Strata®*CS*

Communication Server

Release 4.0

Administrator Manual

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OVERVIEW OF UPGRADING AND CONFIGURING STRATA CS

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Welcome to Strata CS _____

Toshiba's Strata CS is dramatically improving the way business professionals communicate. An intelligent phone system designed specifically for small- to medium-sized businesses and branch offices, Strata CS combines the power of the desktop computer with the most advanced communications technology available. With Strata CS you have unprecedented call management that lets you maximize your productivity while controlling costs. Strata CS offers you more functionality than a stand-alone PBX, and at a lower price.

Significant Strata CS features

The following is a partial list of significant Strata CS features.

- **Fault Tolerant architecture** is designed to keep your phone system up and running. If the network or your desktop PC goes down, your phone lines are unaffected. Even in the case of a Strata CS server malfunction or power outage, your critical phone lines will stay open.

- **Multi-line call control** gives you an easy graphical 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 you can use Strata CS even without a PC.

- **Full-featured voice mail** lets you create caller-specific greetings, log in remotely, and manage your voice messages graphically. You can also easily call back the person who left you a message.

- **E-mail and pager notification** of incoming voice mail, with or without voice mail attachments.

- **Advanced caller identification** via PIN or caller ID 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.

- **Personal Status** lets you create vacation, out-of-the-office, and other status settings for ringer, greeting, and routing list behavior when you are not able to answer calls.

- **The Strata CS Web Client** enables users with a 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 set different routing lists for the callers you choose.

- **Call logging** lets each user see a record of his or her own calls, while giving administrators access to the company's complete log.

- **Automatic call distribution (ACD)** lets you create call center workgroups, keep a call log of workgroup activity, and use the Call Center Reporter to analyze workgroups, agents, hold time and more.

- **Scheduled auto attendants** allow greetings to change and calls to be routed to different extensions at different times of the day and days of the week.

- **Built in Internet H.323 gateway** saves money by routing calls over the Internet or your intranet. It supports tie-lines between branch offices, and even allows your customers to call you from a Web page.

- **TAPI Service Provider and Contact Manager Assistant** let you use Act!, Outlook, GoldMine, or other TAPI-compliant applications, including Front Office 2000, with Strata CS. You can place calls and receive screen-pop identifications when you receive calls.

- The **Strata CS SDK** lets you extend Strata CS functionality. The IVR Plug-in API lets you integrate IVR and call control applications that pass caller input or database information to Strata CS users, place outbound calls; process initial command line arguments defined in the Administrator; and, for security purposes, determine if the caller is a Strata CS "logged in" user. Use the Client API for applications that require a subset of the functions available in the Client (for example, monitoring the status of stations and trunks).

- **Multi-lingual system prompts** let both users and callers select the language of their choice for Strata CS's verbal commands.

- **Support for CLASS feature phones** with caller ID displays, caller ID on Call Waiting and message waiting lights.

What's New in Strata CS 4.0 _____

New features in Toshiba Strata CS 4.0 include the following:

- **Completely Rewritten Client Application.** The Strata CS Client has been rewritten using a collection of COM objects that make it more modular, internationalized, and flexible. Third-party developers can use these COM objects to build custom applications that can harness all of the Client's data and call information. Third-party applications will be able to do anything the Client does.

- **Monitor Calls from Multiple Users and Queues.** You can click the appropriate tab in the Call Monitor and see any calls that ring your phone, calls in ACD workgroups, or call center queues. You can also share your Call Monitor with other users, so that they can cover your calls as needed. You no longer need to run multiple Clients to see and manage these calls.

- **Call Center Queues.** Call center queues can be configured to distribute calls to agents using a variety of distribution algorithms. Agents can sign in/out of one or more queues, see calls in queues and take them before being offered them, if they so choose. Queues can prompt callers for Customer ID numbers or other data. On-hold messages can be highly customized or can change based on caller data.

- **Calling workgroups.** You can call a public workgroup's extension to ring all of the users' phones in the workgroup at the same time.

- **More drag and drop.** Drag a message or Call Log entry onto the Call Monitor to call it back.

- **Ringback numbers.** Your callers can enter a ringback number by pressing a specific key while they listen to the voice-mail greeting. This feature is useful when caller ID is inaccurate or is not available at all.

- **Dialing toolbar.** You can quickly enter a number to dial using the optional dial toolbar without opening

- **Drag and drop to make calls, transfers, conferences, and more.** You can drag a call onto an extension to transfer the call to that extension. To call an extension, drag the extension from the extension pane onto the Call Monitor. To create a conference, hold down the shift key drag and a call onto another call and drop.

- **Integrated Call Monitor and Extensions panes .** The optional Extensions pane shows the system's extensions (users, and so forth) along with the Call Monitor's calls. The optional Calls pane lets you manage your calls in any Strata CS view, such as the Voice Messages view. See the **View** menu to turn the optional panes on or off.

- **Personal Status.** You can indicate to your co-workers what you are doing by setting your personal status to Available, In a Meeting, Out of the Office, Do Not Disturb, and more. You can see everyone's personal status in the extensions pane, just like they can see your personal status. You can create personal status settings that can change your forwarding number, your active greeting, your routing list, or prevent your phone from ringing. You can also create custom personal statuses such as On Sales Call, or At Client Presentation. Personal statuses can be selected from the Client or from the phone while you are on the road. Personal statuses replace Do Not Disturb in previous versions.

- **Workgroups.** Workgroups are collections of extensions, such as all the users in Sales and Marketing. Workgroups appear as tabs in the extensions pane so that you can quickly find people in different departments. To pick up a ringing phone within workgroups you are a member of, pick up the phone and press *99. Users can create personal workgroups that help them quickly find people they work with. Workgroups can group related items

together such as auto attendants, queues, IVR plug-ins, and contacts. Workgroups replace Contact Groups used in previous versions.

- **Call Rules.** You can change the way calls are handled based on who calls or a particular date or time. For example, you can automatically send specific calls to voice mail during lunch, change your personal greeting after hours, or forward calls from your mother or special co-workers to your cell phone. Call rules replace people rules and Smart Do Not Disturb used in previous versions.

- **Hands-free Answering.** You can leave your phone off-hook while waiting for calls and will not hear dial tone. When a new call arrives, you hear a zip-tone and then you are connected to the call. Connect an overhead speak to a station using hands-free answering to set up a paging system.

- **Permissions.** User groups provide administrators a way to assign permissions to a group of people, similar to Class of Service. Users can now inherit permissions from one or more groups, such as Administrators or Users.

- **Account Codes.** You can use account codes to help track calls back to one or more "accounts" such as clients or customers you may need to bill. Account codes can be used for any call, are saved in the Call Log, and can be reported on using the Call Center Reporter. Administrators can optionally force that users enter account codes for every call on a per user basis. Account codes can be optionally verified against a list configured by the Administrator.

- **New Call Center Reporter.** The new Call Center Reporter does not require any roll-ups or separate roll-up database. All reports are run directly from the Strata CS server and get the latest data. Several new reports allow better analysis of call center, trunk, and agent performance and behavior.

- **Custom greetings in Routing Lists.** You can define special greetings between routing list actions, such as "Attempting to call my cell phone, please stay on the line." You can also define special greetings for final actions.

- **Streamlined Place Call To Dialog Box.** The Place Call To dialog box has been optimized so that in one place you can easily make calls to any contact, extension or number, including your own home, mobile, and other personal numbers.

- **Easily forward your calls to your remote phone.** If caller ID is available, you can press *51 from the account menu to forward your calls to a remote phone, such as your cell phone.

- n **Voice Mail Bookmarks.** Drag the green bookmarks to save the beginning and end of an important segment of a voice message. After you set the bookmarks, the message is only played between the bookmarks.

- n **Windows Performance Counters.** Strata CS now includes several standard Windows performance counters that can show you the number of calls in use, total calls handled, and more.

- n **Custom folders and folder list.** You can organize your contacts, messages and greetings in different folders. Display the folder list to quickly jump between any folder or view.

- n **Share Contacts.** Share any contacts folder to other users, just like you can share any messages folder or your Call Monitor.

- n **Custom data easier to use.** Custom data items are now centrally defined in the Administrator so that it is easy to see a list of all custom variables that can be associated with calls.

Miscellaneous new features

- n Voice messages include a list of all recipients, allowing you to reply to all of them at once

- n 5-Digit extensions are now supported

- n Extensions and station IDs are automatically suggested when you create new users

- n All Call Log entries are displayed at once in the Client, instead of a page at a time

What's automatically upgraded

The following items are upgraded automatically when you upgrade to Strata CS 4.0:

- n Contact groups become workgroups

- n Permissions

- n Routing lists and greetings

- n People rules become call rules

- n Personal status

- n Phone settings

- n Folders

- n Custom data

Before you begin _____

Before you begin to upgrade Strata CS or configure it for the first time, first complete the following tasks as described in *Strata CS Installation & Maintenance Manual*:

n Install the Dialogic hardware and drivers in the Strata CS server computer.

n Physically connect your trunks and stations.

n Install the Strata CS server and Strata CS Administrator.

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

Changes in Strata CS from version 2.1 to 3.0 or later _____

The following administrative tasks have changed in this version of Strata CS:

n Licensing has changed. See "About Strata CS licenses" on page 3-2.

n Outbound calls are now made via dialing services that you create and configure in the Administrator. See "About dialing services" on page 8-2.

n Dialing services provide a way to restrict the numbers that can be dialed by all users. You can also define exceptions to further restrict or permit user dialing. See "Permissions tab" on page 8-26.

n Location settings and dialing rules are now part of dialing services, and must be defined separately for each service. See "Location Settings tab" on page 8-20.

n Business hours and holidays are now defined centrally. This lets both users and administrators set up features that change automatically according to schedules. If you previously had auto attendants that included business and holiday hours, those hours must be redefined in system settings. See "Business Hours" on page 4-5.

n Based on the business hours you defined, auto attendants can now include scheduled greetings or transfers (to other auto attendants or IVR Plug-ins). See "Scheduling transfers and greetings" on page 9-14.

n Robbed Bit T1 signalling is now defined using the Robbed Bit T1 Experimenter instead of the Administrator. See *Installing Strata CS* for more information.

n Fax routing is now set up at the trunk level. Several other trunk properties have moved to dialing services. See "Setting up fax routing" on page 5-7.

n An ACD workgroup user can be configured so that only supervisors can put an ACD workgroup in Do Not Disturb. See the *Strata CS Call Center Administrator Guide* for details.

- n You can no longer enter # at the beginning of a phone number to bypass least cost routing for the call. Instead, create another dialing service that does not use least cost routing.

- n `*8900` to hear a station ID has been replaced with `*0`.

Wherever possible, Strata CS 2.1 settings are upgraded seamlessly to work with new Strata CS features.

For example, dialing permissions—set for dialing services and users—have replaced the old dialing exceptions, previously set only at the user level. When you upgrade to this version of Strata CS, all Strata CS 2.1 users are assigned the permissions setting **Use dialing service permissions except the following**, and their preexisting dialing exceptions are carried forward.

Changes in Strata CS 3.0 or later _____

The following administrative tasks have changed in this version of Strata CS:

- n **Workgroups.** You can arrange users into specific workgroups (such as Sales, Marketing, Gold Box Team, and so forth) to better manage calls, or share specific information. Workgroups can also include auto attendants, queues, IVR plug-ins, and contacts. Workgroups replace Contact Groups. See Chapter 7, "Managing Workgroups."

- n **Account codes.** Account codes can be entered on any call to help track calls back to one or more "accounts" such as clients or customers you may need to bill for. Account codes are saved in the call log and can be reported on using the Call Center Reporter. Administrators can optionally force account codes be entered for every call on a per user basis. Account codes can be set up to be verified against a list of valid account codes.See Chapter 10, "Using Account Codes."

- n **User permissions.** You can now assign permissions to groups of users. User groups provide administrators a way to assign permissions to a group of people, similar to Class of Service. Users can now inherit permissions from one or more groups such as Administrators or Users. See "The Permissions tab" on page 6-37.

- n **New Call Center Reporter.** Accessible from the Client's **Tools** menu, the new reporter does not require any roll ups or separate roll-up database. All reports are run directly from the Strata CS server and get the latest data. Several new reports allow better analysis of call center, trunk, and agent performance and behavior.

- n **Windows Performance Counters.** Strata CS now includes several standard Windows performance counters that can show you the number of calls in use, total calls handled, and more.

- **Custom data easier to use.** Custom data items are now centrally defined in the Administrator so that it's easy to see a list of all custom variables that can be associated with calls.

- **Miscellaneous new features and changes.**

  - Five-digit extensions are now supported

  - Extensions and station IDs are automatically suggested when creating new users

  - Personal Status has replaced Do Not Disturb (DND)

  - Call Rules replace People Rules and Smart DND

  - In the Client, Extensions view replaces User view

Wherever possible, Strata CS 3.x settings are upgraded seamlessly to work with new Strata CS features.

Configuring Strata CS for the first time _____

When you are configuring your Strata CS system for the first time, you must complete the following tasks, which are explained in detail in the remainder of this manual:

1. **Add licenses.**

   To configure Strata CS, you must first enter the license codes that your system requires. See "About Strata CS licenses" on page 3-2.

2. **Configure system settings.**

   For more information, see "About system settings" on page 4-2.

3. **Configure your trunks.**

   In addition to physically connecting your trunks, you must define them in the Trunks view in the Administrator in order to use them, and configure the trunk behavior. This is true for every kind of trunk—analog, T1, E1 or Internet. See "Adding trunks" on page 5-3.

4. **Create users.**

   Define your Strata CS users, assign them stations, extensions and passwords, record their voice titles, set up their voice mailboxes and define their permissions. See "About adding a user" on page 6-7.

5. **Set up outbound call handling.**

   See Chapter 8, "Managing Outbound Calls."

6. **Set up call routing for inbound calls.**

   You can have calls sent to an operator or directly to users via direct inward dial (DID) without going through the main auto attendant. See

"About call routing" on page 9-2.

Optionally, you can route calls to an auto attendant that answers incoming calls automatically and lets callers enter extensions to connect with users. If you want to use auto attendants, record a greeting and prompts for each one, and set up any options that your menu should offer the caller. Apply scheduling to your auto attendants to have them change with your business hours. See "About auto attendants" on page 9-4.

Where to get help_____

You can get help from Strata CS documentation and from your Strata CS provider.

Strata CS documentation

Strata CS includes the following documentation:

- n *Strata CS Administrator Manual*—This manual contains instructions for configuring and managing your Strata CS system, including Strata CS Administrator system settings, licenses, trunks and stations, users, dialing services, auto attendants, inbound and outbound call routing, and system prompts.

- n *Strata CS Client User Guide*—This manual describes how to use Strata CS's Client Web Client, Contact Manager Assistant, TAPI Service Provider features, and the telephone commands.

- n *Strata CS Call Center Administrator Guide*—This manual contains complete instructions for setting up and maintaining a call center in which multiple agents answer calls to a single number, such as a sales or customer support department.

- n *Strata CS Quick Reference Card*—This wallet-sized card is a convenient reference for the Strata CS telephone commands.

- n *Strata CS Quick Reference Guide*—This quick-start guide for new users describes basic Strata CS commands for the Client and telephone.

- n *Strata CS SDK and API Programming Guide*—This manual describes how to extend Strata CS's built-in features using the Client API, the IVR Plug-in API, and Device Status API.

- n *Online Help*—Context-sensitive Help is available in all Strata CS applications. To access Help in the current dialog box, click the **Help** button or press F1.

This table list the available components in the Strata CS documentation set and the presentation format:

Document	Printed	Online Book	Acrobat (PDF)
Strata CS Installation & Maintenance Manual	Yes	Yes	Yes
Strata CS Administrator Manual	Yes	Yes	Yes
Strata CS Client User Guide	Yes	Yes	Yes
Strata CS Call Center Administrator Guide	Yes	Yes	Yes
SDK and API Programming Guide	Yes	No	Yes
Strata CS Quick Reference Card	Yes	Yes	Yes

Notes:

- n The online books are available in HTML-based format. To access an online book, click **Help > Online Books** from any Strata CS application.

- n The PDF-formatted books are available on the Strata CS CD, in the Manuals directory. Use Adobe Acrobat Reader—also available on the Strata CS CD—to view and print these files.

Your Strata CS provider

Contact your Strata CS provider for technical support. To view your provider's contact information, choose **Help > About** from the Strata CS Client or Administrator.

CHAPTER 2

THE STRATA CS ADMINISTRATOR

CHAPTER CONTENTS

About the Strata CS Administrator_____

The Strata CS Administrator is a Microsoft Windows program that lets you configure, monitor, and manage your Strata CS system. Through the Administrator you can control the following items:

- n System settings (see Chapter 4)
- n Trunk configuration (see Chapter 5)
- n User configuration and permissions (see Chapter 6)
- n Workgroups (see Chapter 7)
- n Dialing services (see Chapter 8)
- n Auto attendants (see Chapter 9)
- n System prompts (see Chapter 12)
- n IVR Plug-ins (see Chapter 14)
- n Queues (see *Strata CS Call Center Administrator Guide*)

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

Linking computers and phones
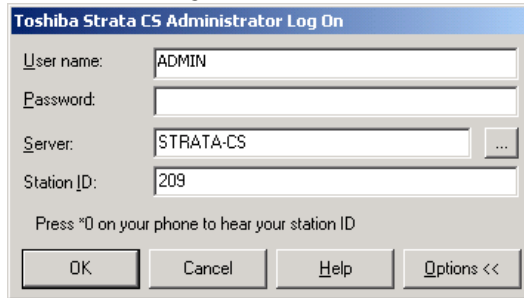
Strata CS runs simultaneously on two communication systems:

- n **Your internal telephone wiring.** Connects the Strata CS Server to users' telephones around the office.
- n **A Microsoft TCP/IP Local Area Network.** Connects the Strata CS Server to users' Windows PC workstations. This network is required if users will be running the Client or the Administrator on a computer other than the Server. This is the typical setup in most installations.

For information about the network and phone wiring in your office, consult the appropriate vendor. For details on configuring the network for Strata CS, see *Strata CS Installation & Maintenance Manual*.

Logging on to the Administrator

1. Choose **Start > Strata CS Administrator**. The Log on dialog box opens.

2. If you want to change your default Server or station ID, click **Options** to view the expanded dialog box. You also can log on as a different user to access this dialog box.

Toshiba Strata CS Administrator Log On	
User name:	ADMIN
Password:	
Server:	STRATA-CS
Station ID:	209

Press *0 on your phone to hear your station ID

[OK] [Cancel] [Help] [Options <<]

3. Type your **User name**.

A user called "Admin" exists by default. To create other administrators, you must add users to whom you give Administrator permissions (see "The Permissions tab" on page 6-37).

4. Type your **Password**. The Administrator password is set to 100 at installation. Change the password for the Administrator user after you log on for the first time (see "Creating a password" on page 6-14).

5. If you want to log on to a different Server than the one already selected under **Server**, choose a Server name on the drop-down list.

6. If you want to change your station ID, enter a valid station ID in the **Station ID** field.

7. Click **OK**.

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

The Administrator interface _____

The Strata CS Administrator interface is composed of *views* (see "Working in views" on page 2-5). Views are used in Strata CS to configure, manage, and monitor the components of the Strata CS system.
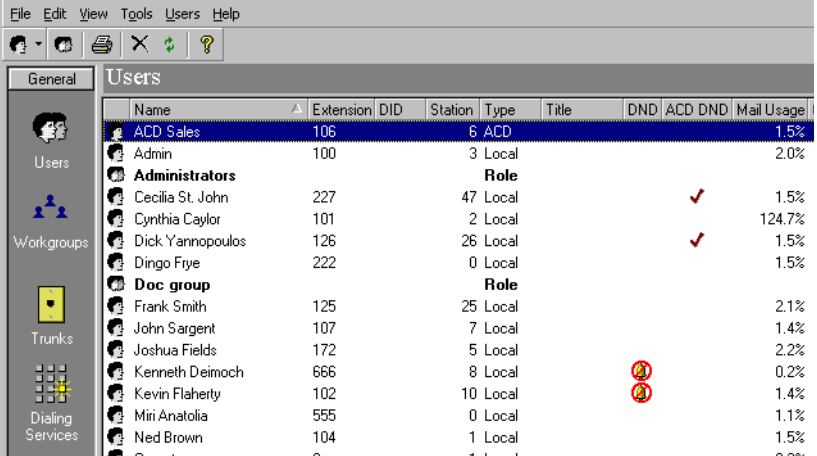
This section introduces the Strata CS Administrator's views, explains how to work in views, and shows you how to perform basic tasks in them. It also explains how to work with voice files.

	View	Description	See
	Users	Add, edit, and delete Strata CS users. Includes changing passwords and allotting users disk space for voice mail messages and greetings.	Chapter 6, "Managing Users and Stations"
	Workgroups	Create and manage workgroups (groups of related extensions or contacts).	Chapter 7 "Managing Workgroups"
	Trunks	Manage the phone lines that connect your Strata CS system to the public phone network.	Chapter 5, "Managing Trunks and Spans"
	Dialing Services	Create and manage dialing services, which define outbound trunk allocation and dialing behavior for groups of trunks.	Chapter 8, "Managing Outbound Calls"
	Device Monitor	View and manage Strata CS stations and trunks.	Chapter 11, "Monitoring & Backing Up"
	Auto Attendants	Create, modify, and delete auto attendants.	Chapter 9, "Handling Inbound Calls"
	Queues	Create and manage groups of agents in Strata CS call center queues.	*Strata CS Call Center Administrator Guide*
	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 the calls made on the system.	Chapter 11, "Monitoring & Backing Up"

	View	Description	See
	IVR Plug-Ins	Manage Strata CS IVR Plug-ins, the interactive voice response applications that share the Dialogic hardware with the Strata CS Server.	Chapter 14, "Extending Strata CS"
	IP Gateways	Create, modify, and delete IP Gateways, by which you can exchange calls with remote Strata CS Servers over the Internet or an IP network.	Chapter 13 "Configuring Internet Telephony Support"
	Maintenance Log	Tracks specific actions and presents details about each action	Chapter 11 "Monitoring & Backing Up"

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.

You can also open a view by clicking one of the choices under **View** on the main menu bar.

The main part of a view contains rows of the *items* that pertain to that view. For example, in the Users view, each Strata CS user appears as an item on a row. In some views, such as the Users or the Trunks view, you can double-click an item to open the related dialog box for the item. For example, in the Users view,

double-clicking an item opens the User dialog box for that user. This dialog box contains Strata CS settings for that user. Some views, such as the Call Log and Device Monitor, display read-only information that cannot be expanded or changed.

Using commands in a view

A command always affects the item or items that are selected. You can access commands in a view by the following methods:

- n Selecting an item or items and choosing a command from the view's menu. For example, in the Trunks view, click the **Trunks** menu and choose a command.

- n Selecting an item or items and clicking a toolbar button (see the next table).

- n Right-clicking an item in a view and choosing a command from the shortcut menu. Right-clicking an item selects it and opens the shortcut menu, so it is often the fastest way to perform an action.

Using the Administrator toolbar

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

Some toolbar buttons change depending on the view. For example, the buttons in the next table for new items in Strata CS each appear as the first button in their respective views.

	New User	Create a new user.
	New Workgroup	Create a new workgroup.
	New Trunk	Create a new trunk or digital span.

	New Auto Attendant	Create a new auto attendant.
	New Queue	Create a new queue.
	New Dialing Service	Create a new dialing service.
	New IVR Plug-in	Create a new IVR Plug-in.
	Print	Print the contents of the current view.
	Delete	Delete the selected item.
	Refresh	Refresh and update the current view.
	Help	Open the Strata CS Administrator Help.

Performing basic actions in the Administrator

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

- n Creating items
- n Deleting items
- n Renaming items
- n Copying and pasting items
- n Customizing columns

Creating items

In any view, clicking the first toolbar button opens a dialog box for a new item associated with that view. For example, in the Users view, clicking the first toolbar button opens a User dialog box with the title **Untitled - User**.

You can also click the small arrow to the right of the first toolbar button and use the menu that opens to create any new Administrator item. The arrow is available in every view.

You also can create all items from any available view. To create a new item, choose **File > New**.

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**.

3. Choose **Edit > Paste**. A User 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 the this information as a basis for creating a new item.

4. Enter the information about the new item in the dialog box.

5. Click **OK** to save the changes as a new copy.

Deleting items

1. Right-click the item. To select more than one item, use SHIFT-click or CTRL-click.

2. Choose **Edit > Delete**. In the confirmation dialog box that opens, click **Yes** or **No**.

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 and pasting items

Copying a row in any view places the information about the item in that row on the clipboard as text, for easy pasting 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 11-22.).

Customizing columns

Click a column header to sort by that column. Click again to sort in the reverse order. The triangle 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. Strata CS 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.

Strata CS supports the following file formats for voice files:

- ₙ .WAV
- ₙ .VOX (a-law and μ-law formats)

The Strata CS Server natively uses 8-bit PCM .VOX format.

Changing the voice file format

You can change the format of your Strata CS .VOX voice files from a-law to μ-law, or from μ-law to a-law by using the TVConvert utility. To do so:

1. Run the file `TVConvert.exe` in the Strata CS Server directory on the Strata CS Server computer. The default path is:

`C:\Program Files\Strata CS Server\CSConvert.exe.`

2. Click **OK** to convert all your Strata CS voice files to the other format. If the voice files are a-law, they become μ-law. If they are μ-law, they become a-law.

In most cases you will not need to use this procedure, because your voice file format will have been correctly set by your Strata CS provider.

Using the audio controls

Strata CS makes it easy to create and listen to recordings. The following controls appear in Strata CS wherever you can make a recording.

To create recordings, use the buttons on the recording control 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.

		4.80	seconds

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).
		Strata CS 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 (µ-law format for North America and Japan, a-law 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

Strata CS 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**.

STRATA CS LICENSES

CHAPTER CONTENTS

About Strata CS licenses_____

The following types of licenses are required for your Strata CS system:

- n **Server license.** One license for each Strata CS Server. A Server license is provided when you purchase Strata CS. The Server license authorizes you to run one copy of the Strata CS Server. Only one Server license is required per Strata CS Server regardless of the number of trunks or users.

- n **Trunk licenses.** One license for each analog, T1, E1, or BRI trunk that is connected to the Strata CS Server.

- n **IP Port licenses.** One license for each Internet trunk that is connected to the Strata CS Server.

- n **Station licenses.** One license for each internal telephone that is connected to the Strata CS Server. A station license is also required for each running instance of an IVR Plug-in. For more information about how to enter licenses for IVP Plug-ins, see Chapter 14, "Extending Strata CS."

- n **Client licenses.** One license for each computer that is using Strata CS. One Client license allows a user to log on to multiple Clients or to have multiple Client API sessions using a single user name and password. An additional Client license is required each time a user logs on using a different user name and password.

- n **Call Center Agent licenses.** Each agent in a call center queue must have a license. A single licensed agent can participate in multiple call center queues. Call Center Agent licenses are also used by the Strata CS Call Center Reporter. If you want to use the Reporter, even for non-queue reports such as call activity on trunks, you need a minimum of four Call Center Agent licenses.

To see a license summary that shows the total number of each type of license currently installed on the Server, in the Administrator choose **Tools > System Settings**, and then click the Licenses tab.

The **Stations** field under **License summary** displays the total number of licenses.

You must supply the appropriate license serial numbers and verification keys to the Server before you can use the corresponding trunks, stations, and Strata CS Clients. For this reason, you may want to purchase additional licenses for expected system growth so that you do not have to wait for a license the next time you expand your system.

Entering licenses_____

You must enter your Strata CS Server license, as follows, before you enter any other licenses and before you configure the Server.

To enter your Strata CS Server license

1. Select **Tools > System Settings**, and then click the Licenses tab.

```
System Settings
  General | Licenses | Call Log | Storage | Dialing | Emergency | Other |

  Show license category:    Server

  Serial number:            56500000001

  Verification key:         AFD6-01E6-81E8

  ┌─ License summary ──────────────────────────────────────────┐
  │  Stations: 48       Trunks: 48            Clients: 48       │
  │  IP Ports: 48       Call Center Agent: 48                   │
  └────────────────────────────────────────────────────────────┘

           OK          Cancel          Help
```

2. Select **Server** from the **Show License Category** drop-down list.

3. Enter the **Serial number** and **Verification key** in the corresponding fields.

4. Click **OK**.

To enter all other license types

   1. On the Licenses tab, select the license type from the **Show License Category** drop-down list.
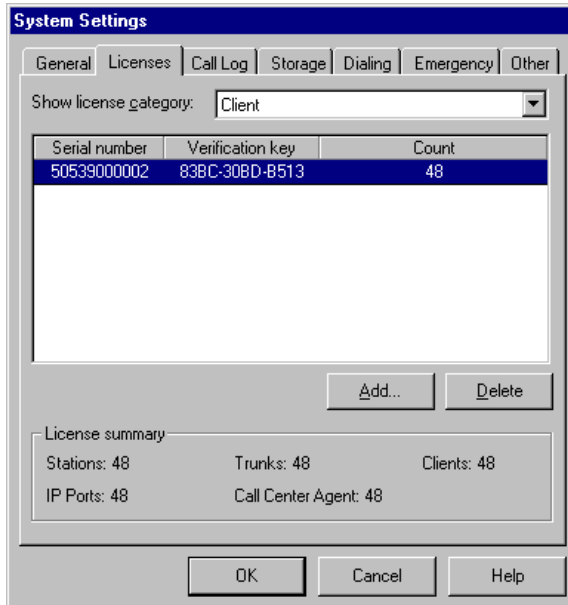
   2. Click **Add**. The Modify License dialog box opens.

   3. Enter the license serial number and verification key and click **OK**.

   4. If you are entering more than one license, repeat the procedure until you have finished entering all licenses.

   5. Click **OK** on the Licenses tab of the System Settings dialog box.

Removing licenses _____

You can remove installed licenses and use them on another Strata CS Server as long as you do so according to the following rules:

   n   Before you remove a Trunk, IP Port, or Client license, you must delete the trunk or user that had used the license from the system configuration (see "Deleting trunks" on page 5-3 and "Deleting a user" on page 6-42).

   n   Before you remove the Server license, make sure that you have removed all Trunk, IP Port, Station, Client, and Call Center Agent licenses.

To remove all licenses

1. Choose **Tools > System Settings**. The System Settings dialog box opens.

2. On the Licenses tab, select the license type from the **Show License Category** drop-down list.

3. Select the license that you want to remove.

4. Click **Delete** and then click **OK** to close the System Settings dialog box.

To remove the Server license

1. Verify that you have removed all other licenses.

2. On the Licenses tab of the System Settings dialog box, select **Server** from the **Show License Category** drop-down list.

3. Delete the serial number and verification key that are displayed in the fields.

4. Click **OK** and then click **Yes** or **No** when the system prompts you for confirmation.

CHAPTER 4

DEFINING SYSTEM SETTINGS

CHAPTER CONTENTS

About system settings _____

System settings control overall system behavior. Before you can add Strata CS trunks or users, you must define your system settings using the tabs in the System Settings dialog box. You can use system settings to customize Strata CS as your system develops.

To open the System Settings dialog box, choose **Tools > System Settings**.

This chapter assume you have already entered the required licenses (see Chapter 3) and describes how to create system settings by using the following tabs in the System Settings dialog box:

- n **General.** Use to set number of rings before answering, set hold audio, generate tones using software, select default language for system prompts, set up Windows NT Event Log notifications, and define business hours.

- n **Call Log.** Use to set configuration and archiving options for the Call Log (see "Using the Call Log" on page 11-7).

- n **Storage.** Use to view current disk usage and set locations for backups of voice files and the database (see "Monitoring database and disk usage" on page 11-11).

- n **Dialing.** Use to set up access codes for the dial-by-name directory and trunk access. Also use to set default access codes and dialing timeouts.

- n **Emergency.** Use to configure emergency dialing options.

- n **Other.** Use to configure the dial-by-name directory, present a confirmation menu before sending callers to voice mail, set up Microsoft Exchange synchronization, and set the minimum password length.

Customizable settings

Here are some frequently referenced settings that you can customize:

- n Set minimum password length (see page 4-20).

- n Use hold audio (see page 4-4).

- n Specify the number of rings before Strata CS answers a call (see page 4-3).

- n Select the default language for system prompts (see page 4-4).

- n Set special access codes (see page 4-12).

- n Configure Microsoft Exchange synchronization (see page 4-19).

- n Set up business hours and holidays (see page 4-5).

- n Set up 911 and E-911 dialing (see page 4-14).

- n Set dial-by-name directory options (see page 4-17)

Changing Windows NT/2000 registry settings

Some Strata CS settings are maintained in the Windows NT/2000 registry. These are low-level settings that are rarely changed, or settings that cannot be changed from the Administrator. For a complete description of these settings, see Appendix A, "Strata CS Configuration Settings."

Rerecording voice prompts

For information about how to rerecord the Strata CS system prompts or translate them into another language, see Chapter 12, "System Prompts."

The General tab _____

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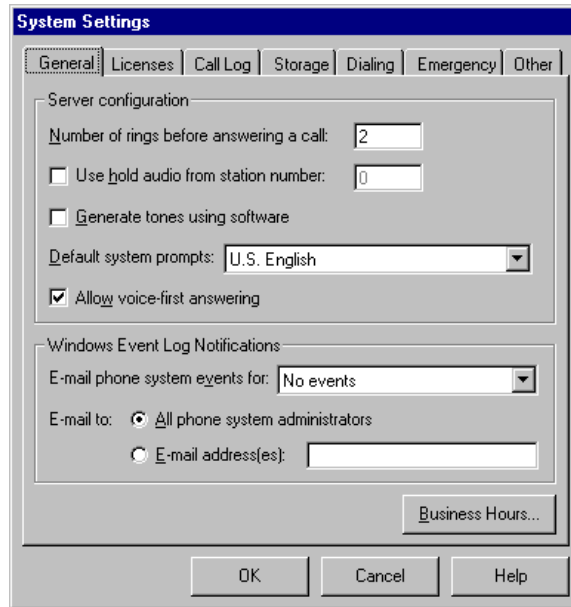
Server Configuration

- n **Number of rings before answering a call.** For analog trunks only, this field sets the number of times Strata CS allows the phone to ring before it answers the call.

  The default of 2 rings allows for the capture of caller ID on analog trunks. In the U.S. this information appears between the first and second ring. In other areas, such as the U.K., or when using digital trunks, 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.

n **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-on-hold device that is attached to the specified station. It is highly recommended that you use music on hold for systems with ACD workgroups or follow-me call forwarding.

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

n **Generate tones using software.** Check this box to generate dial, reorder, ringback, and stutter dial tones using Strata CS software. This feature supports Dialogic boards that do not generate these tones in hardware.

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

n **Default system prompts.** Use this drop-down list to select the language version of system prompts presented to callers and users on the Strata CS system.

U.S. English is installed by default. You must reinstall Strata CS to access additional languages, such as U.K. English or Latin American Spanish. For more information, see *Strata CS Installation & Maintenance Manual*.

n **Allow voice-first answering.** Check this box to enable voice-first answering for users who have Toshiba Strata (digital) phones (see *Strata CS Client User Guide* for details about voice-first answering).

Windows Event Log notifications

When a Strata CS-related event is logged in the Windows NT/2000 Event Log, a notification is sent based on the settings described in this section.

n **E-mail Strata CS events for**

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

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

n **E-mail to**

Identify to whom the notifications are sent. 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 6-18).

- n **All Strata CS Administrators.** Notifications go to all Strata CS users with Administrator permissions who have e-mail notification turned on. This is the default setting.
- n **E-mail address(es).** Type the e-mail addresses of users whom you want to receive notifications, separated by semicolons.

Business Hours

Click **Business Hours** to schedule specific Strata CS behavior for particular hours and on specific dates.

Your settings are used by Strata CS to schedule the following:

- n **Transfers and greetings.** See "Scheduling transfers and greetings" on page 9-14.
- n **E-mail and pager notifications.** See "Scheduling notifications" on page 6-19.
- n **Business hours and holidays for call rules.** See "Defining business hours and holidays" on page 4-5.

Strata CS uses the following categories to define business hours and holidays:

- n Work days and work hours for each work day
- n Full or partial holidays
- n Custom work days, hours, and dates

Strata CS includes a default set of business hours that you can customize. 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, and then create additional sets of business hours for individual departments, shifts, and so forth.

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.

Defining business hours and holidays

Business hours and holidays are used by Strata CS to schedule transfers and greetings, notifications, and call rules.

To define business hours and holidays

1. On the General tab, click **Business Hours**. The Business Hours dialog box opens.

Business Hours

Name: | Default | ▼ | Save As... | Delete

Work Hours | Holidays

The following days and times define work hours:

Work days:	Work hours:
☑ Monday	9:00 AM - 6:00 PM
☑ Tuesday	9:00 AM - 6:00 PM
☑ Wednesday	9:00 AM - 6:00 PM
☑ Thursday	9:00 AM - 6:00 PM
☑ Friday	9:00 AM - 6:00 PM
☐ Saturday	
☐ Sunday	

OK | Cancel | Help

2. If you have more than one set of business hours defined, select the **Name** of the set to edit from the drop-down list.

3. On the Work Hours tab, check each day that is a **Work day**.

4. Set **Work hours** for each work day by entering the starting and ending times for that day in your organization.

5. To define holidays, click the Holidays tab.

Business Hours

Name: Default [▼] [Save As...] [Delete]

Work Hours | Holidays

The following dates and times define holidays:

Date	Times
12/24/1999	All day except 9:00:00 AM - 12:00:00 PM
12/25/1999	All day

[Add...] [Edit...] [Delete]

[OK] [Cancel] [Help]
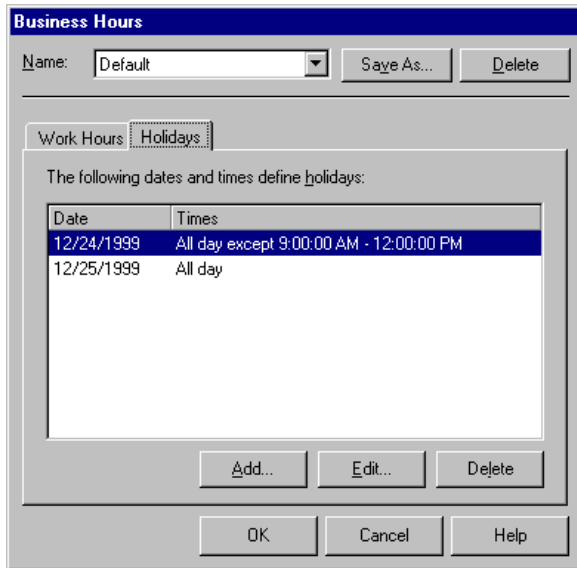
6. Click **Add** to add a new holiday. Click **Edit** to edit an existing one.

Edit Holiday

Holiday date: 12/31/1999

○ All day holiday   ● Partial day holiday

Partial day hours

Work hours begin at: 9:00:00 AM

Work hours end at: 1:00:00 PM

[OK] [Cancel] [Help]
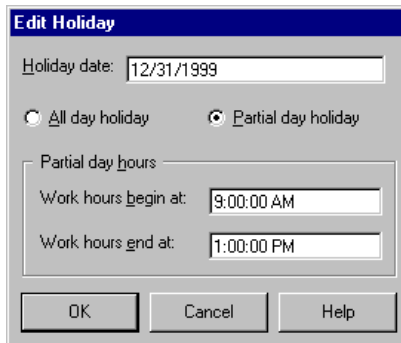
7. Type the **Holiday date**.

8. Choose if this is an **All day holiday** or **Partial day holiday**. For a partial day holiday, enter:

- n **Work hours begin at.** Starting time for work on the holiday.

- n **Work hours end at.** Ending time for work on the holiday.

9. When you finish creating holidays, click **OK**.

The Call Log tab _____

The Call Log tab contains settings for logging internal calls and for archiving the Call Log.
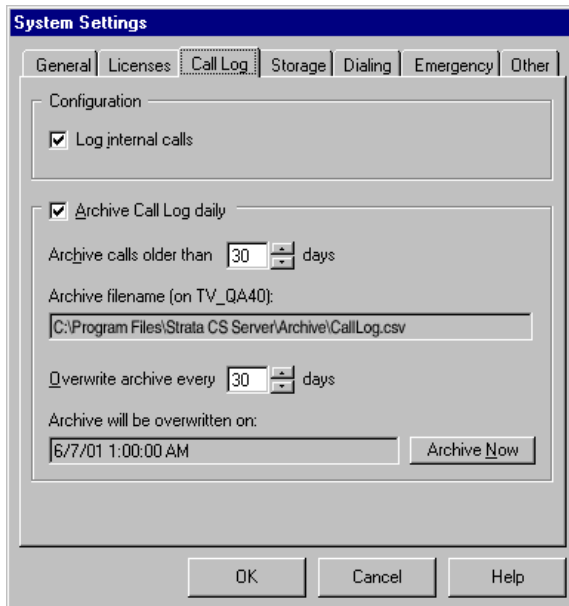
Logging internal calls

By default, Strata CS logs only external calls. If 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. Under **Configuration**, check **Log internal calls**.

Archiving the Call Log

Over time, Call Log information will begin to fill up your Strata CS database (see "Monitoring database and disk usage" on page 11-11). To recover database space, you can archive old Call Log information that is no longer needed to a location outside the database.

Archived information is permanently removed from the Strata CS database. Use the Export command (see "Exporting the Call Log" on page 11-11) to create a file containing Call Log information without removing the information from the database.

Call Log information is written to a comma separated value (.CSV) text file that can be read by most spreadsheet and database programs. The default path for this file is

```
C:\Program Files\Strata CS 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 Strata CS Server or any other Strata CS components to perform an archive. However, because archiving is database-intensive you may want to perform it during off-peak hours so as not to 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 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. Calls are archived according to the settings you make in the following fields. 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 filename.** Location of the Call Log archive file on the Strata CS Server. This file is in .CSV format and can be viewed with most spreadsheet or database programs.

    - **Overwrite archive every ___ days.** Number of days' worth of automatically archived information that will be appended to the Call Log archive file. At the end of that time, information in the file will be deleted and the file will be reused.

> n **Archive will be overwritten on.** Date and time when 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.

The Storage tab _____

The Storage tab controls how Strata CS's database stores your system configuration settings and voice files.
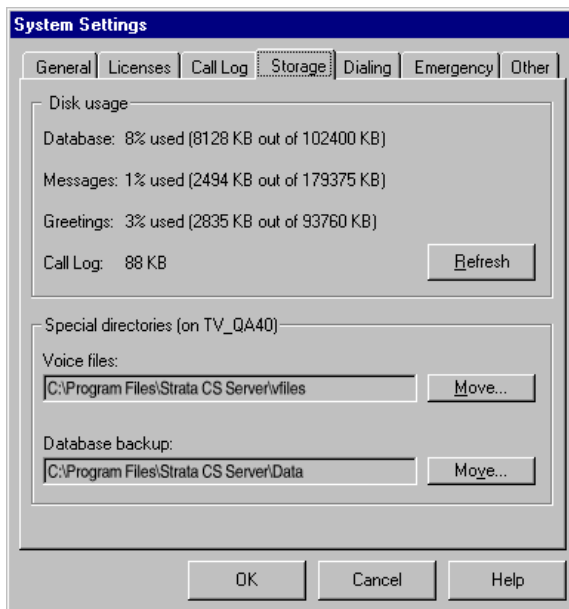
Disk usage

> n **Database.** Percentage of disk space allocated for the Strata CS database that is currently used, also shown in kilobytes used out of the total number of kilobytes allocated. The size of the Strata CS database is set and the required disk space allocated when the Strata CS Server is installed. The

default database size is 100 MB. This space is allocated automatically if necessary.

When you start the Administrator, Strata CS displays a warning message if the Strata CS database is 80% or more full. You must check the database usage periodically to make sure you are not running out of space.

n **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.

n **Greetings.** Percentage of disk space allocated for all users' greetings and voice titles that is currently used.

n **Call Log.** Amount of space currently used in the Strata CS 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 page 4-8).

Allocating disk space

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

If there is not enough free disk space for all mailbox and greeting allotments to be full at the same time, the Administrator displays a warning, but allows you to continue. When you see a disk space warning message, you must take steps to reduce disk space usage, such as reducing the space allocated to users or having users delete their stored messages.

See page 6-15 for more information about allocating disk space for new users.

Note: When users log into 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 on a per-user basis using the Users view.

If the free disk space on the Server drops below 50 MB, a verbal message alerts you when you pick up a Strata CS phone.

Moving voice files

If you are running out of disk space on the drive where you installed Strata CS but have space available on another local drive, you can move your voice message and prompt files to the other drive. To move voice files, the user name with which you logged into the Administrator must have write access to both the source and destination directory.

To move voice message files

1. Shut down the Strata CS Server. You cannot move voice files while the Server is running.

2. Start the Strata CS 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 Strata CS Server, not a network drive.

6. Click **OK**.

The Dialing tab _____

System-wide settings for special access codes and dialing timeouts are made on the Dialing tab.

Choose **Tools > System Settings** and then click the Dialing tab (see the next illustration).

Defining special access codes

Enter the access codes that users must dial to reach the following:

- **Dial-by-name directory.** Number to access the Strata CS 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. Only users with Administrator permissions can select a trunk before placing a call. If you must allow users to select a trunk, create dialing services for the appropriate trunks. See "About dialing services" on page 8-2 for more information.

You also enter default access codes on this tab. Default access codes are used for ringbacks from the Client. For more information, see "Setting default access codes for ringbacks" on page 8-9

STRATA CS ADMINISTRATOR MANUAL

.
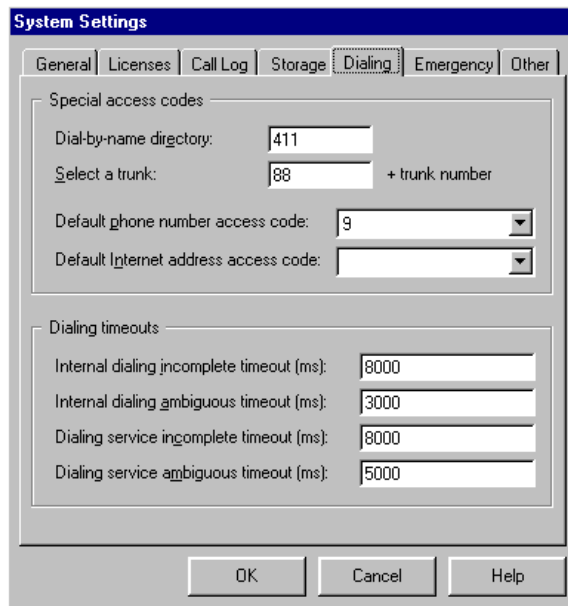
Setting dialing timeouts

Strata CS uses timeouts that you specify to determine the end of a number that was entered by a user. If users press **#** after entering the final digit of a number, Strata CS dials the number immediately and does not wait for the timeout period to elapse.

n **Internal dialing incomplete timeout.** Number of milliseconds before Strata CS times out on an internal call if not enough digits were entered. The default is 8000 milliseconds (8 seconds).

n **Internal dialing ambiguous timeout.** Number of milliseconds before Strata CS times out on an internal call if the digits entered cannot be resolved into a recognized number. The default is 3000 milliseconds (3 seconds).

n **Dialing service incomplete timeout.** Number of milliseconds before Strata CS times out on an external call if not enough digits were entered. The default is 8000 milliseconds.

n **Dialing service ambiguous timeout.** Number of milliseconds before Strata CS 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 timeouts work in most installations, and they should be modified carefully.

You may want to consider increasing the dialing service ambiguous timeout by half-second intervals if users report intermittent problems hearing "Number not available" when they dial out on analog or Robbed Bit T1 trunks (this is not a problem for ISDN or IP lines).

If you increase this timeout by too much, you can introduce other problems, such as users missing the beginning of the audio signal at the target, for example, the beginning of an auto attendant that answers calls immediately. If this problem occurs, you can do any of the following:

- Reduce the dialing service ambiguous timeout.

- Instruct users to enter # after dialing a number.

- Collect all digits before dialing (see page 8-10).

The Emergency tab _____

Strata CS supports two kinds of emergency dialing services—standard 911 and Enhanced 911 (E-911).

Using standard 911 service with Strata CS

A standard 911 call does not require any additional hardware. All standard 911 calls use a Strata CS trunk and go through the local phone company to the emergency dispatching center.

To support 911 calls in Strata CS, you must provide an emergency access code for users to dial.

Using extended 911 service with Strata CS

An extended 911 (E-911) call includes the calling station's ANI information (the Strata CS station ID). This information helps the phone company's E-911 center identify the location of the person who made the emergency call, for example, the specific floor and office in a large building.

An E-911 call does not use a Strata CS trunk. Typically, a dedicated trunk connects the E-911 device directly to the emergency dispatching center.

All E-911 calls go through an E-911 device. For information about obtaining, installing, and configuring an E-911 device, see *Strata CS Installation & Maintenance Manual*.

After the E-911 device is installed and configured, you must enable E-911 and assign E-911 stations. You assign one or more Strata CS stations for the exclusive purpose of handling E-911 calls. An E-911 station is physically connected to a port on the E-911 device, and can be any station that is not already assigned and that has a valid station license.

Note: When you select stations to connect to the E-911 device, do not use the first 4 stations on the BCP connection panels. The Strata CS Watchdog mode uses these stations to maintain phone service during a power or Windows Server failure. For more information about Watchdog mode, see *Strata CS Installation & Maintenance Manual.*

How emergency numbers are handled

Users can make an emergency call from any station, including a station that has not yet been assigned to a user. Users can make an emergency call even if they are blocked from making external calls.

If E-911 is enabled and the E-911 device has been installed and configured correctly, the emergency call is routed to one of the stations connected to the E-911 device. As soon as the E-911 station takes the call, the station ID of the caller's station is passed to the 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, Strata CS automatically places a standard 911 call to the emergency center using the local carrier. Reasons why an E-911 call cannot be placed include:

- n All the E-911 stations are busy.

- n The E-911 device fails.

- n The dedicated trunk from the E-911 device to the emergency center is down.

- n The trunk does not respond within a certain time period.

- n E-911 is not enabled in Strata CS.

To set emergency dialing options

1. Choose **Tools > System Settings** and then click the Emergency tab (see the next illustration).

2. Check **Emergency number can be dialed at internal dial tone** if you want users to be able to dial the emergency number without dialing an access code first. If unchecked, users must dial the access code and then the emergency number. This setting only affects emergency calls.

3. If you have configured an E-911 device and service (as described in *Strata CS Installation & Maintenance Manual*), check **Enable support for E-911 service**, and then go to the next step.

    If you leave this option unchecked, calls to the emergency number are made using standard 911 service.
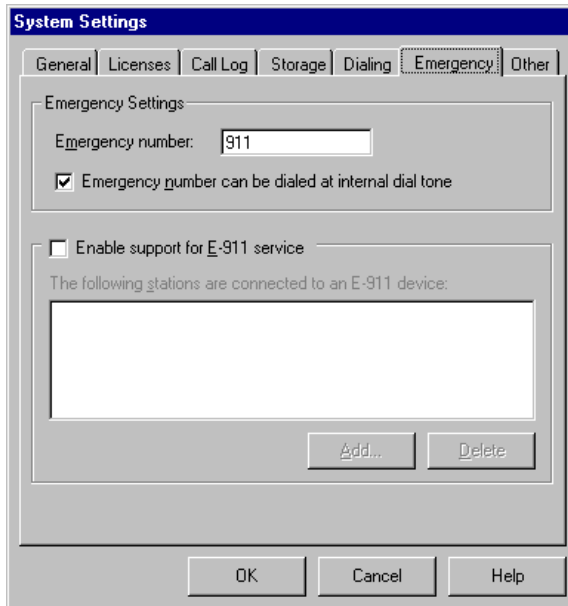
4. Click **Add** to add each station that is connected to the E-911 device.
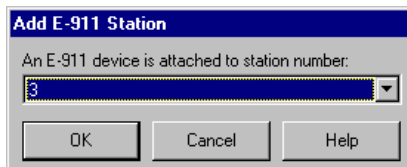
5. In the **Add E-911 Station** dialog box, choose a station from the list of available stations, and then click **OK.**

If the list in this dialog box is empty, make more stations available by unassigning users that are no longer used, or purchase additional station licenses (see "About Strata CS licenses" on page 3-2).

6. Repeat steps 4-5 until all E-911 stations have been added. Click **OK** when you are done.

The Other tab _____

Choose **Tools > System Settings** and then click the Other tab to set the options that appear in the next figure.
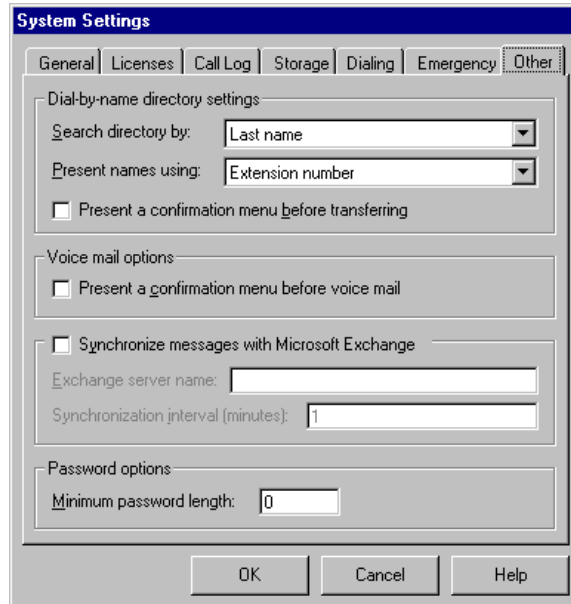
Setting dial-by-name directory options

Specify the method by which callers can search the dial-by-name directory:

- n **Last name.** Caller enters "Smith". This is the default.
- n **First name.** Caller enters "John".
- n **Last name or First name.** Caller enters "Smith" or "John".

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

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

By default Strata CS 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.

Select **Present a confirmation menu before transferring** if you want callers to confirm their choices before they are transferred to the extension that matched the names they entered. For example, a caller would hear, "For Cecilia St. John, press 1. To try again, press *."

Presenting a confirmation menu before voice mail

Check **Present a confirmation menu before voice mail** so that callers hear the message "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 voice mail.

Setting up Microsoft Exchange synchronization

If your organization is using Microsoft Exchange Server for e-mail, you can choose this option to synchronize Strata CS voice mail messages with the corresponding e-mail notifications in Exchange on a per-user basis.

Synchronization behavior depends on whether e-mail notifications have voice attachments or not, as follows:

- n If a voice message is attached to an e-mail notification, the following occurs:

   - n Moving a voice message from the Inbox folder to the Deleted folder (or the reverse) in either system moves the voice message on the other system as well. For example, messages deleted from the Strata CS Inbox are deleted from the Exchange Inbox as well.

   - n A voice message in Strata CS 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.

   - n An e-mail notification in Exchange is deleted permanently when the associated voice message is deleted permanently in Strata CS.

- n If the voice message is not attached to an e-mail notification, the following occurs:

   - n An e-mail notification in Exchange is deleted permanently when the associated Strata CS voice message is deleted, either via the Client or telephone commands.

   - n Deleting an e-mail notification in Exchange has no effect on the voice message in Strata CS. Voice messages therefore cannot be deleted in Strata CS before a user has the opportunity to listen to them.

Exchange Server Mailbox Permissions

In order to synchronize with Microsoft Exchange, the Strata CS 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 Strata CS User role permissions to each individual mailbox. This method is secure but time-consuming. Alternatively, you can assign the Strata CS User role permissions to all 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. In the System Settings dialog box Other tab, check **Synchronize messages with Microsoft Exchange** to synchronize message deletions between Strata CS and Microsoft Exchange. Then enter:

   n **Exchange Server name.** Name of the Exchange Server on your LAN.

   n **Synchronization interval.** How often the synchronization takes place, in minutes. The default is one minute.

2. Set up e-mail notification for the user (see "Setting e-mail notification" on page 6-18).

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 the minimum password length

Enter the **Minimum password length,** the shortest permissible password to log in to Strata CS (the maximum password length is 12 numeric digits). Set this field to 0 if you want to allow users to log in without using a password. The default is 0.

When you change the minimum password length, existing passwords shorter than the new minimum length continue to work until they are changed.

MANAGING TRUNKS AND SPANS

CHAPTER CONTENTS

About trunks_____

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

Adding a trunk to your Strata CS system is a three-step process:

1. Connecting the physical trunk line to the Dialogic voice board in the Strata CS Server computer. You can find instructions for this step in *Strata CS Installation & Maintenance Manual*.

2. Defining the trunk in the Strata CS Administrator's Trunks view. See "Adding trunks" on page 5-3.

3. Including the trunk in a dialing service, 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 *Strata CS Installation & Maintenance Manual*.

Trunk types

Strata CS supports analog and digital trunks.

The analog trunks supported are the following:

- n **Standard analog trunks.** Analog Direct Inward Dial (DID) trunks. For Strata CS to support analog DID trunks, they must be properly configured following the instructions in *Strata CS Installation & Maintenance Manual*.

- n **Centrex trunks or analog extensions from another PBX.** In Strata CS, these are referred to collectively as Centrex/PBX extensions.

The digital trunks supported are the following:

- n Robbed Bit T1 trunks

- n ISDN PRI over T1 trunks

- n ISDN PRI over E1 trunks

- n ISDN BRI over BRI trunks

- n E1 CAS trunks

Note: Strata CS supports Internet telephony and does not require any additional telephone company trunks. A Dialogic Internet telephony board connects directly to your network and accesses the Internet over your company's normal Internet connection.

Adding trunks

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

- n "Adding an analog trunk" on page 5-10
- n "Adding a digital Robbed Bit T1 span" on page 5-13
- n "Adding a digital ISDN or CAS span" on page 5-17
- n "Adding an Internet span" on page 5-21

Before you perform the steps in each section of this chapter, make sure you have installed and configured the Dialogic boards and drivers that are necessary to support your trunks. See *Strata CS Installation & Maintenance Manual* for instructions.

As long as the Dialogic boards and drivers have been properly installed and configured, you can start using a trunk as soon as you add it according to the instructions in this chapter. Note that 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.

Naming trunks

Give your trunks names that convey important information about them, so that you can identify trunks quickly and easily. Information to use in a trunk name includes:

- n The telephone number of an analog trunk
- n The IP address of an Internet trunk
- n 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, enable or disable a digital trunk, or restart a trunk that is experiencing problems, see "Using the Device Monitor" on page 11-3.

Deleting trunks

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

Although you can delete a single analog trunk, you cannot delete a T1, E1, or Internet trunk from the span it belongs to. If you must permanently remove a digital line, you must delete the entire span. To disable an individual trunk in a span temporarily, edit the trunk and uncheck the options for receiving inbound and placing outbound calls.

A deleted trunk appears in the Device Monitor as "NA" if a telephone line is still connected to the BCP Connection Panel.

For information about deleting items in Strata CS, see "Deleting items" on page 2-9.

Configuring trunks

You can configure trunks as inbound-only, outbound-only, or both inbound and outbound. In most Strata CS systems, 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 a trunk for inbound and outbound calls, see "Adding trunks" on page 5-3.

Inbound and outbound calls and hunt groups

The best arrangement for Strata CS is to ask the telephone company for a *terminated hunt group*. In this arrangement, inbound calls try the lowest phone number first and then the next lowest 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 Strata CS trunk numbers.

On outgoing calls, by default Strata CS starts searching for a free line with the highest Strata CS trunk number. This behavior results in the fewest conflicts for lines, since inbound calls are coming in 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.

Matching trunk settings with your phone company

Strata CS inbound and outbound settings control only how Strata CS treats the line, and they do not affect how the telephone company treats the line.

For example, if you configure a trunk for inbound calls only, Strata CS does not use the line for outbound calls. You do not receive any calls on the line, however, unless you have distributed the number to callers and instructed your telephone company to include the trunk in your inbound hunt group.

Similarly, specifying a trunk as exclusively outbound does not prevent inbound calls if you have given the line's telephone number to outside parties or included the trunk in your inbound hunt group. If calls arrive on a trunk designated for exclusive outbound use, Strata CS 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.

Routing inbound calls on a trunk

If you set a trunk to accept inbound calls, you can route the calls to the following places in Strata CS:

- n An auto attendant
- n A user
- n An automatic call distribution (ACD) workgroup
- n A group of internal users simultaneously
- n An IVR Plug-in application

Placing outbound calls on a specific trunk

Administrators 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 4-12.

Note: If you want to allow specific trunk access for users, create a dialing service that allocates that trunk. See "About dialing services" on page 8-2.

ANI/DID digit collection _____

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

- n **Caller ID.**
- n **ANI (Automatic Number Identification).** Provides Caller ID information about analog DID and digital trunks
- n **DID (Direct Inward Dial).** Enables direct routing of incoming calls to the individual stations

- **DNIS (Dialed Number Identification Service).** Provides DID data on toll-free lines such as 800, 877, and 888 numbers. Throughout Strata CS, "DID" refers to DNIS as well.

DID information appears in the following Administrator and Client views:

- The Users view in the Administrator shows the DID number assigned to a user in the DID Number column.

- The Auto Attendants view in the Administrator shows the DID number assigned to an auto attendant in the DID Number column.

- The Trunks view in the Administrator identifies analog trunks configured to handle DID calls. Digital trunks will retrieve DID depending on the configuration.

- The Call Log in the Administrator shows the DID number associated with a call in the DID Number column.

- The Call Monitor in the Client shows the DID number associated with a call in the DID Number column.

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 Strata CS collect information that arrives with an inbound call.

Note: Strata CS automatically collects caller ID digits on analog trunks, and ANI/DNIS digits on ISDN or CAS trunks if available. If your system is configured to collect digits automatically, you can skip this section.

For Strata CS 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 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 Strata CS. For detailed instructions, see:

- "Setting up digit collection on an analog trunk" on page 5-11

- "Configuring signaling using the Robbed Bit T1 Experimenter" on page 5-13

See *Strata CS Installation & Maintenance Manual* for information about ordering and installing DID/DNIS for analog or digital lines.

Using DID with Robbed Bit T1 lines

1. Make sure that your Robbed Bit T1 lines have been installed correctly.

2. Configure digit collection signaling for the trunks (see "Configuring signaling using the Robbed Bit T1 Experimenter" on page 5-13 for step by step instructions and examples).

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 5-16).

4. Assign DID numbers to users or auto attendants (see "The General tab" on page 6-9).

Using DID with analog lines

1. Make sure your analog DID lines and digital interface units have been correctly installed and configured. See *Strata CS Installation & Maintenance Manual*.

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 5-10).

4. Assign DID numbers to users or auto attendants (see "Assigning a DID number" on page 6-13).

Setting up fax routing _____

You set up fax routing on a per-trunk basis for the following trunk types:

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

Fax calls can be routed to an auto attendant, user, or IVR Plug-in. Usually you route faxes to a user whose station is connected to a fax Server or fax machine. Whenever Strata CS detects a fax signal on the trunk, the call is automatically routed to this station.

Note: If a DID match occurs on an inbound call, the fax is not routed to the auto attendant, user, or IVR Plug-in as described in the trunk. The fax instead is routed directly to the DID target.

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

Customizing fax routing

To route incoming faxes to a pool of fax machines, set up a routing list for the user that points to a series of users whose stations are attached to fax machines. To handle faxes differently based on time or date, route fax calls to an auto attendant, and then schedule transfers to the appropriate users.

The Trunks view_____

Click the trunks button in the view bar to open the Trunks view.

Each trunk 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.
Retrieve DID	If checked, Strata CS retrieves Direct Inward Dial digits from calls coming in on this trunk.
Centrex	If checked, indicates a Centrex trunk.

Column	Description
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 trunk.
Span Description	Optional information provided when the span was added.

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

About digital and Internet spans

Strata CS represents digital and Internet trunks as a span of individual trunks, corresponding to the number of available channels. For example, a Robbed Bit T1 trunk offers 24 channels, so when you add a Robbed Bit T1 trunk, 24 individual trunks appear in the Trunks view. You can set some properties for an individual trunk in a span, and other properties for the span as a whole.

- n To set properties for an individual trunk, right-click the trunk, and then choose **Open Trunk**.

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

When Strata CS dials out over a board, it reads the board configuration information that was entered when the board was installed using the Dialogic Configuration Manager (DCM). However, the Administrator does not read this information when you add or configure a digital span that uses the board. When you add a digital span, make sure that the span type matches the protocol type specified using DCM.
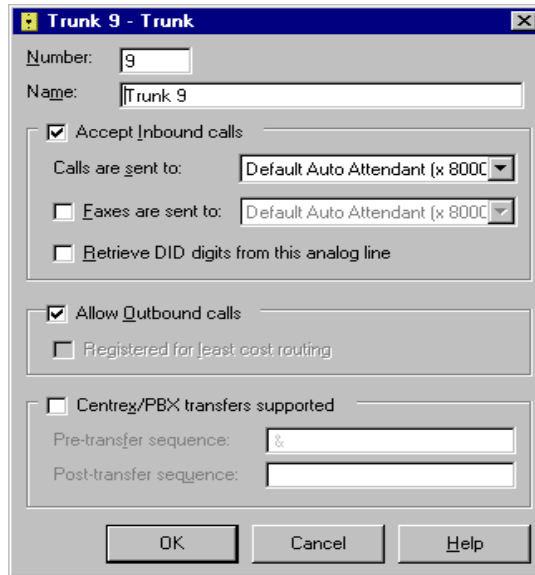
You cannot change a span's type after you add it. If you create a span of the wrong type, delete the span and add a new one of the correct type.

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.

Adding an analog trunk_____

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

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

2. Enter the number and name of the trunk:

   n **Number.** Identifies the hardware resource on the Server used for this line. The number must correspond to the port on the Dialogic BCP Connection Panel to which the trunk is connected.

   If you have a mix of analog and digital 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 line number. See "About digital and Internet spans" on page 5-9 for information about adding a digital span.

   n **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:

   n **Accept inbound calls.** Check this box if the trunk is used for inbound calls.

- **Calls are sent to.** Select the auto attendant, user or IVR Plug-in that answers all inbound voice calls on this trunk. If you change the target by time of day, send the calls to an auto attendant and define the appropriate scheduled transfer action.

- **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 5-7 for more information.

- **Retrieve DID digits from this analog line.** Check this box to collect DID digits on the line. When checked, Strata CS routes 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.

    - **Registered for least cost routing.** This feature is not available in this version.

- **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/PBX), Strata CS can transfer or forward a call without using any Strata CS 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 Strata CS 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, Strata CS hangs up.

4. Click **OK** to add the trunk to your configuration.

Before Strata CS can use the new trunk, you must start it from the Device Monitor (see "Restarting stations or trunks" on page 11-6).

Setting up digit collection on an analog trunk

The format used to transmit ANI and DID/DNIS information on analog trunk 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.

n **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 in this example, you must specify 3 separate actions to Strata CS, using the procedure that follows:

n The first action collects 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.

n The second action collects the DID digits sent by the carrier. The digit type is **DID**. You collect a variable number of digits up to the separator digit, #.

n The third action collects the ANI digits sent by the carrier. The digit type is **ANI**. You collect a variable number of digits up to the separator 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 lists the digit collection actions that have been defined already for this trunk.
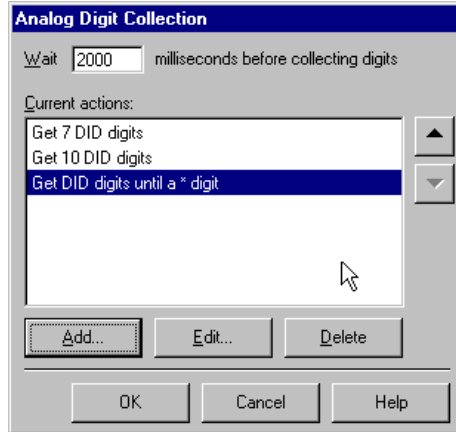
3. Type the number of milliseconds that you want Strata CS to wait for the analog DID interface device to send digits.

4. Click **Add** to add an action to collect the digits that you expect, or **Edit** to modify the highlighted action.

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

n To retrieve fixed-format data, click **Exactly __ digits**, and then type the number of digits to collect.

n 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 separator character.

6. Click **OK**.

7. Repeat steps 4-6 to add all the actions required to collect digits coming in on the trunk.

8. Click **OK**.

After analog digit collection has been configured correctly, make sure that the trunk is configured to accept inbound calls and retrieve DID digits. Both these settings appear in the Trunks view and can be configured in the Trunks dialog box.

Adding a digital Robbed Bit T1 span _____

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

Configuring signaling using the Robbed Bit T1 Experimenter

Before you add a Robbed Bit T1 span in the Administrator, you must run the Strata CS Robbed Bit T1 Experimenter on the Strata CS Server computer to configure signaling on the T1 trunk. For information about installing and using the Experimenter, see *Strata CS Installation & Maintenance Manual*.

Adding the Robbed Bit T1 span in the Trunks view

After you configure signaling on the span correctly using the Robbed Bit T1 Experimenter, you can add the span in the Administrator.

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:

   n **Span number.** The sequence number of this Dialogic T1 board as installed in your Strata CS Server computer (the sequence number of the first T1 board is 1, not 0).

   n **Starting trunk number.** The starting trunk number of the span. The numbers of the 24 trunks belonging to this span are displayed. 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.

   n **Wink duration.** The length in milliseconds of the signal Strata CS 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.

   n **Send and receive.** For T1 lines 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.

   n **Description.** A description of the span, typically including the main phone number of the span.

3. On the Signaling tab, review the event definitions for your T1 trunk that you specified using the Robbed Bit T1 Experimenter. The definitions must match your carrier's definitions for the trunk to work. To change a definition, use the Robbed Bit T1 Experimenter (see "Configuring signaling using the Robbed Bit T1 Experimenter" on page 5-13).
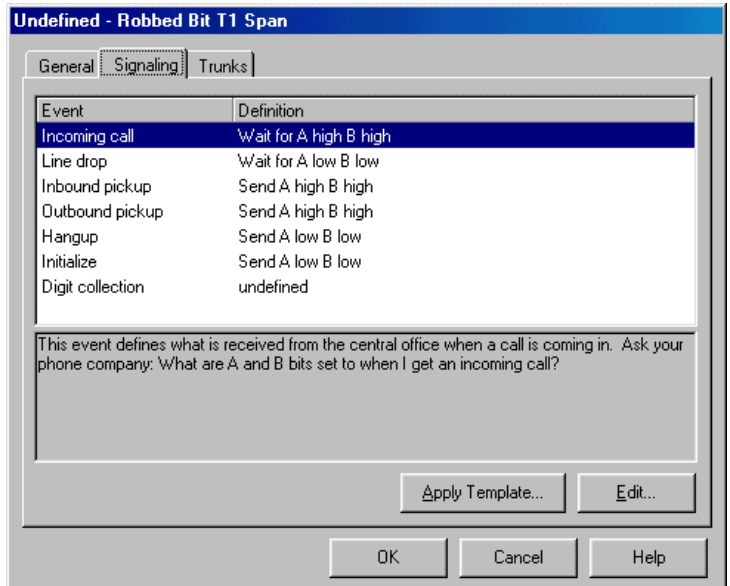
Note: If you are running the Administrator on the Server, click **Edit** to start the Experimenter. Otherwise, you must run the Experimenter on the Strata CS Server.

4. On the Trunks tab, 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" below.

5. 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:

- n **E&MSignaling.** Use if your Robbed Bit T1 line supports E&M signaling.
- n **Local1.** Use for a local Robbed Bit T1 line.
- n **Longdistance.** Use for a long-distance Robbed Bit T1 line.

To apply a template to a span, click **Apply 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 Strata CS Administrator's directory, you must look for the template there.

To edit signaling definitions applied from a template, use the Robbed Bit T1 Experimenter.

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.

Undefined - Robbed Bit T1 Span

General | Signaling | Trunks

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 **I**nbound calls

Calls are **s**ent to: Default Auto Attendant

☐ **F**axes are sent to: Default Auto Attendant

☑ Allow **O**utbound calls

☐ Registered for least cost routing

OK   Cancel   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 5-7 for more information.

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

Registered for least cost routing is not available in this version.

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.

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 5-18.

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

2. On the General tab, specify the following information for the span:

- n **Board number.** The sequence number of the span.

- n **Description.** A description of the span, typically including the main phone number of the span.

- n **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 *Strata CS Installation & Maintenance Manual.*

  Note: If you are using an E1 board with the CAS protocol, and your country's E1 CAS protocols are different from the standard format, see "Manually entering E1 CAS protocols" in *Strata CS Installation & Maintenance Manual.*

- n **Starting trunk number.** The starting trunk number of the span. The numbers of the trunks that belong to this span are displayed. 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. On the Tuning tab, optimize your ISDN settings as needed. See "Optimizing your ISDN settings" on page 5-19.

4. On the Trunks tab, 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 5-16.

5. Click **OK** to add the span to your configuration.

Note: ANI/DNIS is automatically retrieved by Strata CS for these types of digital 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 5-17.

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

2. On the General tab, specify the following information for the span:

n   **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 channels.** 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 numbers of the trunks belonging to this span are displayed. 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.

- **Server 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. On the Tuning tab, optimize your ISDN settings as needed. See the next section, "Optimizing your ISDN settings."

4. On the Trunks tab, 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 5-16.

5. Click **OK** to add the span to your configuration.

Optimizing your ISDN settings _____

When you are adding an ISDN trunk, you can use the Tuning tab to change ISDN board parameters. Changes you make while a call is in progress on the board are not reflected until the current call ends and a new call begins.

To set your ISDN parameters

1. Run the Dialogic Makecall Utility (DMU), supplied on the Strata CS CD. For instructions, see *Strata CS Installation & Maintenance Manual*. The DMU wizard steps you through the process of testing your ISDN board, and generates a file in the Output subdirectory called Outbound_MCB.txt.

2. On the Tuning tab, click **Import** and select the `Outbound_MCB.txt` file.
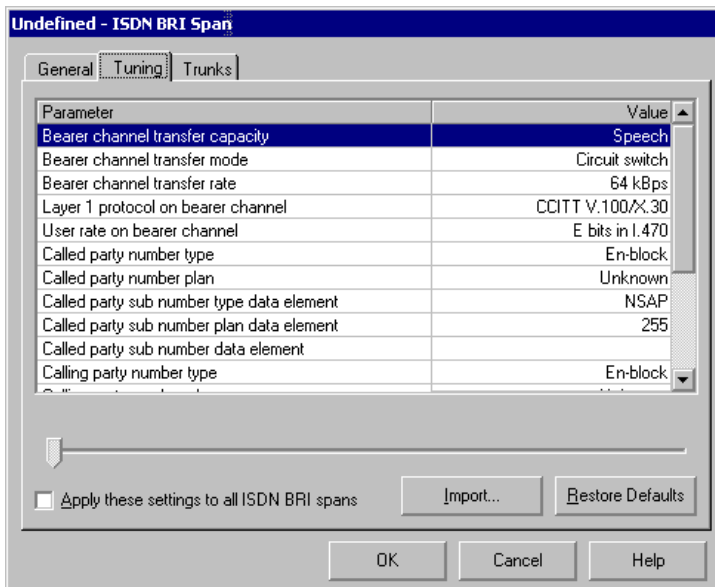
This method updates all ISDN parameters based on their optimum value as determined by the DMU. To undo the update, click **Restore Defaults** to reset the Tuning tab to its initial values.

You can also change each parameter individually. Click **Help** for a description of each parameter and its possible values.

Enabling ISDN Megacom support _____

If you are using ISDN Megacom service, you must change the Strata CS Server computer's registry in order to make outbound international calls. Without this change, international calls will fail, because Strata CS 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-24.

STRATA CS ADMINISTRATOR MANUAL

Adding an Internet span _____

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

2. On the General tab, specify the following information for the span:

_n **IP Board number.** The sequence number of this Dialogic DM3 IPLink board as installed in your Strata CS Server computer (the sequence number of the first DM3 board is 1, not 0).

_n **IP Address.** The IP address of the IP Link board if it has its own built-in Network Interface Card (NIC), otherwise the IP address of the Strata CS Server computer's NIC.

_n **Description.** A description of the span. Include the address of the span in the description for easy reference.

_n **Number of trunks.** The number of trunks contained in the span. Enter the number of channels available on the Dialogic DM3 IPLink board. To find the number of channels available on your board, refer to the model number of the board and *Strata CS Installation & Maintenance Manual*.

_n **Starting trunk number.** The starting trunk number of the span. The numbers of the trunks belonging to this span are displayed. 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.

n **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 to specify how trunks in this span are used:

   n **Accept inbound calls.** If checked, the trunks are used for inbound calls.

   n **Allow outbound calls.** If checked, the trunks are used for outbound calls.

4. Click the Codecs tab to view the default codecs used by this span for all inbound calls and as dialing service defaults for outbound calls. If you must change Strata CS's default codec list, see the next section, "Modifying Strata CS IP codecs."

   Note: You can override the default span codecs when you set up a dialing service that allocates trunks in this span (see "Codecs tab" on page 8-21).

5. Click **OK** to add the span to your configuration.

Modifying Strata CS 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, with the topmost codec being the most preferred. For example, you may prefer one codec over another for bandwidth reasons.

Important: When you are connecting two Strata CS Servers over an IP Gateway connection, the Servers must use the same codec lists, otherwise audio failure can occur during calls. See "Connecting two Servers using IP Gateways" on page 13-7 for more information about IP Gateway connections.

The codecs you can make available are listed below. See the Known Issues in the Administrator online Help for up-to-date information about the availability of codecs.

n **G.729a.** Best for Strata CS-to-Strata CS connections. Offers a good balance between sound quality and bandwidth. (8.8 kbs.)

n **G.711 a-law, G.711 μ-law.** Supported by all H.323 gateways and terminals, but high bandwidth. (64 kbs.)

n **G.723.1.** Best for NetMeeting and other H.323 terminals. (5.3 kbs. or 6.3 kbs.)

n **MSGSM.** (13.0 kbs.)

- **GSM.** (13.0 kbs.)

To modify Strata CS IP codecs

1. In the Trunks view, double-click the Internet span to open its dialog box, and 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.
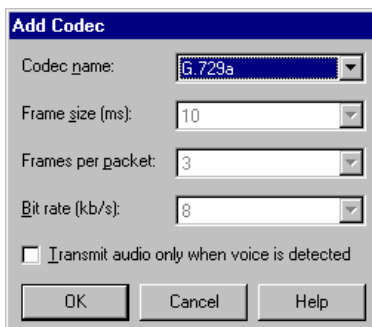
3. In the Add Codec dialog box, select a **Codec name** from the list of codecs supported by the Dialogic IPLink boards in the drop-down list.

4. If you want to modify any of the parameters used with the codec, enter the new values. The fields you can change may vary depending on the codec you select. If enabled for a particular parameter, select **Any** to accept whatever parameter value the other device sends.

   - **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.

6. Click the up or down arrows to promote or demote a specific codec within the list. The topmost codec is the most preferred. Continue to add codecs to the service.

7. Click **OK** to return to the Codecs tab.

Fine-tuning your IP connection

Strata CS'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 are not reflected until the call completes and a new call is initiated.

Parameters are listed in the following groups:

- n General
- n Debug print levels
- n DTMF parameters
- n Echo canceler
- n Level controls
- n Miscellaneous
- n Packet loss recovery
- n Redundancy

Parameters that may be useful to change include echo cancellation and volume (located under Level Controls).

To change an IPLink 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 a **Parameter** to expand it.

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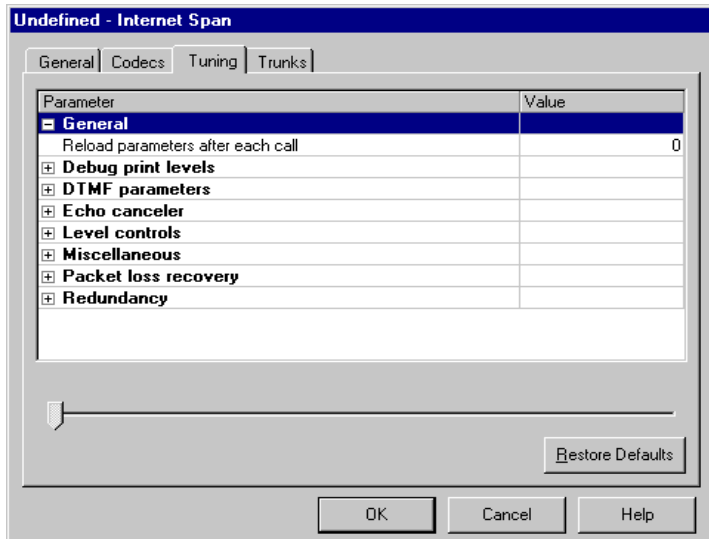
3. Enter the new **Value**. Some fields are text boxes or drop-down lists. Other fields enable the slider bar at the bottom of the dialog box.

4. Click **OK** to save your changes. Click **Restore defaults** to restore the IPLink board defaults.

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

MANAGING USERS AND STATIONS

CHAPTER CONTENTS

The Users view _____

The Users view presents information about individual *users* and *roles* in your organization. Roles appear in bold in the Users view. Roles are collections of specific permissions that are used to grant permissions to users. You can grant additional permissions to users by changing that user's permissions (see "The Permissions tab" on page 6-37).

To add, edit, or delete Strata CS users, click the Users button in the view bar The Users view opens. Double-click a user in the view to open the User dialog box for that user.

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	Logged-on 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 (phone device) assigned to the user.

Column	Description
Type	The type of user: **User.** An individual with an extension on this Server. Can also be a conference room. **ACD workgroup.** An automatic call distribution workgroup user. **IP Gateway.** A user created to enable IP calls to a user on a remote Server.
Title	The job title entered for this user. You can enter titles for users when you create them.
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 "Updating users' mail, greeting, and disk usage totals" on page 6-42.
Greeting Usage	Percentage of allocated greeting and voice title space currently consumed by the user.
Disk Usage	Amount of disk space in megabytes consumed 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 or they can record their own.
Announce Callers	If checked, the caller's name is announced on incoming calls.
Exchange Sync	If checked, Strata CS and Microsoft Exchange inboxes are synchronized.
Comments	Comments added about the user.

About users and roles _____

Unlike a traditional PBX, Strata CS manages phone traffic by user rather than by device. Adding a user allows that person to make and receive calls through the Strata CS system. Roles are collections of permissions that you assign to users. You can add a user to an existing role and grant them the same permissions as every member who also has that role, and you can create new roles.

Users

Users in Strata CS are of the following types:

- n **User.** A person using a telephone in your office.

- n **ACD workgroup.** This special type of user sends callers to one or more automatic call distribution groups. To create an ACD workgroup, select **ACD workgroup** under **Type**. For more about setting up ACD workgroups, see the *Strata CS Call Center Administrator Guide*.

- n **IP Gateway.** This special type of user represents a user on a remote Strata CS 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 Servers appear to be local, effectively creating a single large Strata CS site. To create an IP Gateway user, select **IP Gateway** under **Type**. For more information, see "Connecting two Servers using IP Gateways" on page 13-7.

The Admin and Operator users

Strata CS comes with two default Users already defined, Admin and Operator.

- n **Admin user.** Allowed to run the Administrator and Device Monitor program and to perform all administrative functions. You cannot delete or rename the Admin user, nor can you remove the Admin user's administrative permissions.

- n **Operator.** The user to whom all calls go to by default if they cannot be handled in any other way. For example, if a caller presses **0**, or 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 remove the Operator user's Operator permissions.

You can assign Administrator and Operator permissions to other users (see "The Permissions tab" on page 6-37).

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 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, edit the Operator user's Standard routing list so that its only action transfers calls to another extension. For instructions on editing routing lists, see *Strata CS Client User Guide*.

Understanding personal Operators

The Strata CS 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 users can specify any extension as their personal Operators. See "Creating a password" on page 6-14.

How callers are transferred to Operators

The following table shows to which Operator callers are transferred, depending on their location when they press **0**.

Caller presses 0 within	Caller is transferred to
Auto attendant	Operator user
Dial by name directory	Operator user
User's voice mailbox	Personal Operator
User's routing list	Personal Operator
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 from within the system 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.

Setting up workgroups for the Operator

To make the Operator's job easier, 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.

Roles

Roles are collections of specific permissions that are granted to users according to the roles they perform in the organization. By default Strata CS contains two roles—Administrators and Users. You can edit these roles as needed and you can also create new roles (see "To create a new role" on page 6-39).

Setting user options _____

You can set user options in Strata CS in the following ways:

n **Set options for all users.** To set up all users with the same options, create a template user, and then base all users on the template (see "Adding a user by using a template" on page 6-9).

n **Set options for a group of users.** Create a template user for each group of users with common characteristics, and then base each user in the group on the template.

n **Set options for individual users.** Follow the steps described in "Adding a user in the User dialog box" on page 6-8.

Also, users can customize many options themselves using the Client. You control the options that they can customize by allowing or restricting access to specific Options dialog box tabs in the Client.

Where to set user options

User options are set in both the Strata CS Administrator and Client.

n **Some options can only be set in the Administrator.** These options are described in detail in this chapter.

n **Some options are set in the Client.** To edit these options from the Administrator, click the **Edit All Client Settings** button in the User dialog box. Client options are described in detail in *Strata CS Client User Guide*.

n **Some options can be set in both places.** This allows you to set up users using standard defaults for your organization. Individual users can then customize the settings further, or you can restrict the options that users can customize. These options are described in this chapter and in *Strata CS Client User Guide*.

About adding a user _____

Adding a user to the system allows that person to make and receive calls using Strata CS. Unlike other telephone systems, Strata CS assigns access permissions to specific people rather than to devices. Users access the system using their own identities regardless of the identity of the telephone device they use.

Generally, you must have a station license available for each user you create. It is possible, however, to add a user who does not have a station (an actual telephone). Such a user is commonly created for ACD workgroups, voice mail-only users, or 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 "Entering licenses" on page 3-2.

You can add a new user in the following ways:

- n **At the telephone.** This is a convenient way to quickly activate phones when you are setting up a new Strata CS system. However, you must physically go to each user's telephone to activate it, and must still use the Administrator to finish adding each user.

- n **In the User dialog box.** This method allows you to set up all user options at one time from one location.

- n **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. This template user can then be copied and customized for each new user. 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

From the new user's telephone, press ***0** and follow the prompts to create the user and assign an extension. The user is created with default information.

For example, assigning the extension 123 creates a user with a default first name of "New", a default last name of "User123", and a default password of "123".

You are also prompted to record a voice title for the user or change user preferences. You must run the Administrator at a later time to modify the default properties to reflect the new user's real name and password and to set additional user properties.

Note: This method does not work if the phone is already assigned to another user. For a phone that has already been assigned an extension, dialing *0 plays the extension and station ID.

If for any reason Strata CS is unable to 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 Strata CS 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 tabs in the User dialog box allow you to add and modify user properties. These properties are described later in this chapter.

- **General tab (see page 6-9).** Enter basic information that defines the user to Strata CS. 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 *Strata CS Call Center Administrator Guide*) or an IP Gateway user that allows users to directly dial the extension of a user on a remote Strata CS Server (see "Creating Gateway users to unify two Strata CS Servers" on page 13-17).

- **Recordings tab (see 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.

- **Notifications tab (see page 6-17).** Set up and schedule e-mail and pager notifications.

- **Call Handling tab (see page 6-24).** Set up call screening. Specify how the user is listed in the dial-by-name directory. Set up call forwarding for the user.

- **Phone tab (see page 6-28).** Enable features on the user's telephone, such as caller ID and message waiting indicator. Specify how long the phone rings before continuing to voice-mail.

- **Dialing tab (see page 6-33).** Allow the user to make external calls, and specify phone numbers the user is permitted or restricted from dialing.

- **Permissions tab (see page 6-37).** Control user permissions to determine the options or features that the user can access. Set the permission roles that the user belongs to.

- **Other tab (see page 6-40).** Set hands-free options.

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 e-mail and pager 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.

The General tab _____

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

```
Kevin Flaherty - User                                          ×

 General  Recordings  Notifications  Call Handling  Phone  Dialing  Permissions  Other

 ┌─ Mailbox - 0.27 minutes used (0.13 MB / 1.4%) ──────────────────┐
 │                                                                  │
 │  ⦿ Mailbox with  20    minute max size (9.2 MB)                  │
 │                                                                  │
 │  ○ No mailbox                                                    │
 │                                                                  │
 │  ☐ Synchronize with Exchange server mailbox:                     │
 │     ┌────────────────────────────────────────────────────────┐  │
 │     │                                                        │  │
 │     └────────────────────────────────────────────────────────┘  │
 │                                                                  │
 │  Send call recordings to:  this user                      ▼     │
 └──────────────────────────────────────────────────────────────────┘

 ┌─ Greetings and voice titles - 0.29 minutes used (0.13 MB / 2.9%) ┐
 │                                                                  │
 │  Maximum storage:  10    minutes (4.6 MB)                        │
 │                                                                  │
 │  Voice title:                                                    │
 │  ┌──┬──┬──┬──┬──┬───────────────────────────────────────────┐   │
 │  │ ● │ ▶│ ■│ ⏏│ ▼│ ├──────────────────────────────────────  │   │
 │  └──┴──┴──┴──┴──┴───────────────────────────────────────────┘   │
 │  Not connected to record, press to connect                       │
 └──────────────────────────────────────────────────────────────────┘

   Previous      Next            OK        Cancel       Help
```

Identifying the user

In **Type**, choose **User**. Then enter the user's **First name** and **Last name**. At least one of the name fields is required. 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.

Assigning an extension

A user's extension is the number callers dial to reach the user. Extensions must comply with the following restrictions:
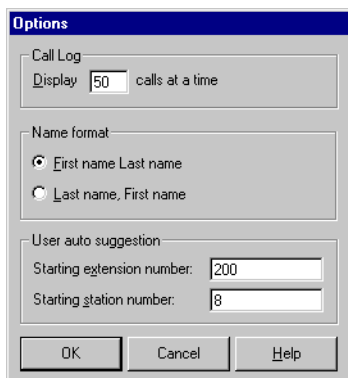
- n No longer than 5 digits
- n Numeric characters only
- n Must be unique

In addition, follow these recommendations when assigning extensions:

- n 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 Strata CS waits to see if another "7" is dialed. See "Avoiding dialing ambiguities" on page 8-8 for more information.
- n 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 Strata CS or you can assign a different one. Strata CS 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 in a different range, 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 6-5.

Assigning a station ID

The station assigned to a user of the type **User** is the numeric identifier of the telephone at the user's default location. A station ID is not used for users of the type **ACD workgroup** or **IP Gateway**.

Strata CS assumes that a user is located at the phone specified by the user's station ID unless someone specifies otherwise.

- n **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.

- n **Outbound calls.** Calls from that station appear in the Call Log as from the user and are subject to the user's dialing restrictions and permissions, unless another user logs in to that station.

  Outbound calls from a station are identified by Strata CS as belonging to one of the following:

  - n The user logged in using the telephone commands.

  - n If no one is logged in using the telephone commands, the user who last logged in using the Client.

  - n If no one else is logged in, the default user for that station.

When you create a new user of the type **User**, you can accept the station ID suggested automatically by Strata CS, or you can assign a different one. Strata CS suggests the next-highest station ID that has not yet been assigned, and it reuses station IDs that have been unassigned. By default, new station IDs are assigned starting with station ID 1. If you want to start with a different station ID, choose **Tools > Options**, and then enter the **Starting station number** under **User auto suggestion**.

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

- n If you are using analog trunks and the BCP panel, assign station ID 1 to your operator and station IDs 2-4 to people who are assigned to answer phones in the event of a system failure. With analog phone service, Strata CS's Watchdog mode provides limited telephone support if power fails or the Windows NT/2000 server goes down. In Watchdog mode, the Dialogic hardware routes the first 4 incoming analog trunks to the first 4 stations (station IDs 1-4).

- n For a user without a physical telephone (for example, a voice mail-only user, an ACD workgroup, or a user who works permanently off-site), assign station ID 0.

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," and so forth, and assign the stations to them.

Linking users and phones

In Strata CS, the computer—not the user—is linked to the telephone. Each Client workstation has an assigned phone, which is usually be the phone closest to it. The station ID of the phone is specified during the Client installation and is stored in the computer's Windows Registry.
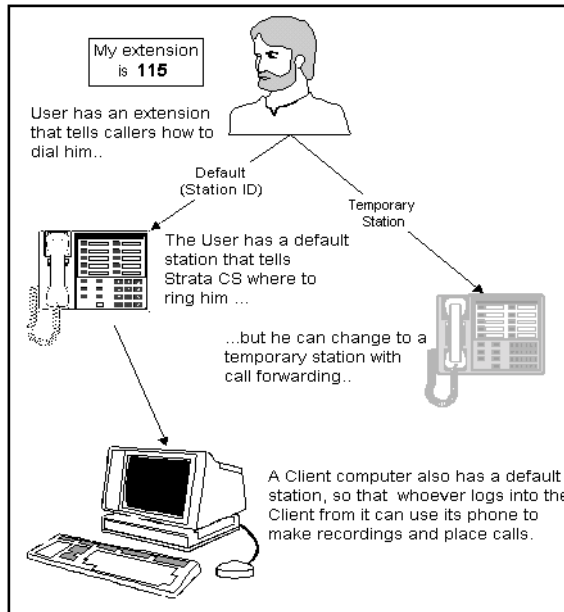
It is important to understand the distinction between a user's extension and station ID:

- **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 jack assigned to the user. A station ID is never dialed. The number corresponds to the MSI board interface that the phone is plugged into. To identify a phone's station ID, pick up the phone and dial ***0**.

Assigning multiple users to 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 computer and phone. 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 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.

Logging in at a station other than the assigned one. A user can temporarily log in to someone else's default station, either through the telephone commands or the Client. While logged in, Strata CS treats outgoing calls as coming from the user, and applies the user's own dialing permissions and permissions. Calls to the user appear in the Call Monitor. However, calls do not ring at this phone unless the user forwarded calls to the new location or selected "Take Call" from the Call Monitor. Calls for the default user at the location still ring there, but are not displayed in the Call Monitor.

When the user logs off, the station reverts to its default extension. To find out the default extension for a phone, dial ***0.**

- ᵫ To log off using the telephone commands, hang up the phone.
- ᵫ To log off using the Client, exit the Client or log in as a different user.

Reconfiguring a station for a different phone. Each Strata CS Client is configured to work with a specific station. For example, if you move a user's Client workstation to a different office with a different phone, you must change the station ID, as described in "Assigning a station ID" on page 6-11.

Assigning a DID number

You can assign a **DID number** to a user from the block of numbers provided by your telephone company or T1 provider. When Strata CS 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 "ANI/DID digit collection" on page 5-5.

Creating a password

Enter a numeric **Password** used to access the user's voice mail, options, and to start the Strata CS Client. The minimum password length for your system is specified in the General tab of the System Settings dialog box. The password can be changed either on this tab or in the Client.

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

Setting up a personal operator

By default, Strata CS 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 from the **Operator** drop-down list on the General tab. For more information about operators, see "The Admin and Operator users" on page 6-4. A personal operator can be also be set in the Strata CS 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. When the user logs in or is identified on the telephone, Strata CS automatically switches to this language for all subsequent system prompts for that user. The language can be also be set in the Strata CS Client. This setting does not affect the prompts that callers hear.

Editing a user's Client settings

A user's Contacts, Greetings, Routing list settings, and Call rules can only be viewed or changed in the Strata CS Client.

To edit these settings from the Administrator, click **Edit All Client Settings** from any tab. The Client starts, automatically logged in to the user's account without your having to enter the user's password. For privacy reasons, the Call Monitor and Voice Messages views are hidden. Using the Client you can view and edit any of the user's custom settings.

The Client must be installed on the same computer as the Administrator for you to use this feature.

The Recordings tab _____

You allocate space for a user's voice files on the Recordings tab of the User dialog box. For existing users, this dialog box displays the amount of allocated space (in minutes) that is currently used for the user's mailbox, recorded greetings, and voice titles. This information is also shown in MB and as a percentage of the total space allocated.
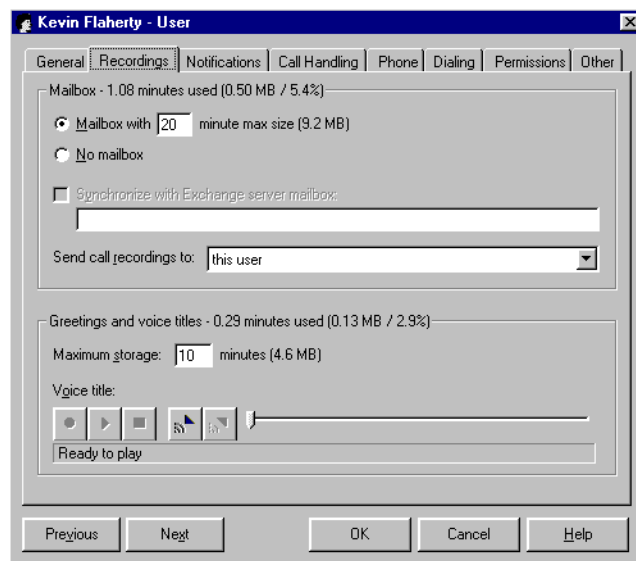
Allocating space for voice messages

In **Mailbox with __ minute max size**, enter the number of minutes' worth of voice messages the user can save.

Choose the default setting of 20 minutes (9.2MB 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 at which no messages are left, for example, a conference room or an IP Gateway user, check **No mailbox.**

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. The Maximum storage size can be also be set in the Strata CS Client.

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

Voice titles can be recorded either from this tab or in the Strata CS Client.

Enabling Microsoft Exchange Server synchronization

You can enable synchronization of a user's Strata CS voice mail 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 "Setting up Microsoft Exchange synchronization" on page 4-18.

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 6-18). 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.

Setting up call recording

By default, call recordings are sent to the mailbox of the user who made them. Select a name from the **Send call recordings to** drop-down list on the Recordings tab to send recordings made by the user to another user's mailbox.

Note: This option is disabled if the user has been prevented from making call recordings.

The Notifications tab _____

You can set Strata CS to send an e-mail message or call a pager whenever a user receives a new voice message. This feature is convenient for users who work at remote locations and do not use the Client program.You can receive notifications for all voice messages or for urgent messages only.

E-mail notifications can contain:

- n Caller's name
- n Phone number at which call originated
- n Strata CS extension at which message was left
- n Voice message length
- n Notes associated with the message
- n Voice message as an attachment

Pager notifications can contain:

- n Caller ID for message
- n Strata CS extension that was dialed
- n Voice message length

Setting e-mail notification

Make sure e-mail notification is configured properly as described in *Strata CS Installation & Maintenance Manual*. See "Configuring e-mail notification support" in Chapter 10 of that manual for more information.

On the Notifications tab, under **After receiving a message, notify this user via e-mail**, select one of the following options from the drop-down list:

- n **Do not send e-mail notifications.** The user does not receive e-mail notification of new voice messages.

- n **Send e-mail for all messages.** The user receives an e-mail notification whenever they receive a new voice message.

- n **Send e-mail for urgent messages only.** The user receives an e-mail notification whenever they receive a voice message marked urgent.

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 Strata CS 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.

In the next drop-down list, set whether the voice message is attached to the e-mail as a .WAV file, by selecting one of the following:

- n **Do not attach voice message.** The voice message is not attached to the e-mail.

- n **Attach voice message.** Messages are attached to the e-mail and also appear in the user's Strata CS Inbox marked as unheard.

- n **Attach voice message and mark as heard.** Messages are attached to the e-mail and appear in the user's Inbox marked as already heard.

- n **Attach voice message and delete from Inbox.** Messages are attached to the e-mail only, and do not appear in the user's 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

On the Notifications tab, under **After receiving a message, notify this user via pager**, select one of the following options from the drop-down list:

- n **Do not send pager notifications.** The user does not receive pager notification of new voice messages.

- n **Send a page for all messages.** The user receives a page whenever a new voice message arrives.

n **Send a page for urgent messages only.** The user receives a page whenever a voice message marked urgent arrives.

In the **Page using** field, select the dialing service that you want Strata CS to use to dial the user's pager.

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:

n I or i sends the caller ID number (for an external call) or Strata CS extension (for an internal call).

n E or e sends the Strata CS extension that the caller dialed.

n L or l sends the length of the voice message in seconds.

For example, the dial sequence `18007771000,,,1245983#E` causes Strata CS 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.

Scheduling notifications

You can schedule notifications to occur at specific times, for example, during business hours, after business hours on work days, and so on. You can also set up custom hours. Notifications can also be scheduled in the Strata CS Client.

For information about how to set up business hours to use when scheduling notifications, see "Business Hours" on page 4-5.

Note: When you turn e-mail or pager notification on for a user, by default Strata CS 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 time rules that are added together. 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 time rule for "during business hours" and another time rule for "on holidays." You (or users) can define custom time rules for even greater precision.

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

Defining a schedule for e-mail and pager notification

On the Notifications tab, click **Schedule** to schedule e-mail or pager notifications. A **Schedule** button is provided in each area, but is disabled unless you have chosen to send notifications. The Schedule E-mail Notifications or the Schedule Pager Notifications dialog box opens.
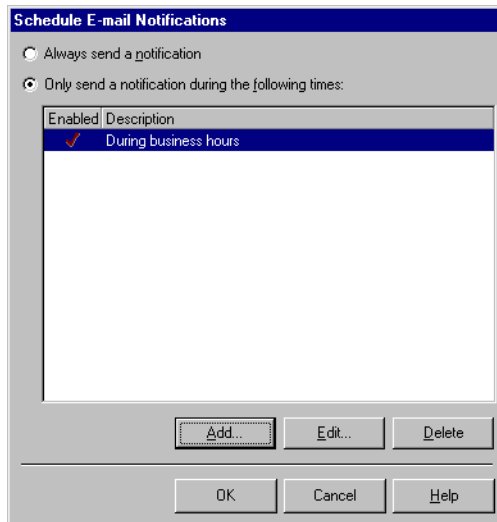
The Schedule E-mail Notifications and Schedule Pager Notifications dialog boxes list the schedules that have been defined so far, if any. Click one of the following:

- ◾ **Always send a notification.** The schedule (if any has been set up) is 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.

To add a schedule entry

1. To add a schedule entry, click **Add**. The Schedule Notification dialog box opens.
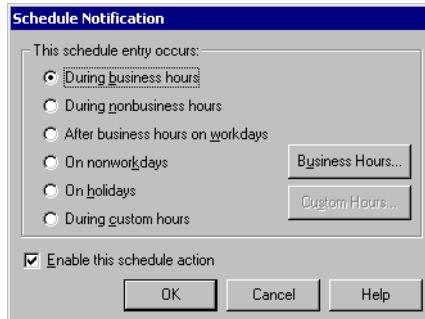
2. To view or change the business and holiday hours used for scheduling, or to create other sets of business hours, click **Business Hours**. See "To define business hours and holidays" on page 4-6.

3. Under **This schedule entry occurs**, choose one of the following time periods during which you want to notify the user of new voice messages. The examples below assume that business hours are Monday through Friday, 9:00 a.m. to 5:00 p.m. and that the setting shown in the previous illustration has been made:

- **During business hours.** In this example, notifications are not sent during business hours.

- **During nonbusiness hours.** Notifications are sent at all times other than business hours, including early mornings, evenings, weekends and holidays. In this example, notifications are sent Monday through Friday, 5:01 pm to 8:59 am, and on Saturdays, Sundays, and holidays.

- **After business hours on work days.** In this example, notifications are not sent Monday through Friday, 5:01 pm to 8:59 am.

- **On nonwork days.** In this example, notifications are not sent on Saturdays and Sundays.

- **On holidays.** In this example, notifications are not sent on holidays.

- **During custom hours.** Notifications are sent during specific days and hours independent of the business and holiday hours already defined. See "Setting up custom time rules" below.

4. Be sure to check **Enable this schedule action**, and then click **OK**. Now the schedule includes the time rule you just created and you are returned to the Schedule E-mail Notifications or Schedule Pager Notifications

dialog box. Add more time rules as needed, and then click **OK** when you are finished.

Setting up custom time rules

You can define a custom time rule that is not related to your office's business hours and holidays and use it to schedule notifications, auto attendant actions (described in Chapter 9), and routing rules (described in Chapter 8). Custom time rules use custom hours, which are specific to the user, auto attendant, or routing rule 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 Strata CS Client.

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

To set up a custom time rule

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.

2. On the Days tab, check each day of the week when 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 for the included period.

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

Date	Times
11/29/1999	9:00:00 AM - 12:00:00 PM
12/26/1999	All day
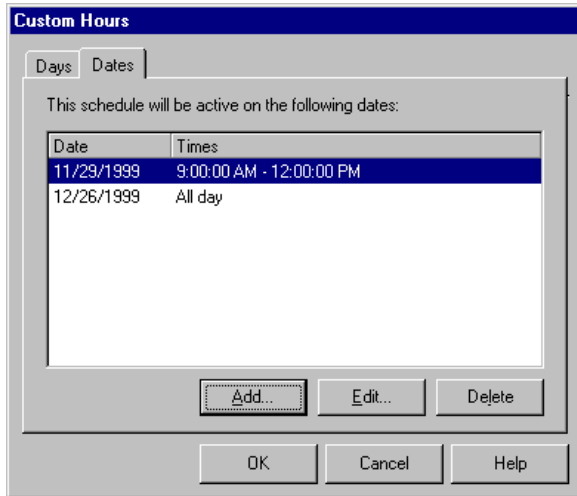
4. In the Custom Date dialog box, type the **Custom Date**, and then click **All day** or **Partial day**. For a partial day, enter starting and ending times to indicate the hours that are included in the custom schedule.
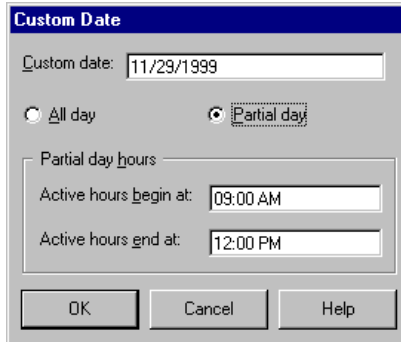
5. Click **OK** to add the custom date.

The Call Handling tab _____

You set up call screening and call announcing for a user on the Call Handling tab. These options can also be set in the Strata CS Client.
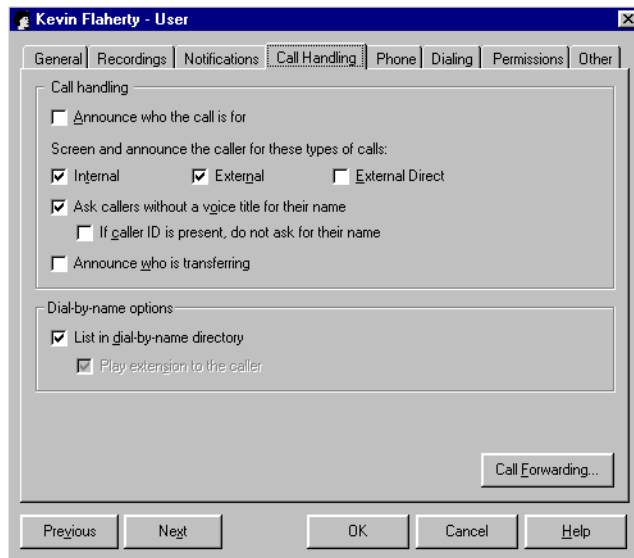
Check **Announce who the call is for** to have Strata CS announce who the call is for when the user answers the phone. This feature is useful if the user shares a phone. It is also convenient to have call announcing turned on if the user receives phone both personal and ACD workgroup calls. If call announcing is not turned on, calls are connected directly without being announced.

Under **Screen and announce the caller's name for these types of calls**, if you want Strata CS to screen calls and announce the caller's name. Choose any of the following types of calls:

- n **Internal.** Calls from another Strata CS user.

- n **External.** External calls routed to the user by an auto attendant or operator.

- n **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.

Check **Ask callers without a voice title for their name** for Strata CS to prompt callers to say their names if no voice titles have been recorded for them. If the user has a phone with caller ID, check **If caller ID is present, do not ask for their name** to avoid prompting callers to identify themselves unnecessarily.

Check **Announce who is transferring** for Strata CS 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 the user's routing lists. The **Where I Am** location is normally the first entry in a routing list. When call forwarding is turned on, a routing list rings the forwarding phone number instead of the user's default station. Call forwarding options can also be set in the Strata CS Client. For more information about routing lists, see *Strata CS Client User Guide*.

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. However, neither of these actions changes the settings in this dialog box. For more information about personal status and the active settings, see *Strata CS Client User Guide.*

To turn on call forwarding

1. From the Call Handling tab of the User dialog box, click **Call Forwarding**. The Call Forwarding dialog box opens.
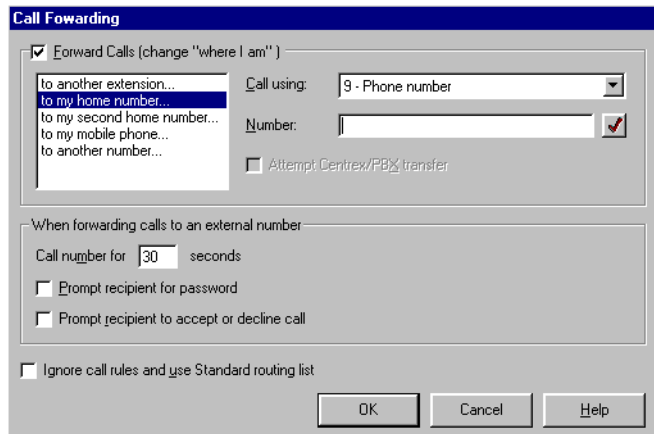
2. Check **Forward Calls (change "where I am")** and select one of the following from the list of locations:

    n   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.

    n   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 number in the **Number** field.

---

n See "Forwarding calls over Centrex/PBX trunks" on page 6-27 for an explanation of the **Attempt Centrex/PBX Transfer** field.

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 6-27.

3. Under **When forwarding calls to an external number**, choose any of the following:

n **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.

n **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 Strata CS 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. See "Recording the new user's voice title and greeting" on page 6-41.

n **Prompt recipient to accept or decline call.** If checked, when the user picks up the phone, Strata CS 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.

This option is used only when forwarding calls to an external number. When forwarding to an internal extension, the user's call screening settings are used. See "The Call Handling tab" on page 6-24.

4. Select **Ignore call rules and use Standard routing list** if you want to sends 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 *Strata CS Client User Guide* 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 Strata CS 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**. Strata CS then relies on user input to signal a connection, and 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 action is Transfer to Extension, and make it the user's active routing list. See *Strata CS Client User Guide*.

Forwarding calls over Centrex/PBX trunks

If your Server uses Centrex trunks or if it is connected to an external PBX, you can forward calls using the option **Attempt Centrex/PBX transfer**, which economizes Strata CS's trunk usage.

If this option is checked, Strata CS 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 Strata CS trunks. Strata CS makes the attempt only when the incoming call is on an analog Centrex/PBX line; it routes incoming calls on other trunk types to the forwarding number in the usual way, using a second trunk.

Note: Forwarding calls with this method avoids tying up extra trunks. However, when a call is routed out using a Centrex/PBX transfer, Strata CS 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 *Strata CS Client User Guide*.

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. This option can also be set in the Strata CS Client.

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**. This option can also be set in the Strata CS Client.

Note: This checkbox is enabled only if **Present names using numbered list** is selected in the System Settings.

The Phone tab _____

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 *Strata CS Installation & Maintenance Manual*. If a user has a phone that supports one or more of these features, you activate them on the Phone tab.

Activating features for CLASS phones

Under **Use the following features on this user's phone**, check each of the following features that is supported on the user's phone. These options can also be set in the Strata CS Client.

- n **Caller ID.** Strata CS 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 Strata CS users and external callers, as well as for contacts who can be identified by Strata CS. Strata CS may also send:

  - n "P", indicating that the calling party blocked transmission of caller ID

  - n "O", indicating that caller ID information was not available.

- **Caller ID on call waiting.** Strata CS delivers caller ID information while the user is on another call, so 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, that 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-20.

- **Message waiting indicator.** Strata CS notifies the user when a new voice message is received by activating the message waiting indicator on the user's phone.

- **Stutter tone.** Strata CS alerts the user to the existence of unheard messages via a stutter dial tone when the user picks up the phone.

Padding extensions sent as caller ID on internal calls

For internal calls, Strata CS passes 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 pad the short string so the phones display extensions correctly. Choose a **Padding position**:

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

- **After extension.** Pads after the extension, for example, 186*******.

Setting the number of seconds to ring the phone

On the Phone tab, in **Ring phone __ seconds**, enter the number of seconds Strata CS rings a user's extension before continuing with the user's routing list or transferring to voice mail. This option can also be set in the Strata CS Client.

Note: In North America, caller ID is transmitted after the second ring. You must increase this setting for caller ID phones in North America so that there is enough time for caller ID to be displayed and read. See "Number of rings before answering a call" on page 4-3.

Sending DTMF digits to stations

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

Activating features on Toshiba digital phone

If the user's phone is a Toshiba Strata (digital), the Phone tab displays a set of options customized for the Strata's special features.
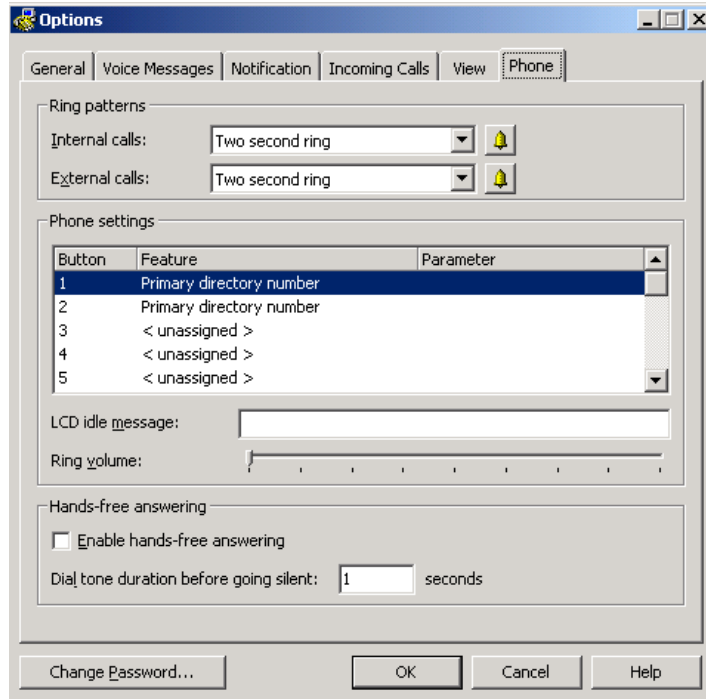
Ring Patterns

In these fields, enter the number of seconds that you want Strata CS to ring a user's extension before continuing with the user's routing list or transferring to voice mail. You must allow enough time for caller ID to be displayed and read, because caller ID information is transmitted after the first ring.

- n **Internal calls.** Number of seconds to ring if the call is from another user.

- n **External calls.** Number of seconds to ring if the call is from an external number.

Phone settings

- n **Button settings list box.** You can set each of the Strata's programmable buttons in the list box under **Phone settings**. To set a button, click on the

button number in the **Button** column, and then select a feature from the drop-down list in the **Feature** column.
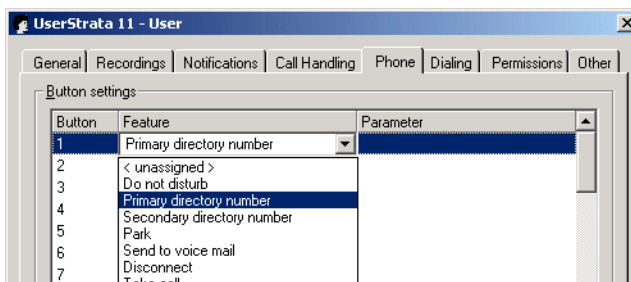
Two of the selections in the feature column have parameters that must be defined (See "Secondary Directory Number parameters" on page 6-32 and "Speed Dial parameters" on page 6-31 for details).

There are two other fields in the Phone settings section:

- n **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.

- n **Ring volume.** This slider bar adjusts the default ring volume for the phone.

Hands free answering
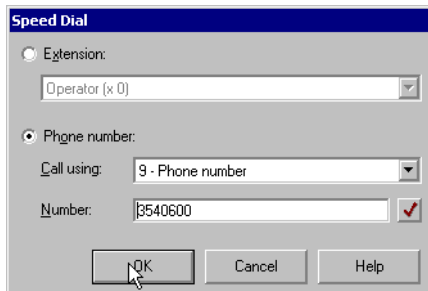
The Hands free answering section contains user options for hands-free mode.

- n **Enable Hands-free answering.** Check this box to enable hands-free answering for a user.

- n **Dial tone duration before going silent.** Enter the time in seconds that the user must wait between calls (before the dial tone ends). To end a hands-free call, the user presses the **Flash** button or hangs up, but has to wait for the phone to go off-hook again. During this time the user hears a dial tone. This setting allows you to set the timeout to "0" so that the user does not hear a dial tone and returns to off-hook status immediately after disconnecting from a call.

Speed Dial parameters

If you select the **Speed Dial** feature in the Button settings list box (see page 6-30) and then 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.

Secondary Directory Number parameters

If you select the **Secondary Directory Number** feature in the Button settings list box (see page 6-30) and then 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 _____

You can set up dialing permissions that allow a user to dial certain numbers and that prevent the user from dialing certain other numbers on the Dialing tab.
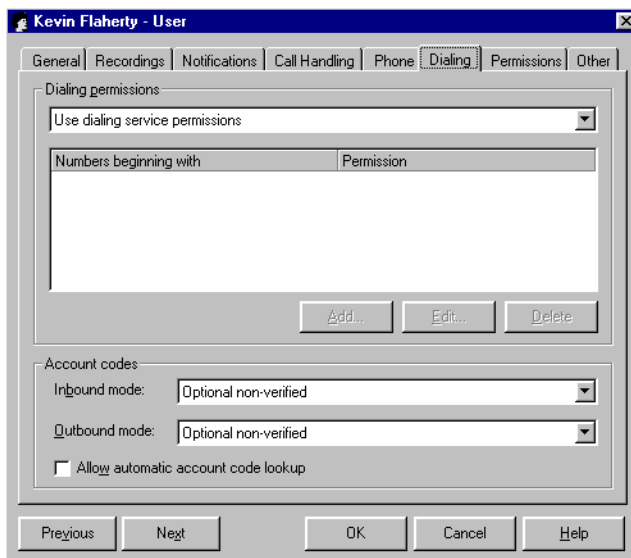
Under **Dialing permissions**, specify the default behavior when a user dials a number:

- n **Use dialing service permissions.** Applies the dialing permissions set up for the dialing service used to place the outbound call.

- n **Allow all numbers except the following (ignore service permissions).** Allows the user to dial all numbers except those allowed or disallowed in the list.

- n **Disallow all numbers except the following (ignore service permissions).** Prevents the user from dialing any numbers except those allowed or disallowed in the list.

- n **Use dialing service permissions except for the following.** Applies the dialing permissions set up for the dialing service used to place the outbound call, except those allowed or disallowed in the list.

Numbers beginning with lists the beginning digits of phone numbers that this user is allowed or not allowed to call. Click **Add** to open the Dialing Permission dialog box and add a dialing permission. Click **Edit** to modify an existing dialing permission.

To set dialing permissions

1. In the Dialing Permission dialog box, choose to **Allow** or **Disallow** calls, and then enter the digits. The permission is applied whenever the user dials a number beginning with the digits using the Phone Number service.

2. In **Phone numbers starting with,** type a phone number or beginning portion of a phone number. Include 1 before the number if it would normally be dialed as part of the number, for example, 1800.
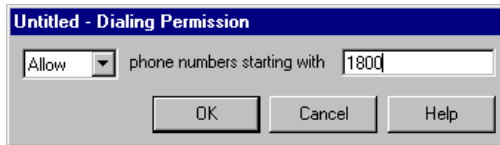
3. Click **OK** to save the dialing permission and return to the Dialing tab.

Global dialing permissions

Dialing permissions can be set on a per-user basis, or globally for all numbers dialed using a Phone Number dialing service. It is recommended that you first set up dialing permissions at the dialing service level (see "Permissions tab" on page 8-26). Then set user permissions only for those exceptions to the service defaults when you need to allow or disallow additional numbers.

A user who attempts to dial a restricted number hears the message, "Sorry, you do not have permission to dial this number." A user cannot include a restricted number in a routing list, or forward calls to a restricted number. Commonly blocked numbers include those listed in the following table.

Prefix	Blocks
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.
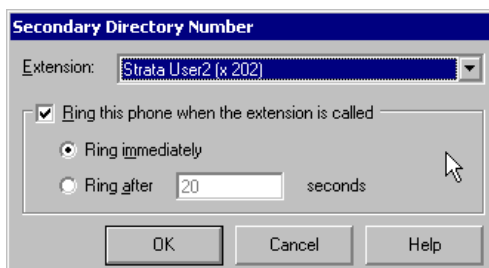
To block the same numbers for all users, add a Phone Number dialing service that blocks the numbers (see "Adding a Phone Number dialing service" on page 8-10).

See "Permissions tab" on page 8-26 for more information about setting dialing permissions, including a detailed example and an explanation of the order in which dialing permissions are applied.

Setting account code modes
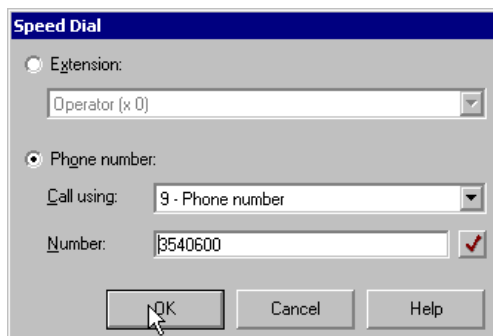
Account code modes determine when a user is to be prompted to enter an account code. For more information, see "Setting a user's account code modes" on page 10-4.

If you select the **Secondary Directory Number** feature, 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.

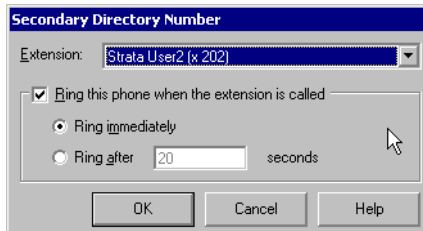If you select the **Speed Dial** feature, the Speed Dial window opens. To speed-dial an extension, click **Extension** and select an extension from the drop-down list. To speed-dial an outside number, click **Phone number**, select the number used to get an outside line in the **Call using** field, and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

The last feature in the list under **Button settings** is **Cnf/Trn** (Conference/Transfer). You can use this feature to set the Strata phone's Cnf/Trn button for either a direct transfer or a menu assisted transfer.

19	Speed dial	354-0600
20	Speed dial	
Cnf/Trn	Direct Transfer ▼	
	Direct Transfer	
	Menu Assisted Transfer	
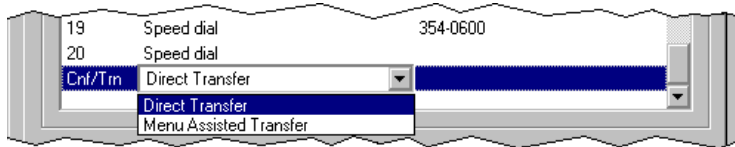
Other settings

Three other settings are grouped at the bottom of the tab.

Settings

Ring phone for [20] seconds

LCD idle message: [StrataUser1: 201]

Ring volume:
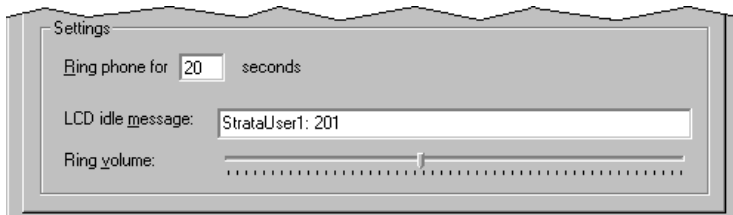
In **Ring phone for __ seconds**, enter the number of seconds that you want Strata CS to ring a user's extension before continuing with the user's routing list or transferring to voice mail. You must allow enough time for caller ID to be displayed and read, because caller ID information is transmitted after the first ring.

In **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.

The **Ring volume** slider bar adjusts the default ring volume for the phone.

The Permissions tab _____

The Permissions tab controls user access to Strata CS features. Users inherit permissions from the roles to which they belong. To adjust individual permissions, make changes in the Permissions pane. Changes take effect when you click **OK**.
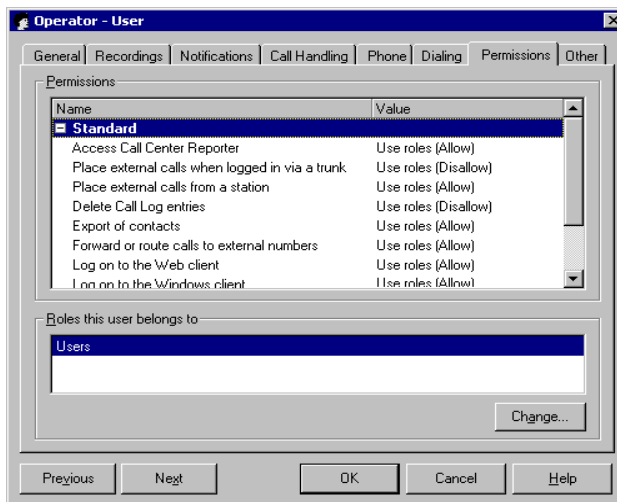
Permissions are granted to users in the following categories:

- n Standard
- n Folder Visibility
- n Administration
- n Folder Access

When you add a user in Strata CS, the user inherits the permissions of the roles to which that user is assigned. For example, in the previous figure, the user has inherited permissions from the Users role.

You can change a user's individual permissions, however, in the Permissions pane, as follows:

- n **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.

- n **Allow.** The listed feature (for example, exporting Contacts) is available to the user.

- n **Disallow.** The function is not available to the user.

- n **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.

- n **View only.** The user can view the folder or tab, but cannot change it.

- n **No access.** The folder or tab cannot be used or viewed by the user.

Individual permissions and roles

There are two types of permissions: individual permissions and roles. All users have their permissions set to "use roles" by default. This means that all users inherit their permissions from the roles to which they have been assigned. If a user belongs to more than one role, the highest level of permission is used.

By default, Strata CS creates the following two roles:

- n **Administrators.** This role has full permissions, and cannot be modified or deleted. The Admin user is a member of the Administrators role group by default and cannot be removed. The Admin user's permissions are set to "use roles" and cannot be changed. Each Administrator can use the permissions as defined for the role, or can define other permissions that override the current role permissions.

- n **Users.** All new users automatically have this role.

You can change a permission for a role by editing the Permissions tab in the Role dialog box of the role.

If a few people need different permissions, you can adjust their permissions individually on the Permissions tab of the User dialog box of the user. Individual permissions always override role permissions.

Adding a user to a role grants the same permissions to that user as any other user with a similar function. Removing a user from the role takes away the role's permissions from that user. You can move users between roles and each time that user inherits the permissions of the new role.

To change a user's role membership, on the Permissions tab of the User dialog box, click **Change**. The Roles dialog box opens and in the left pane shows a list of all roles. The user is a member of the roles listed in **Selected roles** in the right pane.
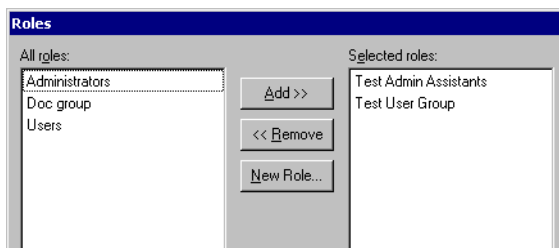
Whenever a user's list of roles is changed, the "use roles" values on the Permissions tab are updated to reflect the new role configuration.

New Role

With Strata CS you can create a new role. A new role such as a Admin Assistant is one or more users that have the same permissions (for example, call or dialing permissions). All users assigned to this role are automatically granted the same permissions. There are two types of permissions: explicit and implicit. Explicit permissions are those permissions granted directly to a user. No other users are affected. Implicit permissions are those permissions granted to all the users in that role.

When a user attempts to use the phone, that user's set of permissions are based on the intersection of that user's explicit and implicit permissions. A user's permissions are always the least restrictive of that user's explicit permissions and the permissions of any role to which that user belongs. For this reason, the least complicated way to administer users is to create a new role and assign permissions to those users rather than to individual users. Then you can change individual users' permissions by adding or removing them from the role. Also, if you need to grant new permissions, you can grant them to all members in that role in a single operation.

To create a new role

1. In the Users view, choose **User > New Role**. A new Role dialog box opens.
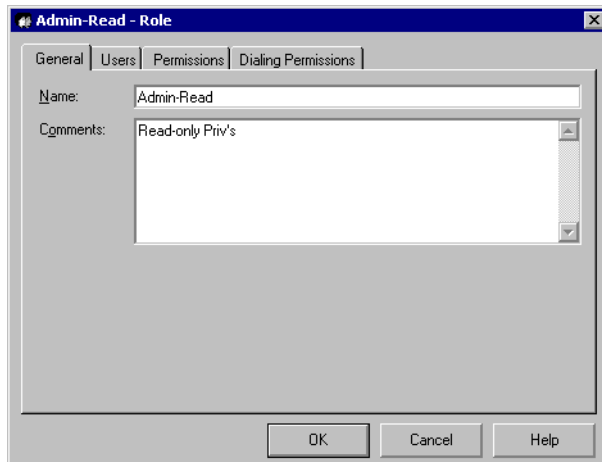
2. Enter the name of the role and any comments about its function.
3. Select the Users tab to manage (add or remove) users in the role.

4. Click the Permissions tab to change the default permissions.

5. Click the Dialing Permissions tab to specify the types of numbers that can be dialed based on the prefix. For example, 1-800 may be allowed, while 1-900 may not allowed.

The Other tab _____

The Other tab contains user options for hands-free mode.
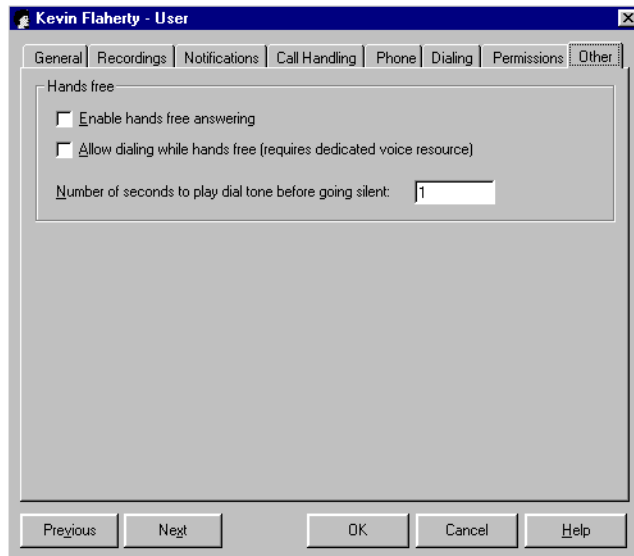
1. To enable hands-free answering for a user, check **Enable Hands-free answering**.

2. To allow dialing while in hands-free answering, check **Allow dialing while hands free (requires dedicated voice resource)**. If this option is not checked, a user must press **Flash** to get a dial tone while in hands-free answering. When it is checked, the user can dial out directly without having to press **Flash**.

3. In **Number of seconds to play dial tone before going silent,** enter the time in seconds that the user must wait between calls (before the dial tone ends.)To end a hands-free call, the user presses the **Flash** button or hangs up, but has to wait for the phone to go off-hook again. During this time the user hears a dial tone. This setting allows you to set the timeout to "0" so that the user does not hear a dial tone and returns to off-hook status immediately after disconnecting from a call.

Managing users _____

For an overview of user properties, see "Adding a user in the User dialog box" on page 6-8. Detailed procedures for setting these properties are described in the sections starting on page 6-9. This section describes other user management tasks.

Recording the new user's voice title and greeting

After you create a new user, do the following:

- **Record the user's voice title.** The voice title is used in many call-screening features, for example, when an auto attendant transfers a call. The voice title is a recording of the user's name that Strata CS fits into its own prompts. It must not be a long recording or greeting.

- You can record the user's voice title when you create the user at a telephone extension or using the Administrator (on the Recording tab of the User dialog box). A user can rerecord a voice title later using the Client. For more information, see "Using the audio controls" on page 2-10.

- **Record the user's voice mail greeting.** This greeting is the message callers hear when they reach the user's voice mail. You or the user must use the Client to record the user's voice mail greeting.

Helping new users get started

To get new users up and running quickly on the system, give them copies of the *Strata CS Quick Reference Guide* and the *Strata CS Quick Reference Guide*.

When you add a new user, a "Welcome to Strata CS" 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 Strata CS dial-by-name directory and emergency services.

- The path they must use to install Strata CS client applications, such as the Strata CS Client and the TAPI Service Provider. The default path is `<Servername>\NetSetup\Setup.exe`.

- For users who are automatic call distribution (ACD) agents, the workgroup name to use when logging on and the password.

- 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 views or Options tabs in the Client that they cannot access.

- Whether they can record calls in the Call Monitor.

Updating users' mail, greeting, and disk usage totals

The Users view displays the following for each user:

- Percentage of space allocated for mail storage that has been used

- Percentage of space allocated for greetings and voice titles that has been used

- Total amount of allocated disk space (in MB) that has been used

To avoid slowing the opening and scrolling of the Users view, Strata CS does not dynamically recalculate the totals at any other time. Instead, this information is recalculated once a day at 1:00 a.m. You can recalculate the totals at any time by choosing **Tools > Recalculate Disk Usage**.

Moving a user

Each Strata CS Client is configured to work with a specific station ID. If you move a user's Client workstation to a different office, you must change the station ID (see "Assigning a station ID" on page 6-11).

Deleting a user

Deleting a user prevents that user from using Strata CS 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.

For information about deleting items in Strata CS, see "Deleting items" on page 2-9.

Note: You cannot delete the Administrator or Operator user.

Managing stations _____

This section presents information about adding a station and about phones that are supported in Strata CS

Adding a station

To add a station to your Strata CS system

1. Using phone cable, connect the phone to the Dialogic MSI board or BCP Control Panel at the Strata CS Server computer. See *Strata CS Installation & Maintenance Manual* for instructions.

2. In the User's view of the Strata CS Administrator, assign the station to a user (see "Assigning a station ID" on page 6-11).

Supported phones

Strata CS supports standard analog touchtone telephones—called 2500 sets in U.S. telephone terminology—for internal stations. Multi-line analog phones can be used, but line use indicator lights may not perform correctly on some models.

Strata CS also supports phones with caller ID displays and some phones with message waiting lights. See Chapter 5 of *Strata CS Installation & Maintenance Manual* for a list of supported phones.

Supporting different types of CLASS phones

Two Strata CS registry settings specify the format used to send caller ID or visual message waiting indicator information to CLASS phones. See "MSI station board settings" on page A-25 for more information.

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

Caller ID information

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

- n Single Data Message Format (SDMF), which sends the date, time, and 10-digit caller ID number.

- n Multiple Data Message Format (MDMF), which sends the date, time, 10-digit caller ID number, and 15-digit caller name.

- n 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 display phones, as does SDMF.

Note: These formats specify only how Strata CS 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 display phone in either SDMF or MDMF.

The Strata CS 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.

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.

MANAGING WORKGROUPS

CHAPTER CONTENTS

About Workgroups _____

A workgroup is a group of related extensions or contacts. With Strata CS workgroups you can manage how calls are directed to groups of users, IVR Plug-ins, auto attendants, or queues. Workgroups appear in the Workgroups view.

Note: Workgroups replace Contact Groups, which were supported in prior versions of Strata CS.

Strata CS provides two types of workgroups: public and personal.

Public workgroups are workgroups that callers from outside your company can reach by dialing a number. Administrators and users with the appropriate permissions can create public workgroups.

Personal workgroups are workgroups that users can create in the Client for their personal use.

Strata CS workgroups offer the following benefits:

- n The process of finding an individual to take calls or to join a conference is easier, because the Extensions view in the Client can be filtered by workgroup.

- n Any public workgroup member can pick up a ringing call within the workgroup if an extension has been assigned.

- n Calls to a public workgroup simultaneously ring the phones of all the extensions that are members of that workgroup (users, IVR plug-ins, auto attendants, queues, or contacts).

- n When workgroup members set their personal statuses to "Do Not Disturb" (see *Strata CS Client User Guide*) their phones do not ring when the workgroup is called.

- n When workgroup members set their personal statuses to **Where I Am** (see *Strata CS Client User Guide*) on their phones, calls to a workgroup that they are in ring at the phone that has accepted the **Where I Am** from the member.

- n When members set their personal statuses to **Where I Am** (see *Strata CS Client User Guide*) on their phone to an external number, calls to a workgroup that they are in do not ring the external number.

Workgroups view

To add, edit, and delete public workgroups, click the Workgroups button in the View bar to open the Workgroups view:
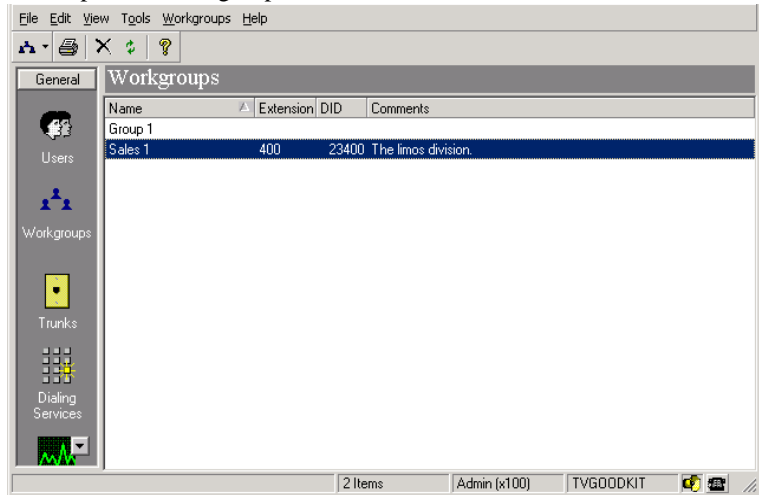
Creating a Workgroup _____

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

Using the General tab

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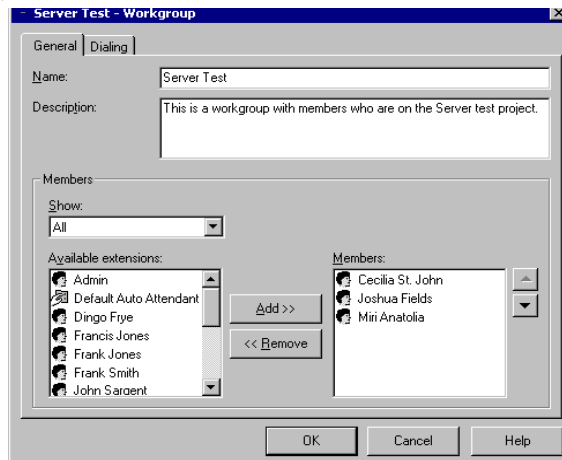
To add members to the workgroup, select names from the list of **Available extensions** and click **Add**. Press CTRL to select multiple names from the list.

Use the up and down arrows next to the list of **Members** to arrange the order of the members. The order in which the names appear can be used in conjunction with a Routing List and the sequence can be either "top down" or "round robin" for calling within the workgroup. You can also use the **Remove** button to delete members from the list.

Using the Dialing tab

Use the Dialing tab to enter the workgroup's **Extension** number and its **DID** number (for external calls). All of the information on the Dialing tab is optional.
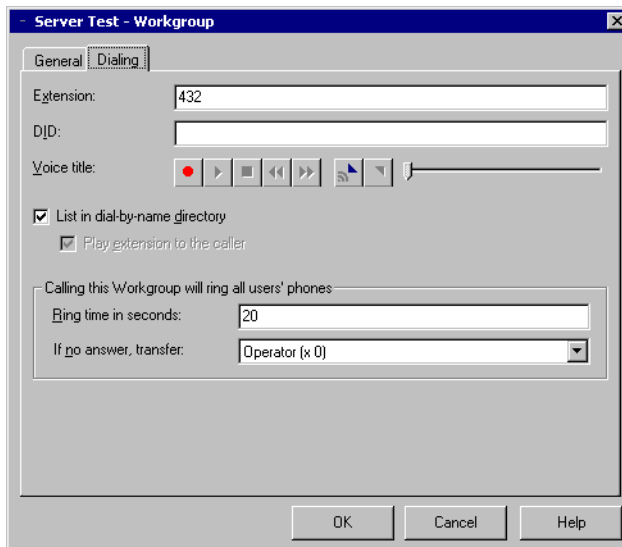
Assigning an extension

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 cannot be called by the auto attendant or telephone commands, and users cannot use the Workgroup pickup option (*99) to retrieve ringing calls within their workgroup. For more information about extensions, see *Strata CS Client User Guide*.

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. When Strata CS 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 with a comma (,). For more information about DID, see "ANI/DID digit collection" on page 5-5.

Adding a voice title

After you create a workgroup, you can add a voice title so the workgroup can be listed in the dial-by-name directory. For more information, see "Using the audio controls" on page 2-10.

Transferring unanswered calls

You can specify the number of seconds before a call is transferred to the operator. By default, Strata CS transfers the call to the workgroup's operator (a person designated to answer calls for the workgroup) whenever the time-out parameter is exceeded. To transfer calls to another user, for example, a departmental operator or other auto attendant, select the user from the **if no answer, transfer** drop-down list on the Dialing tab.

Listing workgroups in the dial-by-name directory

You can choose to have the workgroup displayed in the organization's dial-by-name directory or to play the workgroup's extension when the extension number is dialed after the time limit has expired for the phone to ring.

MANAGING OUTBOUND CALLS

CHAPTER CONTENTS

About dialing services_____

Your Strata CS Server can place outbound phone calls over several different types of trunk. A Strata CS *dialing service* is used to manage calls over a specific type of trunk. For example, a Phone Number dialing service is used to manage calls over a group of PSTN trunks, while an Internet Address dialing service is used to manage calls over a group of Internet trunks. A dialing service creates a prioritized list of trunks that can be used to place the call. The call is then allocated to the highest priority available trunk.

Each dialing service has an *access code* that users must dial when they begin to place a call. The access code tells Strata CS which dialing service to use. For example, users might dial **9** plus a phone number to use a Phone Number dialing service, or **71** plus an IP address to use an Internet Address dialing service.

Dialing service types

Strata CS supports the following types of dialing services:

- n **Phone Number service.** Used to dial standard phone numbers over the public telephone network. You can specify long distance prefix, area code, and other information to reflect the telephone company's dialing plan. For many installations, a Phone Number service is the only type of dialing service needed.

   See "Adding a Phone Number dialing service" on page 8-10.

- n **Centrex/PBX Extension service.** Used to dial Centrex extensions, PBX extensions, or other custom numbers over analog and digital 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.

   See "Adding a Centrex/PBX Extension service" on page 8-12.

- n **Internet Address service.** Used to dial Internet addresses over Internet trunks. With this service, users can pick up a phone and dial an IP address (for example, a number such as 123*456*78*90) to connect to H.323 devices such as NetMeeting. 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).

   See "Adding an Internet Address service" on page 8-14.

- n **Internet-to-Phone Number service.** Gateway service used to dial a phone number through another Strata CS 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.

   See "Adding an Internet-to-Phone Number service" on page 8-15.

- **Internet-to-Centrex/PBX Extension service.** Gateway service used to dial Centrex or PBX extensions or other custom numbers through another Strata CS 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. With this type of service you can directly dial a Strata CS extension on the remote Server, or **411**, or **#** to log in to an account on the remote Server.

  See "Adding an Internet-to-Centrex/PBX Extension service" on page 8-17.

- **Routing service.** A dialing service that routes calls through other dialing services.

  See "Routing services" on page 8-29 for detailed information.

The default dialing service

You may not need to create any dialing services. Strata CS automatically creates a default dialing service named "Phone Number," with an access code of **9**. Phone Number includes all phone number trunks (analog or digital). With this dialing service, a user can pick up the phone and dial **9** plus a phone number. Strata CS then places the call on the first available trunk. This dialing service is often the only dialing service that a company needs.

Using routing services to manage other dialing services

If you need to create several different dialing services, you may be able to simplify dialing for your users by creating *routing services*. A routing service is a special type of dialing service that routes the number dialed to other dialing services. A routing service prioritizes the dialing services by following rules based on the phone number dialed and, optionally, on the time of day or day of the week. A routing service can do the following:

- Allow users to dial a single access code 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.

- 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 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 and date. Users do not have to remember separate access codes for the two carriers because they always dial the access code for the routing service.

For detailed information on routing services, see "Routing services" on page 8-29.

The Dialing Services view _____

To add, edit, and delete dialing services, click the Dialing Services button in the view bar to open the Dialing Services view.
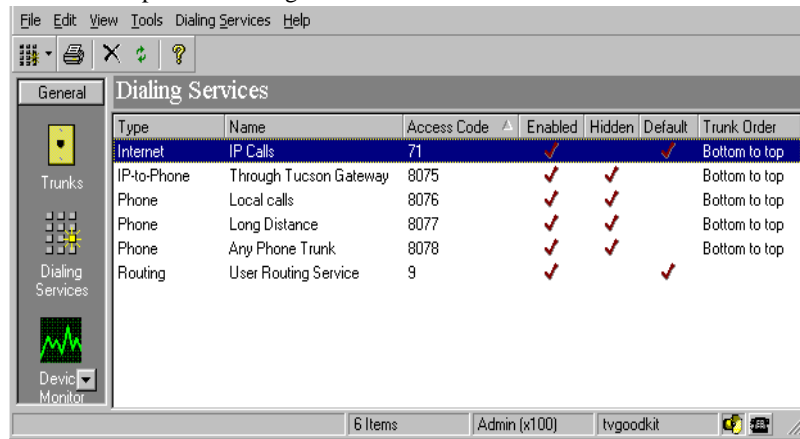
Each dialing service appears as a row in the Dialing Services view. Double-click a listed dialing service to see its properties in the Dialing Services view.

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

Column	Description
Type	Dialing service type. The available types are: n Phone Number n Centrex/PBX Extension n Internet Address n Internet-to-Phone Number n Internet-to-Centrex/PBX Extension n Routing
Name	Name that you assign to a dialing service when you create it.

Column	Description
Access Code	Number that users dial to access this service. For example, **9** to access a dialing service that routes all phone number calls. See "Access codes" on page 8-7 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.
Enabled	If checked, Strata CS allows users to dial using this service. See "Disabling dialing services while creating them" on page 8-7.
Hidden	If checked, Strata CS does not display this service in the Client (see "Hiding dialing services in the Client" on page 8-6).
Default	If checked, this is a default service. See "Setting default access codes for ringbacks" on page 8-9 for more information.
Trunk Order	Order in which the dialing service's list of trunks is prioritized (see "Trunks tab" on page 8-18 for more information). This column is blank for routing services, because they always get their lists of trunks from other dialing services.

How you can use 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 trunks for all long-distance calls and restrict your analog trunks to local calls only. You can create one dialing service that manages your long-distance T1 trunks and another that manages your analog trunks. Each dialing service will have its own access code. Users can dial those local and long-distance access codes manually or you can set up a Routing dialing service (see "Routing services" on page 8-29) that can distinguish between local and long-distance numbers and will automatically route them over the appropriate local and long-distance trunks.

- **Enable Internet calls.** Any use of Internet telephony requires that you create one of the Internet dialing services. You can set up a dialing service that will place calls through remote Strata CS Servers over an Internet connection in a way that is transparent to users.

n **Use the same trunks in different ways.** For example, you can send both Centrex numbers and regular phone numbers over your Centrex trunks. You would 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 would 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.

n **Automatically add prefixes and suffixes to the phone number dialed by the user.** For example, you can create a Cost Saving dialing service that prefixes all numbers with the "10-10-xxx" code belonging to the carrier of your choice. You can also create a Calling Card dialing service that automatically dials the prefix of the calling card number, then the user's phone number, and then the suffix of a credit card number. In both of these examples the user dials only the access code and the phone number. Everything else happens behind the scenes.

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 "Updating phone numbers after changing an access code" on page 8-8). For information about deleting items in Strata CS, 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 in the Client

You can hide a dialing service if you do not want users to access it directly (see the Hidden column in "The Dialing Services view" on page 8-4) through the Client. The Hidden setting is useful when you want to hide dialing services that you use for testing purposes, or services that you only want to make available to users 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.

Although it is not visible in the Client, a hidden dialing service is still available to phone users who dial the access code for that service.

Using dialing services to install and troubleshoot trunks

You can also use dialing services to install and test new trunk lines without interfering with live call handling on the Strata CS 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.

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, making it unavailable to users. With the dialing service disabled, you can click **OK** to save your information 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.

Access codes _____

Dialing services enable users to select what kind of call to make and to choose a dialing service before placing a call. Each dialing service has an *access code* that users must dial when they begin to place a call. For example, users might dial **9** plus a phone number to use a Phone Number dialing service, or **71** plus an IP address to use an Internet dialing service.

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, making 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 in the Client" on page 8-6), consider using 4-digit access codes of the form 80*xx*. 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 to make an external call will experience a delay in getting a dial tone while Strata CS 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 timeouts" on page 4-13).

If you enter an access code for a dialing service, an extension for a user, auto attendant, IVR Plug-in, or a special access code (411, for example) that starts with the same digits as one that already exists, Strata CS identifies the ambiguous number and prompts you to click **Cancel** to go back and change the ambiguous access code or extension, or **OK** to keep it. Choosing **OK** introduces a brief delay whenever a user dials one of these numbers.

How Strata CS uses access codes

Strata CS saves the dialing service's access code with each phone number or Internet address stored in the Strata CS database. When a user selects a number to call in the Client, the system uses the dialing service that is currently assigned to the access code stored with the number.

Because Strata CS associates each number with an access code, instead of with the service used to dial it, you can change the dialing service used by a number without changing all the numbers stored in the Strata CS database. You do this by changing the access code or reassigning the access code to a new service. Reassigning the access code to a new dialing service can be totally transparent to users, because users need to know only the access code, which remains the same.

Updating phone numbers after changing an access code

If you need to change the access code used to dial a certain type of call after users have entered phone numbers in Strata CS for contacts, routing lists, or call forwarding, choose **Tools > Update Phone Numbers**.
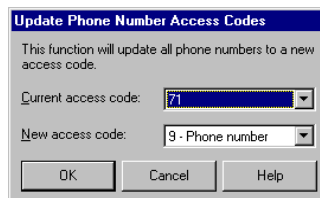
Choose the **Current access code** and the **New access code** from the drop-down lists, and then click **OK.** All the phone numbers that users have entered in the Strata CS database with that current access code are changed.

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.

Even when the Operator user's extension is a number other than 0, callers must press 0 from within the system to transfer to the Operator. For example, if a caller reaches a user's voice mail and wants to transfer to the user's personal Operator instead of leaving a voice message, the caller dials 0, even if the Operator user's extension is 111.

Setting default access codes for ringbacks

When users return calls from the Strata CS Client, the system automatically uses a default access code that you set. 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:

- n **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 dialing service (see "Routing services" on page 8-29) or any dialing service that takes phone numbers as inputs. You typically would use a Routing dialing service or a Phone Number dialing service.

- n **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 Strata CS Server. When returning a call that came from a remote Strata CS Server, the system automatically uses the correct access code required to reach the remote Server.

Where the default access codes appear
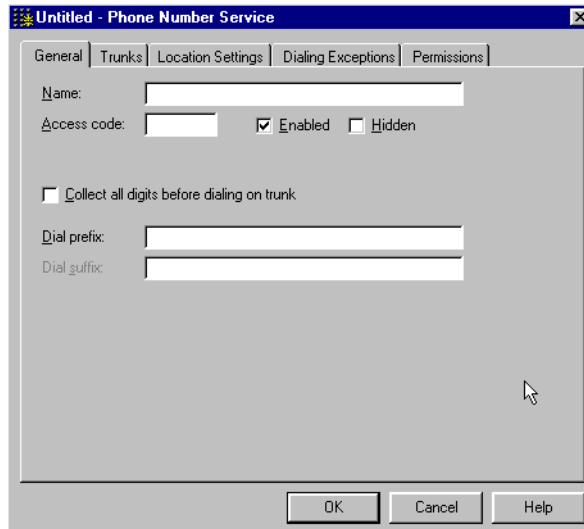
In the Administrator, the Default column of the Dialing Services view shows the current defaults for phone number and Internet ringbacks.

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 Phone Number dialing service _____

A Phone Number dialing service allows users to dial standard telephone numbers over analog and digital trunks.

1. Choose **Dialing Services > New Dialing Service > Phone Number Service**.

2. On the General tab, enter the following basic information about the dialing service:

- n **Name. 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 8-7.

- n **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 if you want to click **OK** before you are finished defining the dialing service, or later if you want to change or troubleshoot the dialing service.

- n **Hidden.** To hide this dialing service in the Client, check **Hidden**. This setting is typically enabled to hide dialing services that you use for testing purposes or only want to make available to users through a Routing service (see "Routing services" on page 8-29). A hidden service is still accessible to Telephone users.

- n **Collect all digits before dialing on trunk.** Check this box to have Strata CS play a dial tone, collect digits, and then dial those digits after the user has finished. Uncheck it to have Strata CS send digits

to the phone company as the user dials them and let the phone company determine when the dial string is complete.

Digits are normally sent as the user dials them. In certain cases, however, you can collect all digits if you want to do either of the following:

- 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).

- Improve tone detection when users attempt to place an outbound call while logged into Strata CS remotely from a digital cell phone or other low-quality connection.

If you check **Collect all digits before dialing on trunk**, Strata CS 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 timeouts" on page 4-13). Users can dial **#** when they are done dialing to skip the time-out and place the call immediately. Also see "Routing services" on page 8-29 for a more advanced way to avoid timeouts.

- **Dial prefix and dial suffix.** Enter any digits to be dialed automatically before or after the phone number dialed by the user.

When you create a Phone Number 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.

You can use a dialing prefix or suffix as follows:

- 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 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.

When users need to charge a call, they dial the access code for the dialing service, and then dial the number they want to call. The

dialing service automatically dials the number of the calling card (the prefix), and then dials the number the user dialed, and then supplies the credit card number (the suffix).

3. **Trunks tab.** Click the Trunks tab (see "Trunks tab" on page 8-18) and choose the trunks that this dialing service will use to place calls.

4. **Location Settings tab.** Click the Location Settings tab (see "Location Settings tab" on page 8-20) and specify the location of the Strata CS Server. Location information enables Strata CS to determine whether it needs to add a long-distance prefix, international prefix, or area code to the number before dialing.

5. **Dialing Exceptions tab.** Click the Dialing Exceptions tab (see "Dialing Exceptions tab" on page 8-22) and define specific rules used to dial numbers in a particular city, area code, exchange.

6. **Permissions tab.** Click the Permissions tab (see "Permissions tab" on page 8-26) and specify any restrictions on the numbers that can be called using this dialing service.

7. Click **OK** on any tab to add the dialing service.

Adding a Centrex/PBX Extension service _____

A Centrex/PBX Extension service allows users to dial Centrex/PBX extensions or other custom numbers over analog and digital trunks.

1. Choose **Dialing Services > New Dialing Service > Centrex/PBX Extension Service.**

2. On the General tab, enter the following basic information about the dialing service:

- **Name, access code.** Choose a name and access code that will make it easy for the users to select this dialing service when placing a call. See "Tips on access codes and names for services" on page 8-7.

- **Enabled.** To make this dialing service available to users, leave **Enabled** checked. Clearing the checkbox disables the dialing service so that users cannot select it. Disabling can be useful if you want to click **OK** before you are finished defining the dialing service, or later if you want to change or troubleshoot the dialing service.

- **Hidden.** To hide this dialing service in the Client, check **Hidden**. This setting is typically enabled to hide dialing services that you use for testing purposes or only want to make available to users through a Routing dialing service (see "Routing services" on page 8-29). A hidden service is still accessible to Strata CS users.

- **Minimum, Maximum number of digits.** When a user dials a Centrex/PBX extension, Strata CS 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 timeouts" on page 4-13).

  - 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.

- **Collect all digits before dialing on trunk.** Check to have Strata CS wait until the user finishes dialing before sending the complete dial string to the phone company. Uncheck to have Strata CS 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 Strata CS remotely from a digital cell phone or other low-quality connection.

If you check this option, Strata CS 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 timeouts" on page 4-13). Users can dial **#** when they are done dialing to skip the time-out and place the call immediately.

n **Dial prefix and dial suffix.** Enter any digits to be dialed automatically before or after the phone number dialed by the user.

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.

For example, you can 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.

3. **Trunks tab.** Click the Trunks tab (see "Trunks tab" on page 8-18) and choose the trunks that this dialing service will use to place calls.

4. Click **OK** on any tab to add the dialing service.

Adding an Internet Address service_____

An Internet Address dialing service allows users to place calls to IP (Internet Protocol) addresses over Internet trunks. For example, you can use an Internet Address service to place a call to a PC running Microsoft NetMeeting.

For complete information on setting up Strata CS for IP telephony, see Chapter 13, "Configuring Internet Telephony Support."

1. Choose **Dialing Services > New Dialing Service > Internet Address Service.**

2. On the General tab, enter the following basic information about the dialing service:

n **Name, access code.** Choose a name and access code that will make it easy for the users to select this dialing service when placing a call. See "Tips on access codes and names for services" on page 8-7.

n **Enabled.** To make this dialing service available to users, leave **Enabled** checked. Clearing the checkbox disables the dialing service

so that users cannot select it. Disabling can be useful if you want to click **OK** before you are finished defining the dialing service, or later if you want to change or troubleshoot the dialing service.

ₙ **Hidden.** To hide this dialing service in the Client, check **Hidden**. This setting is typically enabled to hide dialing services that you use for testing purposes or only want to make available to users through a Routing service (see "Routing services" on page 8-29). A hidden service is still accessible to Telephone users.

3. Trunks tab. Click the Trunks tab (see "Trunks tab" on page 8-18) and choose the trunks that this dialing service will use to place calls.

4. Codecs tab. Click the Codecs tab (see "Codecs tab" on page 8-21) and choose whether to default to or override the codecs specified for the Internet span used by the service.

5. Click **OK** on any tab to add the dialing service.

Adding an Internet-to-Phone Number service_____

You use an Internet-to-Phone Number service to dial telephone numbers from a remote Strata CS Server. For complete information on setting up Strata CS for IP telephony, see Chapter 13, "Configuring Internet Telephony Support."

1. Choose **Dialing Services > New Dialing Service > Internet-to-Phone Number Service.**

2. On the General tab, enter the following basic information about the dialing service:

- **Name, access code.** Choose a name and access code that will make it easy for the users to select this dialing service when placing a call. See "Tips on access codes and names for services" on page 8-7.

- **Enabled.** To make this dialing service available to users, leave **Enabled** checked. Clearing the checkbox disables the dialing service so that users cannot select it. Disabling can be useful if you want to click OK before you are finished defining the dialing service, or later if you want to change or troubleshoot the dialing service.

- **Hidden.** To hide this dialing service in the Client, check **Hidden**. This setting is typically enabled to hide dialing services that you use for testing purposes or only want to make available to users through a Routing dialing service. A hidden service is still accessible to phone users.

- **IP Gateway.** Select the IP Gateway that will direct calls from this dialing service to a remote Strata CS Server. To create a new IP Gateway, click the IP Gateway button. See "Creating an IP Gateway" on page 13-9.

- **Remote Server's Phone Number service access code.** 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).

3. **Trunks tab.** Click the Trunks tab (see "Trunks tab" on page 8-18) and choose the trunks that this dialing service will use to place calls.

4. **Codecs tab.** Click the Codecs tab (see "Codecs tab" on page 8-21) and choose whether to default to or override the codecs specified for the Internet span used by the service.

5. **Location Settings tab.** Click the Location Settings tab (see "Location Settings tab" on page 8-20) and specify the location of the Strata CS Server. Location information enables Strata CS to determine whether it needs to add a long-distance prefix, international prefix, or area code to the number before dialing.

6. Click **OK** on any tab to add the dialing service.

Note: If you have problems sending digits to external phone systems when dialing out on an Internet-to-Phone Number service, try increasing the DTMF Gain and DTMF On-time parameters on the Tuning tab of the remote system's Internet span. See "Fine-tuning your IP connection" on page 5-24.

Adding an Internet-to-Centrex/PBX Extension service_____

You use an Internet-to-Centrex/PBX Extension service to dial any number such as an extension or 411, or # to log in to Strata CS from the remote Server's dial tone. You can also use an Internet-to-Centrex/PBX Extension service to dial Centrex or PBX extensions or other custom numbers from a remote Strata CS Server. For complete information on setting up Strata CS for IP telephony, see Chapter 13, "Configuring Internet Telephony Support."

1. Choose **Dialing Services > New Dialing Service > Internet-to-Centrex/PBX Extension Service.**

2. On the General tab, enter the following basic information about the dialing service:

n **Name, access code.** Choose a name and access code that will make it easy for the users to select this dialing service when placing a call. See "Tips on access codes and names for services" on page 8-7.

n **Enabled.** To make this dialing service available to users, leave **Enabled** checked. Clearing the checkbox disables the dialing service so that users cannot select it. Disabling can be useful if you want to click OK before you are finished defining the dialing service, or later if you want to change or troubleshoot the dialing service.

n **Hidden.** To hide this dialing service in the Client, check **Hidden**. This setting is typically enabled to hide dialing services that you use for testing purposes or only want to make available to users through a Routing service (see "Routing services" on page 8-29). A hidden service is still accessible to Strata CS users.

- **Minimum, Maximum number of digits.** When a user dials a Centrex/PBX extension, Strata CS 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 elapses (see "Setting dialing timeouts" on page 4-13)

  - 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 all Centrex/PBX extensions are 3 digits long, set both values to 3.

- **IP Gateway.** Select the IP Gateway that will direct calls from this dialing service to a remote Strata CS Server. To create a new IP Gateway, click the IP Gateway button. See "Creating an IP Gateway" on page 13-9.

- **Place Centrex/PBX calls on remote Server using.** Choose how calls from this dialing service will connect to the remote Server:

  - **Remote Server's Centrex/PBX service access code.** The remote Server places a call using the Centrex/PBX Extension dialing service whose access code you enter here. This option lets users dial Centrex/PBX extensions *external* to the remote Server, for example, to connect to a legacy PBX on the remote Server, or dial a Centrex extension.

  - **Remote Server's internal dial tone.** The call is connected to the remote Server's internal dial tone, as if the user was dialing from a station on that Server. This option lets users dial internal Strata CS extensions on the remote Server, or log in to an account on that Server.

3. **Trunks tab.** Click the Trunks tab (see "Trunks tab" on page 8-18) and choose the trunks that this dialing service will use to place calls.

4. **Codecs tab.** Click the Codecs tab (see "Codecs tab" on page 8-21) and choose whether to default to or override the codecs specified for the Internet span used by the service.

5. Click **OK** from any tab to add the dialing service.

Trunks tab

The Trunks tab is used by all dialing service types except routing services (see page 8-29). This tab specifies the trunks to which calls will be routed, and the order in which those trunks will be allocated.

1. Click the Trunks tab.
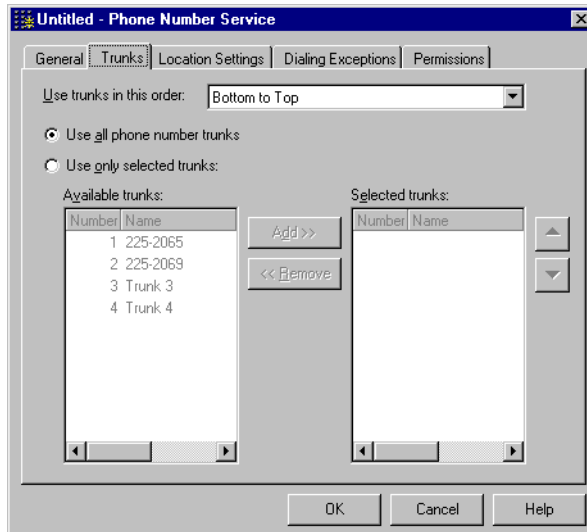
2. Identify the trunks allocated by the service:

- n **Use trunks in this order.** Choose the algorithm used to allocate trunks from the dialing service:

    - n **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.

    - n **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.

    - n **Round Robin.** Trunks are allocated in the same sequence as Bottom to Top, but starting with a different trunk for each call.

3. Identify the trunks that will be allocated by this service.

Note: The label of the next field, and the trunks available for allocation will vary depending on the type of service you are creating.

- n **Use all phone number trunks.** If selected, this dialing service will allocate all analog and digital trunks in the Strata CS system, using the algorithm selected above.

- n **Use only selected trunks.** If selected, only the trunks in the list on the right will be allocated, using the algorithm selected above.

    Click **Add** to add a trunk to the **Selected trunks** list. Click **Remove** to remove it.

    - n **Available trunks.** Lists all the trunks in the Strata CS 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 will be allocated from this dialing service. Use the up and down arrows to move a trunk higher or lower in the list.

Location Settings tab_____

The Location Settings tab is used by Phone Number dialing services (see page 8-10) and Internet-to-Phone dialing services (see page 8-15). Strata CS uses location information to format and dial telephone numbers entered in the Client or collected from caller ID information.

1. Click the Location Settings tab.

2. Identify the local and long-distance phone number formats used to dial using this service.

Note: When using this tab to create an Internet-to-Phone Number dialing service, these values must match those on the remote Strata CS Server.

- **Country/Region.** Location of the Strata CS Server.

- **Long-distance prefix.** 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.** 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.** City or area code for local phone numbers.

- **Dial local numbers without area code.** If checked, Strata CS strips 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 always expect numbers to include area codes.

- **Include long-distance prefix in area code.** If checked, Strata CS assumes 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 is disabled in the U.S.

Codecs tab

When you add a dialing service of the type Internet Address (see page 8-14), Internet-to-Phone Number (see page 8-15), or Internet-to-Centrex/PBX Extension(see page 8-17), you can default to the codecs specified for the Internet span or override the default and specify one or more codecs for this service. For a complete discussion of codecs, including which ones to choose, see "Modifying Strata CS IP codecs" on page 5-22.

You can create different IP services optimized for specific uses, for example, one IP service with codecs optimized for Net Meeting, and another with codecs optimized for Strata CS-to-Strata CS communication over IP.

Note: The default is to use the codecs set up at the span level. If you want to use the default codecs, you do not need to make any changes on the Codecs tab. The Codecs tab does not display the default codecs assigned at the Internet span level. To view the default codecs, you must display the span properties in the Trunks view.

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. Click the Codecs tab.
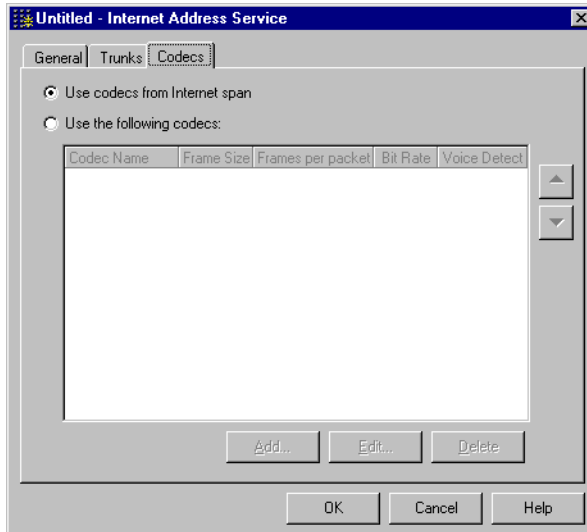
This dialog box lists codecs assigned to the service so far. It does not display the default codecs assigned at the Internet span level. To view the default codecs, you must display span properties in the Trunks view.

2. To override the codecs set up at the Internet span level, click **Use the following codecs.**

3. 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 on how to use the Add Codec dialog box, see "Adding an Internet span" on page 5-21.

4. Click the up or down arrows to promote or demote a specific codec within the list.

5. Click **OK** on any tab to save the dialing service.

Dialing Exceptions tab

The Dialing Exceptions tab is used only for Phone Number dialing services (see "Adding a Phone Number dialing service" on page 8-10). If **Dial local numbers without area code** on the Location Settings tab is checked (see "Location Settings tab" on page 8-20), Strata CS dials all calls as long-distance calls except calls in your area code. Within your area code, all calls are dialed as local calls. You can change this default behavior, or add other dialing rules to cover exceptions for certain exchanges.

Note: If you did not check **Dial local numbers without area code**, you usually do not need to specify dialing exceptions.

1. Click the Dialing Exceptions tab. This 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.
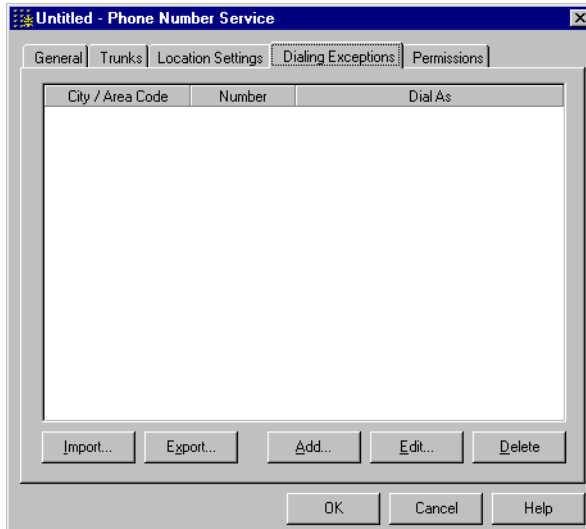
2. Click **Add** to create a new dialing exception, or **Edit** to modify an existing one. The Dialing Exception dialog box opens.
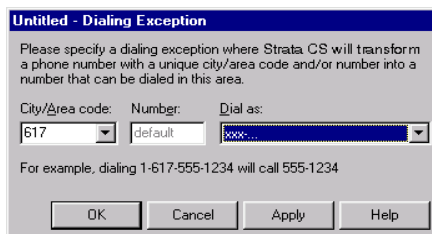
For information about importing and exporting dialing exceptions, see "Exporting and importing dialing exceptions" on page 8-25.

3. In the Dialing Exception dialog box, add a default dialing rule for each city or area code for which you want to define exceptions.

   n **City/Area code.** Enter the city or area code.

   n **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 below. In this example, the default

dialing rule for the 617 area code has been defined. Click **Apply** to save the default dialing rule.

4. 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.

5. 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.

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

You use these functions to copy dialing exceptions from one Strata CS Server to another, or from one Phone Number service to another on the same Strata CS Server, so 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.
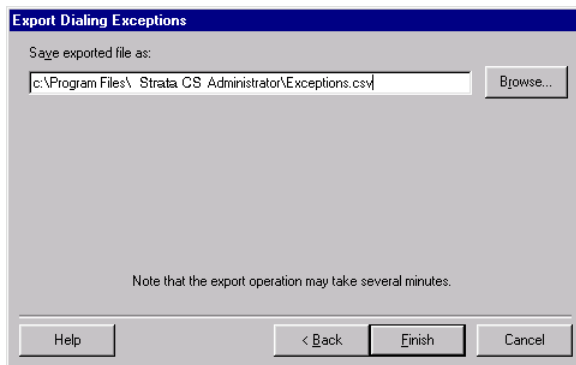
3. Enter a filename for the exported file. Click **Browse** to specify a destination.

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.
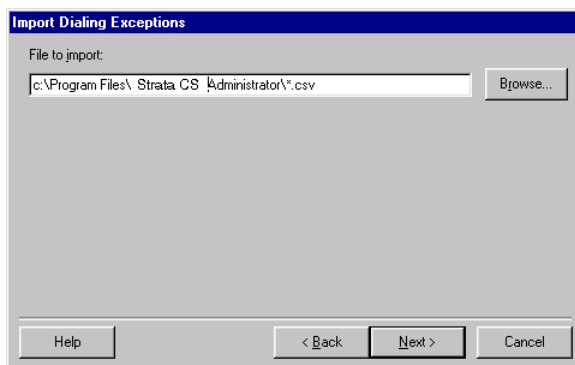
3. Enter the filename. Click **Browse** to search for the file.

4. Click **Finish** to import the file.

Permissions tab

The Permissions tab is used only for Phone Number dialing services (see "Adding a Phone Number dialing service" on page 8-10). Dialing service permissions allow or restrict users from dialing certain numbers when using specified dialing services. You can set permissions for dialing services or for users. Dialing service permissions can be inclusive ("allow all numbers except for...") or exclusive ("disallow all numbers except for..."). A user's permissions can override those set for the dialing service. For more on setting user permissions, see "The Dialing tab" on page 6-33.

Note: Dialing service permission settings apply to numbers dialed using a Phone Number dialing service. Numbers dialed using a Centrex/PBX Extension service are only restricted by your Centrex/PBX provider. Numbers dialed using an Internet Address service are only restricted by your network.

A user who attempts to dial a restricted number using the service hears the message, "Sorry, you do not have permission to dial that number." A user cannot include a restricted number in a routing list or forward calls to a restricted number.

To set dialing service permissions

1. In the Phone Number Service dialog box, click the Permissions tab.
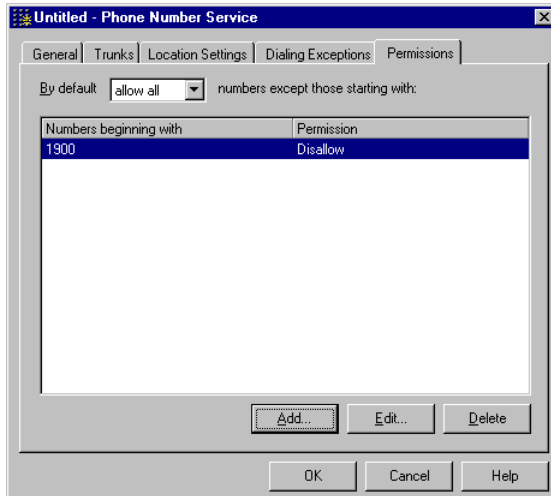
2. Specify the default behavior when users dial a number using this service, by selecting one of the following options:

   n **allow all.** Users can dial all numbers over this dialing service except the disallowed ones listed below.

   n **disallow all.** Users cannot dial any numbers over this dialing service except the allowed ones listed below.

3. Click **Add** to add a new permission, or **Edit** to modify an existing one.
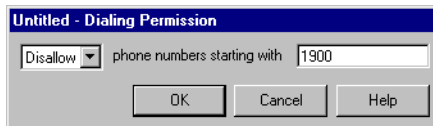
4. Choose to **Allow** or **Disallow** calls, and then enter the digits. The permission is applied whenever a user selects this dialing service and then dials a number beginning with the prefix.

5. Click **OK** to close the dialog box.

6. Click **OK** on any tab to save the Phone Number service.

An example of how to set dialing service permissions

The following example illustrates how to set up dialing service permissions:

n 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 "Location Settings tab" on page 8-20).

n 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.

n 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:

n By default, **allow all numbers** except those starting with:

n **Disallow 1.** This prevents calls to long-distance numbers.

n **Disallow 011.** This prevents calls to international numbers.

n **Allow 1330531.** This allows calls to numbers in the 531 exchange of the 330 area code.You enter a separate permission for each valid exchange in the 330 area code.

n **Allow 1440674.** This allows calls to numbers in the 674 exchange in the 440 area code.

n **Allow 1800.** This allows calls to toll-free numbers.

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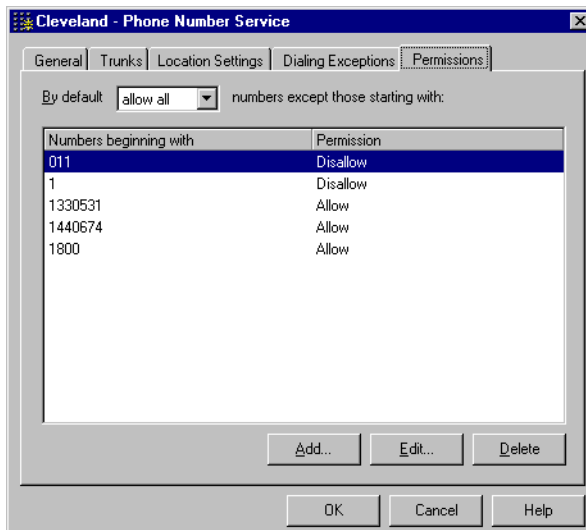
In this example, the rules are applied in this order, longest to shortest:

```
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
```

Routing services _____

A routing service is a special type of dialing service that routes calls through other dialing services. It uses *routing rules* to identify the dialing services that are valid 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 can 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 rule as it would be displayed in the Routing Rules tab (see "Routing Rules tab" on page 8-35). Columns in the Routing Rules tab contain the following information:

- n **Schedule.** Scheduled times at which the rule will be applied. This column contains **Always** if no schedule is defined.

- n **Digits dialed.** Pattern that matches the dialed numbers that you want the routing rule to process. The pattern **Nxxxxxx** matches any seven-digit number starting with digits 2 through 9. See "Defining patterns to match the dialed digits" on page 8-38 for details.

- n **New digits.** Pattern of the number to be passed to the target dialing service. In this example, the number is unchanged.

- n **Action.** The rule's action is **Route** to attempt to route the call through the target dialing service, or **Stop** to stop processing of any further routing rules that use this pattern.

- n **Service/Reason.** The example gives the access code and name of the target dialing service for this rule. If the rule's action was `Stop`, this column would list the reason for stopping.
- n **Notes.** Comments that you enter when you create the rule.

A routing service can have many different routing rules. The routing service attempts to match the number dialed to each routing rule until it reaches the end of the routing rules or finds a rule that tells it to stop processing the number. If one or more valid dialing services are found, the routing service attempts to route the call through the first one found. If all trunks on the first dialing service are busy, the routing service tries other valid dialing services in the order that they were found until the call is placed or all valid dialing services have been tried.

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 applies any prefixes, suffixes, and dialing exceptions (see pages 8-11, 8-14, and 8-22) 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 could do any of the following:

- n **Set up dialing services to roll over automatically.** Set up multiple routing rules that match the same type of number on the same schedule, but route to different dialing services. The routing service identifies all routing rules that match a phone number until it either encounters a stop rule for that phone number or reaches the end of the routing rules. If all trunks on the first rule's target dialing service are busy, the second rule's target dialing service is tried, and so on until the call is placed.

- n **Route local calls and long-distance calls to different trunks.** Write routing rules that identify local calls and route them to dialing services that offer the lowest cost for local calls. Write another routing rule that identifies long-distance numbers and routes them to the trunks that offer the lowest price for long distance.

- n **Route long-distance calls over an Internet gateway to be made as local calls from a remote Strata CS Server.** You are in the New York office. Your company also has an office in Boston. Your New York users make many calls to the Boston area code (617). You would set up an Internet-to-Phone Number dialing service named Call Through Boston that routes calls over the Strata CS Server in Boston. You would 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.

␠

ₙ **Schedule the use of different dialing services for the same number to implement least cost routing.** 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 would set up three dialing services for the three carriers. In your routing service, create three routing rules, all of which match long-distance numbers but are in effect during the three different times. Have each rule route the calls to the appropriate dialing service.

An example of routing rules

Arrange your routing rules in the order you want them to be evaluated and applied, top to bottom. There often are multiple rules to match the same phone number. The first routing rule might 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 5 through 8) that match the same set of numbers.

	Schedule	Digits dialed	New digits	Action	Service/Reason
1	Always	011~		Stop	Invalid number
2	Always	1900~		Stop	Invalid number
3	Always	411	411	Route	79 - T1 line
4	Always	411		Stop	All lines busy
5	Weekdays	1NxxNxxxxxx	1010321NxxNxxxxxx	Route	79 - T1 line
6	Always	1NxxNxxxxxx	+1NxxNxxxxxx	Route	79 - T1 line
7	Always	1NxxNxxxxxx	+1NxxNxxxxxx	Route	78 - All trunks
8	Always	1NxxNxxxxxx		Stop	All lines busy
9	Always	~	~	Route	79 - T1 line

These rules work as follows:

1. Users are not permitted to place international calls with this access code. This could be useful if you only want international calls to be placed by users who have been given a special access code.

2. Stops calls to 900 pay-per-minute numbers. (But see "Adding new routing variables" on page 8-38. You could replace 900 with a new routing variable that matches all pay-per-minute numbers).

3. Route 411 calls to the **T1 line** dialing service.

4. If all trunks are busy on **T1 line**, stop processing and play a message saying all lines are currently busy. This stop rule causes a much quicker time-out when no lines are available.

5. If a call is placed during hours defined by the Weekdays schedule, use the least expensive carrier. The PIC code `10-10-321` is added to the dialed digits before the number is passed to the **T1 line** dialing service.

6. This rule will be used when the call is not placed during Weekday hours. The rule uses the same target dialing service as rule 5, but it doesn't append the PIC code.

7. This rule has a different target dialing service than the previous two. If all of the **T1 line** dialing service trunks are busy, this rule routes the call to the **All trunks** dialing service.

8. If the dialed digits match this rule, no more routing rules will be 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 every routing rule in the list.

9. All other numbers are passed to the **T1 line** dialing service unchanged.

Processing phone numbers received from the Client

The Client automatically reformats most phone numbers using the area code and country code settings of the service being used. This means, for example, that even if the user types a number as 3540600 in the Client's Place Call To dialog box, the number would reach a routing service as (617)3540600. Phone numbers dialed from a telephone, on the other hand, reach the routing service exactly as dialed.

When the Client sends a number to a routing service, it also specifies whether or not the number must be used exactly as dialed (see *Strata CS Client User Guide* for information about entering a phone number by using a dialing service). If this information indicates that the number can be altered, area code and country code information is stripped from the number before the routing service processes it. 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 sources.

STRATA CS ADMINISTRATOR MANUAL
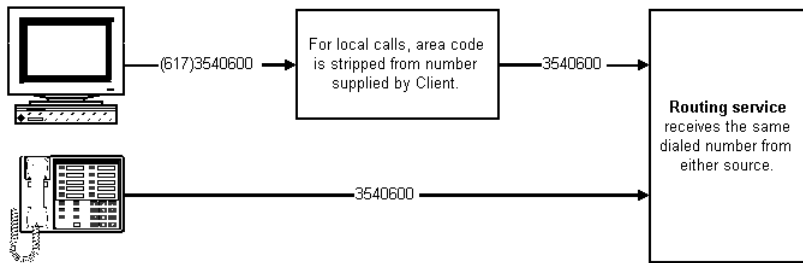
A routing service does not have location settings of its own, but every routing service is configured with a default dialing service (see "Adding a routing service" on page 8-33). The location settings of the default dialing service supply the information needed to convert a number to the local form.

Applying permissions in routing services

When a routing rule has a Phone Number dialing service as its target, the target dialing service must check user permissions (see "Permissions tab" on page 8-26). If a routing rule matches the dialed digits, the target dialing service checks the rule's **New digits** against the permissions defined for the user, the user role or roles, and the target dialing service itself. If the call is blocked, the target dialing service is not used.

For information about permissions, see Chapter 6, "Managing Users and Stations."

Adding a routing service

1. In the Dialing Services view, choose **Dialing Services > New Dialing Service > Routing Service**. The Routing Service dialog box opens.
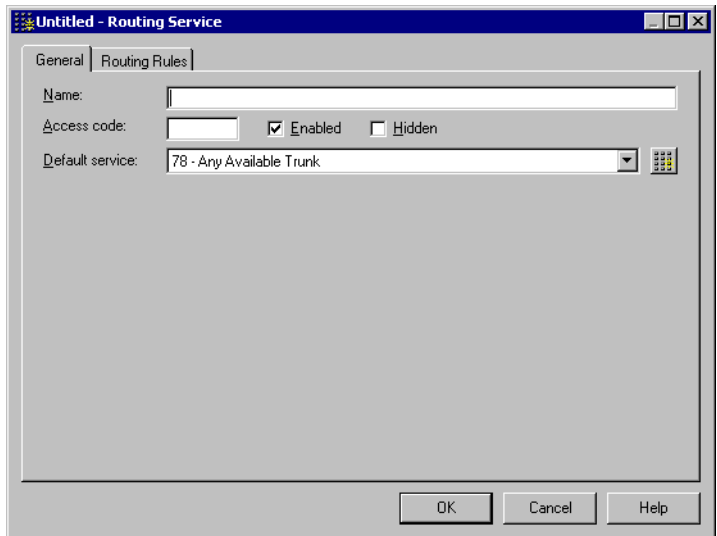
2. On the General tab, enter the following basic information about the routing service:

    ₙ **Name, access code.** Choose a name and access code that will make it easy for the users to select this routing service when placing a call. See "Tips on access codes and names for services" on page 8-7.

- n **Enabled.** To make this routing service available to users, leave **Enabled** checked. Clearing the checkbox disables the routing service so that users cannot select it. Disabling can be useful if you want to click OK before you are finished defining the routing service, or later if you want to change or troubleshoot the routing service (see "Disabling dialing services while creating them" on page 8-7).

  When you disable a routing service that is currently being used, you should assign its access code to a dialing service or another routing service that can handle all the types of calls that the routing service normally handles so that users do not experience a service interruption.

- n **Hidden.** To hide this dialing service in the Client, check **Hidden**. This setting is typically enabled to hide dialing services that you use for testing purposes or only want to make available to users through a routing service. A hidden service is still accessible to Strata CS users (see "Hiding dialing services in the Client" on page 8-6).

- n **Default service.** Dialing service whose location settings are applied to numbers dialed from the Client. Select a dialing service from the drop-down menu, or click ⊞ to create a new dialing service.

3. Click the Routing Rules tab and add routing rules (see "Add a new routing rule" on page 8-36) until you have provided coverage for all numbers that you expect users to dial.

4. Click **OK** to add the routing service.

Routing Rules tab

The top pane on the Routing Rules tab displays routing rules for this service.
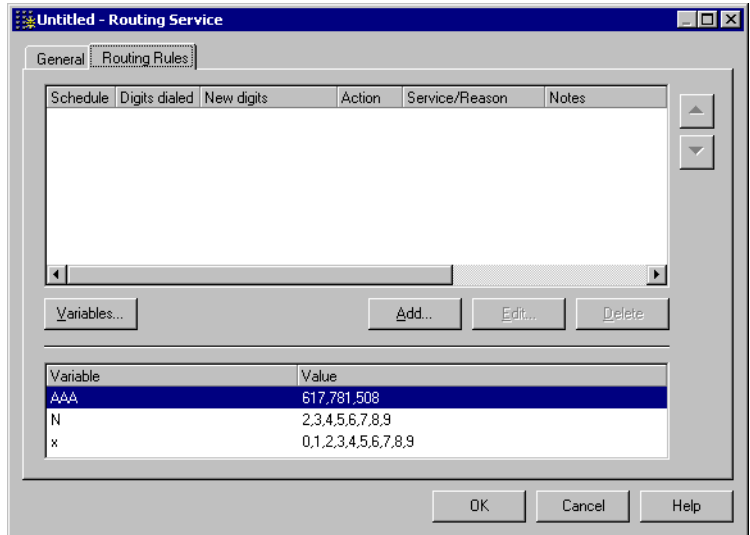
The columns in the top pane contain the following information:

- n **Schedule.** Scheduled times at which the rule will be applied. Contains "Always" if no schedule was defined.
- n **Digits dialed.** Pattern that will match the dialed numbers you want the routing rule to process.
- n **New digits.** Pattern of the digits to be passed to the target dialing service.
- n **Action.** The rule's action is Route to pass a number to the target dialing service, or Stop to stop processing of any further routing rules that use this pattern.
- n **Service/Reason.** Lists either the access code and name of the target dialing service or the reason for stopping, depending on the Action.
- n **Notes.** Comments that you enter when you create the routing rule.

To create a new routing rule, click **Add** (see "Add a new routing rule" on page 8-36).

The bottom pane displays the routing variables that are currently available. Click **Variables** if you need to create or edit routing variables for use in your routing rules. See "Adding new routing variables" on page 8-38 for more information.

Add 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 which numbers the rule will match and, optionally, set a schedule for when this rule is in effect.

- _n **Digits dialed.** Type the pattern that will match the dialed numbers you want the routing rule to process. For example, Nxxxxxx would match any seven-digit local number. See "Defining patterns to match the dialed digits" on page 8-38 for details. The pattern entered here is displayed in the Dialed digits column of the Routing Rules tab.

- _n **Schedule.** If you want to apply the rule only at scheduled times, click [...] to change from the default **Always**, which indicates that the rule is always in effect. 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 time rules" on page 6-22 for more information. If you enter a schedule, it is displayed in the Schedule column of the Routing Rules tab.

Execute the following action

In this section of the dialog box, you can specify the action to be performed with the dialed digits. You have a choice of two actions: you can either `Route` to pass the number to the target dialing service, or `Stop` to stop processing of any further routing rules that use this pattern. The action you choose is displayed in the Action column of the Routing Rules tab.

- n **Route the call to another dialing service.** Select to pass the number to the target dialing service.

  - n **Dialing Service.** From the drop-down list, select the target dialing service for this rule. The service you select appears in the Service/Reason column of the Routing Rules tab.

  - n **New Number.** Type the pattern that defines the number 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 8-40 for more information. If you enter a pattern, it appears in the New digits column of the Routing Rules tab.

- n **Stop processing rules.** Select 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, Strata CS plays an appropriate system prompt to the user. The available prompts include "No lines available," "No lines available for this number," and "Invalid number." The name of the prompt you select is displayed in the Service/Reason column of the Routing Rules tab.

  Most routing services will include stop rules. Stop rules can be used for the following purposes:

  - n **Prevent numbers from being dialed over inappropriate trunks.** For example, create routing rules that dial 411 over the trunks that support 411, and then add a stop rule so that Strata CS does not attempt to use an inappropriate trunk from a later rule. Restrict 1800 numbers to specific trunks in the same way.

  - n **Eliminate timeouts when the user is dialing from the telephone.** For example, with 911 calls, you could create one or more routing rules for the trunks that can handle the call, and then add a stop rule for 911. The stop rule will cause Strata CS to pass 911 to a trunk immediately instead of evaluating all of the remaining rules for matches before routing the call.

  - n **Block calls to numbers.** You can set up stop rules for 1900 numbers, for example, to prevent users from calling them.

Defining patterns to match the dialed digits

You can include any of the characters listed below in the **Digits dialed** that the routing rule uses to match digits received (see "Use this rule under the following conditions" on page 8-36).

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 could be used to match any long distance number in the North American Numbering Plan.

By default, the system defines the following routing variables:

- n **N** matches any digit from 2-9. These are the initial digits used in exchanges and area codes.

- n **x** matches any digits (0-9).

- n **~** matches any sequence of digits and asterisks to the end of dialed digits. This creates an ambiguous timeout (see "Avoiding dialing ambiguities" on page 8-8).

You also can define your own routing variables to match combinations of digits, as described in "Adding new routing variables" on page 8-38.

Here are some examples of match patterns and the phone numbers that these patterns would match:

- n **1617Nxxxxxx** matches 16173540600 and any other seven-digit phone number in the 617 area code.

- n **1617~** matches 1617, 16173540600, 16173540600123456789, or any other set of digits following "1617".

- n **Nxxxxxx** matches 3540600, 2000000, or any other seven digits in which the first digit is from 2-9.

Adding new routing variables

Routing rules use a set of variables to define the phone numbers to be matched. By default, the system defines the routing variables **N** and **x** (see "Defining patterns to match the dialed digits" on page 8-38). You may want to 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 could 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 1**AAA**Nxxxxxx match pattern, you could

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 8-35).
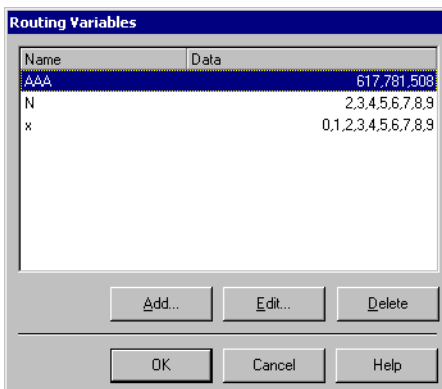
Note: This dialog box can also be accessed by choosing **Tools > Routing Variables** in the Dialing Services view.

2. Click **Add**. The Routing Variable dialog box opens.
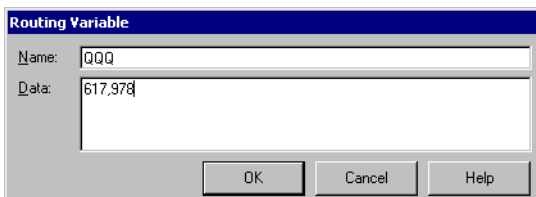
3. Enter a name for the new variable in the **Name** field and the set of values it will match in the **Data** field. The name must be a string of consisting of a repeating upper case letter (for example, W, RRR or HHHHH).

   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 could use a a variable named BBB to match the area codes 617 and 781, but you could not use a variable named BBBBB.

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** defined for a routing rule (see "Add a new routing rule" on page 8-36).

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 xxxx 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 area code and country code rules to the basic number.
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 trunks.
[n]	The *n*th digit in the dialed digits.
[n-m]	The *n*th through *m*th digits in the dialed digits.
[n-]	The *n*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, then adds an account name and password as a suffix: "gateway.mynetphone.net/"[1-]*1234*1234.

The following table illustrates some of the possibilities that exist 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.

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Note: The last example in this table assumes that the U.S. is the country and 617 is the area code the Location Settings 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 **I**NBOUND **C**ALLS

CHAPTER **C**ONTENTS

About call routing _____

This chapter provides an overview of call routing options in Strata CS and directs you to the chapters in this manual that explain in detail how to use them.

With Strata CS, you can route incoming calls in the following ways—you can use one of these options or several of them in combination:

- n **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.

- n **Route a trunk directly to a user.** All incoming calls on a specific trunk go to a specified user's phone. With this option you can send calls to a live operator who then transfers them to users. You can also give a user a dedicated private line.

- n **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.

- n **Route calls to an automatic call distribution (ACD) workgroup.** Incoming calls are automatically put on hold in a workgroup until an agent becomes available. Calls with the longest wait times are answered first. See the *Strata CS Call Center Administrator Guide* for details of routing within an ACD workgroup.

- n **Give a user a direct inward dial (DID) number.** Incoming calls reach the user without going through an auto attendant. Callers dial a specific number that directly connects them to the user. If your phone line supports DID, using this feature is a way to give a user a private number without dedicating a trunk. You do not have to give DID numbers to all users. For more information, see "ANI/DID digit collection" on page 5-5.

- n **Give auto attendants DID numbers.** Incoming calls on any trunk are routed to the appropriate auto attendant using the DID number that the caller dialed. Different departments can have different phone numbers and auto attendants (the main office, sales, support, and so forth) without requiring many separate trunks. By assigning DID numbers to auto attendants, you can have several auto attendants with their own phone numbers without having to dedicate a trunk to each one.

- n **Route calls to a fax machine or pool of fax machines.** For more information, see "Setting up fax routing" on page 5-7.

- n **Route calls directly to an IVR application.** In addition, users can route calls by setting up call forwarding or using routing lists. For more information, see *Strata CS Client User Guide*.

Routing from the Administrator's View
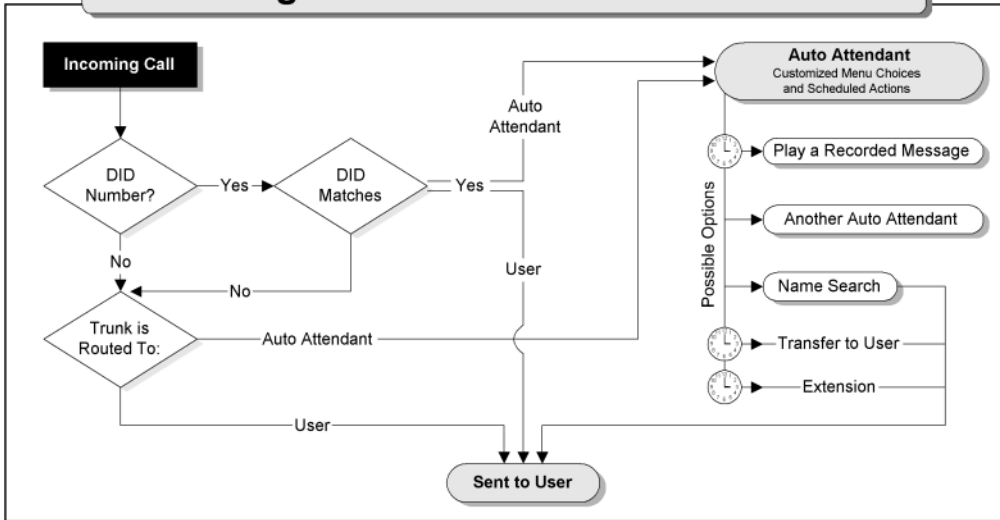
Routing from the User's View

BETA DOCUMENT - PRELIMINARY & CONFIDENTIAL
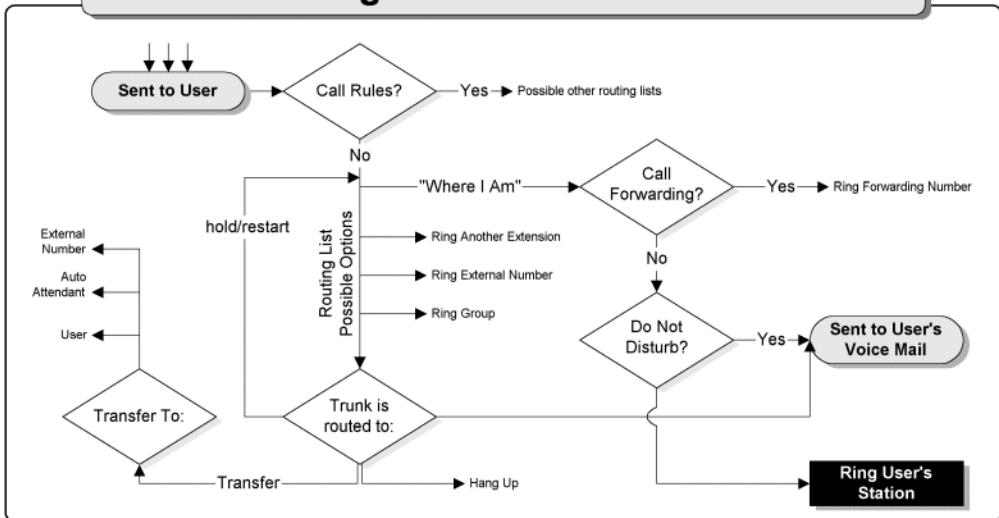
Using auto attendants _____

By default Strata CS uses auto attendants to route calls to users. Auto attendants are powerful tools that offer callers recorded information, verbal menus, and other features.

An auto attendant automatically answers incoming calls on a trunk line and plays a recorded message that offers callers options for directing their calls. For example, a recorded message might say, "Welcome to Barchetta Industries. You may dial an extension at any time. For sales, press 1." The caller enters an extension number or chooses one of the options presented by the verbal prompt.

To route incoming calls on a trunk to an auto attendant, you modify the trunk. Different trunks can point to different auto attendants.

About auto attendants

Auto attendants automatically answer incoming calls and offer callers various options for directing their call. 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."

The preceding example message uses the default Strata CS method for routing calls to users (see "The Default Auto Attendant" on page 9-5). Auto attendants can be powerful tools, as follows:

- n 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 one.

- n Strata CS lets you nest auto attendants, so that one option can take callers to a menu of other options. By creating multilevel auto attendants you can offer callers a nearly unlimited number of choices.

- n You can further customize an auto attendant by scheduling greetings and call transfer behavior to change how it behaves during or after business hours.

- n You can create auto attendants that are recorded in different languages but have 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. It also changes the system prompts that Strata CS presents to the caller to the specified language.

What callers hear

The auto attendant recording that callers hear is 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.

By default, the following options are turned on for all auto attendants:

- **Callers can always enter an extension.** At any time while listening to an auto attendant's options, callers can enter an extension and be transferred to the party at that extension.

- **Callers can always log in by pressing #.** Strata CS users who have an extension and password can press **#** at any time to log in to Strata CS.

Even if these options are not mentioned in the recorded prompts played to callers, they are available to them unless you turn them off.

The Default Auto Attendant

When Strata CS is installed, all incoming trunk lines are assigned 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:

- Enter 9 to access a dial-by-name directory.

- Enter 0 to transfer to the Operator.

- Enter # to log in to Strata CS.

If the caller enters something different than the auto attendant options (9, 0, #), Strata CS will treat what the caller enters as a user extension and attempt to transfer the call. If three (3) 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 another auto attendant is missing.

The Auto Attendants view

To create and manage auto attendants, click the Auto Attendants button in the view bar to open the Auto Attendants view.
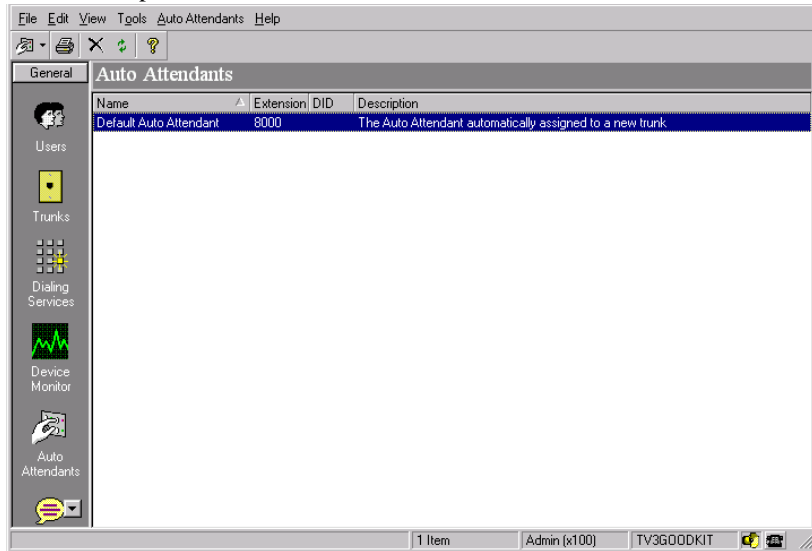
Each auto attendant that you create appears as a row in the Auto Attendants view. A nested auto attendant is considered a separate auto attendant and appears on its own row. The following table shows the information that appears for each auto attendant.

Column	Description
Name	Descriptive name assigned to the auto attendant.
Extension	Extension number used to connect to the auto attendant.
DID	Direct inward dial numbers used to dial this auto attendant directly.
Description	Additional descriptive information about the auto attendant.

Double-click an auto attendant in the view to open the Auto Attendant dialog box.

Auto attendants that you create are not used until you assign them to a trunk in the Trunks dialog box, as described for the various trunk types in Chapter 5. In this way you can create different auto attendants for various situations and then activate the one you want at the appropriate time.

Setting up an auto attendant _____

To set up an auto attendant, you must perform the following steps:

1. Define the menu choices that you want to offer to callers.

2. Set up the menu prompts that explain each menu choice.

3. Optionally, schedule greetings and call transfer behavior to further customize the auto attendant.

4. Assign the auto attendant to a trunk.

Creating a new auto attendant

1. Select **Auto Attendants > New Auto Attendant**. The Auto Attendant dialog box opens.
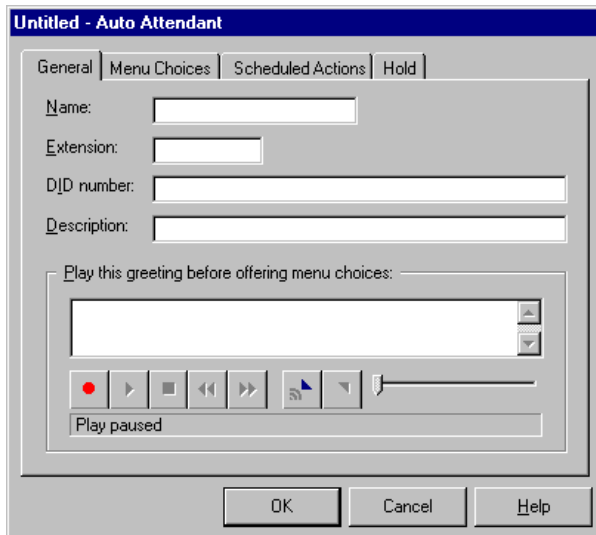
2. Enter the following information:

- **Name** (required). Descriptive name for the new auto attendant, for example, "Sales auto attendant."

- **Extension** (required). Extension used to reach the auto attendant. Strata CS 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**. Assign one or more DID numbers to the user from the block of numbers provided by your telephone company or T1

provider. When Strata CS recognizes this number as the final digits on an inbound call, the caller is automatically connected to this auto attendant, bypassing the main auto attendant. To assign multiple DID numbers to an auto attendant, separate each number with a comma (,).

- n **Description**. Information that describes the auto attendant.

3. Record a greeting that plays before any menu choices are offered to the caller. 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:

- n Menu Choices (described in the next section).

- n Scheduled Actions (described in "Scheduling transfers and greetings" on page 9-14).

5. Click **OK** from any tab to save the new auto attendant. To activate the auto attendant to handle incoming calls, assign it to a trunk (see "Deleting trunks" on page 5-3).

You can save time and reduce typing when you want to create a new auto attendant by right-clicking an existing auto attendant 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

A Strata CS auto attendant contains a series of menu choices offered to the caller. When a caller reaches an auto attendant, its menu choice prompts are played in the order you specify.

In its most basic form, each menu choice consists of:

- n **Prompt.** A recorded message that explains the option to the user

- n **Key.** The telephone key the user must press to select the option.

- n **Action.** The action the system takes when the key is detected. If a menu choice action transfers the call to a user or IVR Plug-in, you also can select a prompt that announces the transfer to the caller.

- n **Language.** The language for subsequent system prompts. When the caller enters the key associated with this menu choice, all subsequent prompts are in the specified language. The languages that your system supports is part of the Strata CS Server installation. For more information, see *Strata CS Installation & Maintenance Manual*.

An auto attendant must always contain an action to take when the caller does not press any key at all, so that the caller is not abandoned. This is called the "nothing" menu choice. You specify how long the auto attendant will wait for a key press (after the last prompt finishes playing) before performing the "nothing" action. The prompt associated with the "nothing" action plays only after the time-out elapses, not with the prompts for other actions.

When you create a new auto attendant, the "nothing" action is defined for you as a "Transfer to Operator" with a timeout of 3 seconds. Also by default, the auto attendant processes all keys that a caller enters that do not match any of the auto attendant options as an extension.

Note: Strata CS automatically disconnects a call if the caller fails to press a key during three consecutive auto attendants. The caller is presumed to have hung up. To change the number of auto attendants that can execute without the caller pressing a key, see Server\MaxAutoAttendantLoops on page A-31.

The following table lists the actions that you can change. You can also create other actions that occur in response to other keys.

Action	Description
Transfer to user	Transfers the call to a Strata CS 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 the caller the Strata CS login prompt
Dial by name	Offers the caller the dial-by-name directory
Jump to auto attendant	Transfers the call to another auto attendant
Transfer to IVR Plug-in	Transfers the call to an IVR Plug-in for processing

To add or modify a menu choice:

1. In the Auto Attendant dialog box, click the Menu Choices tab.
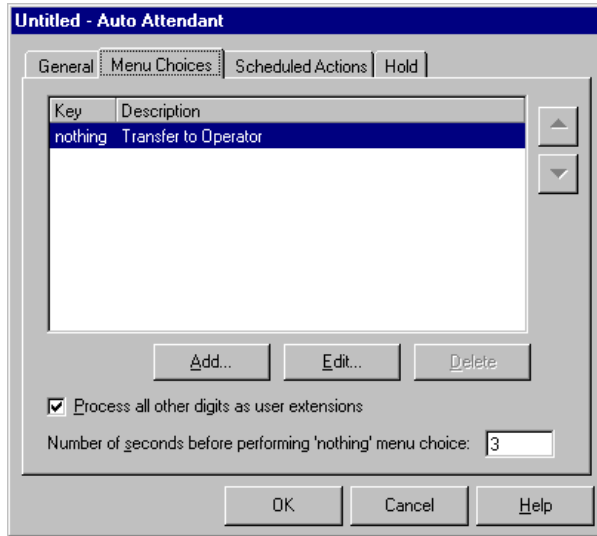
The following table shows the information that appears for each menu choice that has been defined for this auto attendant.

Column	Description
Key	Key that the caller presses (0-9, *, or #) to perform the menu choice.
Description	Action Strata CS performs when that key is pressed.

2. Click **Add** to create a new menu choice. Click **Edit** to modify the selected menu choice.The Edit Menu Choice dialog box opens.
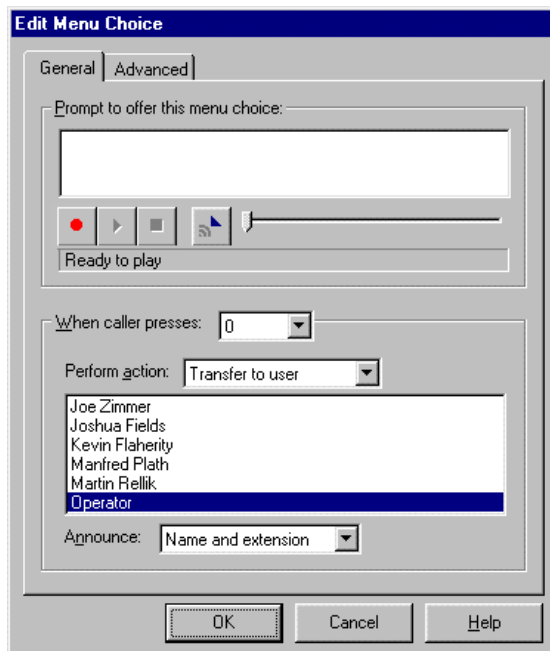
3. On the General tab, type the text of the **Prompt to offer this menu choice**, for example, "For Sales, press 1." Use the audio buttons to record the prompt. For more information, see "Using the audio controls" on page 2-10.

4. Type the key that callers must press to select the menu choice. Valid keys are 0-9, *, or #.

5. In the **Perform action** drop-down list, select the action to perform when callers press the key.

For transfers to a user or IVR Plug-in, select an optional **Announce** prompt:

- **Nothing.** The call is transferred with no announcement.

- **Name and extension.** Announces the name and extension of the user or IVR Plug-in as the call is transferred.

- **One moment please.** Announces "One moment please" as the call is transferred.

6. Click the Advanced tab.
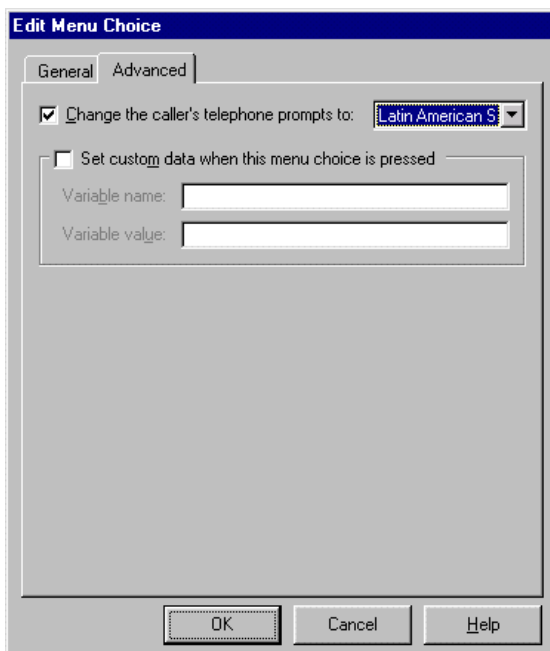
7. To **Change the caller's telephone prompts to** another language that was installed with Strata CS, select the language from the drop-down list. When callers press the key associated with this action, all subsequent prompts are in the language you specify here.

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.

8. To display custom data in the Client's Call Monitor or send custom data to an IVR Plug-in or to a queue when a caller selects this menu choice, check **Set custom data when this menu choice is pressed.** Enter the **Name** and **Value** of the variable to send. The name of the variable must match the name expected by the Call Monitor or IVR Plug-in or queue exactly.

For example, your auto attendant might say, "For product ABC, press 1. For product XYZ, press 3." For the two menu choices, you could set

these fields as follows:

Menu choice	Variable Name	Variable Value
1	Product	ABC
2	Product	XYZ

The Call Monitor would then indicate whether a call was regarding product ABC or XYZ. For details on how to configure the Call Monitor to display custom variables such as these, see Chapter 15 of *Strata CS Client User Guide*.

For more information about IVR Plug-ins, see Chapter 14, "Extending Strata CS." For more information about queues, see *Strata CS Call Center Administrator Guide*.

9. Click **OK** to save the menu choice.

10. On the Menu Choices tab, use the up and down arrow buttons to change the order in which menu choices are presented to callers.

Notice that menu choices that change the language of subsequent system prompts identify the new language here.
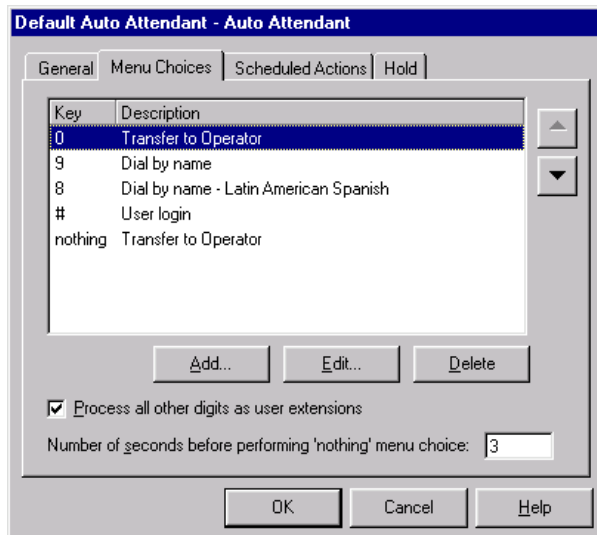
If checked, **Process all other digits as user extensions** causes anything that callers press that does not match an auto attendant action key to be treated as an extension. Strata CS will attempt to transfer the call to that extension.

You can also modify the **Number of seconds before performing 'nothing' menu choice**.

Note: A fax tone can take up to 7 seven seconds to be recognized. A short auto attendant prompt (one that announces the company name only, and then transfers the call to a user) combined with a short **number of seconds before performing nothing** menu choice setting can result in inaccurate fax detection results. The combined time for the auto attendant prompts and the wait for nothing must be a minimum of 10 seconds.

11. Click **OK** to save the auto attendant, or continue to add menu choices.

You can test an auto attendant without assigning it to a trunk by dialing its extension.

Scheduling transfers and greetings

You can further customize an auto attendant by scheduling an action that is performed before any other auto attendant actions. You can schedule the following:

- n A transfer to another auto attendant, IVR Plug-in, or user. Schedule a transfer to change call flow behavior over time, for example, to send all calls to the operator during business hours and to an auto attendant after hours.

- n A different main greeting, which replaces the one defined for the auto attendant on the General tab. Schedule a greeting to play different greetings to your callers during business hours or after hours.

This allows the same auto attendant to react and respond differently during various time periods that you set. For example, in order to provide extended coverage in your customer support organization, support calls that arrive after your California office closes in the evening transfer automatically to the main auto attendant at your facility in New Zealand.

Note: If you have a scheduled greeting and a scheduled transfer that occur at the same time, the transfer always takes precedence and the greeting does not play.

For information about how to set up business hours to use when scheduling jumps to other auto attendants, see "Business Hours" on page 4-5.

To schedule transfers or greetings:

1. Create a new auto attendant or edit an existing one. Click the Scheduled Actions tab.
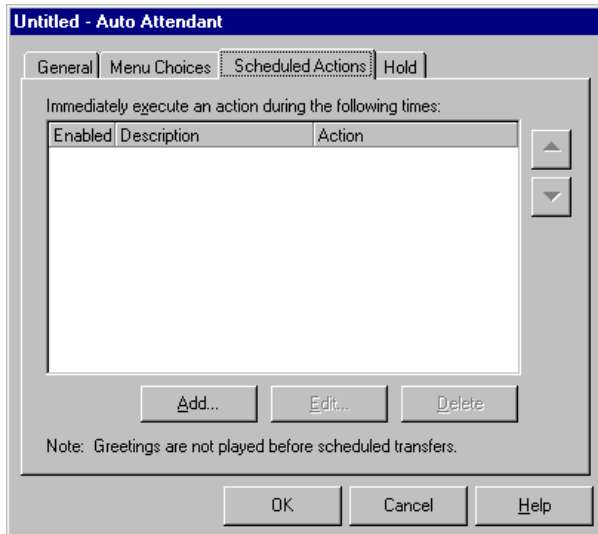
The following table shows the information that appears for each scheduled action already defined for this auto attendant.

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.

You can view the actions scheduled for each set of work hours you have defined using the **Business hours** drop-down list. Be sure to select the appropriate set of **Business hours** before adding or editing a scheduled action. For more about business hours, see "Business Hours" on page 4-5.

2. Click **Add** to schedule a new action. Click **Edit** to modify the selected action.

Schedule Action

This schedule entry occurs:
- ○ During business hours
- ○ During non business hours
- ○ After business hours on work days
- ○ On non-work days
- ○ 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

3. Select the time period during which the action will occur, as follows:

- n To view or change the work schedule (the hours covered by this time period), click **Business Hours**. For more information about setting a work schedule, see "Defining a schedule for e-mail and pager notification" on page 6-20.

- n To set custom hours to handle special situations, click **Custom Hours** (see "Setting up custom time rules" on page 6-22 for more information).

4. Select the action to perform immediately when the auto attendant takes a call during the schedule period:

- n **Transfers to.** Immediately transfers callers to the auto attendant, operator, user, or IVR Plug-in that handles calls during the scheduled time period.

- n **Plays greeting.** Immediately plays a greeting during the scheduled time period. For more information, see "Using the audio controls" on page 2-10.

5. Check **Enable this schedule action** to activate this action as soon as you save the auto attendant. If unchecked, the action is temporarily disabled.

6. Click **OK**.

Setting up hold music

You can set up hold music for an auto attendant that is different from 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 Strata CS that uses different hold audio. Each auto attendant can have its own hold music.

If you do not specify hold music for the auto attendant, the auto attendant uses the system-wide hold music. To configure system-wide hold music, see "Server Configuration" on page 4-3.

Without hold music, callers hear silence while they are being transferred.

To set up hold music for an auto attendant

1. In the Auto Attendant dialog box, click the Hold tab.
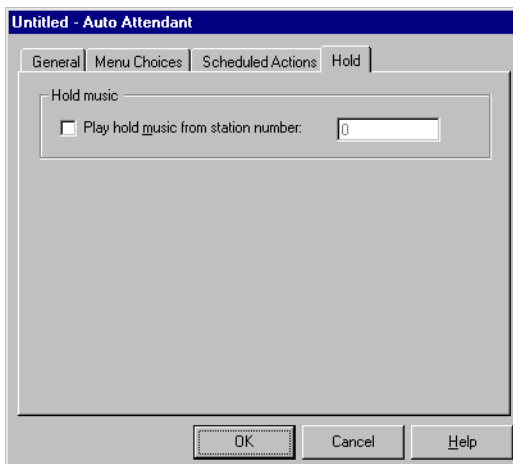
2. Check **Play hold music from station number** and enter the station number of an attached CD player or other music-on-hold device.

3. Click **OK**.

Deleting auto attendants

If you delete a custom 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 Strata CS, see "Deleting items" on page 2-9.

Routing calls directly to a user _____

This method dedicates a trunk to a single user. All incoming calls on the trunk are sent to that user. If the user is busy or doesn't answer, the calls follow the user's routing list. The only outgoing calls on the trunk are those placed by the user's phone.

With this option you can do the following:

- n 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.

- n Send incoming calls on the trunk to a user, giving that user a dedicated private line. 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.

- n If your phone lines support DID, give a user a direct-dial phone number using that method instead, without sacrificing a trunk. However, there can be users who require an actual dedicated line, for example, to generate their own outgoing caller ID information.

- n Route calls on a trunk to a workgroup and ring the workgroup's phones simultaneously. By doing so you can give a department its own phone number. To make all incoming calls to your company ring everybody's phone at once, route your main number to a workgroup that contains all users.

- n Give an automatic call distribution (ACD) workgroup its own phone number by routing calls on a trunk to a workgroup (see *Strata CS Call Center Administrator Guide* for details).

To route a trunk to a user (or to a workgroup as described earlier), modify the trunk.

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 and Spans."

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.

Simultaneous ring is one of several distribution algorithms that you can use with ACD workgroups. An ACD (automatic call distribution) workgroup distributes calls to one or more ACD workgroups that handle incoming calls. See *Strata CS Call Center Administrator Guide* for more information about routing calls to ACD workgroups.

USING ACCOUNT CODES

CHAPTER CONTENTS

About account codes _____

Strata CS allows you to track your phone traffic by having users enter an account code for each call. Account codes can represent anything to do with your phone traffic that you want to track. Users enter an account code on their telephone keypads whenever they place a call or during a call. You can define the available account codes and tell your users the codes they 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 the calls to various customers whom you bill for the phone time you spend with them.

- **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.

Account code information appears in the Call Log (see "Using the Call Log" on page 11-7), and you can generate reports using the Strata CS Reporter that show calls by account code. For information about the Strata CS Reporter, see *Strata CS Call Center Administrator Guide*.
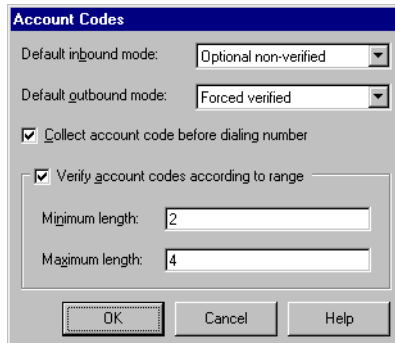
Example: Your office is working on the Gould case and the Avellanos case. You give the Gould case an account code of 88 and the Avellanos case an account code of 55. Whenever users place or receive calls relating to the Gould case, they enter 88. Whenever they place or receive calls relating to the Avellanos 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.

Setting up account codes _____

This section describes how to set up your Strata CS system to use account codes.

Setting general account code options

To set up the general behavior of account codes in your system, choose **Tools > Account codes**. The Account Codes dialog box opens.

1. Under **Default inbound mode** and **Default outbound mode**, choose the account code modes that you want to be the defaults for new users. The default is "Stations with no users assigned". You can always change a user's account code modes.

The account code modes are as follows:

n **Optional non-verified.** The user is not prompted to enter account codes. If the user does enter an account code by pressing ***11**, it is not checked against the list of valid account codes.

n **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.

n **Forced non-verified.** The user is prompted to enter an account code when placing an outbound call. The account code is not checked against the list of valid account codes. This option is available for outbound mode only.

n **Forced verified.** The user is prompted to enter an account code when placing an outbound 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. This option is available for outbound mode only.

2. Use the **Collect account code before dialing number** check box to specify when the account code prompt occurs during the dialing of an

outbound call. Check this option to prompt for an account code immediately after the user dials an access code (for example, 9). Uncheck the box to prompt for account code after the user completes dialing the phone number.

3. 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, the user is 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 a user finishes entering an account code, so the user does not need to press **#** at the end of the account code. When account codes are of variable length the user 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 are not verified by length.

4. Click **OK**.

Setting a user's account code modes

Whether or not users are prompted to enter account codes depends on the account code modes for each individual user.

Note: You can set default account code modes after setting the account code modes for new users. The default modes appear for each new user you create. See "Setting general account code options" on page 10-3.

To set a user's account code modes

1. Double-click a user in the Users view. The Users dialog box opens. You can also set account code modes when you create a new user.

2. Click the Dialing tab.
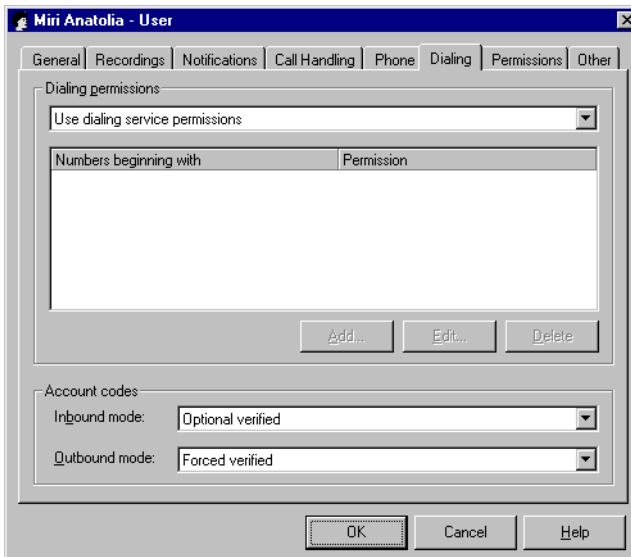
3. Under **Account codes** at the bottom of the dialog box, select the user's account code modes for inbound and outbound calls. For an explanation of the account code modes, see "Setting general account code options" on page 10-3.

4. Click **OK**.

Creating a text file of valid account codes

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 Strata CS Server computer. By default, the complete path is:

`C:\Program Files\Strata CS Server\Accountcode\Accountcode.txt`

When a user whose account code mode is set to "Verified" enters an account code, Strata CS checks the code against the contents of the text file. If the account code is not listed in the text file, Strata CS prompts the user to enter it again.

For instructions on setting a user's account code mode to "Verified," see the previous section, "Setting a user's account code modes."

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 (;).
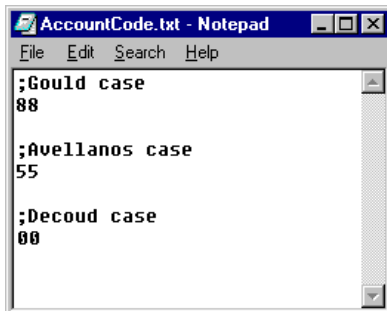
Account codes can contain only the numbers 0 through 9 and the two wild card characters (see the next section).

Note: Account codes in the text file must meet your account code length requirements. 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 10-3 for instructions on setting account code length requirements.

Using wild card characters

You can use two wild card characters when you enter valid account codes in the text file:

- n **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.

- n **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.

Wild card characters, if they are used, must be the final characters in an account code. You can use both wild card characters in the same account code, but if you do so, the % character must be the final character.

Valid	Invalid
12?	1?2
12??	1%2
12%	?12

Valid	Invalid
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?, 1234??, or 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 must explain to your users that they must enter an account code when they hear the beep. Strata CS 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\StrataCS Server\Vfiles\User\AccountCodePrompt.vox`

2. Rename the file, for example, to AccountCodePrompt.vox.old.

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, Strata CS 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:

`C:\Program Files\StrataCS Server\Vfiles\EN00\AccountCodePrompt.vox.`

How users enter account codes_____

Users can enter an account code for a call in the following ways, depending on when they enter the code:

- n **When prompted by the system while placing an outbound call.** Only users with an account code mode of "Forced" 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 10-3).

> n **During a call.** A user can press **Flash** to put a caller on hold, and then press ***11** to enter an account code for the ongoing call. Users can use this command as many times as they want during a call to change or correct the account code for the call. The last account code entered is the one used.
>
> This method is the way account codes are entered for inbound calls.
>
> n **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.

Indicating the end of an account code

A user indicates the end of an account code by pressing **#**. If the user does not press **#**, the system automatically registers an account code as complete when the account code reaches the maximum number of digits or a time out expires (see "Setting general account code options" on page 10-3 for instructions on setting a maximum number of digits). 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.

A user can cancel an account code entry while entering it by pressing *****.

Viewing account codes in the Call Log _____

The Call Log 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.

Generating account code reports_____

For information about generating reports that show account code usage, see the *Strata CS Call Center Administrator Guide*.

You can also export the Call Log, with its account code information, to a .CSV file that you can view in most spreadsheet programs. See "Exporting the Call Log" on page 11-11.

MONITORING & BACKING UP

CHAPTER CONTENTS

About monitoring and backing up your Strata CS system_____

You can monitor your Strata CS system by using the following Strata CS features:

- **Device Monitor.** View current station and trunk status.

- **Call Log.** Review call history.

- **Storage tab in the System Settings dialog box.** Monitor available space in the Strata CS database and keep track of how much space individual users are using for voice messages and greetings.

- **Windows Event Log.** Monitor Server disk usage and system-wide event logs.

- **Administrative Maintenance Log.** View system changes made by administrators, such as new passwords, by action or entity type. Provides you with a higher level of security and fault recovery.

You can also use the Strata CS Call Center Reporter to run comprehensive reports on queue, agent, caller, system, and billing activity. For more information, see the *Strata CS Call Center Administrator Guide*.

You must perform the following backups on a regular basis:

- Online backup

- Offline backups

See "Backing up Strata CS" on page 11-11 for information about backing up and restoring your Strata CS system.

Using the Device Monitor _____

The Device Monitor view shows current station and trunk activity on the system. This information is useful for monitoring current usage and identifying potential bottlenecks.
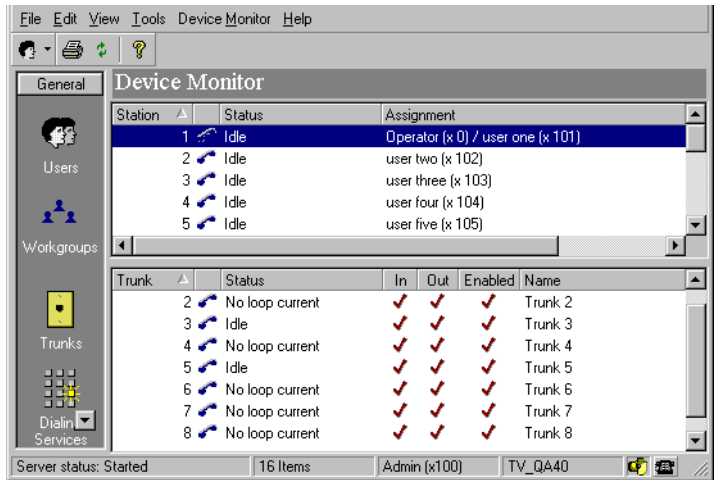
Note: You can view the same information and perform the same tasks using the Device Monitor utility, which runs independently of the Administrator. The Device Monitor utility (TVDevmon.exe) is installed on the Strata CS Server.

Monitoring station activity

The following table shows the information that is presented in the upper pane for each Strata CS station (internal telephone).

Column	Description
Station	Number that corresponds to the MSI board resource to which a phone is attached.
☎	Idle station or trunk. (Also known as on-hook.)
☎	Active station or trunk. (Also known as off-hook.)

Column	Description
Status	Current station activity. Station status codes include: n **Startup.** Strata CS system is starting. n **Idle.** Station is free (on-hook). n **In Call.** Station is in use (off-hook). n **Playing hold music.** Station is used for music on hold. n **Reorder.** Station has been left off-hook for too long, or is in an error condition. n **Navigating TUI.** User is logged in on the trunk and listening to the auto attendant menu. n **Not responding.** Station is not responding to device status queries. The Status column can also show custom status information set by an IVR Plug-in that has been called by a station.
Assignment	Name and extension of the user permanently assigned to this station. This column may also contain: n **Not assigned.** Station is not currently used. n **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 is displayed in the lower pane of the Device Monitor for each trunk configured in Strata CS.

Column	Description
Trunk	Trunk number that corresponds to the resource on the trunk board to which the line is connected.

Column	Description
Status	Current trunk activity. Some of the trunk status codes are:
	n **Idle.** Trunk is free (on-hook).
	n **In call.** Trunk is in use (off-hook).
	n **Dialog Node.** Caller is listening to the auto attendant menu.
	n **Calling.** Strata CS is ringing the trunk.
	n **No loop current.** Trunk is not connected to the telephone company.
	n **Reorder.** Trunk is in an error condition.
	n **Navigating TUI.** User is logged in on the trunk and listening to the auto attendant menu.
	n **Not configured.** Trunk is not currently used.
	n **Not installed.** Trunk has been configured, but the supporting hardware has not yet been installed.
	The Status column can also show custom status information set by an IVR Plug-in that is connected to a trunk.
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 Strata CS.
Name	Optional descriptive name for the trunk.

Enabling and disabling trunks

For testing purposes, you can enable or disable a digital span (RBT1 or ISDN) without shutting down Strata CS. Choose **Device Monitor > Toggle Enabled** to change the enabled state of all selected trunks. If a selected trunk is enabled when you choose the command, it will be disabled, and if is disabled it will be enabled. The **Enabled** column in the view will always reflect the current state of a trunk.

When a device is disabled, Strata CS 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 and Strata CS is running, you can perform tasks such as the following:

- n Run the Robbed Bit T1 Experimenter, modify signaling information (for example, Pickup, Hangup, Digit Collection), and then enable the device to pick up the changes.

- n Run ISDIAG to place an outbound call to determine the correct call parameters. You can then apply these parameters to the Strata CS registry, enable the device, and try it again.

Disabling a trunk does not allow you to modify Dialogic settings. The following restrictions on modifying Dialogic settings still apply:

- n You cannot modify Dialogic .PRM file settings and have them take effect without restarting the Dialogic drivers.

- n You cannot modify Dialogic DCM settings while the drivers are running.

- n You cannot disable a Dialogic board via the DCM without first stopping all devices.

Restarting stations or trunks

The Strata CS Server periodically test stations and trunks to see if they are responding. It automatically restarts stations and trunks whenever necessary. The default testing interval is 5 minutes. For information on modifying that setting or to turning it off, see Monitor Interval in the section "Strata CS Configuration Settings" in Appendix .

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," restart it to re-establish the connection to Strata CS. Generally, if the status of a device does not seem to reflect its actual status, you must restart the device.

Similarly, you can manually restart a trunk that has become unstable because of an error condition. You also restart a trunk using the Device Monitor to detect loop current on a newly added trunk before Strata CS can use it.

Both automatic and manual restarts are logged in the Windows NT Event Log.

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.

To restart a station or trunk

1. Do one of the following:

   - n To restart a single device, select the device and choose **Device Monitor > Restart Station** or **Restart Trunk**.

   - n To restart multiple devices, press CTRL or SHIFT while you select trunks or stations, 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 Strata CS Server log file. Perform this option only under the direction of your Strata CS provider.

Using the Call Log _____

The Call Log view displays a record of the calls placed and received on the 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 use the Call Log view, click its button in the view bar.
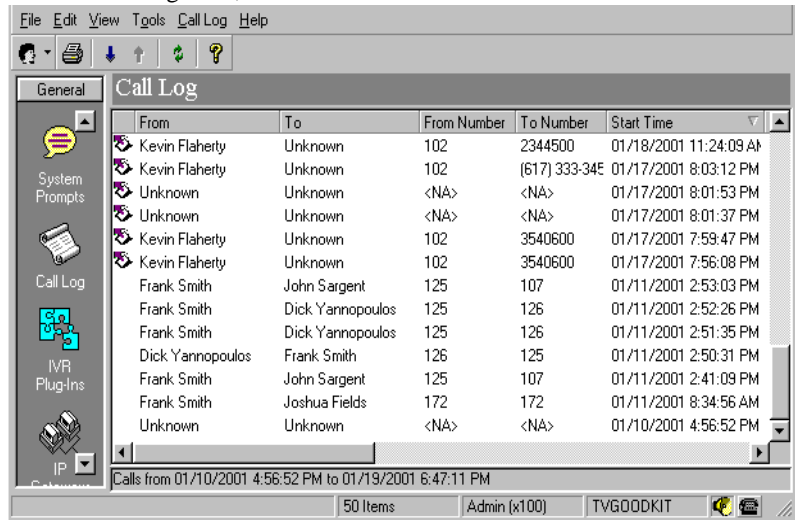
The following table shows the information that is displayed for each call.

Column	Description
🐾	Inbound call.
🐾	Outbound 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 Strata CS user, this field contains <NA>.
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 Strata CS externally, the external number. On outgoing calls, the external number or extension the user called.
DID	On incoming calls, the user's Direct Inward Dial number if the caller used it to call the user. DID is not applicable for outgoing calls.
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.

Column	Description
Result	How the caller's wait ended. The assigned values for the possible outcomes are: n **0 - Abandoned.** Caller hung up before call was answered. n **1 - Connected.** Caller was connected to a party. n **4 - Left message.** Caller went to voice mail, but did not necessarily leave a message. n **5 - Blind transfer.** A blind transfer sent the caller to another party. n **6 - Supervised transfer.** A supervised transfer sent the caller to another party. n **7 - Unknown.** Strata CS was unable to identify the outcome of the call. n **8 - Login.** Caller logged in to correct Strata CS account.
Message	If checked, the caller left a voice message.
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 Strata CS actually dialed over the trunk, which may be different than the digits Strata CS 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 dialing prefix or suffix.
From Type	Type of incoming call: Phone, Centrex, 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 Strata CS Servers over an Internet trunk.

Column	Description
From Rules	If checked, Strata CS's dialing 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, dialing rules were used to make an outbound call.
Custom Data	Custom data, if any, associated with the call. For most systems this contain only "Notes=", meaning there were no call notes on 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 entries of the Call Log at one time and not load the entire database.

To set the number of calls displayed in the Call Log

1. Choose **Tools > Options**.

2. In the Options dialog box, enter the number of entries that you want displayed at a time, using the following as a guide:

   n 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.

   n A low setting minimizes the delay before information is displayed, but you must retrieve entries more often to scroll through 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 4-8. For information about archiving the Call Log, see "Archiving the Call Log" on page 4-8.

Exporting the Call Log

You can export system call records to a comma separated value (.CSV) file that can be read by most spreadsheet and database programs. Exported Call Log entries are not deleted from the Strata CS database, and the size of the Strata CS 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 filename and path 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.

Monitoring database and disk usage _____

Strata CS'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 4-10 for information about how to perform these tasks.

Backing up Strata CS_____

You must perform two kinds of backups on the Strata CS database on a regular basis. Both the information stored in the Strata CS database, and the voice files stored separately, are vital to the proper operation of Strata CS. It is critically important to back up both the database and voice files regularly by creating the following:

- **Online backup.** Creates a copy of the Strata CS database. This backup protects against problems caused by database corruption. The Strata CS Server registry settings are also saved.

- **Offline backup.** Copies the Strata CS database to another location. This backup protects against disk crashes and other problems.

You must also regularly back up the Strata CS voice prompts and user voice message files by copying the files to another location.

Important: To successfully restore Strata CS data, you must have created synchronized backup sets of the database and voice files. The best way to accomplish this task is to perform an offline backup of both the database and the voice files, as described in the procedures that follow.

To perform an online backup of the Strata CS database

1. Choose **Tools > Backup Database**.

2. Click **OK** to confirm the backup. The Strata CS Administrator creates a backup copy of your Strata CS database and also copies your current Strata CS registry settings to a `TVServer.reg` file.

You can also perform an online backup by starting the Administrator with a command line option (see Appendix B).

To perform an offline backup of the Strata CS database

1. Perform an online backup of the Strata CS database, as shown in the previous procedure.

2. Copy the following files to tape or to another disk. The default location is:

   `C:\Mssql\Toshiba\Backup\Tvdb.dmp`

   `C:\Mssql\Toshiba\Backup\TVServer.reg`

To perform an offline backup of the Strata CS voice files

Copy the contents of the following directory and all its subdirectories to tape or to another disk. The default location is:

   `C:\Program Files\Strata CS Server\Vfiles\`

Note: Be sure to include Temprecs and its files.

Restoring Strata CS data

You can restore the database from the online backup maintained on the Server or from an offline backup you have created previously.

For a successful restoration, the backup used to restore the Strata CS 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.

To restore the Strata CS database from an online backup

1. Make sure that the Strata CS Server has been shut down (see page 11-14) and that there are no copies of the Strata CS 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. From the Strata CS Administrator, choose **Tools > Restore Database**.

4. Click **Yes** to confirm that you want to restore the database.

5. If a file (`TVServer.reg`) containing backed-up Strata CS Server registry settings is present when you restore the database, click **Yes** when you are prompted to restore the registry settings as well.

The Strata CS database is restored using the copy stored by the database Server the last time you backed up your data. The system prompts and voice mail messages are not affected.

To restore the Strata CS database from an offline backup

1. Make sure the Strata CS Server has been shut down (see page 11-14) and that no copies of the Strata CS Client or Administrator are running.

2. Choose Windows NT/2000 Services in 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` file from your backup device to:

   `C:\Mssql\Toshiba\Backup\`

   If the file already exists, overwrite it.

4. Start the Administrator, and then choose **Tools > Restore Database**.

5. Click **Yes** to confirm that you want to restore the database. This procedure restores the database, but does not restore the actual system prompts and voice mail messages (see the next procedure).

To restore voice files from an offline backup

1. Delete all the files in the `\Vfiles` directory. The default location for this directory is:

   `c:\Program Files\Strata CS Server\Vfiles`

2. 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.

Shutting down the Strata CS Server

Choose **Tools > Shutdown Server.** Select one of the following options, and then
click **OK:**

- n **Immediately shut down and terminate all calls.** Shuts down the Server
  when you click **OK,** terminating any calls currently in progress.

- n **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 time is up, Strata CS prevents any new calls from
  beginning and waits until all current calls have ended. At that point, 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.

- n **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. After the Server has begun the process of
  blocking new calls and shutting down, you can no longer cancel the
  shutdown.

Moving a Strata CS Server to another machine

You can restore the Strata CS database from an online backup to another machine.
The backup/restore function copies all Server registry settings and automatically
resolves different source and target path names to simplify the process of moving
a Strata CS Server.

Viewing the Windows Event Log _____

The Windows Event Log contains informational messages from Windows
NT/2000 and from applications running on the Server. Both Strata CS and the
database Server post startup and shutdown messages and error messages to the
Applications Event Log.

You can examine the Windows Event Log on the Strata CS Server locally or
remotely from any machine running Windows NT/2000.

You can set up Strata CS to send e-mail notifications when Strata CS-related events are logged to the Event Log. For more information, see "The General tab" on page 4-3.

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 Strata CS Server, choose **Log > Select Computer**.

2. Choose **Log > Application**.

3. Review the log for Strata CS or the database Server messages.

Strata CS-related Windows Event Log messages

Messages are identified in the 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 Strata CS:

100 - Informational
Strata CS Server Started -- Version ##

An informational message indicating when the Strata CS Server started.

101 - Informational
Strata CS Server Stopped

An informational message indicating when the Strata CS Server was shut down. This message indicates an orderly shutdown, not a shutdown caused by a problem.

102 - Informational
Connecting to SQLServer -- Version ##

An informational message indicating when Strata CS is connecting to the SQL Server.

103 - Informational
Disconnecting from SQLServer -- Version ##

An informational message indicating when Strata CS is disconnecting from the SQL Server.

104 - Error
DSSQL Error: xxxx

This message contains an error message returned to the Strata CS Server by SQL Server. These message are often useful to Strata CS providers or Toshiba support for assessing a Strata CS problem and must not be discarded.

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 board resources for your current load. Contact your Strata CS provider.

106 - Warning
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 Strata CS Server or manually by the administrator. If this message appears only infrequently, it can be ignored. If it is seen often, contact your Strata CS provider.

107 - Warning
Inbound call detected on outbound trunk

This message indicates a call was received on a trunk allocated for outbound calling only. The Strata CS 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 - Warning
Inbound gateway call failed to provide correct password -- Trunk ##, Account

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 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 Strata CS provider.

111 - Warning
Unable to start Strata CS Mail Server. Voice Mail notifications via Email will be disabled.

On startup, the Strata CS Server was unable to establish a link with your e-mail post office. Mail notification will be disabled until the problem is resolved. Contact your Strata CS provider.

112 - Informational
Started Strata CS Mail Server.

This message indicates the Strata CS Mail Server started successfully when the Server started. This is an informational message.

113 - Warning
No loop current detected on outbound trunk n.

This message indicates the Strata CS Server was unable to use the indicated trunk line for an outbound call even though it registered loop current the last time the Server was started. This could indicate the line was unplugged from the Server or it might indicate a problem on the line.

114 - Error
Thread performing least-cost routing is not responding

If the error recurs, kill TVLCRhst.exe from the Task Manager. It will restart the next time Strata CS tries to dial a long-distance call.

115 - Error
Strata CS Server Restarted

Strata CS Server had to be restarted by the Strata CS Watchdog process.

116 - Error

Strata CS cannot accept more voice messages: disk space is low.

Strata CS cannot accept voice messages because the disk space on the voice files disk is low.

117 - Error
Stopped using trunk ##: the trunk may have been disconnected.

Strata CS Server has stopped using a trunk.

118 - Error
Failed to Restart Strata CS Server: Total Restarts Exceeded

Strata CS Server failed to restart after trying several times.

119 - Error
Failed to Stop Device Handle

Strata CS Server failed to stop a Dialogic device. You may need to manually restart this device in the Device Monitor.

120 - Error
Unable to start Strata CS Exchange Server synchronization.
Exchange Server synchronization will be disabled.

Unable to start Strata CS Exchange Server synchronization.

121 - Informational
Started Strata CS Exchange Server synchronization.

Strata CS Server started Microsoft Exchange Server synchronization.

122 - Error
Unable to open device:

Strata CS Server was unable to open the Dialogic device.

123 - 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. If this file cannot be deleted, an invalid message will be left for the recipient.

124 - Error
T1 Alarm:

A T1 alarm occurred on the trunk.

125 - Error
Unable to start IVR Plugin: 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).

126 - Error
Insufficient licenses: ##

Strata CS Server detects an insufficient number of trunk, IP trunks, user, or Server licenses, and the Server was unable to start. Make sure that you have Strata CS licenses for every user, trunk, and IP trunk you have added in the Administrator.

127 - Error
Notification via pager failed; user '<*Username*>', number '<*pagernumber*>'

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
Disabling Exchange Server synchronization. Unable to connect to database.

Strata CS could no longer access the SQL Server database and disabled Exchange Server synchronization.

T1 alarms

The following two T1 alarms are written to the Windows NT Event Log:

- n **Red Alarm.** Signals that the Robbed Bit T1 line has lost synchronization with the switch to which it is connected. Strata CS disables all channels on the affected digital span, so that spurious signals are not processed as incoming calls.

- n **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 Strata CS Server logs.

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 view the Maintenance Log, click its button in the view bar.

The Maintenance Log tracks the following actions:

- 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
- 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

Reporting problems_____

Use the Problem Report Wizard to report any problems you experience with your Strata CS system to your provider. Your provider has the expertise to debug, correct, and expand your Strata CS system, as well as access to Toshiba 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 Strata CS log files and other information from your computer. By assembling all the relevant information, the Wizard helps your technical support representative 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 Strata CS Administrator.

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:

WestFleet
Ltd._001.cab

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, as in the previous example.
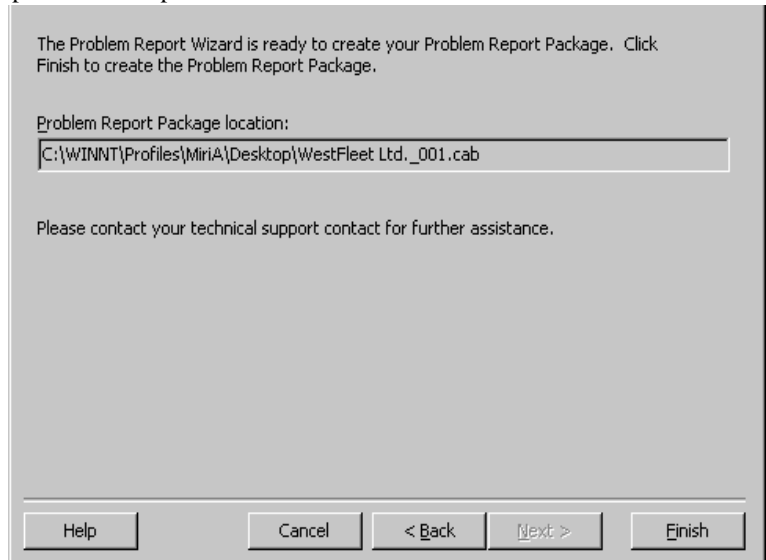
The Wizard increments the sequence number in the filename each time it creates a new problem report package.

Send the problem report package to your technical support representative by attaching it to an e-mail message or transferring the file. Because a problem report package can be large, after you send it to your technical support representative, delete it from your system to regain disk space.

To e-mail a problem report package

1. Right-click the package icon on your desktop (or the .CAB filename if you saved the problem report package to a different location.)

2. Choose **Send To > Mail Recipient**. Your e-mail program opens.

3. Address the message and send it.

Using the Problem Report Wizard

Use the Problem Report Wizard according to the following guidelines:

n For Strata CS Server problems, run the Wizard on the Strata CS Server. See "Reporting Strata CS Server problems" on page 11-23.

Examples of Server problems include:

   n The Strata CS Server stops unexpectedly.

   n Caller ID is not sent correctly.

   n There is no dial tone.

   n A call-handling problem that does not involve the Client or the Administrator Call Monitor is present. For example, Strata CS does not answer incoming calls, calls are being disconnected, or calls are handled improperly (calls cannot be transferred, held, and so forth).

n 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 11-24.

Examples of workstation application problems include:

   n Workstation application behaves unexpectedly.

   n User cannot connect to the network.

   n User cannot connect to the Strata CS database.

   n Workstation application does not start.

   n Workstation application closes unexpectedly.

n For distributed problems (problems that occur with both a workstation application running on a user's computer and the Strata CS 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 11-24.

Examples of distributed problems include:

- n Problems with specific calls in the Client or Administrator Call Monitor.

- n Problems with specific voice messages in a Client voice messages folder.

- n Call-handling problems that involve the Client or Administrator Call Monitor (calls cannot be conferenced, for example).

- n User cannot make outbound calls from the Client.

Reporting a problem with a specific call or voice message

When you need to report a problem with a specific call or voice message, locate the problem call (or the call that left the problem message) in the Call Log and before you begin to create the problem report package. You will need to paste the call record into the appropriate Wizard window.

Reporting Strata CS Server problems

If you experience a problem with the Strata CS 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 Strata CS 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 technical support representative 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 technical support representative to regain disk space.

To report a Strata CS Server problem

1. On the Strata CS Server, choose **Start > Programs > Toshiba Strata CS Server > Strata CS Problem Report Wizard**. The Problem Report Wizard opens.

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 Strata CS workstation applications—Client, Administrator, 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\Toshiba\Strata CS\
   TVPRwizard.exe
   ```

   The Problem Report Wizard opens.

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 Strata CS Server (a distributed problem usually involves the Client Call Monitor), you should gather information from both computers before contacting your technical support representative. The Problem Report Wizard assembles all the information so that your technical support representative 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 (follow the instructions for reporting a workstation application problem on page 11-24).

2. Check **This problem involved a specific call or message**, and then copy and paste the call record from the Call Log on the user's computer.

   When this box is checked, the Wizard automatically saves the problem report package in the shared folder called Packages on the Strata CS Server. If the Packages folder is not found or you want to save the problem report package to a different location, click **Browse** to select the location.

3. Run the Wizard on the Strata CS Server to gather all the necessary Server information (follow the instructions for reporting a Server problem on page 11-23).

   To report a problem with a specific call or voice message, check **This**

problem involved a specific call or message, and then copy and paste the call record from the Call Log on the Server.

4. Check **This report includes a Problem Report Package from the Strata CS 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.

S**YSTEM** P**ROMPTS**

C**HAPTER** C**ONTENTS**

About system prompts _____

This chapter explains how to play and rerecord the system prompts used throughout Strata CS.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 Strata CS 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, shown in the next figure.
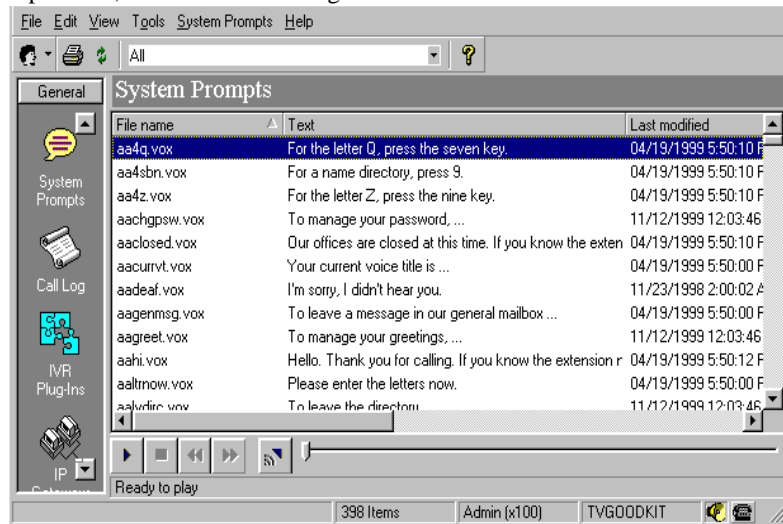
Each system prompt appears as a row in the view. The information in the following table is displayed for each system prompt.

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.

Column	Description
Comment	How the prompt is used in Strata CS. Applies to custom prompts and auto attendant prompts only, blank for all other prompts.
Language	The set of language prompts this system prompt belongs to.

Controlling the prompt display

By default the System Prompts view displays all system prompts on the Strata CS 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.
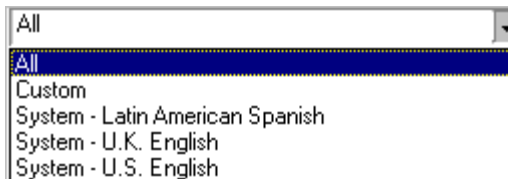
Note: To install additional language prompts, you must run the Strata CS Server installation again and select the languages you want.

Managing system prompts _____

This section explains the following aspects of managing system prompts:

- Playing system prompts
- Exporting system prompt text
- Importing system prompt text
- Exporting and importing system prompt audio files
- Changing the encoding format of system prompts

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 PC 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

Select **File > Import and Export** to export system prompt text into a .CSV file for processing by a professional recording studio or for maintenance purposes.

Importing system prompt text

Select **File > Import and Export** to import system prompt text into a .CSV file that was processed by a professional recording studio or was modified.

Exporting and importing system prompt audio files

You can export a system prompt from your Server for use on another Strata CS 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

Strata CS supports two .VOX file formats, μ-law format for use in the United States and Japan, and a-law format for use in other countries. When Strata CS is installed, the correct format is used based on the location of the Strata CS Server.

On rare occasions, it may be necessary to convert the voice files on a Strata CS system from one encoding format to another, for example, if you are staging a Strata CS 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 Strata CS Server.

2. Run the utility TVConvert.exe, which is located in the directory in which the Strata CS Server was installed.

3. Choose **Tools > Start Server** to restart the Server.

TVConvert.exe checks the Windows NT registry for the current .VOX file format, converts all files to the other format, and updates the 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 Strata CS voices.

- You have localized the telephone commands for a language not provided with Strata CS (see "Localizing the telephone commands" on page 12-12) and want to record all the prompts in that language as well.

Recording options

You can record in the one of the following ways:

- Record the system prompts professionally using a voice vendor experienced in telephony recordings.

- Record over the system prompts yourself using the Strata CS Administrator, your telephone, and a VAP tool.

About 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\Strata CS Server\TVLEN00.INI
```

Note: "EN00" identifies American English files. Strata CS includes two other sets of system prompts. EN10 identifies British English files. ES00 identifies Latin American Spanish files.

About the .VAP and .VOX files

Strata CS 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 the Strata CS TUI.

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\Strata CS 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:

- n Record the .VAP file.
- n Build the indexed .VAP file.
- n Record the .VOX files.
- n Test the new prompts.
- n Deploy the new prompts.

Recording system prompts professionally

If you choose to obtain professional recordings, you are responsible for:

- n Choosing a voice vendor that is experienced in telephony recording.
- n Evaluating samples of voice talent and selecting a voice
- n Providing the appropriate files to the vendor in formats they can use
- n Testing the new prompts for voice quality, usability, file-naming accuracy, and indexing accuracy.
- n Deploying the new prompts

Selecting a voice

The vendor will often provide you with 44kHz, full-bandwidth voice samples to choose from. Ask your vendor to provide voice samples that have been re-sampled to µ-law PCM Mono 8 kHz, the format used in Strata CS. This will ensure that your selection is based on how the voice will actually sound when used in your Strata CS system.

Keep in mind that high-pitched voices and high frequency sounds degrade more as a result of this type of re-sampling, resulting in considerable change in higher frequency sounds at telephony bandwidth.

Using the standard Strata CS voices

To add or modify prompts using one of the standard Strata CS voices, contact these companies that provided the original set of prompts. They 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** 51 Winchester Street Newton, MA U.S. 02461 800-486-4237 (phone) 617-527-3728 (fax) http://www.marketingmessages.com

Providing a script for the vendor

After voice selection has been made, you must provide your vendor with the "script"—the list of prompt files and the text of each prompt. The list of prompt files is available in the System Prompts and Prompts section of the TVLEN00.INI file.

You also need to provide the TVLEN00.VAP file, so that your voice vendor can match the indexing of the new .VAP file to the existing one.

Testing the recorded prompts

It is important that you thoroughly test all voice files that you receive back from the vendor to ensure:

- n Accuracy of file names

- n Synchronization of written and spoken prompt content

- n Quality of voice recording

- n 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\Strata CS 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\StrataCS Server\Voice Files\EN00
```

Recording over system prompts yourself

When you record over system prompts yourself, you can record all 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 Strata CS.

If you don't 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 Strata CS Administrator to record over these files.

To record over a prompt

1. In the System Prompts view, double-click the prompt name.

2. In the Edit System Prompt dialog box, type the text of the new prompt in the Contents box. Use this text as a script when recording the prompt.
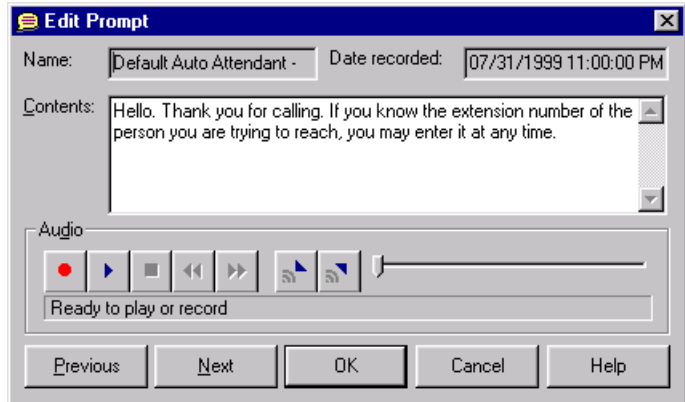
3. Record the prompt. See "Using the audio controls" on page 2-10 for more information.

4. Click **OK** to save the new version of the prompt.

Recording over the .VAP file

You can record over the .VAP file using a variety of recording tools and VAP tools. If you do not already have such a tool, you should consider VFEdit, which is available on the Internet.

Testing the new prompts

Use the Sentence Tester to test the new prompts. See the next section, "Testing system prompts."

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\Strata CS 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:

```
Program Files\Strata CS Server\Vfiles\User
```

Testing system prompts

You can use the Sentence Tester included with Strata CS to listen to system prompts in context over your telephone. By concatenating individual prompts into sentences and playing them as they are used in Strata CS, the Sentence Tester lets you evaluate intonation, emphasis, and consistency.

Note: The Sentence Tester is available only on computers running Windows NT/2000.
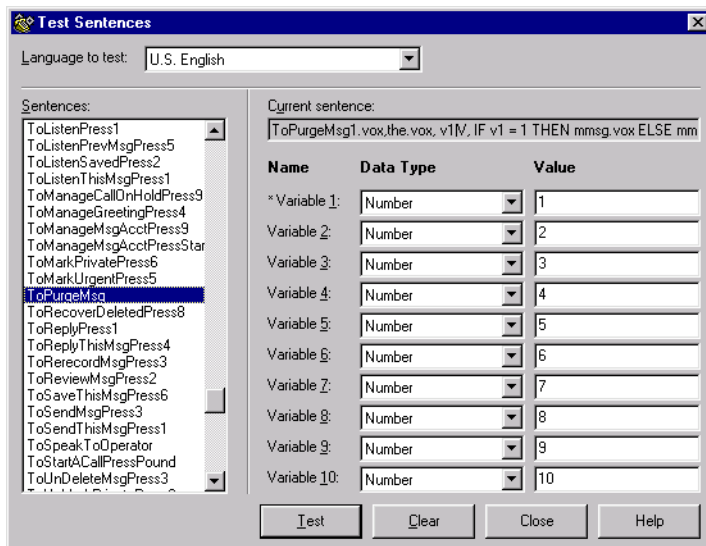
To use the Sentence Tester

1. Start the Administrator using the /sentence command line option (see page C-1 for more information).

2. Choose **Tools > Test Sentences**.
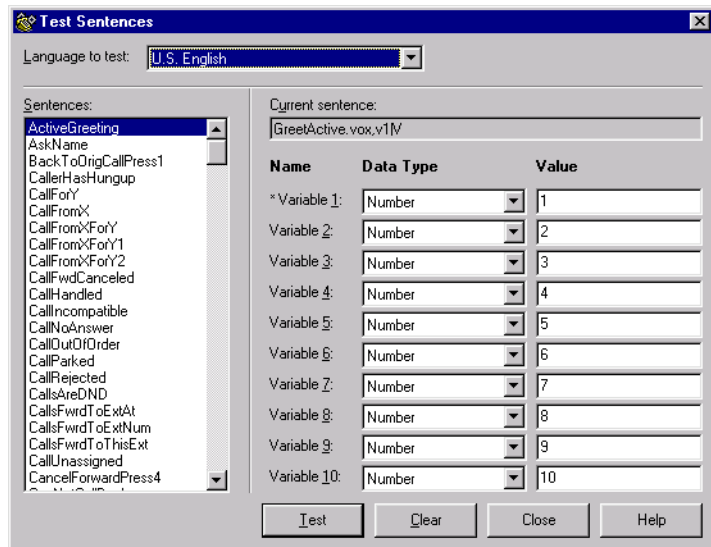
3. Select the **Language to test**.

STRATA CS ADMINISTRATOR MANUAL

4. 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 concatenated .VOX files, and may contain variables as well.

5. Double click on a sentence to play it, or select it and press **Test.** When your phone rings, pick 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 telephone.

6. 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 setting.

Localizing the telephone commands _____

The Strata CS 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 Strata CS Localization Kit, contact your Strata CS reseller.

CONFIGURING INTERNET TELEPHONY SUPPORT

CHAPTER CONTENTS

About IP telephony and Strata CS _____

Strata CS seamlessly supports Internet telephony through an integrated Internet gateway that eliminates the need for external IP Gateway devices. Combined with dialing services, Strata CS's Internet telephony support makes it as easy to place and receive Internet calls as regular telephone calls—whether you are calling from a station phone, remote phone, or using the Strata CS Client.

Strata CS's integrated Internet gateway supports the following Internet telephony features:

- n Placing and receiving calls from H.323 terminals, for example, Net Meeting (see page 13-2) or Phone Dialer (see page 13-6).

- n Enhancing a Web page with a Call Us! button (see page 13-6).

- n Connecting Strata CS Servers over the Internet or private IP networks (which can guarantee quality of service). See page 13-7.

  Over a properly configured IP Gateway, users can:

  - n Call extensions on a remote Strata CS Server.

  - n Place calls to phone numbers from a remote Server.

  - n Place calls on a remote Centrex/PBX service through a remote Strata CS Server.

Internet telephony requirements

Before using any of Strata CS's Internet telephony features, you must first:

- n Install the hardware and software required to support Internet telephony. See *Strata CS Installation & Maintenance Manual* for more information.

- n In the Strata CS Administrator, add and configure one or more Internet spans (see "Adding an Internet span" on page 5-21).

- n Ensure that the IP address of the Internet span on each Server is completely accessible by the other Server. To do this, you may have to configure firewalls at each location appropriately.

This chapter explains in detail how to configure and use Strata CS to make various types of Internet telephony connections.

Placing calls to H.323 terminals such as NetMeeting_____

You can use Strata CS to place and receive IP calls from H.323-based terminals like Microsoft NetMeeting, a real-time conferencing and collaboration tool. The diagram on page 13-4 shows how this process works.

Note: Users who calls NetMeeting terminals might hear an echo on the line. To

avoid this effect, 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 Strata CS users to place calls to Microsoft Net Meeting or other H.323 terminals

1. In the Strata CS Administrator, create an Internet Address dialing service (see page 8-14).

2. Assign the service a name and an access code, for example, "Internet" and "71".

Placing calls to Net Meeting from the Strata CS Client

Internet calls can be made from within the Strata CS Client anywhere users can enter phone numbers, for example, from the Place Call To dialog box, when adding a contact, in a routing list action, when forwarding calls, and so forth. Users select an Internet Address dialing service and then enter the IP address or DNS machine name of the PC running Net Meeting.

For example, entering either of the following in the **Address** field of the Call Forwarding dialog box forwards all calls to NetMeeting at that location:

DNS machine name: namemycomputer.mycompany.com
IP address: 123.45.67.89
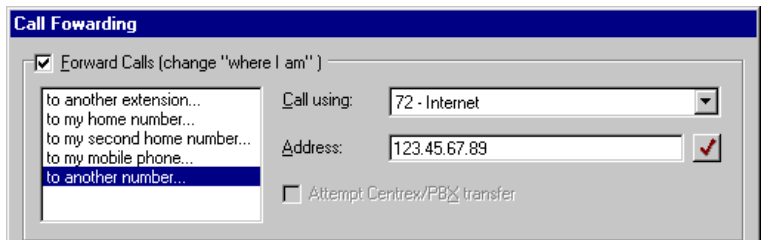
Placing calls to Net Meeting from a Strata CS phone

After configured, users can place calls to PCs running Net Meeting from any Strata CS phone by dialing the access code for an Internet Address dialing service, followed by the IP address of the PC running Net Meeting.

IP addresses are dialed with each part of the IP number separated by an asterisk (*). For example, dialing 71 123*45*67*89 calls the PC running NetMeeting at the IP address 123.45.67.89.

Strata CS to NetMeeting Calls
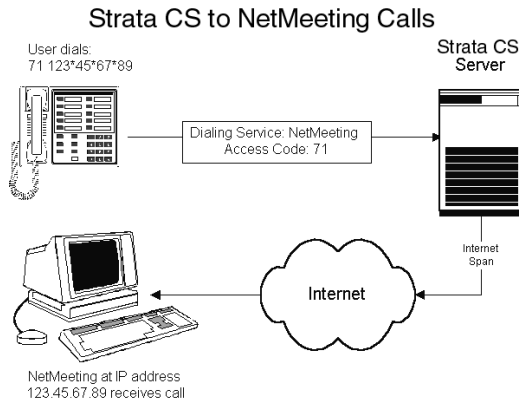
Calling Strata CS from H.323 terminals such as Net Meeting

Depending on how your Strata CS Internet span and company firewall is configured, Strata CS can receive calls from any H.323 terminal such as Net Meeting.

1. Configure your firewall to allow access to the IP address of one or more Strata CS Internet spans.

2. In the Strata CS Administrator, edit the Strata CS Internet span to allow incoming calls.

3. Optionally, do one of the following:

   n Send Internet calls to the desired user, auto attendant, or IVR Plug-in.

   n 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 Strata CS only. You do not need to order DID service from your telephone company.

Internet trunks behave almost identically to regular trunks, including providing 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 Strata CS system is displayed when Net Meeting calls Strata CS. To change the name, edit the following registry key:

HKLM\Software\Toshiba\Strata CS\Company

Calling a Strata CS Server from Net Meeting

To call a Strata CS Server from Net Meeting, enter the IP address or DNS name of the Strata CS span in Net Meeting's phone dialer dialog box. Callers with Net Meeting 3.0 or later can navigate Strata CS using Net Meeting's built-in touch-tone keypad.

Calling a Strata CS DID number from Net Meeting

If you configure Net Meeting to use a Strata CS Server as a gateway, Strata CS interprets numbers dialed by Net Meeting as DID. Therefore, Net Meeting users can call any Strata CS user, auto attendant, ACD workgroup, or IVR Plug-in with a DID number.

To configure Net Meeting to use a Strata CS Server as a gateway

1. Start NetMeeting

2. Select **Tools > Options.**

3. Click **Advanced Calling Options** to display 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 Strata CS span, for example, `123.45.67.89` or `myiplinkaddress.mycompany.com`.

6. Click **OK**.

Now any numbers entered in Net Meeting are sent to the Strata CS Gateway as DID. For example, placing a call to 1234 in Net Meeting will call the Strata CS auto attendant, user or IVR Plug-in with 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 in NetMeeting. Phone Dialer allows you to make voice calls, video calls, and conference video calls from your personal computer. Calls to and from Phone Dialer are set up as previously described in this section for NetMeeting (see "Placing calls to H.323 terminals such as NetMeeting" on page 13-2).

You can use Phone Dialer to test the setup of computer telephony hardware, such as voice modems or phone switches on your local area network (LAN), by dialing the number and seeing if a connection can be established. Phone Dialer lets you make calls over a telephone connected to your computer, through a modem, over a network, or through a telephone switch connected to your LAN.

To make a voice call, all you need is the recipient's phone number, IP address, or DNS (Domain Name System) name. The active call window has buttons that let you place the call on hold and 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. If the person you are talking to has a video camera installed, the dialog box displays the video image.

Enhancing a Web page with a "Call Us!" button_____

By using a CallTo: URL on your Web page, any Internet user with Net Meeting installed can click on a "Call Us" link on your page to place a call to any Strata CS DID number. If you assign a DID number to a Strata CS ACD workgroup user, you can send Internet users directly into your ACD workgroup for processing by an ACD agent.

For example, you insert the following CallTo: tag on your Web page:

```
<A HREF="callto:600+gateway=123.45.67.89+type=phone">Call Us!</A>
```

Note: The CallTo: tag is supported in Internet Explorer, but is not supported in the current version of Netscape (4.7).

When a user with Intimating installed clicks the Call Us! link, Intimating starts and calls the Strata CS user who has a DID of "600" using the Strata CS Internet span with an IP address of 123.45.67.89.

Note: 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 Strata CS's integrated Internet gateway to connect two Strata CS Servers over the Internet or a private IP network (sometimes called a tie-line connection). Doing this allows users on one Server to make calls as if they were on the other Server.

When two Strata CS 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 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** on each Server, you can make all users appear to be of the user type **User**. Users on each 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 Users view, Place Call To dialog box, and other user lists.

Note: Assembling larger networks of more than two Strata CS Servers is technically possible, but if a call is transferred to a remote Server, and then transferred back to the original Server, two IP trunks are used on each Server. Because the call is originating and ending on the same Server, this setup can waste resources and bandwidth.

Placing calls involving a remote Strata CS 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 place calls to them from the Client. See "Creating Gateway users to unify two Strata CS Servers" on page 13-17.

Receiving Internet calls from a remote Strata CS Server

Incoming calls from a remote Strata CS Server appear like a local call. For example, caller ID name and number are delivered just as for regular internal or external calls, allowing users to identify and call back remote users easily.

Codec use with IP Gateway connections

When connecting two Strata CS Servers over an IP Gateway connection, the Servers must use the same codec lists. Otherwise, audio failure can occur during calls. See "Modifying Strata CS IP codecs" on page 5-22 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 13-9.

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.

   You can create a new IP Gateway while defining a gateway dialing service, by clicking the IP Gateway button (shown at right) in the dialing service dialog box.

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 Strata CS Servers" on page 13-17.

Using the IP Gateway Configuration Worksheet

Appendix C of this manual provides a worksheet to help you set up multiple Strata CS Servers for an IP Gateway connection. Use the IP Gateway Configuration Worksheet to help you plan consistent access codes for dialing services, and avoid conflicts such as overlapping extensions or passwords.

Illustration of an IP Gateway

The following diagram illustrates Strata CS Servers in London and Boston, connected using an IP Gateway.
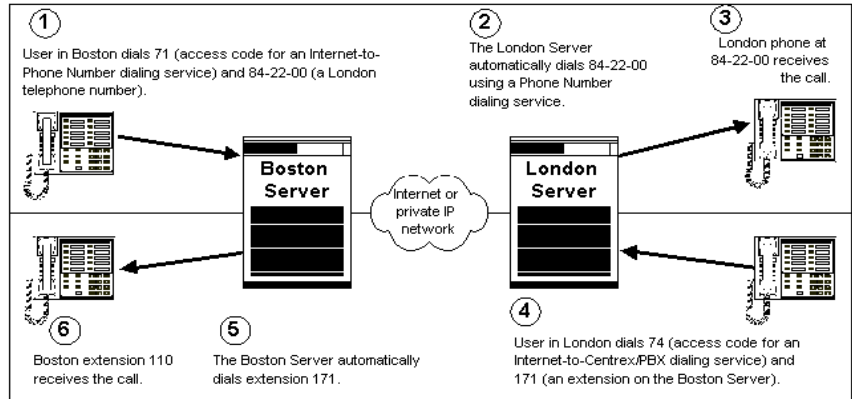
In the top example, the administrator at the Boston Server set up an Internet-to-Phone Number dialing service with an access code of 71. The London Server has a Phone Number dialing service. Users in Boston can now dial phone numbers in London by dialing 71 followed by the phone number.

In the bottom example, 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—with an access code of 74. Users in London can now dial extensions in Boston by dialing 74 followed by the extension.

Note: You can enable users to dial remote extensions directly, without dialing the access code. See "Creating Gateway users to unify two Strata CS Servers" on page 13-17.

To establish the TCP/IP connection, each administrator creates an IP Gateway that points to the other Server. The administrator can use the IP Gateway on his local Server to control dialing permissions for incoming calls. For example, the London administrator can prevent Boston users from making long-distance calls through his Server, by changing the dialing permissions of the Boston IP Gateway.

Creating an IP Gateway

To connect two Strata CS 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 list, and calls to that extension will not go through. The extension is merely used behind the scenes 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 edit the dialing permissions of the IP Gateway "Boston."

Each remote Strata CS Server that you connect to over the Internet requires a separate IP Gateway. For example, if your Server connects to Servers in London and Chicago, you create two IP Gateways, called "London" and "Chicago."

The IP Gateways view

To add, edit, and delete IP Gateways, click the IP Gateways button in the View bar to display the IP Gateways view:
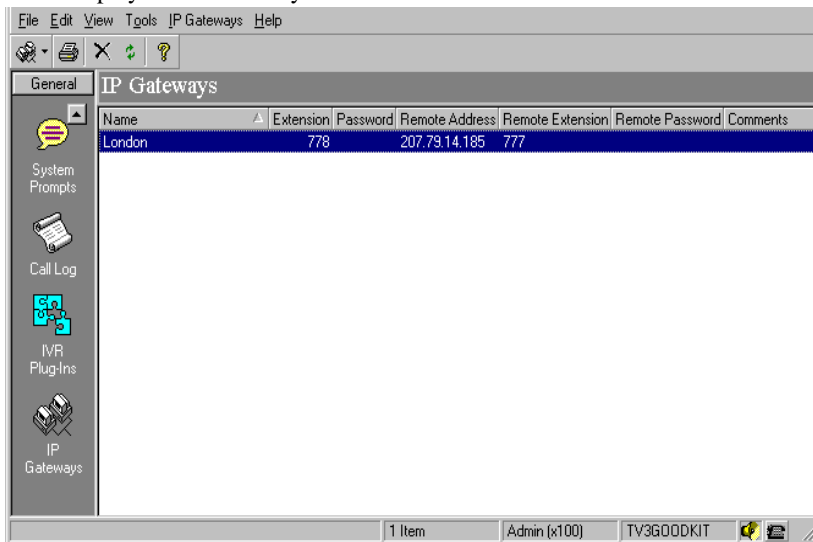
Each of your IP Gateways is shown as a line in the view. The following table shows the information that is displayed for each IP Gateway.

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.

Column	Description
Extension	Extension of the IP Gateway on the local Server, used by IP Gateways on remote Servers to log in when connecting IP calls.
Password	Password of the IP Gateway on the local Server, used by IP Gateways on remote Servers to log in 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 in when connecting IP calls.
Remote Password	Password of the IP Gateway on the remote Server, used by the local Server to log in 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 graphic illustrates an IP Gateway created on a Boston Server, for purposes of connecting to a remote London Server:

To set up an IP Gateway

1. Have the following information ready:

   n   The Internet address of the remote Server

   n   The extension and password of the IP Gateway on the remote Server.

2. In the IP Gateways view, choose **IP Gateways > 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.

5. Enter a **Password** for the IP Gateway, and enter it again in the **Confirmation** field.

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 in to the local system using this IP Gateway.

9. Under **Remote**, specify the following information about the remote Server:

   n   **Remote Server's IP address.** Enter the IP address in the format nnn.nnn.nnn.nnn. You can also enter the DNS name.

   n   **Remote IP Gateway's extension.** Enter the extension of the IP Gateway on the remote Server that points to this Server.

   n   **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 6-33.

11. Click **OK**.

Important: The administrator on the remote Server needs to know the extension and password of your IP Gateway, to be able to correctly configure the IP Gateway on their Server that points to yours.

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. For complete information about dialing services, see Chapter 8, "Managing Outbound Calls." This section covers only the key points necessary to set up IP Gateway connections.

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 13-9.

The type of dialing service you must create, and how to create it, depends on the type of IP Gateway calling you want:

- **Calling Strata CS extensions on the remote Server.** See page 13-13.
- **Placing phone calls through the remote Server.** See page 13-15.
- **Placing Centrex/PBX calls through the remote Server.** See page 13-16.

You must create a separate dialing service for each type of IP Gateway calling you want to perform with a remote Server.

Calling Strata CS extensions on the remote Server

To call the remote Server's extensions over IP, you must create an Internet-to-Centrex/PBX Extension dialing service, selecting the remote Server's internal dial tone.

1. Choose **File > New > Dialing Service > Internet-to-Centrex/PBX Extension Service.**

2. On the General tab, enter the following information about the remote Server:

   n **IP Gateway.** Select the IP Gateway that will direct calls from this dialing service to a remote Strata CS Server. See "Creating an IP Gateway" on page 13-9. To create a new IP Gateway, click the IP Gateway button.

   n **Remote Server's internal dial tone.** Selecting this option enables users to connect to the remote Server itself, rather than having the remote Server place an outbound Centrex/PBX call.

3. Enter all other information necessary to create the dialing service. For instructions, see "Adding an Internet-to-Centrex/PBX Extension service" on page 8-17.

4. Click **OK** on any tab to add the dialing service.

Users can now dial extensions on the remote Server by dialing the access code plus the extension, for example, 75-123.

To configure Strata CS so that users can dial remote extensions directly—without dialing the access code—see "Creating Gateway users to unify two Strata CS Servers" on page 13-17.

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Immediately connecting to dial tone on the remote Server

You can configure the dialing service to allow users to actually hear the remote Server's dial tone, so they can log in and check remote voice mail boxes, or press 411 to access the dial-by-name directory on the remote Server.

1. Create a dialing service exactly like the one described above.

2. Set **Minimum** and **Maximum number of digits** to 0.

With these settings, Strata CS connects to the remote dial tone immediately after the access code is entered (for example, 71), rather than waiting for digits to be collected by the local Server and then passed to the remote Server.

Note: Another way of accomplishing the same thing—without changing the minimum and maximum digits—is to instruct users to press **#** immediately after dialing the access code, as in **75#**.

Placing phone calls through the remote Server

To place outbound calls through a remote Server over IP, you must create an Internet-to-Phone Number dialing service.

1. Choose **File > New > Dialing Service > Internet-to-Phone Number Service.**
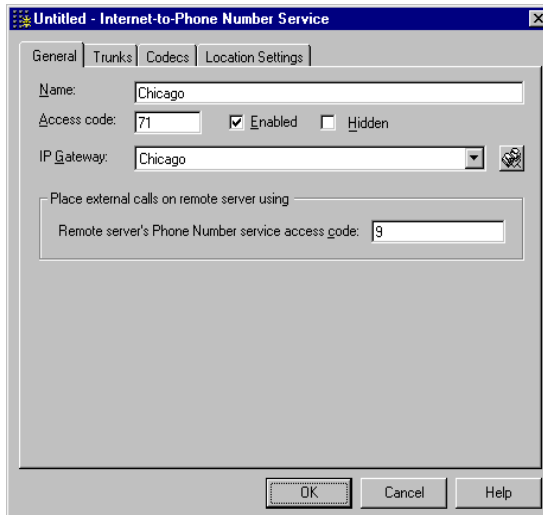
2. On the General tab, enter the following information about the remote Strata CS Server:

   n **IP Gateway.** Select the IP Gateway that will direct calls from this dialing service to a remote Strata CS Server. See "Creating an IP

Gateway" on page 13-9. To create a new IP Gateway, click the IP Gateway button.

n **Remote Server's Phone Number service access code.** Enter the access code of a Phone Number dialing service on the remote Server (typically 9). This field specifies the dialing service that the remote Server uses to place calls originating from your local Server.

3. Enter all other information necessary to create the dialing service. For instructions, see "Adding an Internet-to-Phone Number service" on page 8-15.

4. Click **OK** on any tab to add the dialing service.

Users can now place outbound phone calls as if from the remote Server by dialing the access code plus the phone number, for example, 71-555-1212.

Note: If when dialing out an IP 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 5-24.

Placing Centrex/PBX calls through the remote Server

Use this type of dialing service to connect to a legacy PBX system on the remote Server, or dial a Centrex extension.

For this type of call, you must create an Internet-to-Centrex/PBX Extension dialing service, selecting the remote Server's Centrex/PBX Extension dialing service.

1. Choose **File > New > Dialing Service > Internet-to-Centrex/PBX Extension Service.**
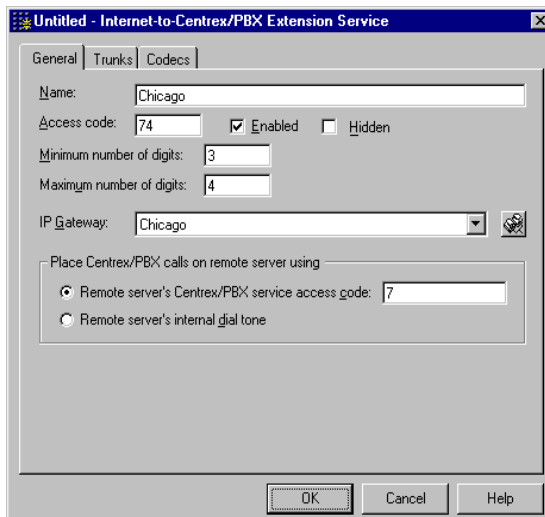
2. On the General tab, enter the following information about the remote Server:

   n **IP Gateway.** Select the IP Gateway that will direct calls from this dialing service to a remote Strata CS Server. See "Creating an IP Gateway" on page 13-9. To create a new IP Gateway, click the IP Gateway button.

   n Click **Remote Server's Centrex/PBX service access code.** The remote Server completes the call by using the Centrex/PBX Extension dialing service whose access code you enter here.

3. Enter all other information necessary to create the dialing service. For instructions, see "Adding an Internet-to-Centrex/PBX Extension service" on page 8-17.

4. Click **OK** on any tab to add the dialing service.

Users can now place outbound Centrex/PBX calls as if from the remote Server by dialing the access code plus the Centrex/PBX extension, for example, 74-5252.

Creating Gateway users to unify two Strata CS Servers

IP Gateway users are a way to connect two Strata CS Servers over the Internet or an IP network, so that users on both Servers appear to be of the type **User**. From the users' perspective, the two Servers become a single Strata CS site.

When you configure two Servers in this way, users can:

- Dial any user's extension directly, without an access code.

- See local users and remote users listed together in the Client's Users 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.

From the users' perspective, IP Gateway users appear identical to local users (of the type **User**), except that IP Gateway users' hook states do not appear in the Client's Users view.

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 Strata CS 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 **User** on your Server.

When a local user (of the type **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 13-9.

- Created an Internet-to-Centrex/PBX Extension dialing service that connects to the remote Server's internal dial tone. See "Calling Strata CS extensions on the remote Server" on page 13-13.

- Made sure that no extensions on one Server conflict with extensions on the other. To avoid conflicts, you might 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 C can help you plan your IP Gateway connection so that no conflicts occur.

To create an IP Gateway user

1. From the Users view, choose **Users > New User.**

2. Under **Type**, select **IP Gateway**.

3. Under **IP Gateway**, select the IP Gateway that points to the remote Server where 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, you must make **Name** the same as well, to reduce confusion.

5. From the Notifications tab, select the type of e-mail notification the user will receive. If the IP connection is disrupted, messages will have been collected and saved. Enter the e-mail address or addresses to which notifications will be sent. Select an option for attaching a voice message to the e-mail notification. Click **Schedule** to always send a notification, or to only send a notification during specific times. For more information on e-mail notifications, see "The Notifications tab" on page 6-17.

6. From the Call Handling tab, 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.

7. Enter the rest of the user information, which governs how the Gateway user behaves on the local Server. For complete instructions on adding users, see "The General tab" on page 6-9.

8. 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 Gateway user account. 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 *Strata CS Client User Guide*.

Fine-tuning your IP connection _____

Strata CS'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 5-24.

EXTENDING STRATA CS

CHAPTER CONTENTS

About extending Strata CS _____

Versatility is what makes Strata CS so powerful, and that versatility is enhanced even further by the ability to integrate other applications into the Strata CS Server. You can extend a Strata CS system in the following ways:

- **In-band signaling applications.** Software designed to interact with PBX or Centrex systems can be configured to work with Strata CS, 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, and Outlook can be integrated into Strata CS through the Strata CS TAPI Service Provider.

- **Third-party telephony devices.** Devices such as fax servers and voice mail systems can be integrated into the Strata CS 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 Strata CS Software Development Kit (SDK) to integrate custom-built software with your Strata CS system.

The next section of this chapter discusses extending Strata CS with off-the-shelf applications. The rest of the chapter will give you an overview of what programmers can accomplish using the Strata CS SDK. This chapter includes the following topics:

- **"Extending Strata CS with off-the-shelf applications" (page 14-3).** Discusses how in-band signaling and TAPI applications can be integrated into the Strata CS Server.

- **"Extending Strata CS with third-party devices" (page 14-4).** Discusses how to integrate third-party telephony devices.

- **"The Strata CS SDK" (page 14-8).** Gives an overview of the SDK, which contains the following tools:

  - **"The IVR Plug-in API" (page 14-9).** A powerful way to integrate virtually any interactive voice response or voice processing application with your Strata CS 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 Strata CS Server.

  - **"The Client API" (page 14-12).** A set of software components that gives custom applications the ability to access all functions found in the Strata CS Client.

Extending Strata CS with off-the-shelf applications _____

Many off-the-shelf applications produced by third-party vendors can be integrated into the Strata CS Server without any custom programming. These applications are integrated in one of the following ways:

- n In-band signaling applications can be configured to work with most Centrex and PBX systems, including Strata CS.

- n TAPI applications can use the Strata CS TAPI Service Provider to communicate with the Server.

In-band signaling applications

A human caller can send commands to any PBX, including Strata CS, 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 Strata CS 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 Strata CS. For example, **&3** (a flash followed by a 3) is the flash hook command that Strata CS 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 Strata CS telephone commands, see the "Telephone Commands Quick Reference" in *Strata CS Client User Guide*.

TAPI applications

TAPI applications can communicate with the Server through the Strata CS TAPI Service Provider (TSP). The TSP can be installed on the Strata CS 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 Strata CS 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 Strata CS Server. Whenever a call is transferred to the station being monitored by the TSP, any TAPI-compatible application running on the same PC 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 Strata CS, the following contact managers are actively supported:

- n Act! 3.0, 4.0, and 2000

- n GoldMine 4.0 and 5.0, and FrontOffice 2000

- n Microsoft Outlook 98 and Outlook 2000

For detailed instructions on how to install the TSP and use it with the supported contact managers, see the chapter on "Installing the Strata CS Workstation Applications" in *Strata CS Installation & Maintenance Manual*. If you are writing a TAPI compliant application, see the online *Strata CS SDK and API Programming Guide* (TVSDK.PDF) for a discussion of the TAPI features that the TSP supports. (The developer's guide is installed with the SDK.)

Extending Strata CS 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 Strata CS Server. This option is only available for devices connected to MSI boards.

To use a third-party device with Strata CS, attach the device to a Strata CS 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 touchtone digits (DTMF). Consult the documentation for your third-party device for more information on 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 Strata CS settings" on page A-28).

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.

- n **Do not send digits.** If you are not integrating a third-party device, accept the default method. No DTMF digits are sent.

- n **Send DID from PSTN.** Send the DID number as DTMF digits from the trunk on which the call arrived.

- n **Send user's extension number.** Send the extension number of the calling user as DTMF digits.

- n **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.
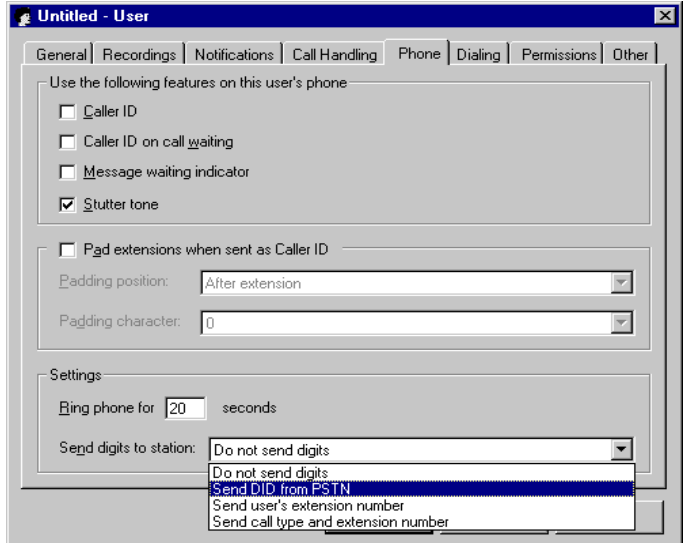
Note: If you choose any setting except the default **Do not send digits**, all call screening options are disabled for the station.

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 Strata CS source extension.	"2{source extension}#"
Call from an external caller to a different 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.	"5{target extension}#"
Call from an internal caller at another source extension to a different 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.	"6{target extension}#{source extension}#"

The following example illustrates one way that Strata CS can be configured to send DID digits to stations:

  - n Frank Smith is assigned extension 101. Miri Anatolia is assigned extension 102.

  - n A third-party voice mail system is attached to several Strata CS 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 7-3).

  - n 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 directly to the first available voice mail port in the workgroup.

Note: It is highly recommended that you use more than one voice mail device in a scenario such as the previous example. 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 Strata CS'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
An external caller calls Voice Mail directly at extension 300 in order to leave a message for a user. 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.	"1"
Frank Smith at extension 101 calls Voice Mail directly at extension 300 in order to retrieve his voice messages. 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.	"2101#"
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. 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.	"5102#"

Type of call	DTMF digits sent
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. 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.	"6102#101#"

The Strata CS SDK_____

The Strata CS SDK is a powerful set of software libraries that programmers can use to achieve the tightest possible integration between their applications and the Strata CS Server. A programmer can use the SDK to integrate custom voice and call processing applications such as:

- n Order processing systems with interactive voice response (IVR)

- n Customer identification and screen pop applications

- n Smart operators that transfer calls based on caller ID or other information

- n Automatic customer support call handling

- n Custom applications that monitor the status of Strata CS devices

Applications that use the Strata CS SDK can be created by programmers who have experience with a Windows programming platform such as Visual Basic, Visual C++, or Delphi. Toshiba maintains a list of consultants qualified to develop applications using the Strata CS SDK.

Most custom applications can use in-band signaling (as described in "In-band signaling applications" on page 14-3) to perform caller ID and call control and do not need any other software. However, 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 a telephony toolkit (see "Developing IVR Plug-ins with a telephony toolkit" on page 14-10 for details).

Installing the Strata CS SDK

The Strata CS SDK consists of sample programs and help files as well as the software libraries that programmers will use to integrate their applications with Strata CS. You can print the *Strata CS SDK and API Programming Guide* (TVSDK.PDF) and provide it to programmers.

To install the Strata CS SDK

1. Run the TVSDK.exe program located in \Strata CS on the Strata CS CD.

2. Follow the instructions in the Strata CS SDK Setup window.

The Strata CS SDK Application Programming Interfaces

The Strata CS 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 Strata CS. The following APIs are provided:

- n **The IVR Plug-in API.** Using the IVR Plug-in API, programmers can tightly integrate a custom application with the Strata CS 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 Strata CS 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.

- n **The Device Status API.** Using the Device Status API, an application can monitor the status of all devices on the Strata CS 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 Strata CS.

- n **The Client API.** Using the Client API, applications can interact with the Strata CS Server database.

The remainder of this chapter provides an overview of each API. For more detailed information, see the *Strata CS SDK and API Programming Guide*.

The IVR Plug-in API

The IVR Plug-in API enables a custom application to function as a virtual extension on the Strata CS 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 Strata CS Server and are assigned an extension in the Strata CS Administrator's IVR Plug-in view. Programmers use the IVR Plug-in API to get

notification of new calls from the Strata CS 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) using a telephony toolkit. After an IVR Plug-in finishes processing the call, it can hang up or transfer the call back to any Strata CS 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.

IVR Plug-in sample programs

The following IVR Plug-in sample applications are included with the API:

_n **CustomerID Plug-in.** A Visual Basic project that demonstrates how to transfer customers to different agents automatically, based on the customer's area code. Programmers can install and run the compiled sample program on a Strata CS Server without modification, or they can use Visual Basic to customize it as desired.

_n **CustomerID database manager.** A small program to maintain the Customer and Agent databases accessed by the CustomerID Plug-in. The program can be used to customize the customer and agent data for your Strata CS Server site.

_n **OutBound Calling Plug-in.** A Visual Basic project that demonstrates how a Plug-in can place outbound calls, send data, and then return control to the Server. The compiled sample program will run on a Strata CS Server without modification, but you must have Visual Basic and a telephony toolkit (such as CallSuite) to modify and recompile the sample program.

Developing IVR Plug-ins with a telephony toolkit

The Strata CS SDK allows a programmer to integrate an application with the Strata CS Server, but it does not provide tools to perform tasks such as dialing a phone number, interpreting touch-tone digits, playing or recording voice files, or generating spoken messages. These tasks require a telephony toolkit such as CallSuite.

Telephony toolkits can be used to build applications such as:

_n Order entry systems

_n Benefits enrollment hotlines

_n Real estate fax lines

_n Voice mail and paging systems

_n Product literature fax-on-demand systems

_n Movie rating and information lines

_n Talking classifieds

- n Predictive dialers

- n Golf tee reservation systems

- n 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 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 a 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 Strata CS Server's Windows NT Event Log saying that the license count has been exceeded.

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 Strata CS 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:

- n Monitor current users on the system and maintain a call log in a format customized for your special needs.

- n Obtain a current list of users permanently assigned to a station.

- n Obtain the name of a user currently logged in at a station.

- n 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 Strata CS Server and Visual Basic.

The Client API

The Client API is an extensive collection of the COM objects used to write the Strata CS Client. It contains objects that are typically used to interact with the Strata CS Server database and the call-processing engine. Using the objects available in the Client API, your applications can use any function found in the Strata CS Client.

STRATA CS CONFIGURATION SETTINGS

CHAPTER CONTENTS

About Strata CS configuration settings _____

This appendix lists the Strata CS configuration settings that store low-level information that is rarely changed, or that cannot be changed using the Administrator.

Many configuration settings are stored in the Windows registry on the Server computer and on client computers where one or more Strata CS 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`.

Other configuration settings are stored in the Strata CS database. These settings can be edited with the Strata CS Settings program as described in "Using the Strata CS Settings program" on page A-26.

Note: In this chapter, HKLM is the abbreviation for HKEY_LOCAL_MACHINE and HKCU is the abbreviation for HKEY_CURRENT_USER.

Strata CS Server registry settings_____

Many registry settings are set at installation time. In this appendix, the "default values" listed for registry settings refer to the values that will be used when there is no registry entry, not to defaults set by the Strata CS installer.

One Strata CS Server registry setting is found (or can be created) under the following registry key:

`HKLM\Software\Toshiba\Strata CS\`

..\Toshiba\Strata CS\

`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-6.
>
> Default is "`Strata CS`".

These Strata CS Server registry settings in the following table are found (or can be created) under the following registry key:

HKLM\Software\Toshiba\Strata CS\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 Strata CS 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.

ConferenceMgr1 and ConferenceMgr2

> In an environment that has both Strata and MSI station boards, these values specify whether Strata CS uses all of the available conference managers on the Strata boards before using the conference managers on the MSI boards, or vice versa.

> The following case-sensitive codes are used to refer to the MSI and Strata boards: TvMsi.TerminalMgr and TvStrata.TerminalMgr.

> Default settings use the conference managers on the MSI boards first: ConferenceMgr1 = "TvMsi.TerminalMgr", ConferenceMgr2 = "TvStrata.TerminalMgr"

DbCacheInterval

> DWORD value specifying the number of minutes between database cache refreshes.

> Default is 5 minutes. Setting to zero to turns off cache refreshes.

DisableDevices

> See "Disabling Dialogic devices" on page A-13 for details.

> Default is 0.

..\Server\Settings\

`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 *Strata CS Installation & Maintenance Manual*.

Default value is 0, specifying that the Sent box should not be purged. A value of 1 indicates that the Sent box should be purged.

`ExternalCallOfferingDelay`

DWORD value specifying the wait (in milliseconds) before Strata CS 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.

`ExternalCallOfferingDelayConnected`

DWORD value specifying the wait (in milliseconds) before Strata CS 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.

`LogPath`

STRING value specifying the subdirectory in which Strata CS 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).

`LogSize`

DWORD value specifying the maximum size of each Strata CS Server log file (`Tvlogxxx.TXT`) in megabytes.

Default value is 1MB. A value of 0 will disable logging.

..\Server\Settings\

Mail

DWORD value specifying whether or not Strata CS e-mail functionality will be available. This includes e-mail notification and Exchange synchronization.

Default value is 1 (e-mail functionality is available). A value of 0 specifies that e-mail functionality is not available.

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 Strata CS Device Monitor checks. At each interval the Monitor goes through all current devices to see if they are responding, and restarts them if they do not respond within 10 seconds.

Default is 5 minutes.

MonitorTimeout

DWORD value in minutes. This is the length of time that Strata CS waits before automatically restarting a non responding device. When an automatic restart is invoked, a message is added to the Windows Event Log: "Device %1 is not responding, restarting..."

Default is 5 minutes.

MonitorRestart

DWORD value. If this is non-zero, when the system detects a nonresponding device it will attempt to restart it. A non-zero setting can cause problems when a device is not responding, because it can result in slow database access.

Default is 1.

..\Server\Settings\

NumLogs

> DWORD value specifying the number of Strata CS Server log files
> (`Tvlogxxx.TXT`) kept before they are overwritten.
>
> Default is 1.

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 gateway service. The IPLink drivers
> will substitute the string "Name" unless another string is provided in the
> in source address. This key should have the same value as the Company
> setting (see page A-2).
>
> Default is "Strata CS".

RefreshVMWI

> DWORD value specifying the number of milliseconds to wait before
> refreshing the CLASS phone message waiting lights.
>
> Default is `5000` milliseconds.

RequireLoginForTUIOnTrunk

> DWORD value specifying whether or not Strata CS will require a user
> login after pressing ** on a remote phone.
>
> Default value is 1 (login is required). A value of 0 specifies that login is
> not required.

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, which will cause Dialogic Farallon
> boards to fail on inbound calls. A setting of 2 never provides a display
> string.

..\Server\Settings\

TruncateRecordings

> DWORD value specifying whether or not Strata CS should truncate extra silence at the end of voice message recordings.

> Default is 1, specifying that 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".

UserVoxPath

> STRING value specifying the path for local user voice prompts. Path string must end in a backslash.

> Default is set during installation.

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.

WrapupTime

> DWORD value specifying the number of milliseconds (for an ACD workgroup) between when an agent hangs up a call and when the caller waiting the longest is notified that the agent became available.

> Default is 4000 milliseconds.

Strata CS Workstation applications registry settings _____

> All supported Strata CS 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 (following 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\Toshiba\Strata CS\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\Toshiba\Strata CS\Client\Logon`

..\Client\Logon

`Extension`

STRING value specifying the user's extension.

Default is "0".

`Server`

STRING value specifying the name of the Strata CS Server computer. May be either a NetBios name (for example, "Strata CS") or an IP Address (for example, "123.12.76.102").

Default is "" (empty string).

`PingTimeout`

DWORD value specifying the ping timeout 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 *Strata CS Installation & Maintenance Manual*).

Default is "0".

`Address`

STRING value specifying the user's station ID.

Default is "0".

`Username`

STRING value specifying the user's Strata CS login name.

Default is "" (empty string).

Local Machine Settings

The workstation application settings in this section are located in
HKEY_LOCAL_MACHINE.

`HKLM\Software\Toshiba\Strata CS\Client\Client\App`

..\Client\Client\App

LoggedInUserId

STRING value indicating the ID of the user who last logged in.

Default is "" (empty string) on installation.

`HKLM\SOFTWARE\Toshiba\Strata CS\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 Strata CS 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.

TraceMaxRevisions

DWORD value specifying the maximum number of backup log files that
will be generated on this machine before the Strata CS 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 Strata CS 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.

HKLM\SOFTWARE\Toshiba\Strata CS\Client\TSP\Logon

..\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 Strata CS TAPI Configuration Wizard.

No default. Must be set before the TSP can run.

Server

STRING value specifying the name of the Strata CS Server computer to which the TSP will call. May be either a NetBios name (for example, "Strata CS") or an IP Address (for example, "123.12.76.102").

The user can set and change this value using the Strata CS TAPI Configuration Wizard.

No default. Must be set before the TSP can run.

UserName

STRING value showing the name that appears in the Call Log for incoming and outgoing calls that use the TSP.

The user can set and change this value using the Strata CS TAPI Configuration Wizard.

No default. Must be set before the TSP can run.

Strata CS Server language locale settings _____

Strata CS currently uses the following locale codes:

EN00	U.S. English
EN10	U.K. English
ES00	Latin American Spanish

HKLM\SOFTWARE\Toshiba\Strata CS\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\Toshiba\Strata CS\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\Toshiba\Strata CS\Server\ToneDefinitions
\IncomingFaxTone
```

```
HKLM\SOFTWARE\Toshiba\Strata CS\Server\ToneDefinitions
\DisconnectTone<n>
```

where `<n>` is a digit from 1 through 9 (for example, `\DisconnectTone1`, `\DisconnectTone2`, and so forth).

After you enter custom tones, you must restart the Strata CS Server. At startup, Strata CS will read the definitions for all custom tones and define them to the Dialogic drivers.

Each custom tone is defined by the DWORD keys shown in the next 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 detection tone

Custom trunk disconnect detection tones are used in installations where a PBX sits between the central office and Strata CS, and where the PBX does not provide a fast busy tone to indicate trunk hangup.

The keys in the next table are DWORD values that define a disconnect tone with the following characteristics:

- A Dual Tone Frequency of 400Hz – 450 Hz (that is, 425 +/- 25)

- On between 460ms – 500ms (that is, 480ms +/- 20ms)

- Off between 440ms – 480ms (that is, 460ms +/- 20ms)

- Cadence must repeat 2 times

- Cadence begins on the leading edge of the tone

Custom Tone Keys		
Key	**DWORD**	**Description**
freq1	425	First frequency (in Hz) for the tone
freq1dev	25	Allowable deviation for first frequency (in Hz)
freq2	425	Second frequency (in Hz) for the tone
freq2dev	25	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	48	Time for which cadence is "on" (in 10ms units)
cadenceon_dev	2	Allowable deviation for "on" time (in 10ms units)
cadenceoff	46	Time for which cadence is "off" (in 10ms units)
cadenceoff_dev	2	Allowable deviation for "off" time (in 10ms units)
leadingedge	1	Tone detection: 1 = leading edge, 0 = trailing edge

Disabling Dialogic devices _____

By default Strata CS allocates and opens all Dialogic devices that are present on the Server for itself. If you do not want Strata CS to allocate all of the available devices (for example, if you are connecting fewer lines to a Dialogic board than the board can support), 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:

- **To allow non-Strata CS applications to run on the Strata CS Server**

For example, you may have another CT application installed on the Strata CS Server that needs to own some Dialogic devices for itself. You would identify the specific Dialogic devices and channels required by the CT application, and then disable those devices. When Strata CS 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 Strata CS's Dialogic resources as needed.

n **To connect a fractional T1 or E1 line to Strata CS**

For example, you may have a T1 line with 12 channels instead of 24. To connect this T1 line to Strata CS, you still connect it to a Dialogic card with 24 channels, but you disable half of the channels. When Strata CS 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.

n **To ignore several trunks on a voice 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. Strata CS will not see them when starting up, but it will see all the voice processors.

To disable Dialogic devices in the Windows NT/2000 registry

1. Using the conventions described in "Dialogic device names" (in the next section), 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\Toshiba\Strata CS\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 voice 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.

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 voice board device names

A Dialogic voice 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 voice boards have been installed, the board number 1 is assigned to the Dialogic voice board that was installed in the Strata CS Server with the lowest board ID. (For information about setting Dialogic board IDs, see *Strata CS Installation & Maintenance Manual*.) 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 voice board have been named, the board-numbering sequence continues on the Dialogic voice board that was installed with the next lowest board ID.

For example, if you installed a Dialogic D/80SC-4LS in the Strata CS 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 Strata CS Server with the lowest board ID. Board number 2 is assigned to the MSI station board installed with the next lowest board ID, and so on. (For information about setting Dialogic board IDs, see *Strata CS Installation & Maintenance Manual*.) The channel number is assigned sequentially starting with 1 on each board, incremented by 1 for each channel.

For example, if a Strata CS 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-Strata CS 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.

Toshiba device names

The mechanism for disabling a Strata board so that it is available for non-Strata CS use is the same as described for Dialogic boards in the previous sections. You can disable Strata boards, but you cannot disable individual channels on the boards.

A Strata board device name has the form **DKTBn**, where **Bn** is the board number. For example, Board 1would be named **DKTB1**. The board number is assigned sequentially starting with 1, incremented by 1 for each Strata board.

Dialogic voice board settings _____

Dialogic voice board settings consist of VoiceBoard keys (applied to all channels for a specified board number) and VoiceBoard Line keys (applied to individual channels on the board).

VoiceBoard settings

VoiceBoard keys are located under:

```
HKLM\SOFTWARE\Toshiba\Strata CS\Server\VoiceBoard<n>
```

where <n> is the Dialogic board number (see "Dialogic voice board device names" on page A-15 for an explanation of board numbering conventions).

..\Server\VoiceBoard<n>		
Key	**Default**	**Description**
DXDB_CHNUM	-	**Channel number.** Number of channels on the board.
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	0	**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.

..\Server\VoiceBoard<*n*>		
Key	**Default**	**Description**
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_MINSLON	1	**Minimum Silence On.** Minimum time for silence to be on for valid audio pulse detection.
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.
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.

..\Server\VoiceBoard*<n>*		
Key	**Default**	**Description**
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).
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_MINOFFHKT M	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\Toshiba\Strata CS\Server\VoiceBoard*<n1>*\Line*<n2>*

where *<n1>* is the Dialogic board number and *<n2>* is the channel number (see "Dialogic voice board device names" on page A-15 for an explanation of board and channel numbering conventions).

..\Server\VoiceBoard*<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 Strata CS setting.

Strata CS default is -23.

..\Server\VoiceBoard*<n1>*\Line*<n2>*

`DXCH_D_FLAGS`

> DWORD value for DTMF detection edge select.
>
> Default is `0`.

`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:

> **ValueDigitValueDigit**
> ```
> -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`.

..\Server\VoiceBoard*<n1>*\Line*<n2>*

`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:

- n **0** - detect KP tone > 40ms

- n **2** - detect KP tone > 65ms

- n **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.

`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 tables, `Board<n>` refers to a Dialogic board number. See
"Dialogic voice board device names" on page A-15 for an explanation of board
numbering conventions.

`HKLM\SOFTWARE\Toshiba\Strata CS\Server\DTIBoard<n>\GlobalCall`

..\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 Strata CS Server log (`Tvlogxxx.txt`).

Default is `0`, which suppresses the information element logging. Set to 1
to include the information elements in the log.

InProtocol and OutProtocol

These values define the CAS protocol on E1 boards. For details, see
"Manually entering E1 CAS protocols" in *Strata CS Installation &
Maintenance Manual*.

DNISLength

DWORD value specifying the number of expected DNIS (DDI) digits (in
milliseconds) to be received by the Strata CS Server before attempting to
process the inbound call.

No default, but the Strata CS 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 Strata CS Server will wait for digits to be received
before attempting to process the inbound call.

No default, but the Strata CS server expects to wait **2000** milliseconds
after it receives the notification of an inbound call.

```
HKLM\SOFTWARE\Toshiba\Strata CS\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 Strata CS Server log
> (`Tvlogxxx.txt`).
>
> Default is `0`, which suppresses the information element logging. Set to 1
> to include the information elements in the log.

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, Strata CS 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, Strata CS strips the prefix from the dial
string, and then checks whether **InternationalType** and **InternationalPlan** are
present. If they are, Strata CS uses them to override the called number and calling
number call parameters.

```
HKLM\SOFTWARE\Toshiba\Strata CS\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\Toshiba\Strata CS\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:

- n **0** - SDMF (Single Data Message Format) sends the date, time, and 10-digit caller ID number.

- n **1** - MDMF (Multiple Data Message Format) sends the date, time, 10-digit caller ID number, and 15-digit caller name.

- n **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 length of time (in 50 ms. units) or stations on MSI board *<n>* to be on-hook before a hangup is registered. This value should usually be equal to MSG_MAXFLASH + 1.

Default is 21 (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).

VMWI_FSK_FORMAT

DWORD specifying the format used by MSI board *<n>* to send visual message waiting indication to CLASS phones. Valid settings are:

- n **0** - SDMF (Single Data Message Format)

- n **1** - MDMF (Multiple Data Message Format)

Default is 0 (SDMF format).

Using the Strata CS Settings program _____

The Strata CS Settings program (`TVSettings.exe`) is a utility that you can use to view and alter settings for both the Server and individual users. The Strata CS Server uses a database to store numerous settings. Other Strata CS settings are stored in the Windows Registry of each machine. The Strata CS Settings program can be run on either the Server or a client workstation. You must have Administrator permissions to run it.
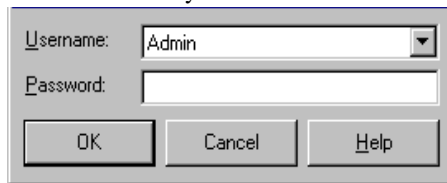
Use this utility with extreme caution, preferably under the direction of Toshiba Strata CS Technical Support engineers.

Logging in

The Strata CS Settings program is located in the Administrator or Client directory (default locations are `\Program Files\Strata CS Administrator` and `\Program Files\Strata CS Client`), but no shortcut to it is created during installation.

To use TVSettings

1. Double-click `TVSettings.exe` in the Strata CS Administrator or Strata CS Client directory.

Username:	Admin
Password:	
OK	Cancel	Help

2. Log in as an Administrator.

Viewing current values

The main window of the program displays a list of all available settings, as shown in the next illustration.
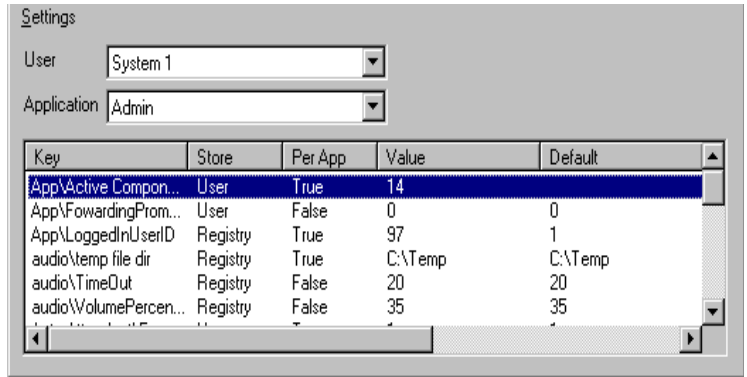
- n In the **User** drop-down list, select a Strata CS user. In the **Store** field, "User" refers to the user specified here.

- n **Application** is a drop-down list that specifies an application. If a key displays "True" in the **Per App** field, the key value applies only to the application specified here.

- n **Key** indicates the path and name of the key.

- n **Store** indicates where the key value will be stored. "User" and "Server" keys are stored in a database on the Strata CS Server. "Registry" keys are stored in the Windows Registry of the machine on which you are running the Strata CS Settings program.

- n **Per App** indicates whether or not the setting applies only to the application listed in the **Application** field. For the keys discussed in this appendix, the **Per App** field is False unless specified otherwise.

- n **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 Setting Value dialog box (as described in the next section).

- n **Default** indicates the Strata CS default value for this key.

Changing key values

When you double-click on a key listed in the main window, the Setting Value dialog box opens:

```
Setting Value

Value name:
Server\MinimumMessage

Value data:
2000
                                    OK       Cancel

Stored in:
DBRegistry PhoneBookID=1 Name=Server\MinimumMessage

Voicemail messages shorter than this (in msec) are discarded
```
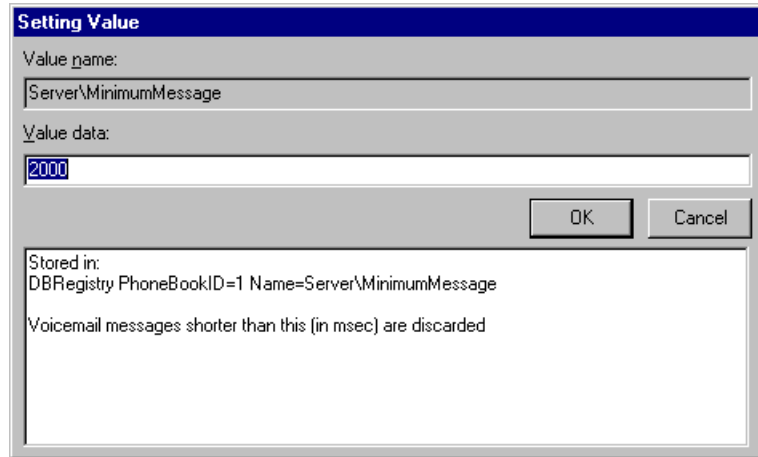
- n **Value name** displays the name of the key.

- n **Value data** allows you to change the value of the key by typing a new value and clicking **OK**.

- n **Description** displays the location and description of the key.

Modifying other supported Strata CS settings

Toshiba 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 Strata CS 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. This setting affects only the application currently displayed in the Application field (Per App=True).

Default value is "C:\Temp".

audio\VolumePercentage

DWORD value that specifies the percentage to increase the current wave volume on playback or recordings or greetings.

Default value is 35 percent.

Registry keys on the current computer

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 items on the Server database

ACD\NoAnswerTime

> DWORD value that specifies the 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.

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 1000 millseconds.

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.

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.

System items on the Server database

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 timeout.

Default value is 30000 milliseconds.

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 1 (yes). Can be set to 0 (no).

Server\E911RingDuration

DWORD value that specifies the number of milliseconds to ring E-911 stations before dialing out of trunk.

Default value is 15000 millseconds (15 seconds).

System items on the Server database

Server\InternalDialtoneTrunkFirstTimeout

>DWORD value that specifies the dialtone 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 dialtone 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 dialtone duration (in milliseconds) before the station goes to reorder.

>Default value is `25000` milliseconds.

Server\InternalDialtoneStationSecondTimeout

>DWORD value that specifies the dialtone duration (in milliseconds) after a remote party hangs up before the station goes to reorder. If there is a PBX behind Strata CS that uses the reorder tone as a disconnect tone, you may want to decrease this value.

>Default value is `5000` milliseconds.

Server\LongIdleTime

>DWORD value that specifies the minimum duration (in seconds) of a function call or 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 in routing lists.

>Default value is `60000` milliseconds.

System items on the Server database

`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\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 millseconds) that the system adds to ring durations for external calls in routing lists.
>
> Default value is 3000 millseconds.

`Server\MinRingDuration`

> DWORD value that specifies the minimum ring duration (in milliseconds) for internal and external calls in routing lists.
>
> Default value is `6000` milliseconds.

`Server\SendDigitsToStationDelay`

> DWORD value that specifies the delay (in millseconds) before sending digits to a station, for example, DID digits.
>
> Default value is `0` milliseconds.

`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.

`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 items on the Server database

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 Strata CS from the command line

You can use optional command line arguments to log on to the Strata CS Administrator or Client using the **Run** command of the **Start** menu, from within an application, or from a Desktop shortcut, for example:

```
"C:\Program Files\Strata CS\Test Admin\TVAdmin.exe" /Server=TVTest /station=17
```

Use the command line options shown in this section when logging in.

Command line options

/Server=<*Server name*>

> Name of the Strata CS Server on your network that you want to log in to. Useful for running a Client or Administrator against a test Server.
>
> If you do not use this option, Strata CS logs you in using the name of the Strata CS Server stored in the Windows NT /2000 registry, set when you install Strata CS.

/station=<*station number*>

> Station ID assigned for this session.
>
> If you do not use this option, Strata CS logs you in using the station number stored in the Windows NT/2000 registry, set when you install Strata CS, or when you run TVConfig.exe.

/allowmultiple

> Allows more than one Administrator or Client to run simultaneously on a machine. Useful for agents in an ACD workgroup who share a computer, or who want to log in to one Client to answer queue calls and another Client to manage personal calls at their extensions.
>
> If you do not use this option, Strata CS 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.

Command line options

/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.

/backup

>   **Administrator only.** Performs an immediate online backup of the Strata CS database using the current System Settings, and then exits the Administrator when the backup is complete. See "Backing up Strata CS" on page 11-11.

/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.

IP GATEWAY CONFIGURATION WORKSHEET

This appendix provides a worksheet to help you create a unified dialing plan before connecting Strata CS Servers over IP Gateway connections. 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 for your 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	**X** IP-to-Phone o IP-to Centrex	Chicago	77	New York	9	New York
Bell Atlantic Centrex	**X** o IP-to-Phone o IP-to Centrex	Chicago	78	New York	8	New York
	o IP-to-Phone o IP-to Centrex					
	o IP-to-Phone o 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
	o IP-to-Phone o IP-to Centrex					
	o IP-to-Phone o IP-to Centrex					
	o IP-to-Phone o IP-to Centrex					
	o IP-to-Phone o IP-to Centrex					

USING QUICKNET AND E-TEL WITH STRATA CS

CHAPTER CONTENTS

Using Quicknet hardware with Strata CS_____

Quicknet's Internet PhoneJACK, Internet LineJACK and Internet PhoneCARD are standard H.323 terminals that enable you to use a regular analog telephone to make or receive calls over the Internet or an IP network by using Strata CS's Internet Telephony support. You can set up a remote Strata CS extension that is connected to your Strata CS Server over TCP/IP. If your Strata CS Server has a Dialogic IPLink board installed, you can use a phone connected to a Quicknet card to access Strata CS over IP.

This appendix contains two sections, one for Internet Switchboard version 3.5 and one for version 4.0. Refer to the section for the version you use.

n For Internet Switchboard 3.5, see the next section.

n For Internet Switchboard 4.0, see page D-6.

Using Quicknet with Internet Switchboard 3.5

Setting up Quicknet to dial Strata CS

1. Start Internet Switchboard if it is not already running. Choose **Start > Programs > Internet Switchboard > Internet Switchboard.**

2. Choose **Phone > Switchboard Wizard**. Click **Next** to continue.

3. On the Main Switchboard wizard screen, choose **Telephone Gateways** from the **Switchboard** drop-down list. Click **Next** to continue.
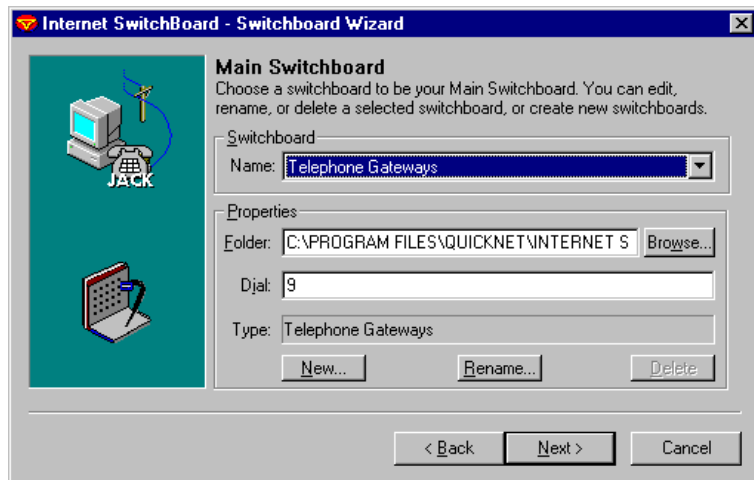
4. On the Telephone Gateways wizard screen, right-click in the list of connection types and choose **New > Gateway.** The H.323 Gateway dialog box opens.

5. Enter the following required information:

- n **Top unlabeled field.** Enter a name for new H.323 Gateway.

- n **Number.** Enter one or more digits that you want to press at your Quicknet phone's dial tone to reach your Strata CS Server.

- n **Gateway.** Enter the same name that you entered in the top unlabeled field.

- n **Address.** Enter the Strata CS IP address. This address is the IP address of the Strata CS Server's Internet span. Ask your Strata CS system administrator for this number.

- n **Tel./Ext.** To be connected to a specific party on the Strata CS Server, enter the DID number of the party. The party can be a user, auto attendant, or IVR Plug-in. If you leave this field blank, the call will go to the party specified in the Internet span (by default the auto attendant).

6. Click **OK** to return to the Telephone Gateways wizard screen. Your new Gateway appears in the list.
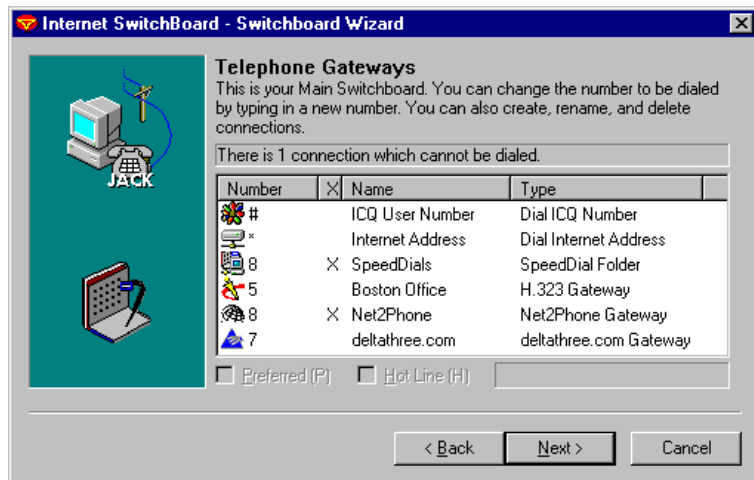
7. Click **Next** to continue.

8. Click **Next** on the SpeedDials wizard screen.

9. Click **Finish.**

When you pick up the phone attached to your Quicknet card, dial the number for your Gateway, and press #, you are now connected to the Strata CS Internet span. Depending on how the span is set up to route the call, or if you specified a DID number, you can be connected to the auto attendant, a user, or an IVR Plug-in.

Using a Preferred address to dial extensions directly

If the Strata CS Internet span routes calls to an auto attendant, you can make your Strata CS Gateway preferred. Doing this lets you pick up your Quicknet phone and dial a Strata CS extension immediately, without having to dial the Gateway number to Strata CS first.

For example, if your Strata CS Gateway number is 5 and your co-worker Steve's extension is 123, you would normally reach Steve by dialing 5#, waiting for the auto attendant to answer, and then dialing 123. By making the Gateway preferred, you can reach Steve by picking up the phone and dialing 123#.

STRATA CS ADMINISTRATOR MANUAL

To make a Gateway preferred

1. In Internet Switchboard, click **Speed Dials** to show the list of Gateways.

2. Right-click your Strata CS Gateway in the list and choose **Preferred.** A check mark appears next to Preferred in the shortcut menu, and a "P" appears next to the Gateway name in the list.
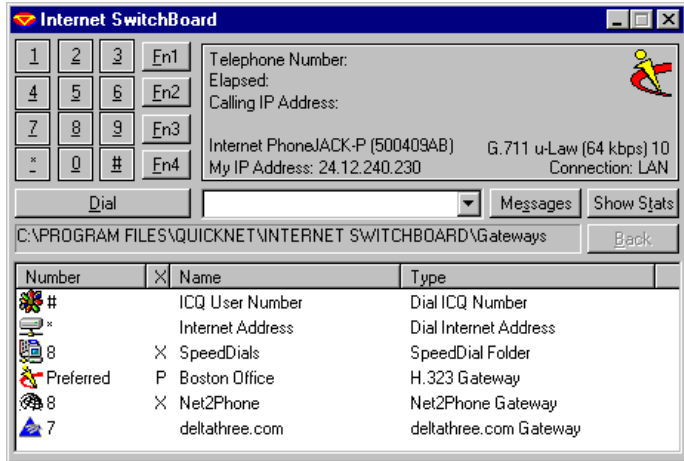
Setting up the Strata CS IP address as a Hot Line

You can use Quicknet Internet Switchboard to make your Strata CS Gateway a Hot Line number. Doing this enables you to connect to Strata CS just by picking up the receiver.

1. In Internet Switchboard, choose **Phone > Switchboard Wizard**. Click **Next** to continue.

2. On the Main Switchboard wizard screen, choose **Telephone Gateways** from the **Switchboard** drop-down list. Click **Next** to continue.

3. On the Telephone Gateways screen, select your Strata CS Gateway.
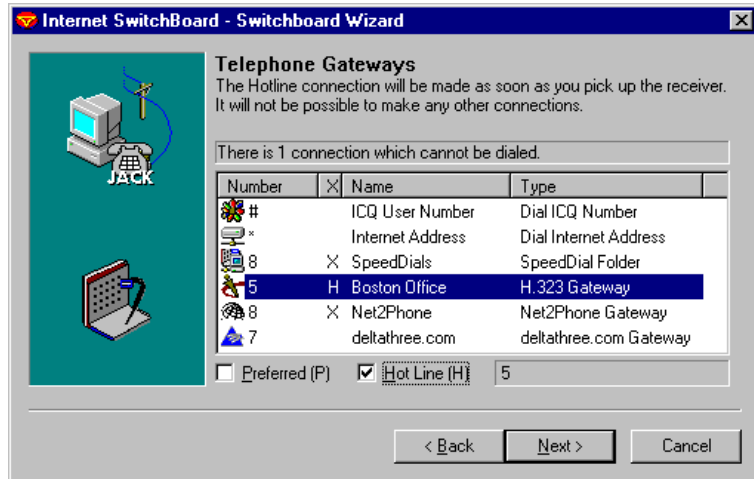
If you have not created a Gateway yet, follow the instructions in the section, "Setting up Quicknet to dial Strata CS" on page D-2.

4. Check **Hot Line.**

5. Click **Next** to continue.

6. Click **Next** on the SpeedDials wizard screen.

7. Click **Finish.**

The IP address of Strata CS's Internet span is now set up as a Hot Line. Whenever you pick up the receiver of the phone attached to the Quicknet card, a call is automatically placed to Strata CS.

Using Quicknet with Internet Switchboard 4.0

Setting up Quicknet to connect to Strata CS

The following instructions explain how to create a Preferred Internet Switchboard Gateway that enables you to dial outbound calls as if you were sitting at a normal Strata CS station. You do not need to dial * and Strata CS's IP address, or the access code for the Gateway, in order to connect to Strata CS. As soon as you pick up the receiver of the Quicknet phone you can dial Strata CS extensions, dial access codes (such as 9) to place outbound calls through the Strata CS Server, log in to your account, and do anything else you could do from a remote station.

Whenever you place a call, the process of logging in to Strata CS is handled automatically behind the scenes, using your extension and password as you enter them in the following instructions.

The following tasks are explained in the sections that follow:

- n Creating the Gateway

- n Eliminating access code conflicts

- n Transferring and handling calls with a Quicknet phone

Creating the Gateway

1. Start Internet Switchboard if it is not already running. Choose **Start > Programs > Internet Switchboard > Internet Switchboard.**

2. Click **Show SpeedDials** if the SpeedDials pane is not already showing.

3. Right-click in the SpeedDials pane and choose **New > Gateway**.The H.323 Gateway dialog box opens.
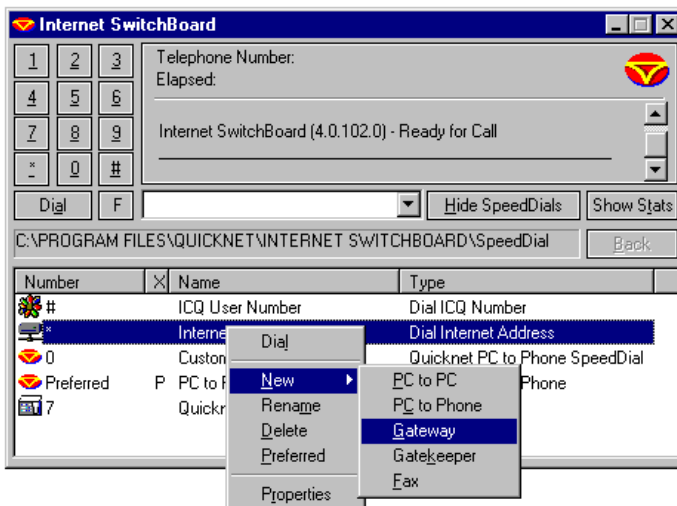
4. Enter the required information in the following fields in the H.323 Gateway dialog box:

- n **Top unlabeled field.** Enter a name for new H.323 Gateway.

- n **Number.** Enter one or more digits that you want to serve as the access code for this Gateway. Even though you will make this Gateway Preferred, so that you will never have to dial the access code, you must still enter a number. Do not enter a number that is the same as a Strata CS dialing service access code.

- n **Gateway.** Enter the same name that you entered in the top unlabeled field.

n **Address.** Enter the IP address of the Strata CS Server's Internet span. Ask your Strata CS system administrator for this number.

n **Account.** Enter your Strata CS extension.

n **PIN.** Enter your Strata CS password. The extension and password are sent to Strata CS behind the scenes so that Strata CS automatically logs you in when you make a call.

5. Click **OK** to return to the Telephone Gateways main screen. Your new Gateway appears in the SpeedDials pane.
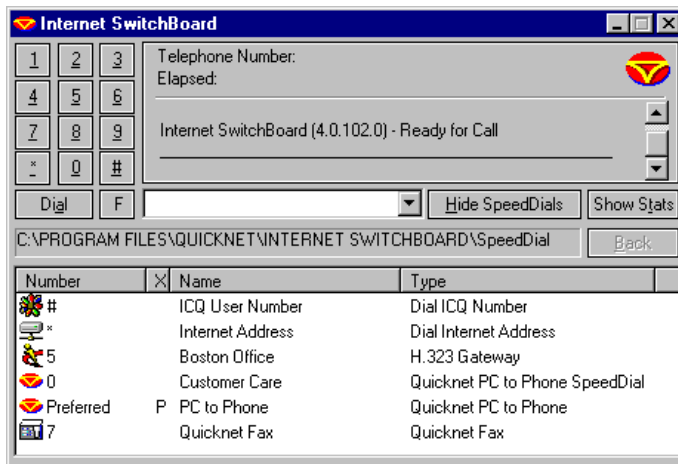
6. Right-click your Gateway in the list.

7. Check **Preferred.** Doing this enables you to pick up the Quicknet phone and dial numbers directly through Strata CS, without having to dial Strata CS's IP address first, or even the access code for the Strata CS Gateway.

When you are done, the SpeedDials pane should appear as shown in the following illustration, with a P next to your Gateway.
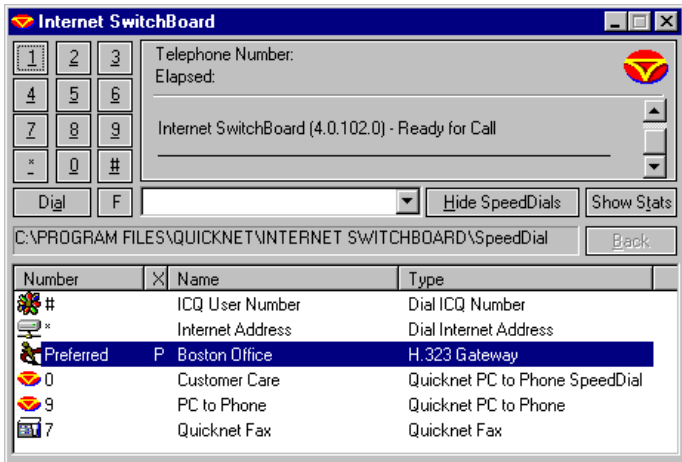
Eliminating access code conflicts

If there are any Gateways with the same access codes as Strata CS dialing services, you must change the access codes in Quicknet. For example, if there is a Quicknet Gateway with access code 9, and 9 is the access code you dial to get an outside line in Strata CS, you must change the Quicknet Gateway's access code to a number other than 9.

Look in the Telephone Gateways list under the Number column. If there is a conflict, right-click the Gateway and select **Properties**. Change the access code—the field will be called either Number or Extension, depending on the type of Gateway—and then click **OK**.

Transferring and handling calls with a Quicknet phone

You must make a configuration change to Quicknet in order to transfer and handle calls using Strata CS's telephone commands. After the configuration change is made, you can transfer and handle Strata CS calls just as you would from a normal phone.

The configuration change involves the Flash command. When using Strata CS from a remote phone—IP or otherwise—you must press ** instead of Flash. In order to use ** from Quicknet, you must first do the following:

1. From the **Internet Switchboard** menu, choose **Show Advanced Features,** if the advanced features are not already showing.

2. From the Internet Switchboard menu, choose **Properties.** The Internet Switchboard Properties dialog box opens.

3. Click the Calling tab.

4. Click **Audio.**

5. Uncheck **Allow Remote Volume Control.** By default Quicknet uses ** as a volume control hot key. Unchecking this box disables Quicknet's ** feature so your ** entries can be sent to Strata CS.

6. Click **OK** to return to the Properties dialog box.

7. Click **OK** to close the Properties dialog box.

You can now press ** while in a call—from either the telephone keypad or your PC's keyboard—and send a Flash command to Strata CS.

For complete information on call handling using Strata CS's telephone commands, see Chapter 4 of *Strata CS Client User Guide*.

Important note about Quicknet Hot Lines

It is recommended that you do not set up a Quicknet Gateway to Strata CS as a Hot Line. This Quicknet feature allows you to automatically send digits as soon as you pick up the receiver of the Quicknet phone, such as the digits necessary to log in to Strata CS. If the digits you dial are entered too quickly, the call will fail.

Calling a Quicknet card from Strata CS

To call a phone attached to a Quicknet card from Strata CS, do the following:

1. From the Strata CS Client, choose **File > New > Call.**

2. Choose the Number tab in the Place Call To dialog box.

3. From the **Call using** drop-down list, choose an Internet dialing service. Your system must have an Internet dialing service available for you to call a Quicknet card.

4. In the **Address** field, enter the IP address of the Quicknet card.

5. Click **OK** to place the call.

If a user's calls are forwarded to a Quicknet phone, you can dial the user's extension and your call will automatically be forwarded to the Quicknet phone. See the next section.

Forwarding your calls to a Quicknet phone

You can forward your calls to a Quicknet card, so that anyone who dials your extension is forwarded to your Quicknet phone. To do so:

1. From the Strata CS Client, choose **Tools > Call Forwarding.** The Call Forwarding dialog box opens.

2. Check **Forward Calls.**

3. From the **Call using** drop-down list, choose an Internet dialing service. Your system must have an Internet dialing service available for you to call a Quicknet card.

4. In the **Address** field, enter the IP address of the Quicknet card.

5. Click **OK.**

Using the Strata CS Client with a Quicknet card

While working remotely, you can access most Strata CS Client functions through your browser, using the Strata CS Web Client. See *Strata CS Client User Guide* for more information.

However, you cannot use the Strata CS Client to place or manage calls (transfer, conference, and so on) while you are using a Quicknet connection. Future Strata CS releases will enable you to do so.

For More Information

See Chapter 13, "Configuring Internet Telephony Support" in *Strata CS Administrator Manual* for more information.

Contacting Quicknet

For more information about setting up and using Quicknet cards and Internet Switchboard, contact Quicknet using the following information:

Quicknet Technologies
520 Townsend Street, Suite D
San Francisco, CA 94103 USA
Phone: 415-864-5225
Fax: 415-864-8388
E-mail: sales@quicknet.net
Web: www.quicknet.net

Using an E-tel FreeRide IP phone with Strata CS _____

E-tel's FreeRide phone connects to your PC and LAN and enables you to make or receive calls over the Internet or a private IP network. Using the FreeRide phone together with Strata CS's Internet Telephony support, you can set up a remote Strata CS station that is connected to your Strata CS Server over TCP/IP. You can pick up the FreeRide phone and dial Strata CS extensions, dial access codes (such as 9) to place outbound calls through the Strata CS Server, log in to your account, and do anything else you could do from a normal Strata CS station.

For instructions on connecting a FreeRide phone and installing Configuration Builder, please refer to your e-tel documentation.

To set up a FreeRide phone as a Strata CS station, you must make the following changes to the configuration of the FreeRide phone, using e-tel's Configuration Builder software.

Setting up a FreeRide phone to connect to Strata CS

The following instructions describe how to configure a remote e-tel FreeRide phone to act as a Strata CS station.

1. Start e-tel's Configuration Builder software.
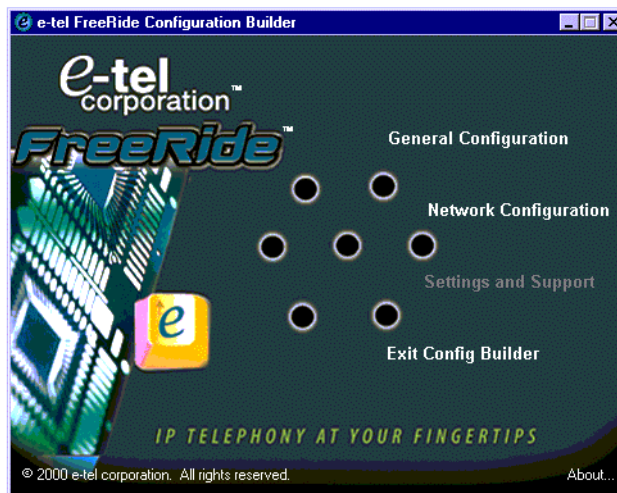
2. Click **Settings and Support**.
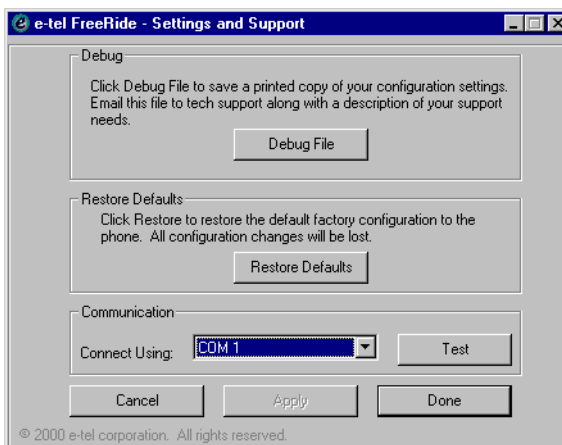
3. Make sure the **Connect Using** box matches the COM port into which the FreeRide phone is plugged. To check that your selection is correct, click **Test**. After a few seconds, a message box appears with the test results.

   If the COM port is correct, but the test has failed, check the following items:

   n   Make sure the phone has power. Check the LCD display screen for characters.

   n   Check that the serial cable is properly connected.

   n   Check the COM port settings from Control Panel to make sure that there are no problems with the port.

   n   Reboot the phone, wait 20 seconds, and then test communication again.

4. When the test is successful, click **Done**.

5. On the main Configuration Builder screen, click **Network Configuration**.
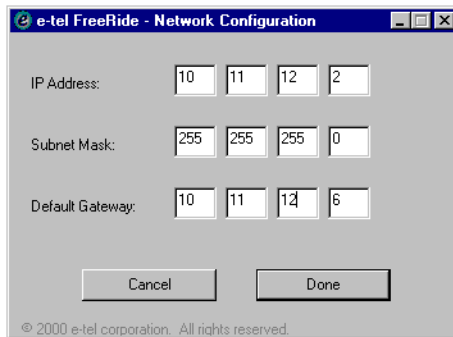
6. Enter the FreeRide phone's IP address and Subnet mask. For these numbers contact your system administer or consult your LAN's configuration.

7. In the **Default Gateway** boxes, enter the IP address of the gateway on your LAN through which IP traffic to external addresses passes.

8. Click **Done**. When prompted to reboot your phone, do so.

9. Start Configuration Builder again, and on the main screen, click **General Configuration**.
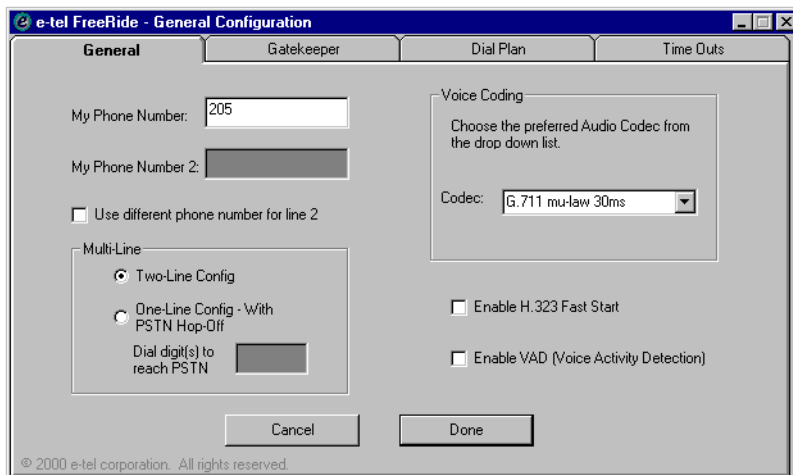
10. In **My Phone Number**, enter your Strata CS extension.

11. In **Codec**, select the codec that matches the codec used by the Strata CS Server's Internet span. To find that codec, use the Strata CS

Administrator as follows: go to the Trunks view, right-click the Internet span, choose **Open Span**, and click the **Codecs** tab. The codec used by the span is displayed on that tab.

12. If the Strata CS Server uses VAD, then check **Enable VAD**. You can check whether the Strata CS Server uses VAD by using the Strata CS Administrator as described in step 11. The VAD option is on the Codecs tab.

13. Click the Dial Plan tab.
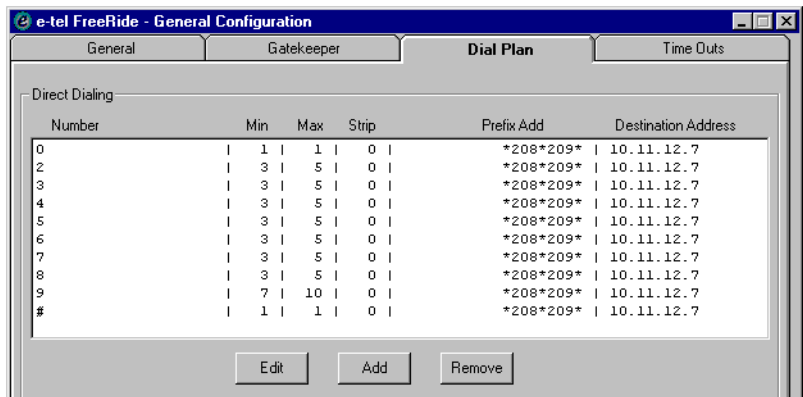
On the Dial plan tab you configure how the FreeRide phone responds to each initial digit you can press on it. To set up FreeRide as a Strata CS station, you must configure each digit to connect to the Strata CS Server's IP address and log in using your extension and password. In the example above, when you pick up the FreeRide phone and dial 333, the dial plan reads the initial digit, 3, and connects to the Destination Address 10.11.12.7 (the Strata CS Server), then logs in using extension 208 and password 209, then dials extension 333 on the Server. All this occurs behind the scenes; the result is that you are connected immediately to extension 333.

14. Click **Add** or **Edit** to configure each digit between 0 and 9, and the # character. For each digit, do the following:

- n Under **Destination Address**, enter the IP address of your Strata CS Server.

- n Under **Prefix Add**, enter your Strata CS extension and password separated by the star character (*) as follows: *<extension>*<password>*.

- n Specify a minimum and maximum length of the dial string as shown in the illustration above. For most digits, this will be the length of a Strata CS extension. For 0, specify a minimum and maximum length

of 1, since 0 is always dialed alone. For 9 (or whichever digit is your Server's access code for an outside line, specify a minimum length of 7 and a maximum of 10, to cover the length of a typical external phone number. If you will be dialing longer numbers, for instance to make international calls, set your maximum accordingly. For the # character, specify a minimum and maximum of 1.

15. Click the Time Outs tab.
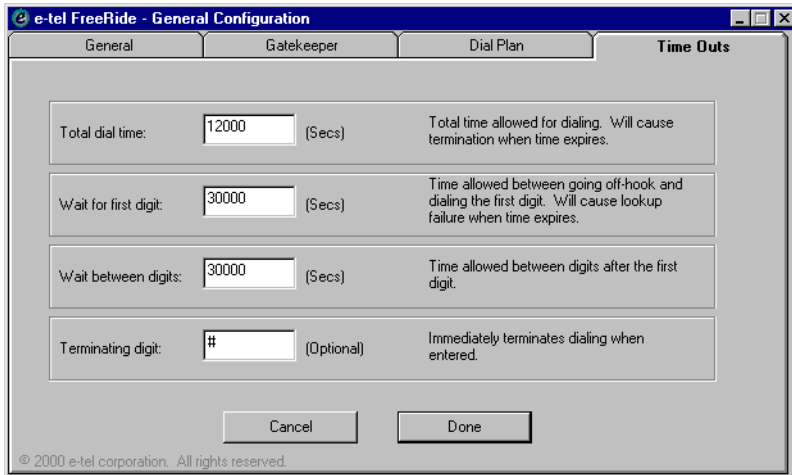
16. In **Terminating Digit**, delete the # character. By default, FreeRide phones use # as an optional user input to signal the end of a dial string and commence dialing. In order for you to press # to log into your Strata CS account, as you would do from a normal station, you must delete the use of # as FreeRide's Terminating Digit.

17. Click **Done**.

Transferring and handling calls with a FreeRide phone

When you are connected to Strata CS—either on a call you placed or on a call you received from another Strata CS user—you can use Strata CS's Telephone Commands to transfer, conference, or otherwise manipulate the call, just as you would from a normal Strata CS station. The exception is that ** replaces Flash. For example, to transfer a call you would normally press **Flash 1**. From a remote FreeRide phone, press **** 1**.

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E-tel contact information

For more information about FreeRide phones and other e-tel products, you can contact e-tel in the following ways:

E-tel corporation
207 Quaker Lane, Suite 200
West Warwick, RI 02893

Phone: 401.826.1520
Fax: 401.826.4477
Web: www.e-telcorp.com

APPENDIX E

USING PERFORMANCE COUNTERS

CHAPTER CONTENTS

The Strata CS performance counters_____

When the Strata CS Server is installed, the installer registers with Windows NT/2000 a set of Strata CS-specific performance counters for tracking statistics of the Server as it runs. The counters are organized into two groups: Strata CS Calls and Strata CS Devices. The counters can be monitored by system administration tools such as the performance monitoring utilities provided with Windows.

The Strata CS Calls group has the following counters:

- **Existing calls.** Total number of active calls currently being handled by Strata CS.

- **Total calls.** Total number of calls handled by the Server since it was last started.

The Strata CS 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.** Total number of voice resources available to Strata CS.

- **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 NT/2000_____

The performance monitoring utility that comes with Windows NT/2000 is the application most commonly used to view performance counter information. You can add Strata CS 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 program 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 Strata CS 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 Strata CS groups from the **Performance object** drop-down list.
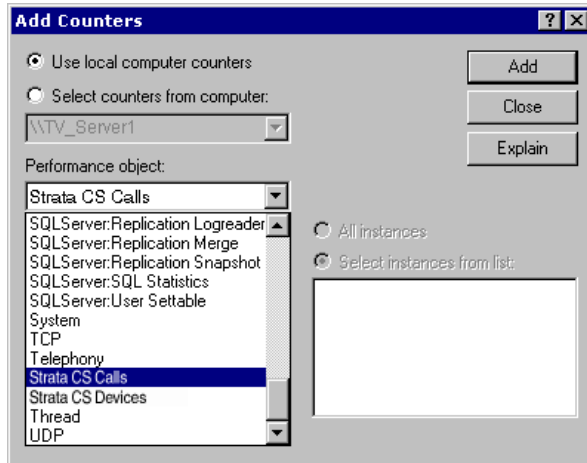
As shown in the next illustration, Strata CS performance counters for the group you have chosen are listed under **Select counters from list**. To add a counter, select it from the list and click **Add.** Repeat this process for each counter that you want to display. When you have selected all of the counters that you want to view, click **Close**.
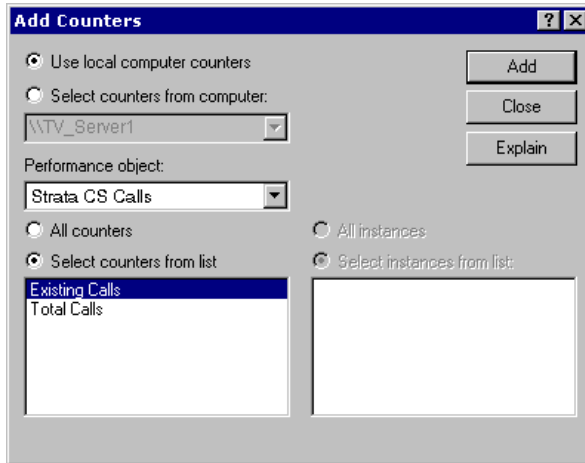
The counters you have selected are listed below the performance graph in the main System Monitor window.

STRATA CS ADMINISTRATOR MANUAL
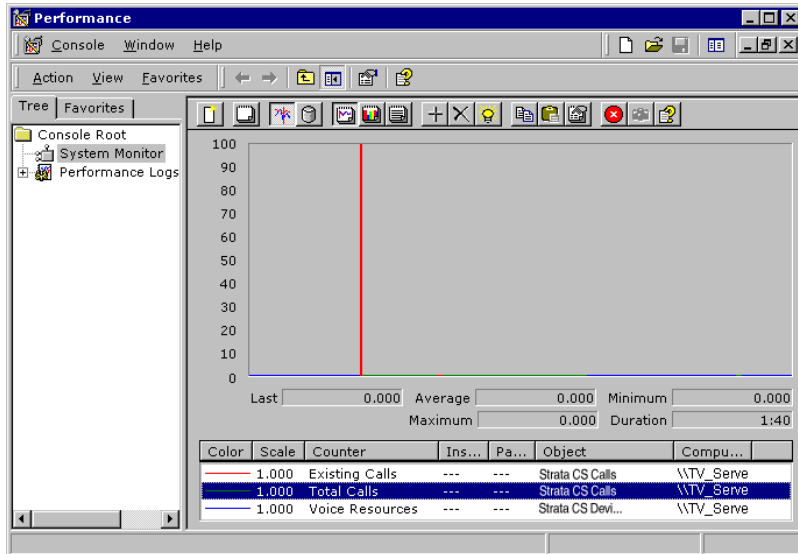
GLOSSARY

A and B Bits   Signaling information on a T1 line. T1 carriers set the A and B bits on or off to signal events and actions such as incoming call, line dropped, pick up, hang up, and wink.

See also: robbed-bit signaling (p. G-22), T-1 (p. G-24), wink (p. G-27)

A-Law   The voice amplitude compression/expansion standard that is used in Europe and in areas outside of North American influence.

Access code   When placing a call via a Strata CS phone, the preliminary number to dial to access a particular dialing service. For example, dial "7" to access a Centrex/PBX extension.

Account code   Number that a user enters to accompany a phone call, that identifies the call for billing or other purposes. Strata CS can be configured to prompt users to enter account codes whenever they place calls. Users can also enter account codes voluntarily before or during calls.

ACD agent   Member of An ACD workgroup.

See also: ACD workgroup (p. G-1), automatic call distribution (ACD) (p. G-3)

ACD workgroup   Automatic call distribution method in which a workgroup of agents answers calls to a single extension, and callers wait on hold until an agent is available. Examples of ACD workgroups include a sales or technical support department. An ACD workgroup uses an ACD workgroup user with a special routing list to answer calls and forward them to a workgroup that contains the agents. The ACD workgroup method is not as fully featured as the Strata CS call center method of call distribution.

See also: ACD agent (p. G-1), call center (p. G-4)

ACD workgroup user   Special type of user for use in creating an ACD workgroup.

See also: ACD workgroup (p. G-1), ACD agent (p. G-1)

Active   State in which a Strata CS greeting or routing list is used to handle incoming calls by default. Only one greeting and one routing list can be active at a time; the rest are in storage and are not used by incoming calls unless specified in a call rule.

See Also: Active greeting (p. G-1), Active routing list (p. G-1)

Active greeting   The greeting that callers hear when they reach voice mail. Specified callers can hear another greeting if you apply a call rule.

See also: greeting (p. G-14), call rule (p. G-19)

Active routing list   The routing list that incoming calls to an extension follow. Specified callers can follow another routing list if you apply a call rule.

See also: routing list (p. G-22), call rule (p. G-6)

Active Settings   Collection of Strata CS settings that together determine how incoming calls are handled. Active Settings include the active routing list, active greeting, Where I Am location, and ringer status. Active settings change with personal status and can also be changed directly. Changing active settings directly overrides personal status.

See Also: personal status (p. G-19), Where I Am (p. G-27), greeting (p. G-14), routing list (p. G-22)

ActiveX   Microsoft's specification for language-independent modules that can be imbedded in an application and accessed as if they were part of the application.

See also: ActiveX control (p. G-2)

ActiveX Control   Also called: control

The Windows-based software components that can be embedded in applications to add new functionality. Hundreds of controls are available to perform data access, imaging, host connectivity, multimedia, and so forth.

Administrator   Also called: Strata CS administrator, system administrator

The person who is primarily responsible for, or in charge of, the Strata CS system. The Strata CS administrator can set up users, trunks, auto attendants, and modify all other system settings.

See also: Administrator (Strata CS program) (p. G-2)

Administrator (Strata CS program)   Also called: Strata CS Administrator

The Windows-based software application that is used to configure, monitor, and manage the Strata CS system.

See also: administrator (p. G-2)

Administrator User   Any Strata CS user who has administrator permissions, which allow the user to log on to the Strata CS Administrator. Also indicates the Admin user that ships by default with Strata CS.

See also: Administrator (Strata CS program) (p. G-2), Operator user (p. G-18)

After Hours greeting   An audio greeting that a caller hears after business hours, usually accompanied by an invitation to leave a voice mail message.

See also: active greeting (p. G-1), grab-and-hold greeting (p. G-13), greeting (p. G-14)

Agent   User who answers calls to a call center or ACD workgroup.

See Also: call center (p. G-4), ACD workgroup (p. G-1)

Analog DID Direct Inward Dialing (DID) over special analog phone lines that do not ring when a call arrives. Typically requires a special box such as those available from Exacomm to connect to regular analog devices such as Dialogic boards.

See also: direct inward dial (DID) (p. G-11)

Analog Telephony A type of telephone transmission or switching in which the transmitted analog signal consists of sound traveling over lines as variations in an electrical current. The signal is in essentially the same format as the original spoken signal. Analog signals are very vulnerable to interference and noise on the line. Over long distances, analog transmissions can fade, distort, or pick up static. They are also limited to the bandwidth of amplifiers, analog-to-digital converters, and other network equipment.

See also: digital telephony (p. G-10)

Analog Trunk **Also called:** analog line

A regular (nondigital) phone line from the telephone company.

See also: analog telephony (p. G-3), digital trunk (p. G-10), trunk (p. G-26)

Application Programming Interface (API) **Also called:** API

A set of routines that an application program uses to access functions provided by another application, device, or service. For example, the Windows Telephony API (TAPI) provides a device-independent means to access devices such as phones, modems, and fax machines.

See also: Messaging Application Programming Interface (MAPI) (p. G-17), Telephony Application Programming Interface (TAPI) (p. G-25)

Archive A copy of information or data that is placed into long-term storage.

Audiotex Generic term for a subset of interactive voice response equipment and services. Audiotex typically presents telephony-based voice menus that offer selection options. For example, "Press 1 to hear directions, or 2 for our latest specials."

Auto attendant Strata CS item that automatically answers calls to a phone number, enables callers to dial extensions, and offers callers other options that you define, for example, "For Sales, press 1, For Support, press 2."

Automatic Call Distribution (ACD) **Also called:** call distribution

See: ACD workgroup (p. G-1), call center (p. G-4)

Automatic Number Identification (ANI) **Also called:** ANI

The identification of the originating phone number of an incoming call. For example, if a person calls an 800 number from 617 555 1212, the device that answers the call can retrieve the ANI digits (617 555 1212) and use that information to identify the caller.

See also: caller ID (p. G-6)

Backup A copy of information for redundancy, so that the information can be restored if it is lost, damaged or needed for other reasons.

Blind Transfer A type of call transfer in which a user transfers a call to another extension without first speaking to the recipient.

See also: external transfer (p. G-12), supervised transfer (p. G-24), transfer (p. G-25)

Blocked Number A phone number that cannot be accessed from any Strata CS Client because it has been blocked by the Strata CS system administrator.

See also: blocking (p. G-4)

Blocking **Also called:** call blocking

A Strata CS feature that enables the Strata CS system administrator to prevent Clients from calling a specific telephone number or certain types of telephone numbers. For example, access to long-distance numbers, international numbers, and group conversation lines can be blocked by the Strata CS system administrator.

See also: blocked number (p. G-4)

Browser A software application that is used to view HTML pages or Web sites. Strata CS supports Netscape Navigator and Microsoft Internet Explorer browsers.

Business Communications Platform (BCP) **Also called:** BCP

The Dialogic hardware used to connect analog telephone trunks and user extensions to the Strata CS Server. The BCP also provides telephony functions such as recording voice files, playing voice files, and processing touch-tone digits.

See also: touch-tone digit (p. G-25), trunk (p. G-26)

Call A connection between two parties (people or machines). Also the actions and operations required to establish and maintain a connection between two parties.

Call Accounting A system that stores and organizes call detail recording information, which can then be used to generate reports.

See also: call detail recording (CDR) (p. G-5)

Call Announcing **Also called:** call screening, screening a call

A Strata CS feature that verbally announces a caller before putting a call through, allowing the recipient to decide whether or not to accept the call. Strata CS announces the name of callers it recognizes, and can prompt unidentified callers to say their names before they hear the recipient's phone ring.

Call Center Any workgroup of agents (sales, support, and so forth) whose primary job is to place or answer calls. Inbound call centers use automatic call distribution systems and outbound call centers use predictive dialers. These automate the handling of large volumes of calls.

See also: automatic call distribution (ACD) (p. G-3), predictive dialer (p. G-20)

Call Center Agent **Also called:** agent

User, operator, or representative who participates in a queue. Typically a person handling sales or customer service calls.

See also: automatic call distribution (ACD) (p. G-3)

Call Center Agent License A license purchased from Toshiba for each Call Center Agent in a queue. In an ACD workgroup, a license purchased from Toshiba for each agent on whom you want to run reports using the Call Center Reporter. If ACD workgroup reports are made by trunk only, just one license is required.

Call Control **Also called:** call handling

All of the options that can be used to control a call including answering, holding, forwarding, transferring, and conferencing.

Call Detail Recording (CDR) **Also called:** call accounting, CDR

A feature that allows a telephone system to collect information and statistics about incoming and outgoing calls. Typically collected by a PBX, call detail recording information can be used to generate call usage reports that identify callers and recipients, duration of calls, and on what station and trunk calls occurred. Strata CS Reporter and Call Log provide CDR functionality.

See also: private branch exchange (PBX) (p. G-20)

Call forwarding **Also called:** "follow me" call forwarding, forwarding a call

A feature that, without answering an incoming call, routes it to an appropriate extension, phone number, voice mail system, and so forth.

Call Log A view in Strata CS that displays a record of all calls made on the system. Administrators can use the Call Log to analyze system usage patterns. Individual users can view their own Call Log information to review what calls they have answered, placed, or missed.

Call Monitor A view in the Strata CS Client that displays a user's current call activity, and from which a user manages calls.

Call Pickup A Strata CS feature that allows a Client to answer an incoming call that is ringing on another phone.

Call Progress The series of events and states that occur during a call. These can include dialing, ringing, busy signal, and so forth.

Call Pursuit **Also called:** "follow me" service

A Strata CS feature that tracks down a person at any of the phone numbers that are included on a routing list.

Call Recording A feature in the Strata CS Client that allows a user to record a telephone conversation.

Call Routing **Also called:** routing a call

The process of sending a call to a succession of destinations (extensions or external numbers), or several destinations simultaneously. Also describes a variety of methods for directing a call within an organization, for example, using an auto attendant, DID, or ACD workgroup.

See also: auto attendant (p. G-3), automatic call distribution (ACD) (p. G-3), direct inward dial (DID) (p. G-11)

Call Rules A Strata CS feature that allows users to automatically handle calls from specific callers using a unique routing list and greeting. For example, users can create a call rule for their spouses so that when the spouses call, they are routed first to a cell phone number, then their home number, and finally to a unique voice mail greeting tailored specifically for them.

See also: routing list (p. G-22)

Call Waiting A feature that alerts a user who is already on a call that another call is arriving. If call waiting is not enabled, incoming calls are automatically sent to voice mail.

Caller ID An optional service provided by Regional Bell Operating Companies (RBOC's) on analog lines that identifies a caller by providing the originating phone number and (if enabled) the caller's name.

See also: automatic number identification (ANI) (p. G-3), caller ID on call waiting (p. G-6), dialed number identification service (DNIS) (p. G-9), direct inward dial (DID) (p. G-11), Regional Bell Operating Company (RBOC) (p. G-21)

Caller ID on Call Waiting A feature available on some phones that provides identification of incoming callers when the recipient is already on a call.

See also: call waiting (p. G-6), caller ID (p. G-6)

Carrier Any company such as a RBOC, long-distance phone company, or CLEC that provides telecommunications circuits and services such as analog lines, T1 lines, local or long-distance service and caller ID, ANI, or DID/DNIS services.

See also: automatic number identification (ANI) (p. G-3), caller ID (p. G-6), common carrier (p. G-8), Competitive Local Exchange Carrier (CLEC) (p. G-8), dialed number identification service (DNIS) (p. G-9), direct inward dial (DID) (p. G-11), private carrier (p. G-20), Regional Bell Operating Company (RBOC) (p. G-21), T-1 (p. G-24)

Central Office (CO) **Also called:** CO

A telephone company facility where subscribers' phone lines are connected to switching equipment.

Centrex A phone company service that provides PBX functionality such as extensions, conferencing, call forwarding and transferring.

See also: call forwarding (p. G-5), conference call (p. G-8), private branch exchange (PBX) (p. G-20), transfer (p. G-25)

Channel Associated Signaling (CAS) **Also called:** CAS

A type of robbed-bit signaling usually used on E1 lines.

See also: E-1 (p. G-11), robbed-bit signaling (p. G-22)

Channel Service Unit (CSU) **Also called:** CSU

A device located on the customer's premises that allows hardware such as Dialogic digital network cards to connect to digital lines installed by a digital line provider, such as a T1 lines.

See also: digital line (p. G-10), digital service unit (DSU) (p. G-10), T-1 (p. G-24)

Circuit A physical connection of computer, telephony, and network equipment over which a telephonic conversation takes place.

CLASS Telephone An analog telephone that supports Bell Communications Resource (Bellcore) Custom Local Area Signaling Services (CLASS) features such as caller ID, caller ID on call waiting, and message waiting. For a list of phones that have these features, see *Strata CS Installation & Maintenance Manual*.

Client A computer that requests information from a Server computer over a network. The client runs an application that requests the information from the Server, and then displays it in a usable format.

See also: client/Server (p. G-7), Server (p. G-22)

Client (Strata CS Program) **Also called:** Strata CS Client (program)

A Strata CS software application employed by users on client computers. Used to make and receive calls, access voice mail, create contact lists, and so forth. Also used to assign customized routing lists and greetings for specific users.

See also: client (p. G-7),

Client License A license purchased from Toshiba for each Client logged on to the Strata CS Server. For example, with five Strata CS Client licenses you can have a maximum of five simultaneous Client applications logged on to the Server.

Client/Server A type of computing that splits processing between client computers and Server computers over a network. Client computers manage the user interface, make requests over the network to Server computers, and perform local processing of data. Server computers process client requests and return only the results needed. Before client/Server computing, clients were dumb terminals that displayed data that was processed by a mainframe or minicomputer.

See also: client (p. G-7), Server (p. G-22)

Codec The technology that compresses and decompresses voice signals for transmission over an IP network. When an IP link is established, both devices negotiate a mutually supported codec that will be used. Since one codec may be preferable to another

for bandwidth or voice quality reasons, codecs are listed in the Strata CS Administrator in order of preference. Strata CS supports the following codecs: G.729A, G.723.1, G.711, MSGSM, ETSI-GSM.

Common Carrier   The local phone company or long-distance company that provides telecommunications circuits and services to the general public. Common carriers are regulated and licensed by state or federal agencies.

See also: private carrier (p. G-20)

Competitive Local Exchange Carrier (CLEC)   **Also called:** CLEC

A company that competes with a LEC to provide local exchange service. CLECs are allowed to buy access to the LEC network for resale, or they can build their own network.

See also: Local Exchange Carrier (LEC) (p. G-16)

Computer Telephone Integration (CTI)   **Also called:** CTI

The integration of computers with standard telephone switches (PBX's) to allow more sophisticated switching. For example, a switch could supply a computer with a caller ID for an incoming call. The computer could then look up the caller ID in a database and provide the switch with appropriate routing information. Computer telephone integration is just one aspect of computer telephony.

See also: caller ID (p. G-6), computer telephony (CT) (p. G-8), private branch exchange (PBX) (p. G-20), switch (p. G-24)

Computer Telephony (CT)   **Also called:** CT

Computer technology applied to telephony. CT is an umbrella term for such diverse technologies as computer telephone integration (CTI), interactive voice response (IVR), IP telephony, PC PBXs, and fax-on-demand.

See also: computer telephone integration (CTI) (p. G-8), fax-on-demand (p. G-12), interactive voice response (IVR) (p. G-15), IP telephony (p. G-16), PC PBX (p. G-19)

Conference Call   A call that involves three or more callers.

Connection   A "continuity of circuit" that enables two or more parties or devices to communicate via a phone line.

Contact   A record that contains a person's name, address and/or phone number.

See also: global contact (p. G-13), personal contact (p. G-19)

Contact Manager   **Also called:** personal information manager (PIM), PIM

A software application that stores names, addresses, phone numbers, schedules, and other personal information for contacts. Popular contact management software includes: Strata CS Client, Act!, Goldmine, and Outlook.

See also: contact (p. G-8)

Contact Manager Assistant Strata CS program that automatically displays screen-pops with contact information when a contact from another contact manager calls. Requires the Strata CS TAPI Service Provider.

See Also: contact manager (p. G-8), TAPI Service Provider (p. G-24)

Contact Voice Title An audio recording of a Strata CS contact's name. When call screening is enabled, this recording announces incoming calls from the contact.

Default Phone Number For a contact that has many phone numbers, the phone number most frequently dialed to reach the contact. With speed dial, the default number is dialed automatically.

See also: speed dial (p. G-23)

Device Monitor An application on the Strata CS Server and a view in the Strata CS Administrator that displays the current status of all stations and trunks in the Strata CS system.

See also: Administrator (Strata CS program) (p. G-2), station (p. G-23), trunk (p. G-26)

Dial-by-name directory A Strata CS feature that gives callers the ability to search for a user by entering the first few letters of the user's first or last name using their telephone keypads.

Dial Plan The setting that defines how to dial local, long-distance, and international phone numbers in a particular country or area.

Dial Tone The sound that callers hear after picking up a telephone indicating that they can dial a number. Dial tone is provided by the local telephone company or PBX.

See also: private branch exchange (PBX) (p. G-20)

Dialed Number Identification Service (DNIS) **Also called:** DNIS

A feature of 800 and 900 telephone lines that provides the number that was dialed to the receiving telephony system. This enables the receiving system to accurately route the call, and allows for many 800 or 900 numbers to be routed through a single telephony system.

See also: T-1 (p. G-24)

Dialing Exception The rule defined by the Strata CS administrator that tells Strata CS when it should dial the area code of a phone number, and when it should dial the number as a local call. Strata CS invokes these rules whenever it dials a number automatically, such as when a user places a call to a contact or returns a call from a voice mail message.

Dialing service Mechanism for routing outbound calls to the trunk type appropriate for that call. For example, routing phone calls to a normal telephone service trunk, Internet calls to an Internet trunk, and Centrex calls to a Centrex trunk. By default Strata CS comes with one dialing service, Phone Number, that routes all calls to your telephone trunks. When placing a call, users select the dialing service to use by dialing the access code for that service before dialing the number, for example 9 to place an external call.

See also: Access code (p. G-1), routing service (p. G-22)

Dialogic Driver The specialized software provided by Dialogic to allow applications to run with Dialogic telephony boards.

Dialogic SCBus Device Also called: SCBus

The Dialogic board resource for handling a specific type of telephony data. Dialogic SCBus devices are a telephony handling resource for LSI devices to connect to analog phone lines; DTI devices for connecting to T1, ISDN and E1 phone lines; VOX devices for playing files, recording files, getting touch-tone digits. and detecting or generating tones; and FAX devices for sending and receiving faxes.

See also: analog line (p. G-3), E-1 (p. G-11), Integrated Services Digital Network (ISDN) (p. G-15), T-1 (p. G-24), touch-tone digit (p. G-25)

Digit Collection The Strata CS configuration for T1 lines that enables recognition of ANI or DID/DNIS information

See also: automatic number identification (ANI) (p. G-3), dialed number identification service (DNIS) (p. G-9), direct inward dial (DID) (p. G-11), T-1 (p. G-24)

Digital Service Unit (DSU) The digital counterpart of a CSU. Typically used for ISDN lines.

See also: channel service unit (CSU) (p. G-7)

Digital Signal Processor Also called: DSP

A specialized digital microprocessor that performs calculations on digitized signals that were originally analog. In telephony, DSPs are used for call progress monitoring, voice processing, and the compression of voice and video signals.

See also: telephony hardware (p. G-25)

Digital Span In Strata CS, 24 digital trunks that make up a T1 line, or 30 digital trunks that make up an E1 line.

See also: digital trunk (p. G-10), E-1 (p. G-11), T-1 (p. G-24)

Digital Telephony Telephone transmission or switching in which the original signal is sampled and converted to binary data before transmission. Digital telephony is much cleaner than analog telephony because the signal can be reproduced precisely, and does not fade or pick up distortion or static.

See also: analog telephony (p. G-3)

Digital Trunk Also called: digital line

A digital T1, E1, or ISDN phone line obtained from the telephone company.

See also: analog trunk (p. G-3), digital telephony (p. G-10), E-1 (p. G-11), T-1 (p. G-24), trunk (p. G-26)

Direct Inward Dial (DID) **Also called:** DID

A telephone company service that assigns up to 50 different numbers to a single analog line. When answering calls, DID information is used to determine which number the caller dialed and then to deliver the call to that number. Strata CS uses DID to assign each user a unique 7-digit phone number, so callers can dial it to reach a user directly without having to go through an auto attendant.

See also: analog line (p. G-3), auto attendant (p. G-3)

Directory A list of names, phone numbers, and other related information.

See also: voice mail (p. G-26)

Driver The low-level software that provides an API to hardware. The drivers for the Dialogic boards are required to run Strata CS.

See also: Dialogic driver (p. G-10)

Dual Tone Multi-Frequency (DTMF) **Also called:** DTMF

The touch-tone signaling format used by home or business touch-tone phones.

See also: Multi-Frequency (MF) (p. G-18)

E&M Signaling The most common supervisory signaling protocol used to interconnect PBXs or to connect a PBX to a T1 carrier.

See also: private branch exchange (PBX) (p. G-20), T-1 (p. G-24)

E-Mail Notification A Strata CS feature that sends e-mail messages to users when they receive new or urgent voice messages. E-mail notifications can include voice messages attached as .WAV files.

See also: WAV file (p. G-27)

E1 The European version of a T1 line. Contains 30 channels (while a T1 has 24). Encoded in A-law instead of μ-law format.

See also: T-1 (p. G-24)

Emergency Number The number to dial to access the emergency reporting service in a location, for example, is 911 in the United States.

ETSI-GSM The IP codec supported by Strata CS. Largely superseded by G.729A, it runs at 13.2 kbs.

Event Signaling How telephone actions (that is, pick up and hang up) and events (that is, incoming call and line dropped) are communicated on a robbed-bit T1 line by setting the A or B bits on or off. Defined in Strata CS Robbed Bit T1 Experimenter.

See also: A and B bits (p. G-1), robbed-bit signaling (p. G-22), T-1 (p. G-24)

Export To prepare or convert information from one application so it can be used in another. Strata CS allows users to export system prompts, Call Log, and contact information in comma-separated value (CSV) format for use in spreadsheet and database applications.

See also: import (p. G-14), private branch exchange (PBX) (p. G-20)

Extension A unique number where a Strata CS user may be reached. Auto attendants, queues, workgroups, and IVR Plug-ins can also have extensions.

External call Any call to or from a phone number outside Strata CS. Calls between extensions are not external calls.

See also: external direct call (p. G-12), internal call (p. G-15)

External Direct call Any call to a Strata CS user from an external number in which the caller did not dial an extension from an auto attendant. In other words, a call using a DID number or a trunk that is set up to connect directly to a user.

See also: auto attendant (p. G-3), direct inward dial (DID) (p. G-11), external call (p. G-12), internal call (p. G-15)

External Transfer A call transferred to a number outside the Strata CS phone system.

See also: blind transfer (p. G-4), supervised transfer (p. G-24), transfer (p. G-25)

Fast Busy Tone An audible tone that indicates all trunks are busy processing other calls.

See also: trunk (p. G-26)

Fax Server A server that is set up to send and receive faxes on behalf of networked clients.

See also: client (p. G-7), Server (p. G-22)

Fax-On-Demand Also called: fax-back

A combination of fax and voice processing technology that allows a person to call a computer and request that a catalog of available documents or one or more specific documents be faxed to them.

Feature Phone A business phone that has features such as a display, message waiting light, and specialized buttons for speed dial, transfer, conference, and so forth.

See also: speed dial (p. G-23)

Final action An action that Strata CS initiates when a caller reaches the final step of a routing list. Final actions include send to voice mail, hang up, transfer, and so forth.

See also: routing list (p. G-22)

Flash Quickly pressing and releasing the flash hook (hang up) button on a telephone handset cradle or pressing the flash button. Signals a PBX or Centrex system that special instructions will follow, such as placing a call on hold or transferring a call to another extension.

See also: Centrex (p. G-6), private branch exchange (PBX) (p. G-20)

Flash Hook The button in the telephone handset cradle that hangs up the phone and releases the phone to make another call. The flash hook can also be used to send a flash signal to a PBX or Centrex system. Some phones refer to this as the Link Button.

See also: Centrex (p. G-6), private branch exchange (PBX) (p. G-20)

G.711 The IP codec supported by Strata CS. It is supported by all H.323 gateways and terminals, but uses high bandwidth. It runs at 64 kbs.

G.723.1 The IP codec supported by Strata CS. The best codec for use with Intimating and other H.323 terminals, it runs at 5.3 kbs. or 6.3 kbs.

G.729A The IP codec supported by Strata CS. The best codec for Strata CS Server-to-Strata CS Server connections, providing a good balance between sound quality and bandwidth. It runs at 8.8 kbs.

Global Contact A contact record (name, address, and so forth) that is accessible to all Clients on a Strata CS Server.

See also: personal contact (p. G-19)

GlobalCall Dialogic's protocol-independent technology that allows an application to connect to a variety of T1 and E1 networks using various protocols (such as ISDN or DPNSS) without changing code.

See also: E-1 (p. G-11), Integrated Services Digital Network (ISDN) (p. G-15), T-1 (p. G-24)

Grab-and-Hold While on a call, if a second call arrives, a Strata CS user can "grab" the second call and put it on hold without interrupting the current call. While on hold, the second caller hears a customizable grab-and-hold greeting and is then presented with the option to continue to hold or leave a message. Using grab-and-hold, users can make sure they never miss an important call.

See also: grab-and-hold greeting (p. G-13)

Grab-and-Hold Greeting **Also called:** hold greeting

A customizable message that a caller hears when grabbed and put on hold. For example, a caller might hear, "I'm on the phone right now, but I know you're there and your call is very important to me." After playing the grab-and-hold greeting, Strata CS always prompts, "To leave a message, press 1, or stay on the line to continue holding."

See also: grab-and-hold (p. G-13)

Graphical User Interface   Also called: GUI

The visual interface used in all Windows applications, composed of windows, dialog boxes, menus, buttons, and tool bars that make the application easy to operate.

Greeting   The recorded message that a caller hears, typically when sent to voice mail.

See also: active greeting (p. G-1), after hours greeting (p. G-2), grab-and-hold greeting (p. G-13)
See also: call rule (p. G-19), voice mail (p. G-26)

H.323   The standard that defines how real-time voice and video are transmitted over IP networks.

Hands-free   Using telephony equipment without using the hands. Examples of hands-free equipment include headsets, speakerphones, and voice recognition equipment. In Strata CS, hands-free answering enables a user to keep a phone continually off-hook, and be alerted to incoming calls by a short beep before they are automatically connected.

Handset   The part of the phone that a person holds to speak and listen.

Hold   To temporarily leave a phone call without disconnecting it.

See also: silent hold (p. G-23)

Hold Audio   Also called: hold music

Hold prompts   Call center recordings that callers hear while they are waiting on hold for an agent. Hold prompts can play once, or repeatedly, or variably as determined by conditions you define.

See Also: call center (p. G-4), welcome prompt (p. G-27)

Hunt Group   A group of related trunks set up by the phone company. Incoming calls to the first trunk, or main number, search the group until they find an available trunk. A busy signal is returned only if every trunk in the group is busy.

See also: trunk (p. G-26)

Import   To incorporate information from another application. Strata CS can import contact names and related information created or stored in other popular contact managers.

See also: contact manager (p. G-8)

Inbound Call   A call coming from a source external to the Strata CS phone system.

See also: outbound call (p. G-19)

Inbound Trunk   A trunk on which a user can receive incoming calls.

See also: inbound call (p. G-14), outbound trunk (p. G-19)

Incoming Call A call that has arrived in the Strata CS system.

Integrated Services Digital Network (ISDN) **Also called:** ISDN

An international standard for voice, data, and signaling that was designed to overcome limitations in the PSTN by offering expanded bandwidth, digital circuits, a standard out-of-band signaling system, combined voice and data networks, and special services. ISDN is offered in two forms, Basic Rate Interface (BRI) and Primary Rate Interface (PRI).

See also: Primary Rate Interface (PRI) (p. G-20), public switched telephone network (PSTN) (p. G-20)

Interactive Voice Response (IVR) **Also called:** ASR, automatic speech recognition (ASR), IVR, speech recognition

An application that users can interact with using a remote touch-tone phone. An IVR program typically uses recorded or synthetic speech to provide information and present the user with options. The user selects an option by entering a number on the touch-tone phone. Some IVR programs can use voice recognition to interpret the user's spoken responses.

See also: touch-tone digit (p. G-25)

Interconnect Value-added reseller (VAR) that sells, installs, and maintains one or more brands of telephone systems, working with the phone company as needed. The word interconnect comes from the process of connecting phone systems with the phone company.

Internal Call A call within the Strata CS phone system, a call between two users.

See also: external call (p. G-12), external direct call (p. G-12)

International Callback A business service that can provide dramatic cost savings for international callers dialing U.S. phone numbers. Callback services take advantage of the fact that international calls to the U.S. are many times more expensive than international calls placed from the U.S. International callers dial a special number in the United States. The call is not answered, but the system dials the caller back immediately and places calls to the U.S. on their behalf using U.S. instead of international rates.

International Prefix The number dialed before the country code in order to make an international call.

Internet The worldwide computer network, made up of thousands of interconnected networks. A standard set of communications protocols makes it possible to route data between any two computers on the Internet.

See also: Internet Protocol (p. G-15), intranet (p. G-16)

Internet Protocol **Also called:** IP

The basic protocol for transmitting packets of data over the Internet. Data is parceled into small chunks, and each chunk is combined with a destination address and other information to create an IP packet. When a packet is transmitted over the Internet, the address information is used by IP routers, which act as way-stations on the packet's journey.

Packets are passed from router to router until they reach the specified destination address. Each packet travels individually: two packets sent consecutively can take entirely different routes, travel at different speeds, and show up in a different order than when they were sent. On the receiving end, higher-level protocols are used to reassemble the packets in the correct order and request re-transmission of any missing packets.

See also: Internet (p. G-15)

Internet Protocol Address **Also called:** Internet address, IP address

Unique identifier that allows data to be routed over the Internet to a specific location.

See also: Internet (p. G-15), Internet Protocol (p. G-15)

Internet Protocol Telephony **Also called:** Internet telephony, IP telephony, Voice Over IP

Transmission of voice over the Internet (or a local computer network) in real time.

See also: Internet (p. G-15), Internet Protocol (p. G-15)

Internet Service Provider **Also called:** ISP, service provider

A company that provides dial-up or dedicated access to the Internet, typically for a fee.

See also: Internet (p. G-15)

Intranet A "private Internet." An intranet runs on a private network and can only be used by people given access to that network, but it uses the same software and communications protocols as the Internet.

See also: Internet (p. G-15)

IP Gateway Feature that enables two Strata CS Servers to communicate as one over the Internet, so that users on one can directly dial extensions on the other.

IP Gateway user Special type of user used for creating an IP Gateway.

IVR Plug-In A custom application that extends the call-processing functions of Strata CS by sharing the Dialogic hardware with the Strata CS Server.

Key System Phone system in which callers select a specific inbound or outbound trunk by pressing a button on the phone before taking or placing a call.

Least Cost Routing System of routing a long-distance call by using the least expensive carrier for that call.

Local Exchange Carrier   **Also called:** ILEC, LEC

A local phone company. Also known as an Incumbent Local Exchange Carrier (ILEC), a LEC has some legacy connection to the old Bell system.

See also: Competitive Local Exchange Carrier (CLEC) (p. G-8)

Location Settings Settings in the Strata CS Administrator that specify the country and area code of the office in which Strata CS is installed, defined for each Dialing Service.

See also: Administrator (Strata CS program) (p. G-2)

Logging The act of saving event and status information to a log file or window. Logs can be used to troubleshoot problems or produce activity reports.

Long-distance Prefix The number dialed to make a call outside the local service area.

Loop Start The type of trunk leased from the local phone company that can be attached to a regular phone or used by other single-line installations and with key systems.

See also: key system (p. G-16), trunk (p. G-26)

Main menu A company's primary auto attendant, the one that first handles incoming calls to the company.

See Also: auto attendant (p. G-3)

Message Waiting A feature available on some phones that notifies the user when a new voice message is received by activating the message-waiting indicator on the phone. Message waiting can be indicated by a LED indicator on the phone that lights up or blinks, or by a special stutter dial tone when the station goes off-hook. Message waiting is available on certain analog telephones that support CLASS features. For a list of phones that have these features, see *Strata CS Installation & Maintenance Manual* Installation Guide. An Administrator setting tells Strata CS that a user has a phone that supports message-waiting. The user enables or disables the feature from the Client.

See also: off-hook (p. G-18), station (p. G-23), stutter dial tone (p. G-24)

Messaging Application Programming Interface **Also called:** MAPI

Microsoft's set of functions and Component Object Model (COM) interfaces that let Windows-based messaging clients (such as Microsoft Outlook) interact with message service providers. MAPI-conformant mail clients, address books, and contact managers from various manufacturers can be used together.

See also: application programming interface (API) (p. G-3), contact manager (p. G-8)

Microsoft Intimating An H.323-based conferencing and collaborative tool supported by Strata CS, designed to run over IP networks.

Microsoft Windows NT Server **Also called:** NT Server

The version of Microsoft Windows NT that is required by the Strata CS Server.

Modular Station Interface **Also called:** MSI

Dialogic board that allows applications to ring, switch, and conference a variety of local analog devices such as telephones, modems, and fax machines.

See also: telephony hardware (p. G-25)

MSGSM IP codec supported by Strata CS. Largely superseded by G.729A, it runs at 13.0 kbs.

Mu-Law The voice amplitude compression/expansion standard used in North America.

Multi-Frequency Also called: MF

A tone-signaling format used within telephone networks that uses different tones than DTMF.

See also: Dual Tone Multi-Frequency (DTMF) (p. G-11)

Network Interface Card Also called: NIC

Card that allows a computer to send and receive data on a computer network.

Notification E-mail or page sent to a user to inform them that they have received a new voice message.

See also: e-mail notification (p. G-11), pager notification (p. G-19)

Off-Hook When the telephone handset is lifted from its cradle, or when the phone is in use, the phone is considered "off-hook."

See also: on-hook (p. G-18)

On-Hook When the telephone handset is in its cradle, the phone is considered "on-hook."

See also: off-hook (p. G-18)

On call State in which a call center agent receives calls from a queue when signed in. The system administrator or call center supervisor determines whether an agent is on call for a given queue. When not on call, the agent does not receive calls from the queue even when signed in, although the agent can still view incoming queue calls in the Call Monitor.

See Also: call center (p. G-4), Call Monitor (p. G-5)

Operator Person that assists in the answering, routing, and completion of telephone calls. Computerized operators are called auto attendants.

See also: auto attendant (p. G-3)

Operator Intercept What happens when a caller dials a number that is not in service. The phone company plays a sequence of three distinctive tones followed by a message, for example, "The number you have dialed is not in service at this time. Please check the number and dial again."

Operator User Strata CS user with Operator permissions. In the Strata CS Client, an operator user can view real-time status updates of users who are already on calls.

See also: Administrator user (p. G-2)

Outbound Call Any call made from Strata CS to an external number.

See also: inbound call (p. G-14)

Outbound Trunk A trunk on which a user can make outbound calls.

See also: inbound trunk (p. G-14), outbound call (p. G-19)

Overflow agents Backup call center agents that receive calls only if all primary agents are unavailable.

Overflow skill Special skill used to distinguish overflow agents from primary agents in a call center.

Pager Notification The process that pages users whenever they receive new or urgent voice messages.

Parking a Call **Also called:** call park

A feature similar to putting a call on hold. When a call is parked, the system returns the number on which the call is parked. After a call is parked, the call can be picked up from any phone by dialing the feature code followed by the number.

Party Line Telephone line shared by several subscribers.

PC PBX **Also called:** unPBX

A PBX that runs on a PC.

See also: private branch exchange (PBX) (p. G-20)

Permissions Series of settings applied to users that control their access to individual Strata CS features. Agents in a call center queue also have permissions that control their access to call center features.

See Also: call center (p. G-4), roles (p. G-22)

Personal Contact A contact that appears only in a Strata CS user's own Client, and no one else's.

See also: global contact (p. G-13)

Personal Information Number **Also called:** contact PIN, PIN

A number that a Strata CS user can assign to a contact. The PIN can uniquely identify a contact's calls. When the contact dials the user's extension + PIN, Strata CS identifies the contact by matching the PIN to the contact.

Personal status Strata CS feature that enables users to indicate their location and availability to other users, and handle incoming calls accordingly.

Plain Old Telephone Service **Also called:** POTS

The basic telephone service that allows a person to place and take calls.

Plexar A Centrex service that is offered in Texas.

See also: Centrex (p. G-6)

POP3 Version 3 of the Post Office Protocol, an Internet protocol used for retrieving e-mail.

See also: Internet (p. G-15)

Predictive Dialer An automated dialing system that allows a small number of agents to process an enormous amount of outbound calls by automatically dialing numbers from a database until someone picks up. It then connects the call immediately to an available agent who will handle it.

See also: call center (p. G-4)

Primary Interexchange Carrier (PIC) Code In the U.S., a dialing prefix to access a particular carrier, for example, 1010321.

Primary Rate Interface **Also called:** PRI

One of two interfaces in ISDN (the other is Basic Rate Interface). PRI is the ISDN protocol running on a T1 line. Also known as 23B+D, PRI consists of 23 bearer B-channels at 1.544mbps and one data D-channel at 2.048mbps. The B-channels are used for voice, video conferencing, fax, and so forth. The D-channel carries control and signaling information about incoming and outgoing calls.

See also: Integrated Services Digital Network (ISDN) (p. G-15)

Private Branch Exchange **Also called:** PABX, PBX

A privately owned version of the phone company's central switching office that processes and directs phone calls. A PBX is located on the premises of a telephone company customer.

See also: PC PBX (p. G-19)

Private Carrier Private company that provides telecommunications circuits and services. A private carrier is not regulated and can refuse to provide service.

See also: common carrier (p. G-8)

PTT Post Telegraph and Telephone administration that provides telephone and telecommunications service in most countries (except the United States). PTTs are usually controlled by the government.

Public Switched Telephone Network **Also called:** PSTN

The world wide phone network, including all carriers, switches, CO's, and local and long-distance lines.

See also: central office (CO) (p. G-6), common carrier (p. G-8), switch (p. G-24)

Queue   Strata CS call center element that automatically answers incoming calls to an extension, puts the callers on hold until agents becomes available, and then forwards the calls to those agents. A caller on hold is said to be "in the queue."

See Also: call center (p. G-4)

Queue Monitor   Client view that is only available to call center agents who have permission to see it. Displays real-time statistics for call center queues.

See Also: call center (p. G-4)

Recovery Time   Amount of time after an ACD agent completes a call in which no new calls are received. Recovery time provides an agent time to perform any work required to complete the previous call before taking the next call.

See also: automatic call distribution (ACD) (p. G-3)

Redundant Array of Inexpensive Disks   **Also called:** RAID

Protocol for combining several standard disk drives into an integrated, fault-tolerant unit. If one of the disks in the array fails, its contents can be reconstructed from data stored on the other disks.

Regional Bell Operating Company   **Also called:** RBOC

One of the Bell operating companies set up after their divestiture from AT&T in 1984.

Remote Access Server   **Also called:** RAS

Computer and software that allows a person to connect to a network from a remote location by dialing a number.

See also: Internet (p. G-15)

Remote Office/Branch Office   **Also called:** ROBO

The Remote Office/Branch Office telecom market.

See also: Small Office/Home Office (SOHO) (p. G-23)

Reorder Tone   The "Fast busy" dial tone indicating that a call cannot be completed, for example, if all switching paths or trunks are busy.

Ring Pattern   The pattern of sounds a telephone makes to indicate a call is arriving. Ring patterns can be customized so that users can differentiate between internal and external calls or identify their own phones from others in the immediate area.

See also: splash ring pattern (p. G-23)

Ringback Tone   The sound a caller hears when the called party's phone is ringing.

Robbed Bit T1 Experimenter The Strata CS utility that lets the administrator define Robbed Bit T1 call events, test them, and save the correct definitions for Strata CS to use. Using the Robbed Bit T1 Experimenter after installing the Dialogic hardware and software—but before installing the Strata CS Server—can ensure that the T1 trunks are functioning correctly before continuing with the installation.

Robbed-Bit Signaling Signaling mechanism used with T1 lines that replaces the least significant bits in specific locations in the T1 transmission with signaling information, for example, whether the caller's line is on-hook or off-hook. The specific locations that contain signaling information are called A and B bits. T1 suppliers use different patterns of A-bit and B-bit values to signal various events.

See also: A and B bits (p. G-1), Channel Associated Signaling (CAS) (p. G-7), T-1 (p. G-24)

Role Permission set that can be applied broadly to many users at once. By default Strata CS includes two roles: Administrators and Users. You can create new roles to represent different permission sets, or modify the Users role.

See Also: Permissions (p. G-19)

Round Robin Call Distribution A method of evenly distributing calls to a queue or an ACD workgroup. Round robin call distribution sends each consecutive call to the next agent on the list. If that agent is busy, the call goes to the next agent, and so on.

See also: ACD agent (p. G-1), ACD workgroup (p. G-1), simultaneous call distribution (p. G-23), top-down call distribution (p. G-25)

Routing List A list of extensions or external numbers that Strata CS will try in order to connect incoming calls to the user. Each user has a default routing list and can also have call rules that specify unique routing lists for individual contacts. Routing lists typically try a user's "Where I Am" location first, then a list of optional locations, and if unsuccessful, the final action.

See also: active routing list (p. G-1), final action (p. G-12), call rule (p. G-19), Where I Am (p. G-27)

Routing service Type of dialing service that routes outbound calls to other dialing services depending on the number dialed.

See Also: dialing service (p. G-9)

Screen Pop A small window that automatically opens on the computer screen when a call arrives and shows information about the caller.

Server A computer that processes client requests and returns information to a client computer over a network. The client computer runs an application that requests the information from the Server, and then displays the results in usable format.

See also: client (p. G-7), client/Server (p. G-7)

Server License A license purchased from Toshiba for each Strata CS Server.

Shift In Strata CS, a period that divides up call center statistics for easy comparative viewing.

See Also: call center (p. G-4)

Silent Hold In Strata CS, when the user puts a caller on silent hold, the repeated playing of Strata CS's call-handling prompts ("Press 1 to transfer," and so forth) are suppressed. From the caller's point of view, silent hold is identical to regular hold, as the caller still hears call-handling prompts and hold music, if it is used.

See also: hold (p. G-14)

Simultaneous ring The process in which a single call is sent simultaneously to all members of a workgroup. All phones ring simultaneously, and the first user who answers is connected to the caller. Simultaneous ring is one method of distribution for call centers and ACD workgroups.

See also: ACD workgroup (p. G-1), call center (p. G-4), automatic call distribution (ACD) (p. G-3), round robin call distribution (p. G-22), top-down call distribution (p. G-25)

Small Office/Home Office   **Also called:** SOHO

The Small Office/Home Office telecom market. Commonly comprised of consultants, small businesses, and telecommuters.

See also: Remote Office/Branch Office (ROBO) (p. G-21)

Speed Dial A shortcut to a frequently dialed phone number.

Splash Ring Pattern A ring pattern in which 2 or 3 short rings are grouped together, followed by a pause.

See also: ring pattern (p. G-21)

SQL Server A Microsoft database Server application. The Strata CS database is stored in SQL Server and is accessible by the Strata CS Server and its clients.

Station Any phone connected to Strata CS.

See also: station ID (p. G-23)

Station ID The number that uniquely identifies a telephone connected to Strata CS. Multiple extensions can share a single station ID, which allows different users to receive calls at the same phone.

See also: extension (p. G-12), station (p. G-23)

Station License A license purchased from Toshiba for each Strata CS phone (station).

See also: station (p. G-23)

Stutter Dial Tone A feature available on some phones that notifies a user of new voice messages by means of a special dial tone. When a message has been received, the user hears a stutter dial tone when the station goes off-hook. This feature is available on specific analog telephones that support CLASS features. For a list of phones that have this feature, see *Strata CS Installation & Maintenance Manual*. An Administrator setting tells Strata CS that a user has a phone that supports stutter dial tone message waiting. Users enable or disable the feature from the Client.

See also: dial tone (p. G-9), message waiting (p. G-17)

Supervised Transfer A method of call transfer in which the user speaks to the target party ("I have Jim on the line for you.") before transferring the call. If the target party informs the user that the call cannot be accepted, the user can return to the call or transfer it to another party.

See also: blind transfer (p. G-4), external transfer (p. G-12), transfer (p. G-25)

Switch A PBX, CO, or any mechanical, electric, or electronic device that manages communications circuits.

See also: central office (CO) (p. G-6), private branch exchange (PBX) (p. G-20)

System Prompt An audio prompt that Strata CS plays to callers to offer instructions. For example, "To log in, press pound."

T1 A digital phone line that carries 24 voice channels.

TAPI Service Provider Also called: TSP

A Strata CS component that lets any TAPI-compatible application place outbound calls or receive notification of inbound calls. Strata CS has been tested with several TAPI-compliant contact managers including Act!, GoldMine, and Microsoft Outlook to place calls to contacts and receive screen-pop notification of incoming calls.

See also: contact manager (p. G-8), Telephony Application Programming Interface (TAPI) (p. G-25)

Telephone Commands The commands that control Strata CS's behavior through any touch-tone phone. For example, pressing Flash 1 plus an extension on a station during a call will transfer the caller to the dialed extension. A list of available commands is printed on a wallet card and also verbally presented through the system prompts.

See also: flash (p. G-13), system prompt (p. G-24)

Telephony The science of transmitting and managing voice, fax, and other data over the PSTN.

See also: public switched telephone network (PSTN) (p. G-20)

Telephony Application Programming Interface   **Also called:** TAPI

The Microsoft API for computer-telephone integration. TAPI presents a common API for applications that is hardware- and telephone network-independent. Part of TAPI is the service provider interface (SPI), the component that all hardware vendors must implement to be TAPI-compliant.

See also: application programming interface (API) (p. G-3)

Telephony Hardware   Any voice-processing hardware, such as voice and fax modems, voice boards, or digital signal processor (DSP) boards. Telephony hardware that connects to the PSTN or local stations and can detect call progress signals, generate and play tones, play and record voice files, and so forth.

See also: Business Communications Platform (BCP) (p. G-4), call progress (p. G-5), digital signal processor (DSP) (p. G-10), Modular Station Interface (MSI) (p. G-17), public switched telephone network (PSTN) (p. G-20)

Strata CS Call Center Reporter   Strata CS component that produces Microsoft Excel reports on call center and ACD workgroup activity. For more information, see *Strata CS Installation & Maintenance Manual*.

Strata CS Server   The computer on which the Strata CS Server software and database reside.

See also: Server (p. G-22)

Terminal Server   A software application that enables a system administrator to monitor, troubleshoot, and control a remote computer system without being on-site.

Tip and Ring   An electrical circuit that carries a voice or data signal, derived from the tip wire and ring wire of the old-fashioned switchboard operator's plug.

Toll Bypass   Avoiding the long-distance carrier network (and associated tolls) when connecting to another subscriber outside of the local area, by means of the Internet, a private network, tie lines, and so forth.

Top-Down Call Distribution   Method of distributing calls to the best agents in a queue or an ACD workgroup, by sending each call to the first agent on the list. If that agent is busy, the call goes to the next agent, and so on.

See also: ACD agent (p. G-1), ACD workgroup (p. G-1), round robin call distribution (p. G-22), simultaneous call distribution (p. G-23)

Touch-Tone Digit   A DTMF tone generated by pressing a button on a touch-tone phone.

See also: Dual Tone Multi-Frequency (DTMF) (p. G-11)

Transfer   To redirect a caller to another extension or external number on a PBX or other switch.

See also: blind transfer (p. G-4), external transfer (p. G-12), private branch exchange (PBX) (p. G-20), supervised transfer (p. G-24), switch (p. G-24)

Trunk An analog phone line or a single channel of a digital line. Also, the Strata CS representation of that line or channel.

See also: analog trunk (p. G-3), digital trunk (p. G-10)

Trunk License A license purchased from Toshiba for each trunk connected to Strata CS.

Unified Messaging **Also called:** integrated messaging

The ability to access all messaging (for example, voice mail, e-mail, and fax) in one place, such as the phone or an e-mail client such as Microsoft Outlook.

User A person using a software product. In Strata CS, a person with a Strata CS phone who is added as a user in the Strata CS Administrator.

See also: Administrator (Strata CS program) (p. G-2)

Validation Process by which Strata CS checks a number that has been entered, and does not proceed unless the number matches the correct criteria. Validation can be set up for account codes entered by users, and custom data entered by callers to a call center.

See Also: account code (p. G-1), call center (p. G-4)

Voice File File containing an audio sample that has been digitized into a format such as VOX or WAV.

See also: VOX file (p. G-26), WAV file (p. G-27)

Voice Mail The audio recordings left by callers and stored in an electronic mailbox.

See also: voice mailbox (p. G-26)

Voice Mailbox The folder or location in which a voice mail messages are stored. Voice mailboxes typically have a limited amount of space for messages.

See also: voice mail (p. G-26)

Voice Title The recorded name of a Strata CS user or contact. Voice titles are played whenever a caller searches the Strata CS dial-by-name directory and to announce a call from another user. Users can create voice titles for their contacts and set Strata CS to play them when the contacts call.

VOX File One of two major voice file formats used in telephony. VOX files are highly compressed and are designed for telephone lines where the frequency range is between 6 and 8KHz.

See also: WAV file (p. G-27)

Watchdog Mode The Dialogic safety mode that monitors the system for a power failure or Strata CS Server computer failure. When either is detected, the first four trunks on the system are routed directly to the first four Strata CS stations.

WAV File One of two major voice file formats used in telephony. WAV files are used primarily for multimedia devices. Because their frequency range is between 8 and 44 KHz, they require considerably more disk space than VOX files.

See also: VOX file (p. G-26)

Welcome prompt Call center recording that callers hear once when they first reach the queue, for example, "Welcome to the Technical Support Department. Please hold and an agent will be with you shortly."

See Also: call center (p. G-4), queue (p. G-21)

Where I Am A user's current telephone location, usually the station at the user's desk or a number to which calls have been forwarded.

See Also: call forwarding (p. G-5), active settings (p. G-2)

Wink Brief period of going off-hook and then back on-hook (the opposite of a flash). A wink can be sent to the CO to request special services or signal readiness to receive DID digits, ANI digits, or an incoming call. Also indicates that a person is about to dial a number.

See also: automatic number identification (ANI) (p. G-3), central office (CO) (p. G-6), direct inward dial (DID) (p. G-11), flash (p. G-13), off-hook (p. G-18), on-hook (p. G-18)

Workgroup A user-defined collection of users, contacts, or both. Users can share a voice mailbox with groups, broadcast voice mail to workgroups, or create a call rule to handle calls from anyone in a workgroup.

Wrap-up time In a call center or ACD workgroup, the time an agent has after finishing a call to process any work relating to that call, before another call arrives.

See Also: call center (p. G-4), ACD workgroup (p. G-1)

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