DWORD specifying the maximum length of time (in 50 ms. units) for stations on MSI board <n> to be on-hook before a hook flash is detected.

Default is 20 (1000 milliseconds).

MSG_MINFLASH

DWORD specifying the minimum length of time (in 50 ms. units) for stations on MSI board <n> to be on-hook before a hook flash is detected.

Default is 6 (300 milliseconds).

..\Server\MSIBoard<n>

VMWI_FSK_FORMAT

DWORD specifying the format used by MSI board <n> to send visual message waiting indication to CLASS phones. Valid settings are:

- **0** - SDMF (Single Data Message Format)
- **1** - MDMF (Multiple Data Message Format)

Default is 0 (SDMF format).

Using the TeleVantage Advanced Settings Editor

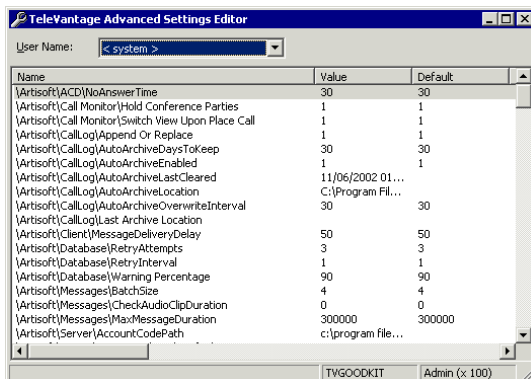
The TeleVantage Advanced Settings Editor is a utility that you can use to view and alter settings for both the Server and individual users. The TeleVantage Server uses a database to store numerous settings. Other TeleVantage settings are stored in the Windows registry of each machine. You must have Administrator permissions to run the TeleVantage Advanced Settings Editor.

Use this utility with extreme caution, preferably under the direction of your TeleVantage provider.

To run the TeleVantage Advanced Settings Editor, start the Administrator and choose **Tools > Advanced Settings Editor**.

Viewing current values

The main window of the program displays a list of all available settings.



- In the **User Name** drop-down list, select a TeleVantage user. In the **Location** column, “User” refers to the user specified here.
- **Name** indicates the path and name of the key.

- **Value** indicates the current value of this key. You can change the value by double-clicking the item and entering a new value in the Edit Setting dialog box, as described in the next section, “Changing key values.”
- **Default** indicates the TeleVantage default value for this key.
- **Location** indicates where the key value will be stored. “User” and “Server” keys are stored in a database on the TeleVantage Server. “Registry” keys are stored in the Windows Registry of the machine on which you are running the TeleVantage Settings program.
- **Type** indicates whether the value is Boolean, Long, or String.

Changing key values

When you double-click on a key listed in the main window, the Edit Setting dialog box opens.

The screenshot shows a dialog box titled "Edit Setting". It contains the following fields and values:

- Name:** \\Artisoft\\App\\MainWindowState
- Value:** 0
- Default:** 0
- Location:** Registry - Current User
- Type:** Long
- Description:** The state of the main window

At the bottom right of the dialog are two buttons: "OK" and "Cancel".

- **Name** displays the name of the key.
- **Value** allows you to change the value of the key by typing a new value and clicking **OK**.
- **Default** displays the default value.
- **Location** displays the location of the key.
- **Type** displays the type of value for this key (Boolean, Long, or String).
- **Description** displays a description of the key.

Modifying other supported TeleVantage settings

Artisoft support is available for the settings described in this section. These settings are stored either as Registry keys on the current computer or as System items on the Server database. Support is not available for other settings except when your TeleVantage provider has specifically instructed you to alter them.

Registry keys on the current computer

audio\temp file dir

STRING value that specifies the directory in which to store temporary files.

Default value is "" (empty string).

audio\VolumePercentage

DWORD value that specifies the percentage to increase the current wave volume on playback or recordings or greetings.

Default value is 35 (increase volume by 35%).

Call Monitor\Hold Conference Parties

DWORD value that specifies whether or not external conference parties may be put on hold.

Default value is 1 (true). A value of 0 would specify that parties may not be put on hold.

Database\Connectiontimeout

DWORD value that specifies the amount of time (in seconds) to wait before timing out when connecting to the database.

Default value is 15 seconds.

Device Monitor\RefreshInterval

DWORD value that specifies the interval (in minutes) between Device Monitor application refresh cycles.

Default value is 5 minutes.

System database settings

ACD\NoAnswerTime

DWORD value that specifies how long to wait after an agent in a call center queue fails to answer a call before offering that agent another call.

Default value is 30 seconds.

System database settings

Server\ACDWrapupTime

DWORD value specifying the number of milliseconds (for ACD group) between when an agent hangs up a call and when the oldest waiting caller is notified that the agent became available.

Default is 4000 milliseconds.

Server\BufferDirCleanupThreshold

DWORD value specifying the threshold age (in days) of old files that the Server automatically deletes from the buffer directory. The Server will delete files as old or older than this setting. Note that many buffer files are created by workstation applications such as the Client, so the threshold should be kept long enough so that workstation applications will be stopped and restarted, ensuring that the remaining files are really unused.

Default value is 10 days.

Server\CPAConnectDelay

DWORD value that specifies the delay in milliseconds after call progress analysis returns the connected result before marking an outbound call as connected. Increasing this value may help discriminate between abandoned and connected calls.

Default value is 2000 milliseconds.

Server\AllowCallsWithoutUsers

DWORD value that specifies whether or not to allow conference calls with no users (that is, all parties have left the conference) and external transfers of external calls.

Default value is 1 (true). A value of 0 would prevent conference calls with no users and external transfers of external calls.

Server\AllowGatewayUserLogin

DWORD value. If this value is non-zero, the system will allow Gateway users to log in from an auto attendant or internal dial tone. Gateway users inherit the permissions of their IP Gateway and usually have the ability to dial external numbers while logged in on a trunk.

Default value is 1.

Server\AudioControlRingtimeout

DWORD value that specifies the maximum time (in milliseconds) that the TVAudio Control will spend attempting to connect before returning with a time-out.

Default value is 30000 milliseconds.

System database settings

`Server\CheckRecipientCallForSetting`

DWORD value. Check both callee and recipient “call for” setting. The callee is the person whom the call is for. The recipient is the person who answers the phone, or, to be more precise, the person who most recently logged in at that station. Note that these can be different people.

Default value is 1 (yes). With this setting (or if the setting is not present), “call for” will be announced if either the callee or the recipient has “call for” turned on. Can be set to 0 (no.)

`Server\DefaultGreetingSize`

DWORD value that specifies default size (in minutes) for greeting space.

Default value is 10 minutes.

`Server\DefaultMailboxSize`

DWORD value that specifies default size for a new mailbox.

Default value is 20.

`Server\Dial911AtDialtone`

DWORD value that specifies whether the emergency number can be dialed at the internal dial tone.

Default value is 0 (no). Can be set to 1 (yes).

`Server\DirectCallsUseFaxTarget`

DWORD value that determines whether incoming faxes on DID calls are diverted to the **Send faxes to** extension for the trunk. When enabled, faxes are diverted, but all trunks on the span must use the same fax target. When disabled, DID calls are always routed to the user whose DID number is being dialed, even when they are fax calls.

Default value is 0 (disabled). Can be set to 1 (enabled).

`Server\DropMonitorsAfterTransferComplete`

DWORD value specifying whether parties supervising a call are disconnected when the call is transferred to another party or parked and unparked by another party. Supervisors are call center agents who have used the **Coach** or **Monitor** command on another agent’s call.

The default is 1 (supervisors are disconnected on transfers).

`Server\E911RingDuration`

DWORD value that specifies the number of milliseconds to ring E-911 stations before dialing out of trunk.

Default value is 4000 milliseconds (4 seconds).

System database settings

Server\ExternalCallOfferingDelay

DWORD value specifying the wait (in milliseconds) before TeleVantage starts call offering on a trunk for routing lists and call forwarding. This setting applies to normal PSTN calls (analog, RB T1, and ISDN). For IP calls where a positive indication of connection is received, use **ExternalCallOfferingDelayConnected**.

Default is 8000 milliseconds.

Server\ExternalCallOfferingDelayConnected

DWORD value specifying the wait (in milliseconds) before TeleVantage starts call offering on a trunk for routing lists and call forwarding. This setting applies to IP calls where a positive indication of connection is received. For normal PSTN calls (analog, RB T1, and ISDN), use **ExternalCallOfferingDelay**.

Default is 100 milliseconds.

Server\InternalDialtoneTrunkFirsttimeout

DWORD value that specifies the dial tone duration (in milliseconds) before the trunk goes to reorder when a user is logged in remotely.

Default value is 180000 milliseconds.

Server\InternalDialtoneTrunkSecondtimeout

DWORD value that specifies the dial tone duration (in milliseconds) after a remote party hangs up before the station goes to reorder when a user is logged in remotely.

Default value is 180000 milliseconds.

Server\InternalDialtoneStationFirsttimeout

DWORD value that specifies the dial tone duration (in milliseconds) before the station goes to reorder.

Default value is 25000 milliseconds.

Server\InternalDialtoneStationSecondtimeout

DWORD value that specifies the dial tone duration (in milliseconds) after a remote party hangs up before the station goes to reorder. If there is a PBX behind TeleVantage that uses the reorder tone as a disconnect tone, you may want to decrease this value.

Default value is 5000 milliseconds.

System database settings

Server\IPVoiceTitleMaxSilence

Sometimes voice titles for IP calls are cut off. This is because latency causes extra silence at the start of the call. This setting allows you to change the Maximum duration of silence allowed in milliseconds.

Default is 2000

Server\LongIdleTime

DWORD value that specifies the minimum duration (in seconds) of a function call or IVR Plug-in before a Windows NT event is generated.

Default value is 21600 seconds.

Server\MaxAutoAttendantLoops

DWORD value that specifies the maximum number of auto attendants to which a call will be routed without the caller pressing a key.

Default value is 3.

Server\MaxRingDuration

DWORD value that specifies the maximum ring duration (in milliseconds) for internal and external calls. The maximum possible value is 999000. Note that for live Operator systems you might want to use the maximum value, to help prevent Operator calls from continuing down the Operator's routing list.

Default value is 120000 milliseconds.

Server\MinimumMessage

DWORD value that specifies the minimum duration (in milliseconds) for voice mail messages. Messages shorter than this are discarded.

Default value is 2000 milliseconds.

Server\MinRingDuration

DWORD value that specifies the minimum ring duration (in milliseconds) for internal and external calls. The minimum possible value is 1000.

Default value is 5000 milliseconds.

Server\MinRingDurationForExternal

DWORD value that specifies the minimum ring duration (in milliseconds) for external calls.

Default value is 12000 milliseconds.

System database settings

Server\MinRingDurationForExternalCallOffering

DWORD value that specifies the minimum ring duration (in milliseconds) for external calls using call offering in routing lists.

Default value is 12000 milliseconds.

Server\MinRingDurationForExternalPadding

DWORD value that specifies the extra time (in milliseconds) that the system adds to ring durations for external calls in routing lists.

Default value is 3000 milliseconds.

Server\MSDEFullPercentage

DWORD value specifying the maximum percentage of MSDE database size allowed, after which the Server will stop logging call data.

Default is 90.

Server\MSDECriticalLimitPercentage

DWORD value specifying the critical limit on the MSDE database size (as a percentage), at which the phone system raises an NT event.

Default is 80.

Server\PageRequestTimeout

DWORD value specifying how much time (in milliseconds) the Server allots, when a user makes a page, to take all paged Cybiolink and Aastra Powertouch phones offhook. (No delay occurs for Strata phones.) At the end of the allotted time the page connection is made with however many phones were successfully taken offhook. Note that if the time is too short, some paged phones will not be taken offhook and will not receive the page.

Default is 10,000 milliseconds.

Server\PageTimeout

DWORD value specifying how much time (in milliseconds) a page can last, following the beep that signals connection. At the end of the allotted time, the page ends automatically.

Default is 30,000 milliseconds.

Server\PageVoxAllocMaxRetryInterval

DWORD value specifying the length of time TeleVantage waits (in milliseconds) to retry taking a phone offhook for a page, after it fails due to lack of voice resources.

Default is 2000 milliseconds

System database settings

Server\PageVoxAllocRetries

DWORD value specifying the maximum number of attempts to take a phone offhook for a page.

Default is 10

Server\PrependVTMessageDuration

DWORD value specifying the length (in seconds) of voice messages beyond which TeleVantage does not automatically prepend the caller's voice title. On short messages, the voice title is sometimes wanted to identify the caller, while on longer messages it is assumed the identification is provided in the message.

Default is 5.5 seconds.

Server\RefreshVMWI

DWORD value specifying the number of milliseconds to wait before refreshing the CLASS phone message waiting lights.

Default is 5000 milliseconds.

Server\PresentExtensionBeforeCallerID

DWORD value specifying how callback is performed on voice messages that have both an extension and a Caller ID number. This can occur when a user calls in from a remote phone, logs in, presses # and dials an internal number, and leaves a message. When set to 0, callback dials the Caller ID number. When set to 1, callback dials the extension.

Default is 0 (dial Caller ID number)

Server\RequireLoginForTUIOnTrunk

DWORD value specifying whether or not TeleVantage will require a user login after pressing ** on a remote phone (trunk ** has the same effect as a station flash).

Default value is 1 (login is required). A value of 0 specifies that login is not required.

Server\RoutingListContinueDelay

DWORD value specifying the time duration a caller has to press # and be advanced to the next action in the routing list.

Default value is 15 seconds.

Server\SendDigitsToStationDelay

DWORD value that specifies the delay (in milliseconds) before sending digits to a station, for example, DID digits.

Default value is 0 milliseconds.

System database settings

Server\TrunkAllocationInterval

DWORD value that specifies the amount of time (in milliseconds) that dialing services wait before trying to allocate another trunk. This is only used when a trunk is not responding. If you decrease this value, you also need to decrease `WaitLoopCurrenttimeout` (see page A-7).

Default value is 1800 milliseconds.

Server\TUIIdleTimeout

DWORD specifying number of milliseconds before the TUI times out. Timeout causes a trunk to hang up. When a station times out, the re-order tone will play and then the station will be disabled until it is hung up.

Default is 120000 milliseconds.

Server\TUITransferRingDelay

LONG value specifying the amount of time (in milliseconds) that the server waits before ringing the recipient's phone on call transfers using the telephone commands. The delay gives the transferer time to hang up when performing a blind transfer. Increasing the ring delay can avoid extra ringing of the recipient's phone that may cause confusion.

Default value is 5000 milliseconds.

Server\UISupportIdleTimeout

DWORD specifying the time in milliseconds before a station goes to dialtone after the Client plays or records audio.

Default is 120000 milliseconds.

Server\VoxLowEventInterval

Minimum Time interval in milliseconds for generating Event logs when a low priority voice resource cannot be allocated. A low priority voice resource is a voice resource used for VMWI and paging.

Default value is -1 (Ignore).

Server\VoxLowBorrowedMinFreeAbsolute

The minimum number of voice resources the system should maintain before allocating a borrowed voice resource for a low priority task. A low priority task is a VMWI or paging task.

Default value is -1 (Ignore).

System database settings

Server\VoxLowBorrowedMinFreePercentage

The minimum percentage of voice resources the system should maintain before allocating a borrowed voice resource for a low priority task. A low priority task is a VMWI or paging task. A setting of -1 means the parameter is ignored.

Default value is 100 (Don't allocate any).

Server\VoxLowSharedMinFreeAbsolute

The minimum number of voice resources the system should maintain before allocating a shared voice resource for a low priority task. A low priority task is a VMWI or paging task.

Default value is -1 (Ignore).

Server\VoxLowSharedMinFreePercentage

The minimum percentage of voice resources the system should maintain before allocating a shared voice resource for a low priority task. A low priority task is a VMWI or paging task. A setting of -1 means the parameter is ignored.

Default value is 50.

Server\VoxLowMaxInstances

The maximum number of voice resources that can be allocated simultaneously in the system for low priority tasks at any point of time. A low priority task is a VMWI or paging task.

Default value is -1 (Ignore).

Server\VoxSysCallRecEventInterval

Minimum time interval in milliseconds for generating Event logs when a voice resource cannot be allocated for System Call Recording. A setting of -1 means the parameter is ignored.

Default value is 900000 (15 minutes).

Server\VoxSysCallRecBorrowedMinFreeAbsolute

The minimum number of voice resources the system should maintain before allocating a borrowed voice resource for System Call Recording.

Default value is -1 (Ignore).

Server\VoxSysCallRecBorrowedMinFreePercentage

The minimum percentage of voice resources the system should maintain before allocating a borrowed voice resource for System Call Recording. A setting of -1 means the parameter is ignored.

Default value is 100 (Don't allocate any).

System database settings

Server\VoxSysCallRecSharedMinFreeAbsolute

The minimum number of voice resources the system should maintain before allocating a shared voice resource for System Call Recording.

Default value is -1 (Ignore).

Server\VoxSysCallRecSharedMinFreePercentage

The minimum percentage of voice resources the system should maintain before allocating a shared voice resource for a System Call Recording. A setting of -1 means the parameter is ignored.

Default value is 10.

Server\VoxSysCallRecMaxInstances

The maximum number of voice resources that can be allocated simultaneously in the system for System Call Recording at any point of time.

Default value is -1 (Ignore).

System\MinAdminBuild

DWORD value that specifies minimum build version number of the Administrator program that is allowed to log on to the Server.

Default value is 0.

System\MinClientBuild

DWORD value that specifies minimum build version number of the Client that is allowed to log on to the Server.

Default value is 0.

System\MinDevMonBuild

DWORD value that specifies minimum build version number of the Device Monitor that is allowed to log on to the Server.

Default value is 0.

COMMAND LINE OPTIONS

Starting TeleVantage from the command line

You can use optional command line arguments to log on to the TeleVantage Administrator or Client using the **Run** command of the **Start** menu, from within an application, or from a Desktop shortcut such as:

```
"C:\Program Files\TeleVantage\Test Admin\TVAdmin.exe" /Server=TVTest  
/station=17
```

Use the command line options shown in this section when logging on.

Command line options

/Server=<Server name>

Name of the TeleVantage Server on your network that you want to log on to. Useful for running a Client or Administrator against a test Server.

If you do not use this option, TeleVantage logs you in using the name of the TeleVantage Server stored in the Windows NT /2000 registry, set when you install TeleVantage.

/station=<station number>

Station ID assigned for this session.

If you do not use this option, TeleVantage logs you on using the station number stored in the Windows NT/2000 registry, set when you install TeleVantage.

/allowmultiple

Allows more than one Administrator or Client to run simultaneously on a machine. If you do not use this option, TeleVantage allows one instance of the Administrator or Client to run on a machine.

/user=<user name>

User name under which you want to log on.

If you do not use this option, the Administrator or Client prompts you for your user name at startup.

/password=<password>

Password for the user account you use to log on.

If you do not use this option, the Administrator or Client prompts you for your password at startup.

Command line options

`/backup`

Administrator only. Performs an immediate online backup of the TeleVantage database using the current System Settings, and then exits the Administrator when the backup is complete. See “Backing up TeleVantage” on page 11-17.

`/sentence`

Administrator only. Enables the **Tools** menu selection Test Sentences, which allows you to listen to system prompts in context over your telephone. See “Testing system prompts” on page 12-10.

PROTECTING YOUR PHONE SYSTEM AGAINST TOLL FRAUD

CHAPTER CONTENTS

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About toll fraud

Businesses using any phone system, not just TeleVantage, are vulnerable to loss of money from unauthorized people "hacking" into their phone system. Hackers make hundreds of outbound long distance or international calls that cost businesses around the world millions of dollars every year. TeleVantage contains several features and options that can dramatically increase the security of your system against toll fraud.

Typical toll fraud strategies

While hackers committing toll fraud try a variety of techniques to gain access to a system, it is important to note that 99% of the time access is gained through insecure (easy-to-guess) passwords. The Administrator's System Settings provide several options for enforcing harder-to-guess passwords. See "The Security tab" on page 3-15.

The following are the most common methods of attempted toll fraud:

- Calling the main auto attendant, pressing #, logging in as the Administrator, pressing # for dial tone and placing outbound calls
- Attempting to log on at every extension (101, 102, etc.) until an extension with an easy password is found. Once found, the hacker will change call forwarding to the external number they want to dial (for example, an international number or the number of another hacked PBX), and then make calls to the external number as needed. By calling through multiple hacked PBXs, Caller ID and traces will be unable to track down the hacker's identity.
- Calling random users and telling them they are a representative from the phone company and need their voice mailbox password to track down a problem with the phone system. Users should be told to never give out their passwords, and if they have reason to believe someone else has it, to change it immediately to something secure.

Identifying Toll Fraud

The following methods will help you tell whether your system has been targeted by toll fraud hackers:

- Check your Administrator's call log daily for multiple logon attempts. A failed logon attempt will show as "logon - Abandoned". A successful fraudulent logon will typically show many long distance or international calls placed afterwards from that extension.
Note: You can have TeleVantage automatically hang up on callers and *lock out* accounts after multiple failed logon attempts. See "The Security tab" on page 3-15.
- Check your phone bills carefully for international numbers or long distance numbers you do not recognize.
- Watch your device monitor for sudden bursts where every line is busy with people trying to logon.

Protecting your system against toll fraud

The following are a variety of ways to secure your phone system. While practicing all of these strategies will keep your phone system very secure, by far the most important strategy is to just improve the security of passwords.

Password security

The Security tab in System Settings (see “The Security tab” on page 3-15) gives you several options for making user passwords more secure. For maximum security you should choose all of the following options:

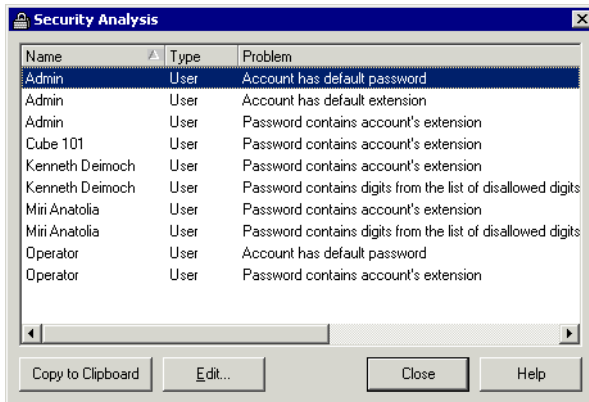
- Set a minimum password length. Passwords should be at least 5 digits long, preferably 7.
- Prevent passwords from including the user’s extension.
- Prevent passwords from including easy-to-guess elements like same-digit strings (111) or consecutive-digit strings (123).
- Regularly force password change.

Changing the Admin and Operator passwords

TeleVantage’s two default users, the Admin and Operator, have easy-to-guess passwords. Immediately after installing TeleVantage, you should change the passwords on those accounts to something more secure, by editing those users in the Users view. Reminder messages in the Administrator will warn you if you leave the extensions as is.

Identifying users with security-risk passwords

The Administrator has a built-in Security Analysis report that analyzes your system for potential security risks. To run the Security Analysis report, choose **Tools > Analyze Security**. The report appears on-screen.



Use the report to determine which users in your system have passwords that make your system vulnerable. If you have implemented the security options described in this section, few users should appear in the list. Those who do might have old passwords that have not yet been

changed, either because they have not yet logged in and been forced to change their passwords, or because they are exempt from forced password change. Talk to those users about making their passwords more secure.

User permissions

Disallow security-risk permissions for all users except those individuals who really need them. You can change permissions for individual users by editing the user account (see “The Security tab” on page 6-38), or for many users at once by editing the User's Role (see “Managing roles” on page 6-46).

Security-risk permissions which should be disallowed are:

- Place external calls when logged on via a trunk (under the Standard permission group)
- Log on via trunk (Standard)
- Log on via IP trunk (Standard)
- Log on via station (Standard)
- Forward or route calls to external numbers (Standard)
- Return calls when logged on via a trunk (Standard)
- Select a specific trunk for outbound call (Administration)

Setting up dialing restrictions

A good way to prevent unauthorized outbound calling is to place restrictions on users' dialing permissions. You can change permissions for individual users by editing the user account (see “The Security tab” on page 6-38), or for many users at once by editing the User's Role (see “Managing roles” on page 6-46).

Some dialing restrictions to consider:

- Disallow access to any number dialed during toll fraud. To find a list of numbers, search your call logs for frequent calls to international locations.
- Disallow dialing 011 and 00 to block all international calls (00 dials the international operator). To permit some international calls you can do the following:
 - Enable 011 for those individuals who are authorized to make international calls. Those individuals can then dial any country.
 - Enable country codes for those foreign countries that are appropriate for users to call. To do so, enable 011xxx where xxx is the desired country code.

The full list of country codes can be found in your phone book. The list is maintained by the ITU (International Telecommunication Union), a division of the United Nations. The ITU web site is <<http://www.itu.int>> and the most recently published list of country codes is available at <http://www.itu.int/itudoc/itu-t/ob-lists/icc/e212_685.html> (this list is valid as of June 2000, and some additional country codes have been assigned since then).

- Disallow dialing sequences that call for-pay services like 1900 or 1976, 976, etc. For information on additional numbers that should be blocked, see this website: <http://www.lincmad.com/telesleaze.html>.
- Disallow dialing certain international North American area codes if desired, such as those in the Caribbean. For example, disallowing 1242 blocks calls to the Bahamas. The full list of North American area codes can be found in your phone book or at the web site for the North American Numbering Plan Administration <http://www.nanpa.com>. For the numerical list of area codes, see http://docs.nanpa.com/cgi-bin/npa_reports/nanpa?function=list_npa_geo_number

Making account logon more secure

There are several ways to prevent hackers from even getting to the account logon choice of your auto attendant. Some methods make it difficult for your own users to use the system, so you need to judge how far you want to go to prevent toll fraud at the expense of phone system ease of use. Please note that these options do not make your system secure by themselves, as they only slow down hackers. The only way to do that is to make sure your user passwords are secure and change often.

Auto attendant security options include the following:

- In your main auto attendant, change the default "#" for user logon to something else. Ideally, give your remote users a phone number routed to a special auto attendant that permits remote logon, while your main auto attendant does not. For DID systems, where you can't control the specific trunk used on inbound calls, give your remote users a DID number instead that routes them to the special auto attendant.
- Do not permit logon in your main auto attendant that is assigned to every trunk. Instead, create a unique auto attendant on a different trunk each week that permits logon. Publish the trunk's phone number to your users as it changes.

Securing your phone system database

Toll fraud typically involves "hacking" over phone lines instead of data hacking. However, the TeleVantage database runs on a Windows server on your network and contains all permission settings and can be hacked at that level. It is always wise to keep your corporate network secure from unauthorized external access. This safeguards your database against tampering by network and computer hackers. Some ways to do this include:

- Use standard firewall technology to secure access to your network. If desired, allow access to specific protocols and ports, such as those for HTTP or H.323 (VoIP).
- For extra security, host the TeleVantage Web Services on a separate server from the TeleVantage Server and database.

Reacting to toll fraud attempts

If your phone system has been the target of toll fraud attempts, you can do the following:

- Report Caller ID numbers and called numbers of fraudulent calls to your long distance carrier. Sometimes carriers can block certain numbers from calling you.
- Report excessive toll fraud to your local FBI office. Note, however, that the FBI does not usually get involved with toll fraud unless losses are substantial.

You can also use the information from previous toll fraud attempts to make your system even more secure. For example, you can add any numbers being called during toll fraud to the list of numbers prevented with dialing permissions. If fraudulent calls have been made to a particular few countries that are not otherwise called, disallow dialing those country codes (011xxx).

Using Caller ID to prevent fraudulent calls

If you know the Caller ID from which fraudulent calls originate, you can prevent calls from those numbers. To do so:

1. Create a user called "Fraud Detector." Create it with a secure password, a station ID of 0, and use permissions to prevent it from making any external calls.
2. Log on to the Client as the "Fraud Detector" user.
3. Create a routing list called "Normal." Delete the "Call me where I am" action. Change the final action to "Transfer to an extension" and select your main Auto Attendant. Uncheck the greeting from playing. Make this the default and active routing list.
4. Create a second routing list called "Fraud Call." Delete the "Call me where I am" action. Change the final action to "Hang up."
5. Create a contact named "Fraudulent person." Edit the phone numbers of the "Fraudulent person" contact and add any numbers of known fraudulent callers.
6. Create a call rule so that when the contact "Fraudulent person" calls that they are handled by the "Fraud Call" routing list which hangs up on them.
7. Assign every trunk to call the Fraud Detector user, instead of your auto attendant.

Subsequent calls from the known fraudulent numbers will be automatically hung up on, and will appear in the Call Log as being from "Fraud Detector." Other calls will be handled as normal. As new fraudulent numbers are detected, you can associate the Caller ID with "Fraudulent person."

IP GATEWAY CONFIGURATION WORKSHEET

This appendix provides a worksheet to help you create a unified dialing plan before connecting TeleVantage Servers over IP Gateway connections. By using this worksheet, you can avoid conflicts between connected Servers, such as overlapping extensions or auto attendant numbers. You can also plan consistent access codes for dialing services.

For complete information about IP Gateways, see Chapter 13, “Configuring Internet Telephony Support.”

Two worksheets are presented, an illustrated sample and a blank worksheet that you can copy and use.

IP Gateway Configuration Worksheet

	Server 1	Server 2
Name	New York	Chicago
Contact	Tom Rand 123-456-7890	Amy Lum 098-765-4321
Internet Span Address	10.45.67.89	10.65.43.21
Extensions begin with	1	2
Auto attendants begin with	81	82

	To Server 1	To Server 2
On Server 1	N/A	Name: Chicago Local Server 1 extension: 111 Local Server 1 password: 1212
On Server 2	Name: New York Local Server 2 extension: 222 Local Server 2 password: 2121	N/A

	To Server 1	To Server 2
From Server 1	N/A	Svr 1 access code: 71 Uses IP Gateway: Chicago
From Server 2	Svr 2 access code: 71 Uses IP Gateway: New York	N/A

Name	Type	From Server	Access Code	To Server	Access Code	IP Gateway
Bell Atlantic analog	<input checked="" type="checkbox"/> IP-to-Phone <input type="checkbox"/> IP-to-Centrex	Chicago	77	New York	9	New York
Bell Atlantic Centrex	<input checked="" type="checkbox"/> IP-to-Phone <input type="checkbox"/> IP-to-Centrex	Chicago	78	New York	8	New York
	<input type="checkbox"/> IP-to-Phone <input type="checkbox"/> IP-to-Centrex					
	<input type="checkbox"/> IP-to-Phone <input type="checkbox"/> IP-to-Centrex					

IP Gateway Configuration Worksheet

	Server 1	Server 2
Name		
Contact		
Internet Span Address		
Extensions begin with		
Auto attendants begin with		

	To Server 1	To Server 2
On Server 1	N/A	Name: Local Server 1 extension: Local Server 1 password:
On Server 2	Name: Local Server 2 extension: Local Server 2 password:	N/A

	To Server 1	To Server 2
From Server 1	N/A	Svr 1 access code: Uses IP Gateway:
From Server 2	Svr 2 access code: Uses IP Gateway:	N/A

Name	Type	From Server	Access Code	To Server	Access Code	IP Gateway
	<input type="checkbox"/> IP-to-Phone <input type="checkbox"/> IP-to-Centrex					
	<input type="checkbox"/> IP-to-Phone <input type="checkbox"/> IP-to-Centrex					
	<input type="checkbox"/> IP-to-Phone <input type="checkbox"/> IP-to-Centrex					
	<input type="checkbox"/> IP-to-Phone <input type="checkbox"/> IP-to-Centrex					

USING AN IP PHONE WITH TELEVANTAGE

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About using IP phones with TeleVantage

TeleVantage supports the use of the following Voice-over-IP phones:

- Polycom IP phones (see the next section)
- Intel PBX-IP Media Gateway phones, also known as PBX-IP Media Gateway phones (see “Using an Intel PBX-IP Media Gateway with TeleVantage” on page E-22).

Using a Polycom IP phone with TeleVantage

This section describes using a Polycom IP phone with TeleVantage.

Introduction

Polycom IP phones are supported by TeleVantage to provide handset functionality using the H.323 standard over an IP trunk. Polycom IP phones can be used in two ways:

- **Internally.** You can use a Polycom phone as an internal station, enabling single-wire connection to a workstation (one network wire for the PC and the phone).
- **Remotely.** Using a Polycom phone at a remote location, you can automatically log onto the TeleVantage Server over the Internet and place calls as if you were at an internal station.

Note:When using a Polycom phone over the Internet instead of on a LAN, the quality is not guaranteed. Internet traffic is susceptible to greater delay and packet loss, both of which affect voice audio quality.

Requirements

To use a Polycom IP phone with TeleVantage, your TeleVantage system must have the following:

- An IPLink board for Internet telephony installed on the TeleVantage Server computer. See *Installing TeleVantage*.
- An IP dialing service. See *Administering TeleVantage*.
- Network access to the Internet, if you plan to use a Polycom IP phone remotely.
- If you are using a SoundPoint IP 400 phone, the bootrom version of your phone should be 1.1.1. The version does not matter for SoundPoint IP 500 phones.

Overview of TeleVantage - Polycom IP phone integration

To use a Polycom IP phone with your TeleVantage system, you must complete the following tasks. Each task is discussed in detail in this document.

1. Connect your Polycom phone to the network or Internet. See “Connecting the Polycom IP phone” on page E-3.
2. Configure an FTP server that the phone can access by network. When the phone is plugged in, it downloads several files from the FTP server to configure itself. The files

contain information about how the phone logs in to the TeleVantage Server via PLAR, the IP address of the TeleVantage IP trunk, how the keys on the phone are programmed, and other phone configuration details. See “Configuring an FTP Server” on page E-4.

3. Edit the configuration files on the FTP server for each Polycom IP phone on the network. These files are in XML format.
4. Using the TeleVantage Administrator, create users who will use the Polycom IP phones. Using the TeleVantage Client, forward calls for each user to the Polycom IP phone. See “Configuring users for the Polycom IP phones” on page E-8.
5. Configure the Polycom IP phone using its on-screen commands. See “Configuring the Polycom IP phone” on page E-9.

What is PLAR?

PLAR, or Private Line Automatic Ringdown, is a technique that ties two telephony devices together, such that when one handset is lifted, the other device automatically rings. This is the way that the Polycom IP phones communicate with TeleVantage. When the Polycom IP phone goes off hook, it automatically connects to the TeleVantage Server via an IP trunk, then logs in as an individual user. When you hear dial tone, you are actually hearing TeleVantage dial tone; you are subject to any dialing restrictions of that user, and any calls that you make from that point are entered into the Call Log of that user.

Configuring the Polycom IP phone requires that you specify the TeleVantage IP trunk, and the user extension and password to log in. This is the role of the configuration files and other setup steps. There are other features of the Polycom IP phones that are not utilized by TeleVantage; they are not addressed in this document.

Connecting the Polycom IP phone

You can connect a Polycom IP phone either internally (on the same network as the TeleVantage Server) or externally.

Connecting a Polycom phone internally

To connect a Polycom phone to TeleVantage internally, simply connect it to the network that the TeleVantage Server is on.

If you are using the TeleVantage Client, connect the Polycom phone as follows:

1. Run the network wire to the LAN port on the Polycom phone.
2. Connect the PC port on the Polycom phone with your PC’s network card.

The Polycom phone contains a network hub that enables it to work with the network and your PC. In this manner your phone and PC communicate with the TeleVantage Server over the same wire.

Connecting a Polycom phone remotely

To use a Polycom phone at a remote location, connect the LAN port of the Polycom phone to a network that has access to the Internet.

Configuring an FTP Server

To use a Polycom phone with TeleVantage, you must configure an FTP server on your network. When the phone boots up, it logs in to the FTP server and reads information from configuration files that enables it to connect to TeleVantage.

The following files must be present on the FTP server:

- <MACid>.cfg
- <UserFile>.cfg
- <ServerIP>.cfg
- Func.cfg
- Ipmid.cfg
- Hmx.ld

These files are described in detail below in the section “About the configuration files.”

Location of the configuration files on the FTP server

The <MAC>id.cfg file must be in the default directory of the FTP server. Each phone on your network must have a separate <MACid>.cfg file.

The other configuration files are listed in the <MACid.cfg> file. You can rename them or move them into other directories.

Security for the configuration files

The configuration files include all of the settings for the Polycom IP phone. Some of the information required is a TeleVantage user login (including password), so the accessibility of this information must be carefully considered to minimize the security risk to your system.

One alternative is to create subdirectories from the FTP root for each of the Polycom IP phone users; each user would only be able to read the root directory and their subdirectory, so it would not be possible to see other users' login information. Since some of the files (including Func.cfg, Ipmid.cfg, and Hmx.ld) are shared across all users, these files would need to be accessible to all users, or duplicated in all user subdirectories.

Note: The user account on the FTP server should have "write" access to the TeleVantage Server so the phone can upload log files that are useful in troubleshooting problems.

About the configuration files

The following files are supplied on the TeleVantage Drivers CD in the \Polycom directory.

Important: Do not use Wordpad to edit the XML files, as Notepad can reformat the files. Use an XML editor such as XML Wordpad (available from msdn.microsoft.com).

- **<MACid>.cfg.** The first file read by the Polycom phone when rebooted or plugged in. It contains the list of other configuration files which provide specific configuration information for the phone. (For instructions on rebooting the phone, see "Configuring the Polycom IP phone" on page E-9). The name of the file should be the 12-digit MAC address of the phone. The phone's MAC address is on a sticker on the back of the phone, or you can read the "ENet" field while pressing and holding the button beneath the "About" softkey on the phone's LCD screen. When the phone boots up, if it does not find a file with its MAC address, it will read a file named 000000000000.cfg.

Hint: When debugging a configuration file, add a file named 000000000000.cfg to your FTP server for the phone to read. You may have incorrectly named your file, and the phone will default to this file if it does not find one with its own MAC address.

After reading this file, the Polycom IP phone reads from the files listed in the field CONFIG_FILES in the order listed.

Note: If the same setting is contained in more than one configuration file, the setting that the phone downloads first will take effect. The order that the phone downloads the files is determined in <MACid>.cfg.

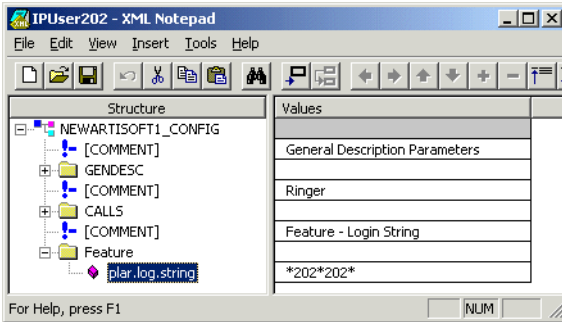
- **<UserFile>.cfg.** Defines specific settings for the user, like extension and password so they can log into the server. This file is unique per user.

The settings include the Display name for the user (20 characters maximum), and the user's extension and password. This file should be protected and only accessible by the user (and the FTP system Administrator) since it contains the user's extension and password.
- **<ServerIP>.cfg.** Defines the IP address for the TeleVantage IP trunk and key mappings for the feature buttons on the phone. This file will be the same for all users who are using ports on the same IP board in the TeleVantage Server.
- **Func.cfg.** Defines protocol parameters for the phone. This file is common to all users and shouldn't be modified. Artisoft does not provide support for modified versions of this file.
- **lpmid.cfg.** Defines codecs, tones and other basic parameters of the phone. Also specifies the SNTP server for obtaining the correct time, and the GMT offset. This file must be the same for all users.
- **Hmx.Id.** This Polycom file loads the basic operation of the phone. It's a binary file and can't be modified.

Editing the configuration files

You must make the following edits to the configuration files on the FTP server. The .cfg files are in XML format, and should be edited using an XML editor or basic text editor (do not use Wordpad, because it reformats the file). You can download an XML editor called XML Notepad from msdn.microsoft.com.

Example of an XML editor



Note: These configuration file edits specify the TeleVantage IP trunk, the user extension, and the password that enable you to log in when you pick up the phone. Other features of the Polycom IP phones that are not utilized by TeleVantage are not addressed in this document.

For more information on configuration files, see "Sample Configuration Files" on page E-17.

To edit the configuration files

1. Edit <UserFile>.cfg to use information specific to the phone's user.
 - a. In the "Features" folder, edit the "plar.log.string" field to contain the login string for this user. The login string for a user with extension 202 and password 202 would be: "*202*202*".
 - b. In the "GENDESC" folder, edit the "genDesc.name" string to reflect the name of user. This name will appear on the LCD screen of the Polycom IP phone when it is idle. It will also be transmitted as caller ID when the Polycom IP phone is used to call another user on the TeleVantage Server.
 - c. In the "GENDESC" folder, edit the "genDesc.E164addr" field to be the TeleVantage extension for the user. This will also appear on the LCD screen of the Polycom IP phone.
 - d. Rename this file to reflect information about the user (for example, User202.cfg).
2. Edit <ServerIP>.cfg to contain the IP address that the user will use to access the IPLink board in your TeleVantage Server.
 - a. In the FEATURES folder, edit the feature.plar.address field to be the IP address of your IP trunk. Use the IP address of the Dialogic DM3 IPLink board, or, if you are using an IPLink board which does not have its own network interface card on it, the

IP address of your TeleVantage Server. Your network administrator can tell you the IP address of the Server or boards.

- b. Rename this file to describe your IP address (e.g., TVIP2.cfg).

Notes

- If you have more than one IP board in a TeleVantage server, you may need more than one of these files, each specifying the IP address of a different IPLink board. You need one file for each non-DM/IP040-LSI board and another file to cover all DM/IP040-LSI boards. (All DM/IP040 boards share the TeleVantage Server's single IP address.) You determine which user uses which board by having their <MACid>.cfg file point to the appropriate <ServerIP>.cfg file. Each <MACid>.cfg file can point to only one <ServerIP>.cfg file.
 - Do not change the settings listed in the VoipProt.server.address field. Entering the address of your IP board will result in the IP stack crashing on the Server.
3. Edit <MACid>.cfg to specify the configuration files to be used by the phone. This file will specify the name and subdirectory where the other configuration files can be found.
 - a. In the CONFIG_FILES field, list the four other configuration files, including the <UserFile>.cfg file with the user's login string, and the <ServerIP>.cfg file with the IP board to be used. If some of these files are in a subdirectory on the FTP server, you can specify that in the file name (for example, "/User202/User202.cfg").

Note: The order of the files in this list is significant: if more than one field with the same name is encountered in different files, the first value will take effect and the subsequent values will be discarded. Put the customized files at the front of the list so that if later updates are made to the downloaded files, any duplicate fields will not affect the custom fields you have set.
 - b. The APP_FILE_PATH should show the binary application file (hmx.ld). If this file is moved to a subdirectory on the FTP server, edit this field to specify.
 - c. Rename this file to be the 12-digit MAC address of the phone (found on a sticker on the back of the phone), or to 000000000000.cfg as a default.

These are the only files that you need to edit. However, if you need to change the codec used by the phones when communicating over IP to TeleVantage, or modify the feature key mappings on the phone, you will need to edit other configuration settings. See "Sample Configuration Files" on page E-17 for samples of each of the configuration files.

Note: Supported codecs are G.711 ALaw and MuLaw, and G.723.1. Do not use G729, as it is not supported.

Configuring multiple Polycom IP phones

If you are using several Polycom IP phones on your TeleVantage Server, be aware of the following considerations:

- **Ratio of IP phones to IP boards.** It may not be necessary to have an IP port for each Polycom IP phone installed on your system. The IP trunk will only be in use while the user is actually on the phone (on a call, checking their voicemail, etc). If your IP phone users are on the phone frequently—for example, if they are sales or support agents—then it may be necessary to have a dedicated or 1-to-1 relationship between IP ports and IP phones. However, for other users, a lower ratio of IP trunks to IP phones—such as 1-to-3 or even 1-to-4—may be acceptable.

Note that you need one TeleVantage IP Port license per IP port, not per IP phone.

Important: If a user takes their Polycom IP phone off hook at a time when there are no available IP trunks, they will hear a delay in dial tone until there is an available trunk. There is no way to signal to the phone that there are no IP trunks available; the user will hear silence. Be sure to carefully consider the ratio of IP phones to IP trunks in the TeleVantage Server.

- **Configuring multiple DM3 IPLink boards in your TeleVantage Server.** If your TeleVantage Server includes multiple DM3 IPLink boards which have their own on-board network interfaces, remember that each one of the boards has a unique IP address. Therefore, you will have multiple <ServerIP>.cfg files each containing a different PLAR IP address.

Remember to carefully distinguish which phones will use which IP board. Make sure a phone's <MACid>.cfg file references the <ServerIP>.cfg file for the IP board you intend the phone to use.

Configuring users for the Polycom IP phones

Before a user can use a Polycom IP phone with TeleVantage, you must configure that user's account as follows:

1. In the Administrator, edit the user's account to use the Polycom phone. See "Configuring a user to use an IP phone with TeleVantage" on page E-24.
2. If the user will be placing calls from their Polycom IP phone to numbers external to the TeleVantage Server, make sure their user permissions include being able to place calls while logged into a trunk. In the TeleVantage Administrator, edit the user by double-clicking them in the Users view, and click the Permissions tab. Select the setting **Place external calls when logged in via a trunk** (in the "Standard" category), then click "Allow" for the setting. You can also set up a role where "Allow" is the default for this setting.
3. Edit `Ipmid.cfg` to change the SNTP (time server) and the GMT offset parameters, as follows:

In the TCPAPP field, edit the `tcplpApp.sntp.address` field and enter a valid time server IP address. Also edit the `tcplpApp.sntp.gmtOffset` field to reflect the proper GMT offset for your time zone. This value is listed in seconds.

Notes about configuring TeleVantage

- An Internet span must be configured in the Trunks view of the Administrator.
- An Internet dialing service must be configured with the correct codecs (G.711, G.723) for calls to be forwarded to the Polycom phone when the extension is called. In general, G.711 is needed for the transmission quality that a phone user expects.
- The TeleVantage Server must be set to log internal calls for the IP calls to be logged by the Server. This is set in the Administrator, under System Settings.

Configuring the Polycom IP phone

The configuration of the Polycom phone can only be done when rebooting the phone, or when it is first plugged in. To reboot the phone, hold down the buttons labeled **Volume-**, **Volume +**, **Hold** and **Voicemail** at the same time for several seconds. These are buttons 8, 10, 11, and 12 on the diagram on page E-13.

Note: For TeleVantage, these buttons may be labeled **Volume -**, **Volume +**, **Take**, and **Available**.

Just before the phone reboots, press the "Setup" softkey button to enter the setup screens. Use the arrow buttons on the top right hand corner of the phone to move between fields. To save your changes to the settings, you must press the Save button before moving to the next field.

When alphanumeric fields (such as FTP login and FTP password) are highlighted, you will see two additional softkeys on the screen which allow you to switch between alphabetic and numeric characters. To enter a lower case letter, hit the "a->A" key, then use the number keypad to enter the letters beneath each number. To enter an "a", hit the 2 key once; to enter a "b", hit the 2 key twice, etc. To enter an upper case letter, hit the "a->A" softkey once again. To enter a number, hit the "->123" softkey. Use the left and right arrow keys to move within a field.

To save your changes to the settings, you must press the **Save** button before moving to the next field.

Set the following configuration for the Polycom phone:

Setting	Value	Comments
DHCP Client	<Enabled/Disabled>	If DHCP is disabled, the phone uses a fixed IP address from the Phone IP Addr field below. If DHCP is enabled, the phone receives information from the DHCP server in the format specified below. Disabling DHCP is recommended for use with TeleVantage so calls can easily be forwarded to your Polycom IP phone.
DHCP Timeout	<30>	Number of seconds the phone waits for secondary DHCP offer messages before selecting an offer.
DHCP Boot Server	<default/override>	When set to "Default", the phone will look for vendor specific option number 66 (string type) in the response sent from the DHCP server. The DHCP server must be configured to send the boot server address in option 66, for example, "192.168.0.1". When set to "Override", the phone will look for the vendor specific option number specified by "DHCP Boot Srv Opt", of type "DHCP Boot Srv Type", in the response sent from the DHCP server. This generally should not be required unless the default Boot Server option is in use for another purpose on the network.

Setting	Value	Comments
DHCP Boot Svr Opt	<128-254>	Specifies vendor specific option number for the response sent from the DHCP server (if DHCP is enabled and DHCP Boot Server set to "Override").
DHCP Boot Svr Type	<IP Address/String>	Specifies vendor specific option type for the response sent from the DHCP server (if DHCP is enabled and DHCP Boot Server set to "Override").
Phone IP Addr	<192.168.1.135>	Fixed IP address assigned to the phone (if DHCP is disabled).
Subnet Mask	<255.255.255.0>	Subnet mask of the network (if DHCP is disabled).
IP Gateway		IP address of the IP Gateway. Used when SNTP is obtained from a remote server.
FTP Server IP	<192.168.1.136>	IP address of the FTP server.
FTP User	<IPPhoneAccess>	User account to access the FTP server for the configuration files. Using "anonymous" is not recommended for security reasons.
FTP Password	<IPPhonePassword>	Password for the FTP user account.
SNTP Address	<192.168.1.136>	IP address of the time server. This setting enables the Polycom IP phone to display the correct time (if DHCP is disabled).

Setting	Value	Comments
GMT Offset	<-5>	Offset in hours from Greenwich Mean Time (if DHCP is disabled). You can find your GMT offset by looking at the time zone settings on your computer. For the eastern United States, the GMT offset is -5.

Using the Polycom IP phone

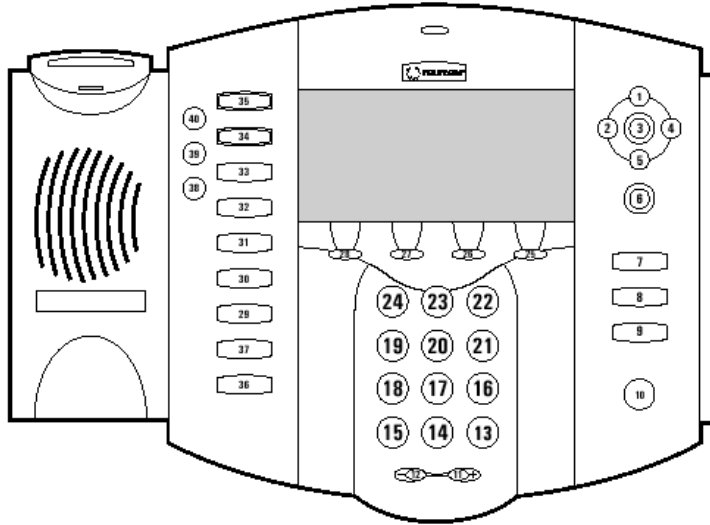
The Polycom SoundPoint IP 400 and SoundPoint IP 500 phones have several features that are valuable to TeleVantage users. The LCD screen, in addition to editing configuration settings, also provides line appearances and soft keys. When an incoming call is received from TeleVantage, the screen shows the contact name if the call is recognized as a contact, or Caller ID information.

To brighten or darken the contrast on the LCD screen, simultaneously hold down the +, -, and 0 keys (buttons 12, 13, and 14 on the diagram on page E-13) for several seconds. A slider will appear with a light and dark square on either end; when it does, lift off the keys and then use + and - to darken and lighten the contrast.

Important: When using a Polycom phone, you will not be able to use the call handling commands in the TeleVantage Client or Web Client. You can still use the TeleVantage telephone commands. See “Using the Call Monitor with a Polycom IP Phone” on page E-21 for information on configuring remote stations if you would like to use your TeleVantage Client for call control with a Polycom IP phone.

These phones also include a number of feature keys preprogrammed for TeleVantage features. Your Polycom IP phone may come with keycaps that show functions that do not apply to the TeleVantage version of the phone. You may want to replace these keycaps with then blank keycaps that should have also been included with the phone. If you received no blank keycaps, contact the reseller where you purchased the phone to acquire them.

The key mappings for TeleVantage are shown beside each key on the following diagram. The table below shows the functions of all of the key. Some of the keys have been mapped to TeleVantage telephone commands; the telephone command key sequence is also listed. Check the diagram carefully for the number corresponding to each key.



Key number	Function	Description	Telephone commands equivalent
1-6	Screen setup keys	Move around and edit setup screens.	N/A
7	Do Not Disturb	Sets the user's Personal Status to Do Not Disturb	612
8	Available	Sets the user's Personal Status to Available	611
9	Flash	Flash hook key	<Flash> or **

Key number	Function	Description	Telephone commands equivalent
10	Take	Press this key before the Line keys to toggle between calls on the phone (Note that this will put the call on local hold, but not TeleVantage hold.)	N/A
11-12	Volume keys	Adjusts the volume on the phone handset or speaker	N/A
13-24	Digit keys	Act as regular DTMF digit keys	N/A
25-28	Soft keys	Take the function of the softkey on the screen directly above each key	N/A
29	Transfer	Transfer the active call	<Flash> 1
30	Unhold	Remove the active call from TeleVantage hold	<Flash> 4
31	Hold	Place the active call on TeleVantage hold	<Flash> 7
32	Voicemail	Access the user's voicemail	<Flash>
33-35	Line keys	Use with the "Take" button (button 9) to toggle between calls.	N/A
36	Park	Place the active call on TeleVantage Park (Unpark by hitting *92)	*66
37	Directory	Hear the TeleVantage user directory	*93

Key number	Function	Description	Telephone commands equivalent
38-40	Phone mode keys	Toggle the phone's audio between handset, speaker, and headset mode	N/A

Issues for users of Polycom IP phones

- **Password change.** Polycom IP phone users must alert an administrator when they change their password. The administrator must modify the `par.login.string` entry in the user's `<UserFile>.cfg` file to reflect the new password, or the Polycom IP phone will not be able to automatically login when the handset is taken off hook. If the login fails, users will hear the auto attendant greeting for the IP trunk, rather than dial tone.
- **Phone hold versus TeleVantage hold.** When juggling multiple calls on the Polycom IP phone, a user may use key 10 (labeled "Hold") and the Line keys to switch between calls. This will place the inactive call on phone hold. In this state, they will not hear music on hold, and the TeleVantage Call Monitor will not reflect that they are on hold.
- **Using the TeleVantage Client.** Polycom IP phone users can use the TeleVantage Client or web client and will see their calls in the Call Monitor. However, unless they are configured as remote users as described in Appendix D, they will NOT be able to grab calls from the Call Monitor or use their Polycom IP phones as an audio device (e.g. to hear their voicemail, record greetings or voice titles, etc.) from the Client.

Instead, the audio for the TeleVantage Client or web client must use the speakers of the local PC. To record audio prompts, use the Telephone Commands.

- **Message indicating lamp.** The red message indicating lamp on the Polycom IP phone *does not light* if you have TeleVantage voicemail messages. Further, the text on the screen of the Polycom IP phone rotates between your user description (set in the `gendesc.name` field of the `<UserFile>.cfg`) and "No Messages," even if you do have unheard voicemail messages in your TeleVantage Inbox.

Issues for Administrators of Polycom IP phones

- **Firewall issues.** Standard firewalls should work with the Polycom Soundpoint IP phones. The ports in use by the phones must remain open. If you are using a NAT firewall, make sure it is VoIP-enabled; not all NAT firewalls are capable of handling the IP addresses that are embedded in the payload of some VoIP packets.
- **Network security risk.** As with any IP device, connecting the Polycom Soundpoint IP telephone to a TeleVantage server through a firewall requires that ports be opened on the firewall. Specifically, the Soundpoint IP telephone uses H.323, RTP, FTP and SNTP, and the associated ports must be opened. This may pose additional security risks, which may be minimized by opening these ports only to the TeleVantage, FTP and NTP servers

and by taking other security precautions such as applying operating system and server software security patches.

- **QoS issues.** The Polycom Soundpoint IP phones have been tested thoroughly and provide outstanding levels of audio quality. However, when used on the open internet, this audio quality cannot be guaranteed.
- **Security of the FTP files on the server.** You must protect the files from anonymous access or the security of your TeleVantage system could be compromised. One method is to have separate FTP user accounts (with passwords) per phone. The FTP user will only have the ability to see the one folder with the Polycom phone settings, so the other accounts would be protected.

The individual user .cfg files should have some level of user permission. You should allow only the individual user and the FTP server administrator to open the files, because they contain extensions and passwords.

- **Access.** The FTP server can only be accessed by IP address from the phone and can't be accessed by server name.
- **Fixed IP address.** A fixed IP address is recommended for the Polycom phone. You can choose to use a DHCP server to provide an IP address for a Polycom phone instead, but then the IP address of the phone can change every time it is booted, meaning that call forwarding in the TeleVantage Client would have to change every time to match it. If the Polycom phone is only used for calls from the phone to the TeleVantage Server, and not for incoming calls from TeleVantage to the phone, this is not an issue and DHCP can be used without problem.
- **SNTP server access.** Access to an SNTP server is required for Polycom phones to display the date and time correctly.

Contacting Polycom

For assistance in configuring your Polycom IP phone with TeleVantage, contact your TeleVantage Reseller. Authorized TeleVantage Solution Providers can contact Artisoft TeleVantage technical support.

For more information about Polycom IP phones, contact Polycom using the following information:

Polycom Headquarters
1565 Barber Lane
Milpitas, CA 95035
USA

1.800.POLYCOM ext. 6973
or 408.526.9000 ext. 6973

sales@polycom.com

Sample Configuration Files

This section contains sample configuration files.

<MACid>.cfg

This master configuration file should be renamed to reflect the 12-digit MAC address of your Polycom IP phone. (Find the MAC address on a label on the back of the phone, or by reading the ENet field visible while pressing and holding the "About" softkey button). If the phone does not find a file that matches its MAC address, it will look for a file called 000000000000.cfg.

You will have one such file for each Polycom IP phone, and it must reside in the default directory of the FTP server for the phone's specified FTP login. This file references in the CONFIG_FILES field the actual filenames for the user's configuration files. Subdirectories may be specified for the configuration files (for example, IPUser1/IPUser1.cfg). The maximum length of the string that makes up this value is 511 characters, including commas and white space. This file also defines the location of the hmx.ld file in the APP_FILE_PATH field, which can also include path information and is restricted to 127 characters.

Field	Value
APP_FILE_PATH	hmx.ld
CONFIG_FILES	IPUser202.cfg, TVIP1.cfg, func.cfg, ipmid.cfg

<UserFile>.cfg

This file should be renamed to represent the user (and the name should match the CONFIG_FILES field of the <MACid>.cfg file). The sample download file is called IPUser202.cfg.

You will have one such file for *each* Polycom IP phone, which references in the plar.log.string the login string for that user, "*<extension>*<password>*".

The genDesc.name field will be the string that shows in the phone's LCD screen. It is also used as Caller ID when you call into a TeleVantage server, so internal users will see this string in the Number field of their Call Monitor (along with the phone's IP address). The genDesc.E164addr field is the address of the phone; enter the TeleVantage extension of the user. This will also show on the LCD screen of the IP phone after the name, "IPUser (202)".

Folder	Field	Value
GENDESC	gendesc.name	IP User
	genDesc.E164addr	202
Feature	plar.log.string	*202*202*

<ServerIP>.cfg

This file should be renamed to represent the IP trunk (and the name should match the CONFIG_FILES field of the <MACid>.cfg file). The sample download file is called TVIP1.cfg.

You will have one such file for each separate IP trunk IP address (for example, if you had two DM3 IP boards with their own IP addresses, you would have 2 files). Each file references in the feature.plar.address field the IP address for that IP board.

Note: If you would like to remap some of the function keys on the Polycom IP phones, use the key map fields. Remapped keys are not supported by Artisoft.

Folder	Field	Value
MAPS		
	key.map.37	1,*93
	key.map.36	1,*66
	key.map.32	1,**
	key.map.31	1,**7
	key.map.30	1,*4
	key.map.29	1,**1
	key.map.9	1,**
	key.map.8	1,**611
	key.map.7	1,**612
FEATURES		
	feature.plar.address	192.168.1.100
	feature.autoanswer	0

lpmid.cfg

The lpmid.cfg file contains many settings for the Polycom IP phone. It is recommended that you do not modify this file, except for changing the SNTP address and GMT offset. The only settings that may need to be modified are the CODECS fields (under the VOICE folder); the order should match the order of codecs used by TeleVantage. G.711 and G.723 are the codecs supported by TeleVantage and the Polycom IP phones. Use G.711 is a higher quality transmission but will utilize more bandwidth on your network; G.723 is a lower bandwidth, lower quality codec.

Note: Do not use codec G.729. It is not supported.

This file also contains settings which specify the level of logging that is done by the phone. The phone maintains information about its functioning and can upload this information to the FTP server to assist when diagnosing problems. Artisoft or Polycom Technical Support may direct you to modify the level of logging provided by the phone when troubleshooting; only modify these settings under the direction of Artisoft or Polycom Technical Support.

Folder	Field	Value
VOICE		
CODECS		
	voice.audioProfile.1.rtpPayload	G711Mu
	voice.audioProfile.1.payloadSize	160
	voice.audioProfile.2.rtpPayload	G711A
	voice.audioProfile.2.payloadSize	160
	voice.audioProfile.3.rtpPayload	G723
	voice.audioProfile.3.payloadSize	1

Func.cfg

The func.cfg file contains a small number of VoIP protocol parameters. It is never necessary to modify this file for use with TeleVantage.

Troubleshooting the Polycom IP phone with TeleVantage

If you are having difficulty configuring your Polycom IP phone with TeleVantage, review the following steps carefully.

First, check to see if an IPLink board has failed. If it has, a notification has been added to the Windows Server Event Log.

If your IPLink boards are functioning, check to see if TeleVantage can place a call to the Polycom IP phone (either by dialing the IP address directly from a station phone, or by forwarding a user to the IP phone and dialing the user's extension).

If not:

- **Ping the phone.** Make sure you can ping the phone from a machine on the network. An easy way to see the IP address of the phone is to press and hold the "Setup" softkey button.

- **Check the IP address and subnet mask.** Make sure the IP address and subnet mask information in the Polycom IP phone setup screens are correct.
- **Use a valid IP trunk address.** Make sure the <ServerIP>.cfg file references a legitimate IP trunk. Remember that some Dialogic DM3 IPLink boards have their own NIC interfaces, and therefore their own IP addresses. The DM/IP0821A-T1 and DM/IP2431A-T1 are examples of boards with an onboard NIC; this is signified by the "1" (not "0") in the last digit of the model number. The DM/IP040-LSI does not have an onboard NIC.

If you are using a board with its own NIC interface, use the IP address of the board, not of the TeleVantage Server itself.

- **Ensure a supported codec is in use.** Only G.711 and G.723 are codecs that can be used with TeleVantage and the Polycom IP phones. G.729a/b or other codecs are not supported.

If you can place a call to the phone, but not place a call from or hear dial tone on the phone, or if you hear a quick burst of dial tone but then silence, the PLAR login is not working for some reason. Do the following:

- **Verify the login string.** Make sure the login string specified in the <UserFile>.cfg file is a valid one, and using the correct password. To test, dial the login string from a station phone (using # characters instead of *) and make sure you log in as the correct user.
- **Recheck the MAC address.** Make sure the <MACid>.cfg file is named with the proper MAC address. An easy way to confirm the MAC address is to press and hold the "Setup" softkey button (and read the ENet address). It may also be on a sticker on the back of the phone.

Copy the <MACid>.cfg file with the name 000000000000.cfg. This will be read by default by any phone when it does not find a file with its MAC address.

Update the timestamp on the <MACid>.cfg file to force it to be reread when the phone is rebooted.

- **Confirm the name and accessibility of each of the files on the FTP server.** Make sure the <MACid>.cfg references the correct files, and that the files exist in the directory named in this file.

Make sure that the files can all be accessed via FTP with the FTP user and password you specified on the Polycom IP phone setup screen. Test this with an FTP utility (for example, typing FTP at a command prompt).

To test your user privileges, change the login screen to temporarily use the administrator login and password. (This user should have access to all files.)

If you are using subdirectories to store the configuration files, make sure all subdirectories referenced in the <MACid>.cfg file are accessible.

- **Validate the file formatting.** If you have used Wordpad or another text editor to edit your configuration files, they may have lost their formatting. Make sure they can be read

by an XML editor such as XML Notepad (downloadable from msn.microsoft.com). If not, start again with fresh configuration files.

Once the phone is working, but the phone user experiences a subsequent loss of dial tone:

- **Confirm there is an available IP trunk.** If IP phone users share IP trunks on the TeleVantage Server, there may be no IP trunks available at the time they are trying to make a call. This can be confirmed by observing the state of the IP trunks in the TeleVantage Device Monitor.
- **Check the network.** You may be experiencing a network problem. Make sure you can ping the IP address of the IPLink board or TeleVantage Server.
- **Check the H.323 stack.** If users see "Disconnected" in the LCD screen of the Polycom IP phone, there may be a problem with the IPLink board or its H.323 stack. Check the Windows server event log to verify errors. The IPLink board or TeleVantage Server may need to be restarted.

Using the Call Monitor with a Polycom IP Phone

Normally users of Polycom IP phones cannot use the Call Monitor commands on their calls. For example, a Polycom IP phone user cannot transfer a call with the Client. Instead they must use the telephone commands or feature buttons on the phone to transfer or manage calls.

For a workaround that enables Polycom phone users to use Call Monitor commands, see Appendix F.

Using an Intel PBX-IP Media Gateway with TeleVantage

TeleVantage supports the Intel PBX-IP Media Gateway, a device that connects to your LAN and enables up to 8 digital IP phones. TeleVantage supports both the 2-wire and 4-wire versions of the Gateway, enabling you to use either 2-wire or 4-wire Avaya digital phones. The following digital phones are supported:

- Avaya 4406D+
- Avaya 4412D+
- Avaya 4425D+

Configuring a Gateway for use with TeleVantage is a two-step process, as follows:

1. Install the Gateway device on your LAN and attach up to 8 digital IP phones. Refer to your Intel PBX-IP Media Gateway documentation for instructions. Make a note of the Gateway device's IP address.
2. Configure the Gateway device for use with TeleVantage. See the next section for instructions.
3. Edit each Gateway phone user in the Administrator and configure their accounts to use the Gateway phone. See "Configuring a PBX-IP Media Gateway phone user in TeleVantage" on page E-23.

Configuring the PBX-IP Media Gateway device for use with TeleVantage

To use a PBX-IP Media Gateway phone with TeleVantage, you must configure it through the Gateway device as follows:

1. The first step is to add a temporary route to the PC that you are using to access the Gateway. From the Windows Start menu choose **Start > Run**, type `cmd` in the Run dialog box, and click **OK**. When the DOS window appears, type the following command:

```
route add 10.12.13.74 <PC Adapter IP>
```

For example, if your PC's IP address is 198.1.3.25, then the command executed would be:

```
route add 10.12.13.74 198.1.3.25
```

2. Point your web browser to the IP address of the Gateway device on your LAN. By default it is:

```
http://10.12.13.74
```

3. At the logon page, enter a valid username and password. By default the username is **admin** and the password is **lpodAdmin** (both are case-sensitive).
4. Select **IP** on the navigation bar to go to the IP page. Make sure that **Subnet Mask** is set to the correct Subnet Mask for your TeleVantage Server. The **Default Network**

Gateway Address setting is not necessary, and can be set to 0.0.0.0 unless the PBX-IP Media Gateway device will be connecting to another subnet.

5. Select **System** on the navigation bar to go to the System page. From the **Operating Mode** drop-down list select "H.323 Driving." Under **PBX Type** select "Magix." Make sure that **PCM Coding** is set to "uLaw."
6. Select **Phone** on the navigation bar to go to the Phone page. Assign the appropriate phone set types and Gateway extensions to the ports of the Gateway device. Because the Gateway extension displays on the phone, it's best to assign a Gateway extension that matches the TeleVantage extension of the Gateway phone's user. For example, if Rob Smith's Gateway phone is attached to Port 1, and his TeleVantage extension is 215, then assign Port 1 a Gateway extension of 215.
7. Select **H.323** on the navigation bar to go to the H.323 page. Make sure that **Gatekeeper Mode** is set to "Proxy." In the **Proxy IP Address** field, enter the IP address of the TeleVantage Server's Internet telephony board.
8. Select **Import/Export** on the navigation bar to go to the Import/Export page. Click **Export Settings** and export the settings to a configuration text file.
9. Leaving the Import/Export page open in the browser window, open the exported configuration text file in a text editor such as Microsoft Notepad. Make the following changes there (do not enter the periods at the end of the following lines):
 - Find the line "; External Call Control Mode Login Sequence". For all ports set "telPhdExtSeqLogin" to *.
 - Find the line "; External Call Control Mode Transfer Sequence". For all ports set "telPhdExtSeqTrans" to **1.
 - Find the line "; External Call Control Mode Conference Sequence". For all ports set "telPhdExtSeqConf" to **.
 - Find the line "; External Call Control Mode Redial Sequence". For all ports set "telPhdExtSeqRedial" to *66.

When your edits are complete, save the modified file.

10. On the Import/Export page, click **Browse**, select the saved file, then click **Import Settings**.

Configuring a PBX-IP Media Gateway phone user in TeleVantage

To complete the configuration for a user's PBX-IP Media Gateway phone, you must configure that user's account to use the phone. See "Configuring a user to use an IP phone with TeleVantage" on page E-24.

Using a PBX-IP Media Gateway phone with TeleVantage

Once the PBX-IP Media Gateway is properly configured as described in the previous sections, a Gateway phone user can use his or her phone as follows:

- The user can pick up the phone to place a call or use the TeleVantage telephone commands, as with any phone. The dial tone that sounds is TeleVantage's internal dial tone.
- Incoming calls are routed by TeleVantage to the user's Gateway phone.
- Pressing the Hold button on the Gateway phone during an active call puts the other party on standard TeleVantage hold, with the appropriate music-on-hold.
- The message-waiting light on the Gateway phone lights up when there are unheard voice messages in the user's Inbox.

Dialing a PBX-IP Media Gateway phone directly

In addition to dialing a PBX-IP Media Gateway phone user's extension at a dial tone or an auto attendant, callers can dial the user's Gateway phone directly by dialing the following:

<the PBX-IP Media Gateway device's IP address> * <the PBX-IP Media Gateway phone's extension>.

For example, if the Gateway device's IP address is 222.99.14.96, and the Gateway extension of the user's phone is 123, callers would dial 222*99*14*96*123.

Configuring a user to use an IP phone with TeleVantage_____

To enable a TeleVantage user to use an IP phone with TeleVantage, you must configure that user's account as follows:

1. In the Administrator, double-click the user in the Users view to open the User dialog box for that account.
2. On the General tab, make sure that the user has a **Station ID** of 0.
3. Click the Phone tab.
4. Check **Using a VoIP Phone**.
5. Under **Ring phone for**, specify how long incoming calls ring the IP phone before proceeding to the next step on the user's routing list.
6. Under **Phone Type**, select the user's type of IP phone.
7. Under **Call Using**, select an Internet dialing service to be used when placing outbound calls from the phone. For instructions on creating an Internet dialing service, see "Adding a dialing service" on page 8-8.

8. Under **Address**, enter the IP address as follows:
 - For Polycom phone users, enter the IP address of the Polycom phone.
 - For Intel IP-PBX Media Gateway phones, enter the IP address of the Gateway device, followed by a forward slash (/), followed by the Gateway extension of the Gateway phone's port. For example, if the Gateway device has an IP address of 222.99.14.96, and the user's phone is attached to Port 1 of the Gateway device, and Port 1 has an extension of 101 in the Gateway configuration, then you would enter 222.99.14.96/101 in **Address**.

For instructions on defining Gateway extensions see “Configuring the PBX-IP Media Gateway device for use with TeleVantage” on page E-22.

9. Click **OK**.

USING A REMOTE PHONE WITH THE CALL MONITOR

TeleVantage supports the Call Monitor commands with a TeleVantage station, not a remote phone. For example, a remote user can not transfer a call with the Client. Instead he or she must use the telephone commands (with ** instead of Flash) to transfer or manage calls.

This appendix describes a workaround so that administrators can configure a "virtual remote station" that allows a remote user to use the Call Monitor in conjunction with their remote phone. The remote user can then use any Call Monitor command, and the remote phone at his or her desk will respond appropriately. For example, the remote user can be a full-fledged agent or supervisor in a TeleVantage call center, able to perform Call Monitor actions such as Monitor, Coach, and Join.

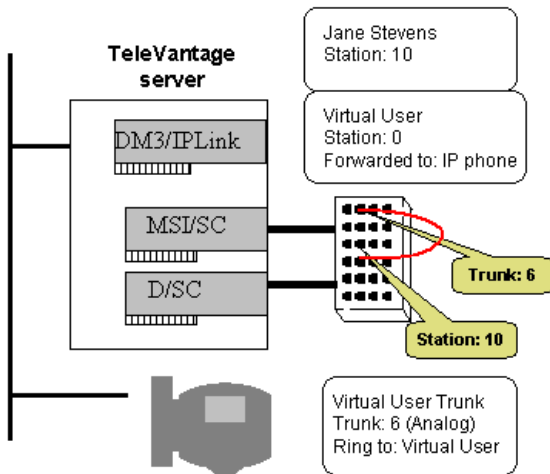
The remote phone can be a standard analog phone, Polycom IP phone, cell phone, or any other type of phone.

Setting up a virtual station

The following procedure creates a virtual station for a user. In this example the user is named Jane Stevens.

1. Create a placeholder user with a Station ID of 0, at an unoccupied extension. Name the user "Virtual User" or something similar.
2. Configure the Virtual User to forward calls to the remote phone. Leave the forwarding options for "Prompt recipient to accept/decline call" unchecked. Instead, if you want call screening, turn that option on in Jane Stevens' account in step 4.
3. Take the station wire from an unassigned station port (for example station ID 10) and instead of connecting it to a phone, connect it to an inbound analog trunk port on the TeleVantage Server. Configure that trunk to route all calls directly to the Virtual User's extension. Configure it also to answer calls after one ring instead of the default of two.

4. Edit Jane Stevens' user account to use the rewired station ID (in this example, station ID 10). If you want call screening, turn on the appropriate options in the Client by choosing **Tools > Options**, Incoming Calls tab.



Jane Stevens can now use the Call Monitor with her remote phone by logging in to the Client using Station ID 10. When she chooses a command in the Call Monitor (for example, Coach), TeleVantage rings her station ID (70), which passes the call to an inbound trunk, then to the Virtual User, then out to Jane's remote phone via call forwarding. Her remote phone rings, and she can pick it up to complete the Coach command.

If she needs to change the phone number where she is working, she simply changes the call forwarding number for the Virtual User.

Disadvantages to using a virtual station

The virtual station setup has the following disadvantages:

- While a normal forwarded call consumes 1 trunk port, you need 1 additional station and trunk port for every simultaneous remote user who wants to manage calls using the Call Monitor.
- When the remote user chooses a Call Monitor command, there is a delay before the remote phone rings (because TeleVantage must answer the incoming call from the station port, then call the external user).
- Caller ID is not displayed on incoming calls. You can learn who is calling by looking at the Call Monitor, or over the phone using the call screening options you may have enabled in step 4 (above).
- To use Call Monitor commands on an outbound call, the user must place the call using the Client rather than dialing it on the phone. Outbound calls dialed on the phone cannot be managed with Call Monitor commands.

TELEVANTAGE SMDR SERVICE

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Overview

The TeleVantage SMDR (Station Message Detail Recording) Service lets you send real-time call data from TeleVantage to a third-party application. Third-party applications might be anything from a printer that prints a line for each call, to call accounting software that generates detailed reports.

TeleVantage sends out the information for each call as soon as the call is ended. The information is sent as text in any of the following supported SMDR formats:

- **Lucent/Avaya Definity.** The standard SMDR format for Lucent's Definity switch, which is supported by most SMDR vendors. TeleVantage uses Lucent's "Enhanced Printer" SMDR data format. For details on the data stream sent, see "Avaya Lucent Definity SMDR format" on page F-9.
- **Toshiba CTX.** The format for Toshiba's CTX100 and CTX670 switch. For details on the data stream sent, see "Toshiba CTX SMDR format" on page F-10.
- **TeleVantage fixed-width.** TeleVantage's own format that outputs all call information that appears in the Administrator's Call Log. The information is formatted in fixed-width columns.
- **TeleVantage CSV.** TeleVantage's own format that outputs all call information that appears in the Administrator's Call Log. The information is formatted as a comma-separated string. The data stream is the same as when cutting and pasting a Call Log entry.

The SMDR Service is a Microsoft Windows Service that runs behind the scenes. It does not require that a user be logged into the PC.

You can configure settings for the SMDR Service using the TeleVantage SMDR Service Manager. See "Configuring the SMDR service" on page F-3.

Output connection options

The TeleVantage SMDR Service can send call information from the TeleVantage Server on the following connection methods:

- **COM port.** This is the standard way in which PBXs send SMDR data. To use this method, plug one end of a serial cable into the appropriate COM port on the TeleVantage Server computer, and connect the other end to the COM port of the PC or device that requires SMDR data.
- **TCP/IP Socket.** The data stream is broadcast over the network from the IP address of the TeleVantage Server. Any computer on the network (or Internet) would be able to receive the data. By default the TeleVantage TCP/IP port 1000, but you can change this to any

port. Certain TCP/IP ports are not recommended, like 23. For a list of ports to avoid, see “TCPI/IP ports to avoid” on page F-5.

Note: Only one device can listen to the TCP/IP port at a time.

- **Text File.** The data is written to text file anywhere on the network that gets constantly updated. You can have TeleVantage automatically back the file up at midnight. When using this method, the best format to use is TeleVantage CSV.

Installing the SMDR service

To use the SMDR service, install it on the TeleVantage Server computer. The SMDR service requires that the TeleVantage Client also be installed on the same PC. For instructions on installing the Client, see *Installing TeleVantage*.

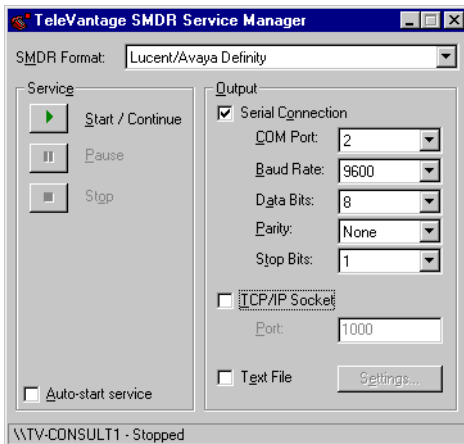
Note: You can install the SMDR service without shutting down the TeleVantage Server. However, it is recommended that you perform the installation during off-peak hours in case a Server restart is needed.

To install the SMDR service

1. Insert the TeleVantage master CD in the CD drive on the TeleVantage Server computer.
2. Run the file \SMDR\Setup.exe on the TeleVantage master CD.
3. Follow the instructions in the SMDR Service Setup window.

Configuring the SMDR service

To configure settings for the SMDR service, including the data format and connection type, run the TeleVantage SMDR Service Manager on the TeleVantage Server computer. To start it, choose **Start > Programs > Artisoft TeleVantage Server > TeleVantage SMDR Manager**.



Important: To change any configuration setting, you must either stop or pause the SMDR Service.

Starting, pausing, and stopping the service

Click the buttons in the **Service** section to **Start**, **Pause** and **Stop** the SMDR Service. You must either stop or pause the service to change configuration settings.

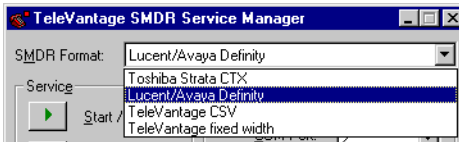
- **Stopping the service.** While the service is stopped, TeleVantage calls that complete are not reported.
- **Pausing the service.** While the service is paused, TeleVantage calls that complete are stored in a buffer. When you click **Continue**, they are reported.

Starting the SMDR service automatically on restart

Check Auto-start the service to have Microsoft Windows automatically start the service whenever the PC is started, regardless of whether anyone has logged in or not.

Choosing the SMDR format

To select the format for data sent by the SMDR Service, use the **SMDR Format** drop-down list. For a list of supported formats, see “Overview” on page F-2.

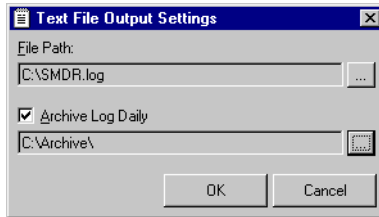


Selecting the output connection type

In the **Output** section, check whichever of the following methods you are using to connect the TeleVantage Server with your third-party SMDR application:

- **Serial connection.** Check to enable connection through a serial cable running from a COM port on the TeleVantage Server computer to an SMDR device.
 - **COM port.** Select which COM port on the TeleVantage Server computer to use. For information on selecting a COM port, see your Windows documentation. Note that COM port 1 is often used for the Dialogic BCP panel’s Watchdog mode on a TeleVantage Server, so it might not be free to use.
- **TCP/IP Socket.** Check to enable broadcasting of SMDR data on your network or the Internet.
 - **Port.** Enter the number of the TCP/IP port on which to broadcast SMDR data. For a list of port numbers to avoid, see “TCPI/IP ports to avoid” on page F-5.

- **Text file.** Check to have the SMDR Service write call data to a text file in the location of your choice. Click **Settings** to set file location and archiving options in the Text File Output Settings dialog box.



You can set the following text file options:

- Click to specify a new location or filename for the file.
- Check **Archive Log Daily** to have TeleVantage automatically begin writing to a new file every midnight, leaving the previous day's file as an archive. The filenames are numbered sequentially. Click to specify the location for the archive files.

TCP/IP ports to avoid

When choosing a TCP/IP port on which to broadcast SMDR information using a TCP/IP Socket connection, avoid the following port numbers:

Port	Traditional use
TCP25	SMTP
TCP20,TCP21	FTP
TCP80	HTTP
TCP110	POP3
TCP119	NNTP
TCP389	LDAP

For more information, see the following website:

www.ietf.org/rfc/rfc1700.txt?number=1700

TeleVantage fixed-width SMDR format

The following table shows the data stream for the TeleVantage fixed-width SMDR format:

Position	Description	Width in characters
1	Direction. <ul style="list-style-type: none">■ 0 - Inbound■ 1 - Outbound	1
2	From Name. Name of the person who originated the call. On incoming calls, "Unknown" appears unless the caller has been identified as a global contact. On outgoing calls, the name of the user who placed the call.	15
3	To Name. Name of the party who received the call. On incoming calls, this is the name of the user who took the call. On outgoing calls, "Unknown" appears unless the person has been identified as a global contact.	15
4	Answered By. Name of the user who answered an incoming call. Useful for analyzing data for call centers.	15
5	Number. Phone number of the caller or the person you called. For incoming calls, the Caller ID information that came in with the call, if available. For a call to or from another TeleVantage user, this field contains <NA>.	30
6	From Number. Number the call came from. For incoming calls, the caller's extension or external phone number. For outgoing calls, the extension of the user who placed the call.	15
7	To Number. Number the call was placed to. For incoming calls, the extension of the user who was called. For outgoing calls, the external number or extension that was called.	15

Position	Description	Width in characters
8	Callback Number. If a caller enters a callback number, it appears with the prefix "Callback:"	15
9	DID. The DID of the incoming call.	10
10	Start Time. Date and time when the call started.	17
11	Wait Time. On incoming calls, the length of time from when the caller selected an extension to when the user picked up. On outgoing calls, Wait Time is always 00:00.	8
12	Duration. Length of the call, after the two parties are connected.	8
13	Result. How the caller's wait ended: <ul style="list-style-type: none"> ■ 0 - Abandoned. The caller hung up before call was answered. ■ 1 - Connected. The caller was connected to a party. ■ 2 - To voice mail. The caller went to voice mail, but did not necessarily leave a message. ■ 3 - Blind transfer. A blind transfer sent the caller to another party. ■ 4 - Supervised transfer. A supervised transfer sent the caller to another party. 	1
14	Account Code. The Account code for this call	10
15	Message. <ul style="list-style-type: none"> ■ 0 - no message ■ 1 - the caller left a voice message. 	1

Position	Description	Width in characters
16	From Device. On incoming calls, the trunk or extension from which the call originated. On outgoing calls, your station number.	11
17	To Device. On incoming calls, your station number. On outgoing calls, the trunk used for the call. If an incoming call was transferred, To Device shows the last station that took the call.	11
18	Parties. Number of people who took part in the call, including the caller, the called party, anyone to whom the call was transferred, and any conference call participants.	2
19	Dial String. Digits that TeleVantage actually dialed over the trunk, which may be different than the digits TeleVantage displays in a contact's phone number. For example, a dial string may contain an international or long-distance access code, least cost routing information, or a dialing prefix or suffix.	15
20	From Type. Type of incoming call: Phone, Centrex, or Internet.	1
21	From Code. Access code of the dialing service that will be used to return this call. Only applicable to calls coming in from remote TeleVantage Servers over an Internet trunk.	1
22	From Rules. <ul style="list-style-type: none"> ■ 0 - No rules ■ 1 - TeleVantages dialing rules will be applied when returning this call. 	1
23	To Type. Type of outgoing call: Phone, Centrex, or Internet.	1

Position	Description	Width in characters
24	To Code. Access code used to dial an outbound call.	5
25	To Rules. If checked, dialing rules were used to make an outbound call.	1
26	Custom Data. Custom data, if any, associated with the call. For most systems this will be blank.	30

Avaya Lucent Definity SMDR format

The following table shows the data stream for the Avaya Lucent Definity SMDR format:

Position	Description
1-4	Time of day (HHMM)
5	Space
6	Duration - hours
7-8	Duration - minutes
9	Duration - tenths of minutes
10	Space
11	Condition Code
	"9" - Inbound
	"7" - Outbound
	"0" - Internal
12	Space
13-15	Dialing Service
16	Space
17-19	TAC Trunk Access
	Inbound: Blank
	Outbound: Trunk Number
20	Space
21-35	Digits Dialed

Position	Description
36	Space
37-41	Station Number
	Inbound: Trunk Number
	Outbound: Extension
42	Space
43-57	Account Code
58	Space
59-82	Ignored in TeleVantage implementation of this format
83	Carriage Return
84	Line Feed

Toshiba CTX SMDR format

The following table shows the data stream for the Toshiba CTX SMDR format:

Position	Description
LINE 1 Basic Call Information	
1	Record Type <ul style="list-style-type: none"> • "B" - Abandoned • "N" - Normal Inbound/Outbound Call
2	Blank
3-5	"001" - Record Number
6	Blank
7-12	Node ID (Ignored in our implementation)
13	Blank
14-22	Origin Information <ul style="list-style-type: none"> • Inbound: "T001" + Trunk # (000-999) • Outbound: "DN" + Extension Number • Internal: "DN" + Extension Number
23	Blank

Position	Description
24-32	Termination Information <ul style="list-style-type: none"> • Inbound: "DN" + Extension Number • Outbound: "T001" + Trunk # (000-999) • Internal: "DN" + Extension Number
33	Blank
34-47	Time Stamp (MM/DD HH:NN:SS)
48	Blank
49-58	Call Duration (HH:NN:SS + ".o")
59	Blank
59	Blank
60-91	Number Dialed
92	Carriage Return
93	Line Feed
LINE 2 CallerID and DID	
1	Blank
2	"&"
3-19	CallerID
20	Blank
21-39	Blank (Ignored in our implementation)
40-46	DNIS/DID
47-62	Blank (Ignored in our implementation)
63	Carriage Return
64	Line Feed
LINE 3 Account Code (optional, will not appear if no account code)	
1	Record Type <ul style="list-style-type: none"> • "B" - Abandoned • "N" - Normal Inbound/Outbound Call
2	Blank
3-5	"002" - Record Number
6-47	Mirror of Line 1

Position	Description
48-59	Blank
60-91	Account Code
92	Carriage Return
93	Line Feed

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