Cisco Systems

Service Information

Cisco Desktop Product Suite 4.5.5 (ICD)

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Introduction

1

Cisco Desktop Product Suite Applications

Cisco Desktop Product Suite v4.5.5 includes the following applications:

- Desktop Administrator
- Supervisor Desktop
- Agent Desktop
- IP Phone Agent (an IP phone service)
- Call/Chat
- Enterprise Data
- License Administrator
- Directory Services Sync server
- Call/Chat server
- Enterprise server
- Voice-Over IP Monitor server
- Recording and Statistics server
- IP Phone Agent server

General Availability Release Version

The general availability version number is 4.5.5.

The Agent Desktop and Desktop Administrator “About” dialog boxes (choose menu option **Help > About**) contain version information as a series of four numbers separated by periods (for example, **4.5.5.20**). From left to right, these represent the:

- Major feature version number
- Minor feature version number
- Service level (maintenance) number
- Build number

If you are unable to access the About dialog box, follow these steps:

1. Open Windows Explorer.
2. Locate either of these executable files:
   - fastcall.exe
   - administrator.exe
3. Right-click the file.

   The shortcut menu appears.
4. Select **Properties**.

   The Properties dialog box appears.
5. Click the **Version** tab.

About This Document

Intended Audience

This document is written for personnel who service and troubleshoot elements of the Cisco Desktop Product Suite.

Conventions

In this document, terminology and typographic conventions are as follows.

Terminology

- The word *enter* means to press the sequence of keys specified. For example, an instruction to enter the letter “y” is shown as

  Enter **y** to continue.

- The word *click* means to use your mouse to execute the action represented by a button. For example, an instruction to click the Next button is shown as

  Click **Next**.

- The words *check* and *uncheck* mean to activate or deactivate a check box. For example, an instruction to deactivate the Dial Number as Entered check box is shown as

  Uncheck the **Dial Number as Entered** check box.

- The word *choose* means to pick an option from a menu or submenu. For example, an instruction to choose the Desktop option from a series of submenus is shown as

  Choose **Start > Programs > Cisco > Desktop**.

- The word *select* means to mark text or other elements to be copied or cut. For example, an instruction to select text is shown as

  Select an entry from the list to edit.

- Simultaneous keystrokes (as when you hold down the first key, then press the second and third keys) are represented as a series of bolded key names joined by dashes. For example, an instruction to press and hold the Alt key while pressing the letter “d” is shown as

  Press **Alt–d**

- Function keys are represented by the letter F followed by the function key number. For example, an instruction to press function key 3 is shown as

  Press **F3**.

Typography

- Commands and text you type, the names of windows, buttons, menus, and menu options appear in bold type:

  From the **Options** menu, choose **Local Admin**.

- Variables you must enter appear in italics:

  http://*servername*/appadmin

- Terms that are being defined appear in italics:

  Actions are commands that perform a task.

- Menu paths appear in bold type with menu options separated by right angle brackets:

  Choose **Options > Status Bar**.

Capacity and Performance Guidelines

2

Product Limitations

Desktop Administrator

Maximum Number of Rules for an Event

There is no physical limitation on the number of rules that can be applied to an event. However, long lists of complex rules take longer to process than shorter lists.

Rule and Action Names

Rule and action names are limited to 64 characters.

Number of Rule List Items

The number of items in a rules list is limited to 64K. For example, if each data item in a list is 4 characters, the number of items in the list should not exceed 16K.

Maximum Number of Actions on a Rule

There is no physical limitation on the number of actions that can be applied to a rule. However, long lists of actions or actions that take a long time to run will affect performance. If an action takes a long time to run, Desktop Agent may not respond quickly to telephony events.

Macro Recorder

Windows disables the macro recorder if any of the following keystrokes or mouse actions are performed:

- Clicking Start
- Pressing Ctrl-Break, Ctrl-Esc, and Ctrl-Alt-Delete

The macro recorder does not record mouse movements.

Desktop Administrator Work Flow Group Limits

The number of work flow groups allowed in Desktop Administrator is limited by the number of directories allowed by the operating system. Although it is possible to create a large number of work flow groups, the maximum recommended number of work flow groups is ten.

Enterprise Data

Desktop Administrator supports 256 data fields and 16 data layouts with 16 data fields per layout. An enterprise data field entry can be up to 255 characters long.

Supervisor Desktop

Sound Cards

With some older sound cards, you will not be able to run other audio-capable applications, such as Windows Media Player, while running Supervisor Desktop. This is because the card and/or drivers do not support simultaneous use of the sound card. Most new sound cards do not have this limitation.

Interaction Between Desktop Agents and IP Phone Agents

Cisco Desktop assumes that all agents working together are either all desktop agents or all IP phone agents. If there are both types of agents, calls between those agents can have an undesired effect on what a supervisor sees in Supervisor Desktop.

For example, if a desktop agent receives a call and performs a supervised transfer to an IP phone agent, the IP phone agent appears in Supervisor Desktop (and sometimes Agent Desktop) as on the phone but not having an inbound call.

The undesired effects usually take the form of missing or extra information, such as missing or additional inbound or outbound calls, in the left pane navigation tree in Supervisor Desktop. Call control is usually not affected unless the supervisor attempts to do something with one of the phantom calls.

Agent Desktop

Call/Chat

The chat window can store up to 50 conference messages, depending on the size of the messages.

Phone Book

The agent may have one personal phone book. The number of global phone books is limited only by the PC's memory.

Recent Call List

The Recent Call List may contain a maximum of 100 entries. When the maximum is reached, the oldest entry is deleted.

Servers

All servers run on machines using one of these operating systems:

- Windows 2000 Professional, Service Pack 2 or greater
- Windows 2000 Server, Service Pack 2 or greater

NOTE: If any server is stopped and restarted, Agent Desktop and Supervisor Desktop users must restart their applications or they may experience loss of functionality.

Call/Chat Server

One instance of the Call/Chat server is allowed per logical contact center. (A logical contact center (LCC) is the root of the Directory Services tree where Cisco Desktop applications query for information. It is used to segregate logically separate contact centers within the Directory Services server.)

The client library starts its own CORBA server on each agent and supervisor PC, so that it may receive asynchronous messages from the Call/Chat server.

There is no limit on the number of agents or supervisors supported by the server, or on the size of the text messages transmitted. Scrolling marquee messages are, however, limited to 200 characters.

Directory Services Sync Server

There can be one instance of the Directory Services Sync server per logical contact center. Synchronization takes place every 10 minutes by default. This time period can be altered in the configuration file—the minimum allowable synchronization period is one minute.

Enterprise Server

There can be one instance of the Enterprise server per logical contact center.

IP Phone Agent Server

There can be one instance of the IP Phone Agent server per logical contact center.

Recording and Statistics Server

There can be one instance of the Recording and Statistics server per logical contact center.

Recorded Files

Recorded files are stored in .wav format on a shared drive on a file server (the same location as the configuration and license files). They are deleted on a rolling 7-day basis unless marked as saved, in which case they are saved for 30 days.

The audio files take approximately 1 Mb of hard disk space per minute of recording.

Audio files are named according to the following convention:

recording_date_YYYYMMDD recording_time_HHMMSS type_device_recorded_N user_extension_NNNN.wav

For instance: 20011008171005121 01.wav where

- 20011008 = Oct. 8, 2001
- 171005 = 17:00 hours, 10 minutes, 5 seconds
- 1 = agent (2 = supervisor)
- 2101 = agent's extension

Recorded File Location

You can change the location to which recording files are saved by making a change in the registry.

▶ **To change the location of recording files:**

1. On the Recording and Statistics server, open the registry editor.
2. Navigate to the following registry key:

   HKEY_LOCAL_MACHINE\SOFTWARE\Spanlink\Fastcall Rascal Server\Setup
3. Add a new registry key named **Audio Directory**.

4. Modify the value to be a UNC path or local path to the location where you want the recordings to be saved. This is the fully-qualified path.

   NOTE: If the path is a local path, supervisors may not be able to listen to recordings.

5. Close the registry editor, and then restart the Recording and Statistics server.

Disk Storage Requirements

The amount of recording in a given contact center depends on the number of agents and how the contact center uses the recording feature. If the contact center personnel record only malicious calls or the occasional sensitive call, then the amount of recording will likely be limited. If the contact center is an outsource contact center recording conversations for its client to review, the number of recordings could be more substantial.

The Recording and Statistics server limits the time that a recording can exist to provide some protection against recordings consuming too much disk space. If a supervisor does not save the recording via the Supervisor Log Viewer, then the Recording and Statistics server automatically deletes the recording on the seventh day. If the supervisor does save the recording, then the Recording and Statistics server automatically deletes the recording after 30 days.

Recording Hard Drive Storage Limit

The Recording and Statistics server checks the hard drive where recordings are stored on receiving each recording request. If it detects that the space available is below the threshold (default threshold is 250 MB free space) it does not allow any more recordings.

Concurrent Recording Limit

The Recording and Statistics server checks the maximum number of concurrent recordings. If it reaches the limit of 30, it will not allow any more recordings to be made.

Voice-Over IP Monitor Server

There can be multiple Voice-Over IP (VoIP) Monitor servers per logical contact center. When there is more than one VoIP Monitor server, IP phones can be assigned to a specific server which will handle requests for monitoring and recording for that phone.

> **NOTE:** If you install Cisco Security Agent (CSA), reboot the computer when prompted. If you do not reboot the computer at this time, CPU usage may increase to 100% of CPU time. If the problem does occur, manually reboot the computer.

Capacity

The following chart shows the average CPU usage when a certain number of calls are being handled, and of those calls, a certain number are being monitored by supervisors.

On a 1.2 GHz Windows 2000 server with 256 Mb RAM:

No. Calls	No. Monitored	Average CPU Usage
20	2	≈ 3.0%
40	4	≈ 5.0%
60	6	≈ 7.0%
80	8	≈ 9.0%
100	10	≈ 11.0%

There are no hard limits in the VoIP Monitor server on the number of calls that can be monitored by the server, or on the number of supervisors; it is limited only by the hardware.

The VoIP Monitor server can support up to 400 simultaneous calls and up to 40 simultaneous monitoring/recording sessions. A single recording application may have up to 16 simultaneous recordings (client-side DLL capacity).

The VoIP Monitor server can monitor hard IP phones (e.g., Cisco 7940 or 7960 phones) connected to a Cisco CallManager. It can also monitor the Agent Desktop soft phone if Cisco Media Termination Service (MTS) is installed.

Packet Size

In order for silent monitoring and recording to work correctly, the millisecond packet size for the G.711 and G.729 codecs must be set to 20 milliseconds in the Cisco CallManager Administration application.

▶ **To configure the millisecond packet size in Cisco CallManager:**

1. From the Service menu in Cisco CallManager Administration, choose **Service Parameters**.

   The Service Parameters Configuration window is displayed.

2. Select the appropriate CallManager from the Server dropdown list, and **Cisco CallManager** from the Service dropdown list.

   A list of parameters is displayed.

3. Under the Cluster Wide Parameters (System – Location and Region) section, set the parameter value to **20** for the following:

   - Preferred G711 Millisecond PacketSize
   - Preferred G729 Millisecond PacketSize

4. Click **Update** at the top of the window to apply your changes.

   The message **Status: update completed** is displayed.

Failover

The VoIP Monitor server uses information in the SQL server database on the publisher CallManager to silently monitor calls. It needs this information to begin a monitoring session. It does not require access to the CallManager after a monitoring session has begun.

If the SQL server, or the connection to the SQL server, fails, the current active voice monitoring sessions will not be interrupted. The VoIP Monitor server does not realize that failover has occurred.

The first attempt to start a voice monitoring session after the SQL server goes down will fail. The failure may take up to one minute if the failure is because the CallManager's IP address is inaccessible. Subsequent attempts to monitor will attempt to connect to other CallManagers (subscribers) in the cluster until a connection is made. This may take up to five minutes, depending on how many CallManagers there are, and how many of them are running. For example, if there are five CallManagers, and they are all down and inaccessible on the network, the VoIP Monitor server will try each in succession. Each try may take up to a minute, for a total of five minutes.

Codecs

The Voice-Over IP Monitor server supports G.711 u-law and a-law and G.729. Conversations using any codec other than G.711 and G.729 will not be available for monitoring. The codec that an IP phone uses is configurable in the Cisco CallManager.

Packet Sniffing and Network Configuration

In order to monitor voice conversations on the network, the Voice-Over IP Monitor server must be connected to a port on the data switch that has been configured for port monitoring.

In addition, this port must receive all voice traffic for the call center agents who may be monitored. The configurations depicted in Figures 2-1 through 2-7 are supported; others may be possible based on the rules for SPAN port monitoring.

The monitor server is H.323- and Standard Interface Protocol (SIP)- independent. Both of these protocols use the Real Time Transport Protocol (RTP) to transport voice. The monitor server looks specifically for RTP version 2 packets.

> **NOTE:** The RTP packets must be carried over User Datagram Protocol (UDP), IPv4, and Ethernet II.

As a network switch will not normally deliver packets to Ethernet ports other than the destination (an IP phone, in this case), the switch must be configured to do so. The Ethernet port for the monitor server must be configured to monitor the Ethernet ports for all of the agent IP phones (or agent PCs, if those agents use media termination and do not have a hard IP phone). If the voice packets to and from an agent's IP phone are not sent to the monitor servers port for any reason, that conversation will not be available to the supervisor.

When a request is made to monitor an agent, the monitor server looks up the MAC address of the agent's IP phone in the CallManager database, based on the extension. The monitor server then looks for packets to and from this MAC address, and if it is an RTP packet, it is forwarded to the Supervisor Desktop that requested monitoring.

It is not enough for the monitor server to monitor a port that all voice traffic goes through, such as the Ethernet port to which a gateway to the PSTN is connected. The monitor server must monitor the Ethernet ports that the IP phones are directly connected to. This is because MAC addresses change as packets pass through OSI Layer 3 devices (e.g. routers).

The monitor server sniffs packets on a single NIC (network interface card), and therefore a single Ethernet port. This port needs to be configured to monitor the Ethernet ports of all agent IP phones. This does not necessarily require that the monitor server and all agent IP phones be connected to the same network switch. That depends on the monitoring capabilities of the network switch.

Cisco Catalyst switches use SPAN (switched port analyzer) to monitor ports. Some of the capabilities and restrictions of Catalyst switches are:

Catalyst 2900XL and 3500XL Switches

- A monitor port cannot be in a Fast EtherChannel or Gigabit EtherChannel port group.
- A monitor port cannot be enabled for port security.
- A monitor port cannot be a multi-VLAN port.
- A monitor port must be a member of the same VLAN as the port monitored. VLAN membership changes are disallowed on monitor ports and ports being monitored.
- A monitor port cannot be a dynamic-access port or a trunk port. However, a static-access port can monitor a VLAN on a trunk, a multi-VLAN, or a dynamic-access port. The VLAN monitored is the one associated with the static-access port.
- Port monitoring does not work if both the monitor and monitored ports are protected ports.

Catalyst 4000, 5000, and 6000 Series Switches

- You can monitor ports belonging to multiple VLANS on these switches.
- The Catalyst 6000 with CatOS 5.3 or higher has a feature called Remote SPAN (RSPAN) which allows you to monitor ports on other switches in a switched network. With RSPAN on a Catalyst 6000, the monitor server and IP phones can be on separate switches.

Verified Network Configurations

Figure 2-1 through Figure 2-6 are verified network configurations using Cisco Catalyst switches.

Figure 2-1. Catalyst 3500: single VLAN

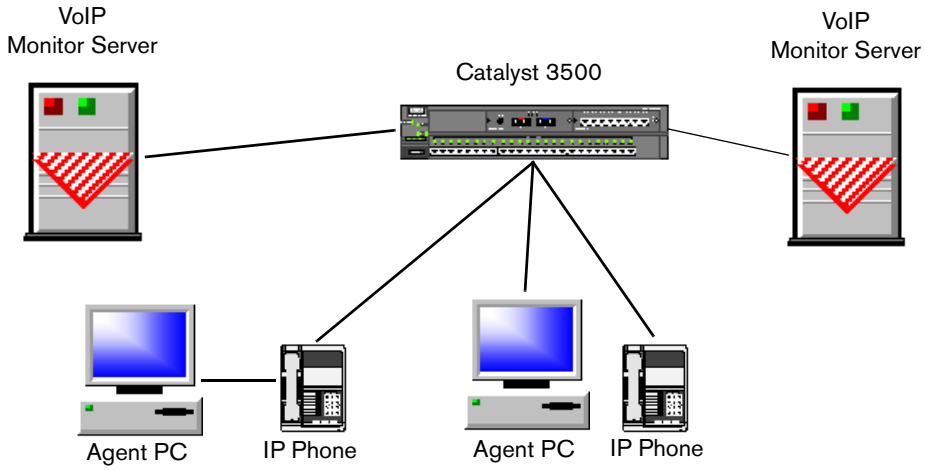


Figure 2-2. Catalyst 3500: separate voice and data VLANs

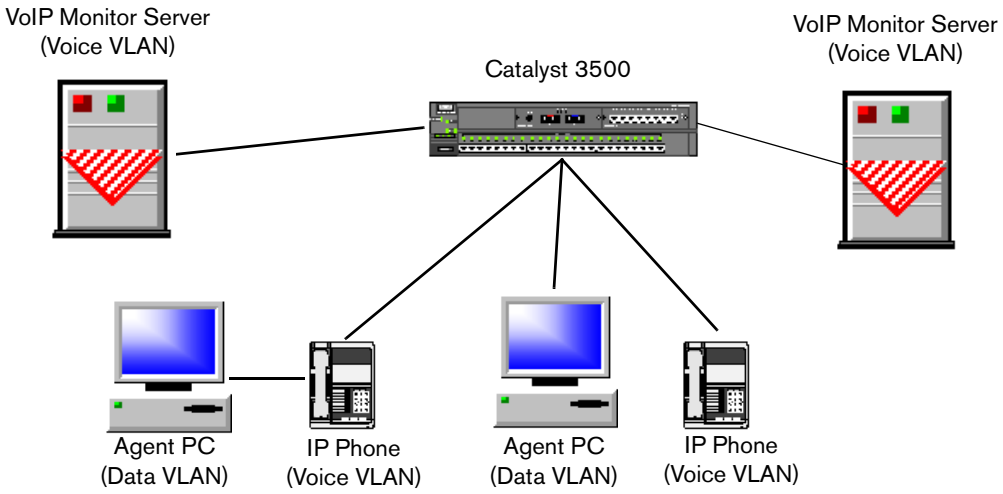


Figure 2-3. Catalyst 6000: single VLAN

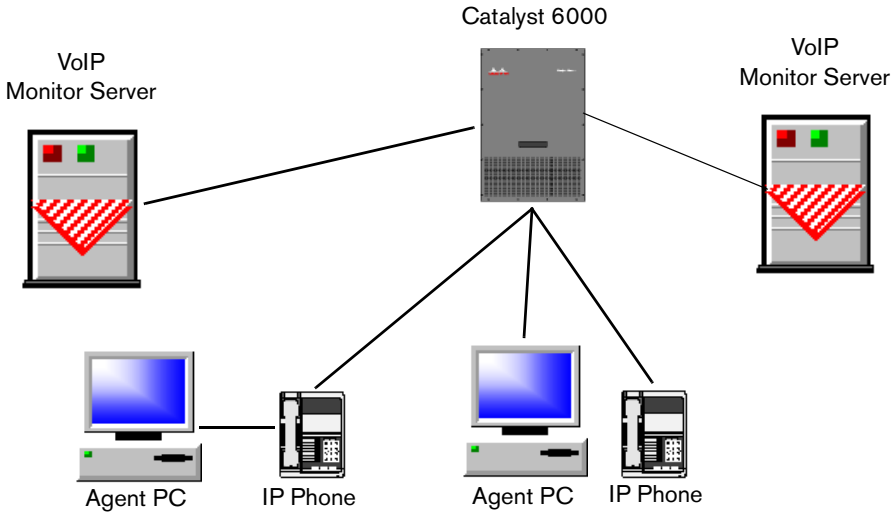


Figure 2-4. Catalyst 6000: separate voice and data VLANs

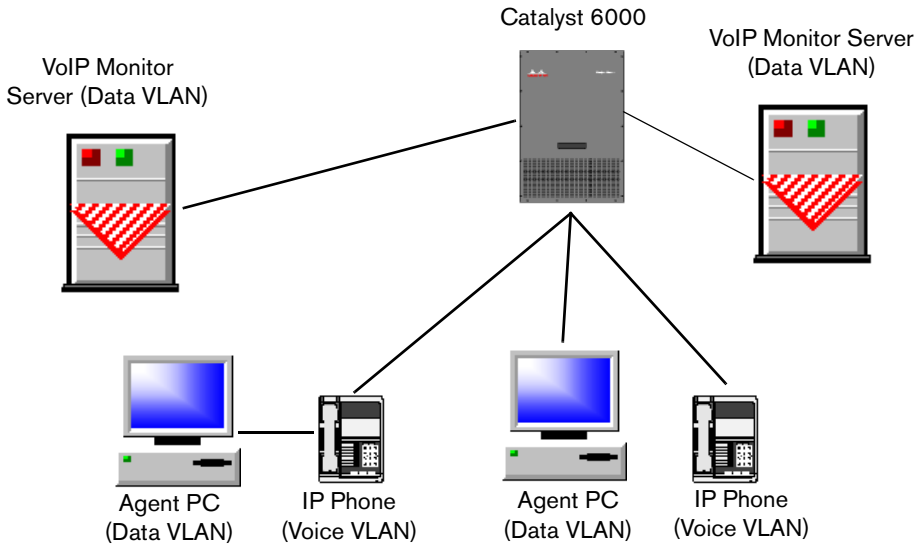


Figure 2-5. System with 1 Catalyst 6000 and 2 Catalyst 3500s.

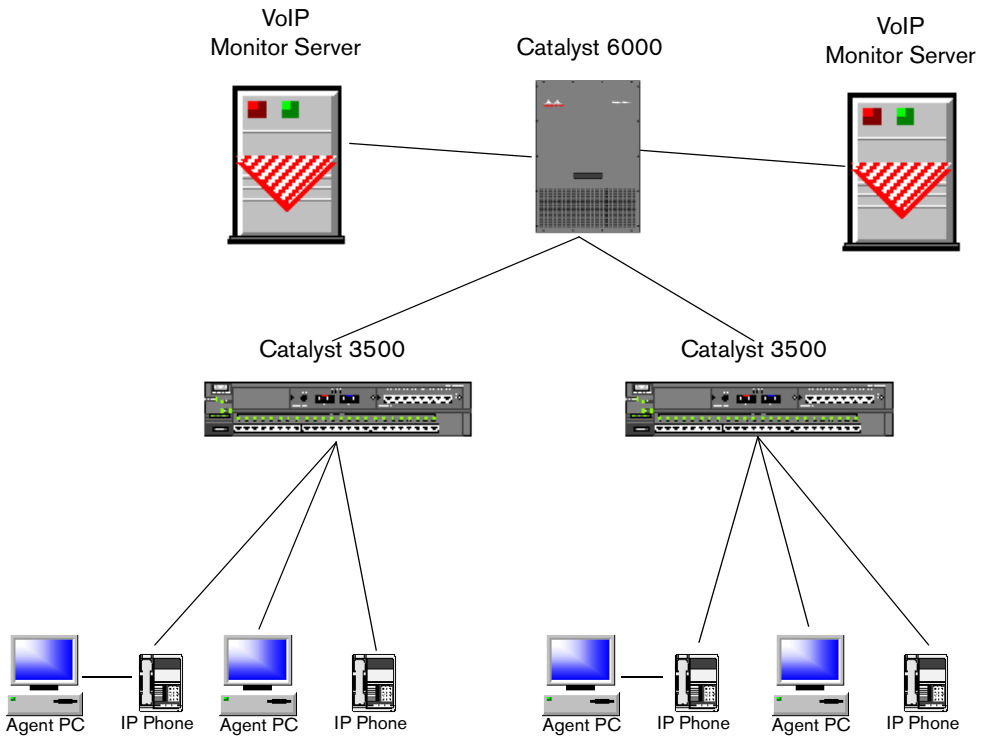
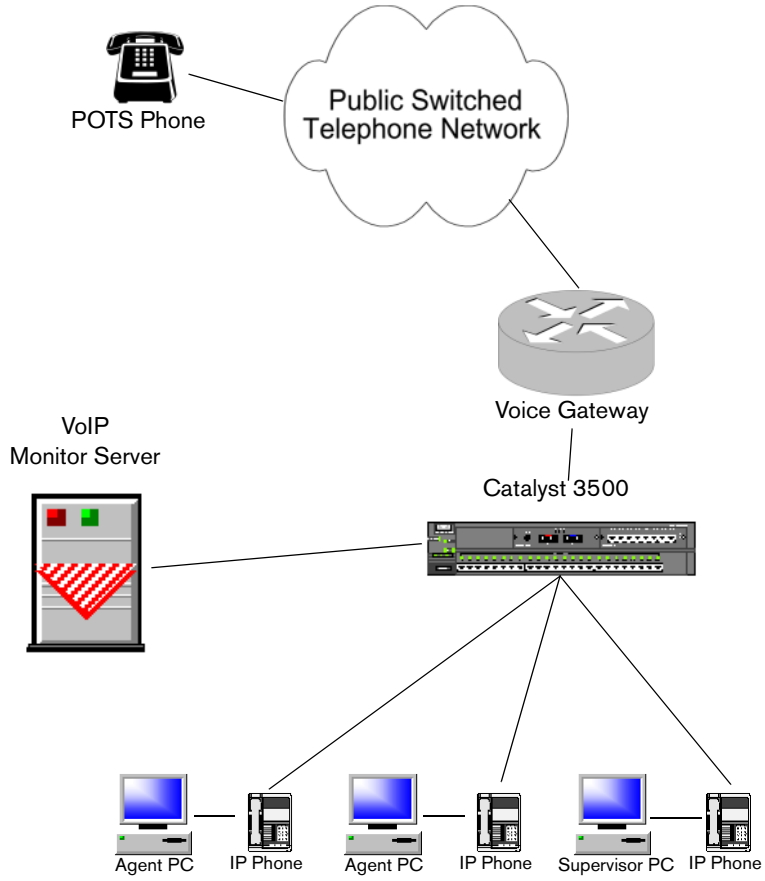


Figure 2-6. Simple network.



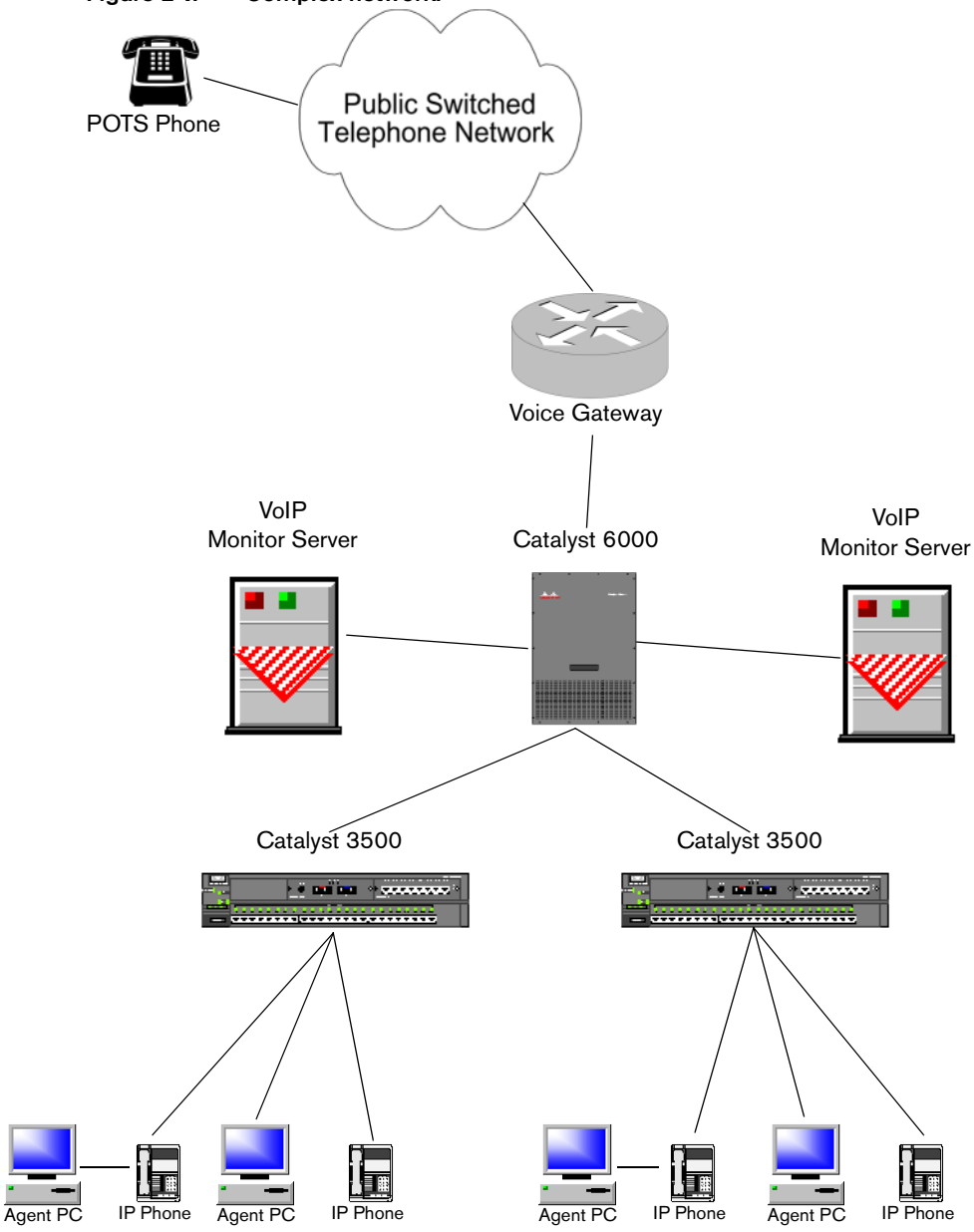
Notes on the Simple Network (Figure 2-6).

- The Catalyst 3500 switch has a variety of restrictions on the monitor ports and the ports being monitored. For detailed information, consult the web page "Configuring the Catalyst Switched Port Analyzer (SPAN) Feature" located at:

  www.cisco.com/warp/public/473/41.html

- A key restriction is that the monitor port must be a member of the same VLAN as the port being monitored. In this configuration, the Voice-Over IP Monitor server must be on the same VLAN as the agent IP phones.

Figure 2-7. Complex network.



Notes on the Complex Network (Figure 2-7).

In some situations, the number of agents connected to both the Catalyst 3500 switches represents too much traffic for a single VoIP Monitor server. In this case, a second VoIP Monitor server can be added. This server can be connected to the Catalyst 6000, as shown in Figure 2-7.

Another approach is to connect a VoIP Monitor server to each of the Catalyst 3500 switches to service the agents on that switch.

Sound Card Recommendations

Table 2-1 documents the sound cards used to test the Voice-Over IP Monitor. The table includes the platform the card was tested on, the driver used, and the minimum number of sound card buffers required to make the sound quality acceptable (e.g., no “motorboating”—a pulsating, distorted sound).

> **NOTE:** Sound cards not listed in Table 2-1 may work; however, only the cards listed in Table 2-1 have been tested.

Based on the testing results, it is recommended that the sound card should be a PCI card and that the platform should be at least a Pentium II or K6 400MHz with 64MB of memory. The number of sound buffers is defaulted to 30 in the library, and is configurable by editing the Sound Buffers registry key (see Table 2-1).

Table 2-1. Sound card specifications

Card	Chipset	Processor/ Memory	OS	Driver	Sound Buffers
Creative ES1371 Ensoniq AudioPCI	Creative ES1371	AMD-K6-400 64 MB	Win98	www.clok.creaf.com/creative/ drivers/sbpci/epw9xup.exe	20
Digital Research Advanced 16-bit Plus and Play ISA Sound Card	Advance Logic, Inc. ALS200	AMD-K6-400 64 MB	Win98	Manufacturer CD	no improvement
ESS AudioDrive Maestro 3ii		Pentium III 650 128 MB	WinNT 4.0	support.dell.com	10
ISA	ESS AudioDrive ES1869F	Pentium II 233 64 MB	Win95	Unknown	3
S3 Diamond MX400	ESS Canyon3D	AMD-K6-400 64 MB	Win98	Manufacturer CD	20
		Pentium II 233 64 MB	Win95	Manufacturer CD	Uninstallable
SIIG Xwave 4000 Wave Audio Device	Advance Logic ALS 4000	AMD-K6-400 64 MB	Win98	Manufacturer CD	10
		Pentium II 233 64 MB	Win95	Manufacturer CD	10

Table 2-1. Sound card specifications — *Continued*

Card	Chipset	Processor/ Memory	OS	Driver	Sound Buffers
Sound Blaster 16 PCI	Creative CT-5880 DCQ	AMD-K6-400 64 MB	Win98	Manufacturer CD	30
		P2 233 64 MB	Win95	Manufacturer CD	3
Sound Blaster Live		Pentium III 733 128 MB	WinNT 4.0	Installed by Dell	10
Sound Blaster PC164	Ensoniq ES1370	AMD-K6-400 64 MB	Win98	www.clok.creaf.com/creative/drivers/sbpci/e64w9xup.exe	20
Turtle Beach Montego-II	Vortex 2	Pentium III 600 128 MB	WinNT 4.0	support.dell.com	3
Yamaha OPL3-Sax Sound System		Pentium II 233 64 MB	Win95	support.dell.com	3

Technical Package Information

3

Default Directories

Desktop Applications

The desktop applications (Agent Desktop, Supervisor Desktop, Desktop Administrator, Call/Chat, and Enterprise Data) default directories and subdirectories are listed in Table 3-1.

Table 3-1. Desktop Administrator directories and subdirectories

C:\Program Files\Cisco\Desktop	
base	Installation files
bin	Executables, library, and help files
config	Configuration files
docs	User documentation (PDF files)
log	Log files

Servers

The server default directories and subdirectories are listed in Table 3-2.

Table 3-2. Server directories and subdirectories

Call/Chat Server	C:\Program Files\Cisco\Desktop\Chat Server	
	bin	Executable and library files
	config	Server configuration files
	log	Server log files

Table 3-2. Server directories and subdirectories — *Continued*

Enterprise Server	**C:\Program Files\Cisco\Desktop\Enterprise**	
	bin	Executable and library files
	config	Server configuration files
	log	Server log files
	reports	Server report files–permanent storage
	temp	Server report files–temporary storage
IP Phone Agent Server	**C:\Program Files\Cisco\Desktop\IP Phone Agent Interface**	
	bin	Executable and library files
	config	Server configuration files
	log	Server log files
	Tomcat	Tomcat webserver files
Media Termination	**C:\Program Files\GeoTel\CTI Desktop\IPMedia**	
	Executables, library, and .wav files	
Recording and Statistics Server	**C:\Program Files\Cisco\Desktop\RASCAL**	
	bin	Executable and library files
	config	Server configuration files
	database	Recording and Statistic database
	log	Server log files
Voice-Over IP Monitor Server	**C:\Program Files\Cisco\Desktop\VoIP**	
	bin	Executable and library files
	config	Server configuration files
	log	Server log files

Permissions Requirements

Table 3-3 through Table 3-11 detail the permissions requirements for Cisco Desktop Product Suite 4.5.5. These permissions are based on the folder permissions for Windows 2000 see Table 3-13); however, they are applicable to other operating systems.

The abbreviations used in Table 3-3 through Table 3-11 are:

Permission	Abbreviation
full control	FC
read	R
read/execution	RX
write	W
modify	M

Table 3-3. Required minimum permissions on the shared directory for servers and Desktop Administrator

Shared Directory	Recording/ Statistics Server	LDAP Monitor Server	VoIP MOnitor Server	Call/Chat Server	Sync Server	Enterprise Server	IP Phone Agent Server	Desktop Administrator
Install Root Directory	R	–	–	–	–	–	–	R
AudioFiles	M	–	–	–	–	–	–	–
Config	–	–	–	–	–	–	–	FC
_original	–	–	–	–	–	–	–	FC
ag_default	–	–	–	–	–	–	–	FC
ag_ipphone	–	–	–	–	–	–	–	FC
default	–	–	–	–	–	–	–	FC
kw_default	–	–	–	–	–	–	–	FC
Desktop	–	–	–	–	–	–	–	–
AdminIns	–	–	–	–	–	–	–	–

Table 3-3. Required minimum permissions on the shared directory for servers and Desktop Administrator — *Continued*

Shared Directory	Recording/ Statistics Server	LDAP Monitor Server	VoIP MOnitor Server	Call/Chat Server	Sync Server	Enterprise Server	IP Phone Agent Server	Desktop Administrator
AgentIns	–	–	–	–	–	–	–	–
Common	–	–	–	–	–	–	–	–
Base	–	–	–	–	–	–	–	–
splkFootprint	–	–	–	–	–	–	–	–
Info	–	–	–	–	–	–	–	–
License	–	–	–	–	–	–	–	–
Media Termination	–	–	–	–	–	–	–	–
copyme	–	–	–	–	–	–	–	–
SuperIns	–	–	–	–	–	–	–	–
Icons	–	–	–	–	–	–	–	RW
License	–	–	–	–	–	–	M	RW
Agent	–	–	–	–	–	–	M	RW
AgentMT	–	–	–	–	–	–	M	RW
EnhancedS	–	–	–	–	–	–	M	RW
Kw	–	–	–	–	–	–	M	RW
KwMT	–	–	–	–	–	–	M	RW
Recording	–	–	–	–	–	–	M	RW
Supervisor	–	–	–	–	–	–	M	RW
Telecaster	–	–	–	–	–	–	M	RW
Util	–	–	–	–	–	–	–	–

Table 3-4. Required minimum permissions on the shared directory for Supervisor Desktop and Agent Desktop

Shared Directory	Agent Desktop	Supervisor Desktop
Shared Directory Root	R	R
AudioFiles	–	R
Config	R	–
_original	R	–
ag_default	R	–
ag_ipphone	R	–
default	R	–
kw_default	R	–
Desktop	–	–
AdminIns	–	–
AgentIns	–	–
Common	–	–
Base	–	–
splkFootprint	–	–
Info	–	–
License	–	–
Media Termination	–	–
copyme	–	–
SuperIns	–	–
Icons	R	M
License	M	M
Agent	M	M
AgentMT	M	M

Table 3-4. Required minimum permissions on the shared directory for Supervisor Desktop and Agent Desktop — *Continued*

Shared Directory	Agent Desktop	Supervisor Desktop
EnhancedS	M	M
Kw	M	M
KwMT	M	M
Recording	M	M
Supervisor	M	M
Telecaster	M	M
Util	–	–

Table 3-5. Required minimum permissions on the shared directory for installation programs

Shared Directory	Servers	Desktop Admin	Agent Desktop	Supervisor Desktop
Shared Directory Root	–	FC	FC	FC
AudioFiles	–	FC	FC	FC
Config	–	FC	FC	FC
_original	–	FC	FC	FC
ag_default	–	FC	FC	FC
ag_ipphone	–	FC	FC	FC
default	–	FC	FC	FC
kw_default	–	FC	FC	FC
Desktop	–	FC	FC	FC
AdminIns	–	FC	FC	FC
AgentIns	–	FC	FC	FC
Common	–	FC	FC	FC
Base	–	FC	FC	FC

Table 3-5. Required minimum permissions on the shared directory for installation programs — *Continued*

Shared Directory	Servers	Desktop Admin	Agent Desktop	Supervisor Desktop
splkFootprint	–	FC	FC	FC
Info	–	FC	FC	FC
License	–	FC	FC	FC
Media Termination	–	FC	FC	FC
copyme	–	FC	FC	FC
SuperIns	–	FC	FC	FC
Icons	–	FC	FC	FC
License	–	FC	FC	FC
Agent	–	FC	FC	FC
AgentMT	–	FC	FC	FC
EnhancedS	–	FC	FC	FC
Kw	–	FC	FC	FC
KwMT	–	FC	FC	FC
Recording	–	FC	FC	FC
Supervisor	–	FC	FC	FC
Telecaster	–	FC	FC	FC
Util	–	FC	FC	FC

Table 3-6. Required minimum permissions on the installation directory for servers, Desktop Administrator, and their installation programs

Install Directory (server)	Recording/ Statistics Server	LDAP Monitor Server	VoIP Monitor Server	Call/Chat Server	Sync Server	Enterprise Server	IP Phone Agent Server	Desktop Administrator	Installation program
Shared Directory Root	–	–	–	–	–	–	–	R	FC
Desktop	–	–	–	–	–	–	–	–	FC
Base	–	–	–	–	–	–	–	–	FC
bin	–	–	–	–	–	–	–	–	FC
Bin	–	–	–	–	–	–	–	RX	FC
Config	–	–	–	–	–	–	–	RW	FC
Chat Server	–	–	–	R	–	–	–	–	FC
bin	–	–	–	RX	–	–	–	–	FC
config	–	–	–	RW	–	–	–	–	FC
log	–	–	–	RW	–	–	–	–	FC
Directory Services	–	R	–	–	R	–	–	–	FC
bin	–	RX	–	–	RX	–	–	–	FC
config	–	RW	–	–	RW	–	–	–	FC
log	–	RW	–	–	RW	–	–	–	FC
run	–	RW	–	–	–	–	–	–	FC
logs	–	RW	–	–	–	–	–	–	FC
replica	–	RW	–	–	–	–	–	–	FC
Docs	–	–	–	–	–	–	–	–	FC
Enterprise	–	–	–	–	–	R	–	–	FC
bin	–	–	–	–	–	RX	–	–	FC

Table 3-6. Required minimum permissions on the installation directory for servers, Desktop Administrator, and their installation programs — *Continued*

Install Directory (server)	Recording/ Statistics Server	LDAP Monitor Server	VoIP Monitor Server	Call/Chat Server	Sync Server	Enterprise Server	IP Phone Agent Server	Desktop Administrator	Installation program
config	–	–	–	–	–	RW	–	–	FC
log	–	–	–	–	–	RW	–	–	FC
reports	–	–	–	–	–	RW	–	–	FC
temp	–	–	–	–	–	RW	–	–	FC
IP Phone Agent Int	–	–	–	–	–	–	R	–	FC
bin	–	–	–	–	–	–	RX	–	FC
config	–	–	–	–	–	–	RW	–	FC
telecaster	–	–	–	–	–	–	RW	–	FC
log	–	–	–	–	–	–	RW	–	FC
log	–	–	–	–	–	–	–	RW	FC
Rascal Server	R	–	–	–	–	–	–	RW	RC
bin	RX	–	–	–	–	–	–	–	FC
config	RW	–	–	–	–	–	–	–	FC
log	RW	–	–	–	–	–	–	–	FC
db	RW	–	–	–	–	–	–	–	FC
VoIP	–	–	R	–	–	–	–	–	FC
bin	–	–	RX	–	–	–	–	–	FC
config	–	–	RW	–	–	–	–	–	FC
log	–	–	RW	–	–	–	–	–	FC

Table 3-7. Required minimum permissions on the installation directory for the Tomcat Webserver.

Install Directory (server)	Recording/ Statistics Server	LDAP Monitor Server	VoIP Monitor Server	Call/Chat Server	Sync Server	Enterprise Server	IP Phone Agent Server	Desktop Administrator	Installation program
Tomcat Root Directory	–	–	–	–	–	–	RW	–	FC
bin	–	–	–	–	–	–	RX	–	FC
conf	–	–	–	–	–	–	RX	–	FC
doc	–	–	–	–	–	–	RX	–	FC
lib	–	–	–	–	–	–	RX	–	FC
logs	–	–	–	–	–	–	RWX	–	FC
src	–	–	–	–	–	–	RX	–	FC
webapps	–	–	–	–	–	–	RWX	–	FC
work	–	–	–	–	–	–	RX	–	FC

Table 3-8. Required minimum permissions on the installation directory for Supervisor Desktop and Agent Desktop and their installation programs

Installation Directory (desktop)	Agent Desktop	Supervisor Desktop	Installation Program
Install Directory Root	R	R	FC
Desktop	RX	RX	FC
bin	RXW	RX	FC
config	FC	FC	FC
log	FC	FC	FC

Table 3-9. Required minimum permissions on the common directory for the Cisco Desktop Product Suite

Directory	Programs	Installation
<install directory>\Spanlink\Common	RX	FC

Table 3-10. Required minimum permissions for servers that require ODBC connections

DSN	Recording & Statistics Server	Voice-Over IP Monitor Server	Sync Server
SYNC_SERVER_A	–	–	TCP/IP or named pipe create/open
FCRasSvrDB	TCP/IP or named pipe create/open	–	–
FCVoIP	–	TCP/IP or named pipe create/open	–

Table 3-11. Required minimum permissions for the registry

Key	Programs	Installation *
HKEY_LOCAL_MACHINE/SOFTWARE/Spanlink (includes subkeys)	M	FC

* The install program needs administrative privileges on the registry as a whole to install the Cisco Desktop Product Suite.

Table 3-12. Server connection type and port number

Server/Module	TCP/UDP	Port Number
Call/Chat server	TCP	59000
Voice-Over IP Monitor server	TCP	59002
Recording and Statistics server	TCP	59003
Enterprise server	TCP	59004
IP Phone Agent server	TCP	59010
Synchronization server	TCP	59011
Chat Server DLL (Call/Chat)	TCP	59020
Chat Server DLL (Supervisor)	TCP	59021
Chat Server DLL (IP Phone Agent server)	TCP	59022
Chat Server DLL (Reserved 1)	TCP	59023
Chat Server DLL (Reserved 3)	TCP	59024

Table 3-13. Summary of Windows 2000 folder permissions

Permission	Full Control	Modify	Read & Execute	Read	Write
traverse folder/execute file	X	X	X		
list folder/read data	X	X	X	X	
read attributes	X	X	X	X	
read extended attributes	X	X	X	X	

Table 3-13. Summary of Windows 2000 folder permissions — *Continued*

Permission	Full Control	Modify	Read & Execute	Read	Write
create files/write data	X	X			X
create folder/append data	X	X			X
write attributes	X	X			X
write extended attributes	X	X			X
delete subfolders and files	X				
delete	X	X			
read permissions	X	X	X	X	X
change permissions	X				
take ownership	X				
synchronize	X	X	X	X	X

Changing Encrypted Passwords

The encrypted passwords for logging into exernal database systems are stored as registry entries. If you must change a password after the initial installation, you must manually update the registry entries with the new passwords.

To encrypt the new password, use the utitility pwcrypt.exe, located in the *CRS IP address*\DESKTOP_CFG\Util folder.

▶ **To encrypt a new password**

1. Double-click the encryption utility file **pwcrypt.exe** located in the *CRS IP address*\DESKTOP_CFG\Util folder.

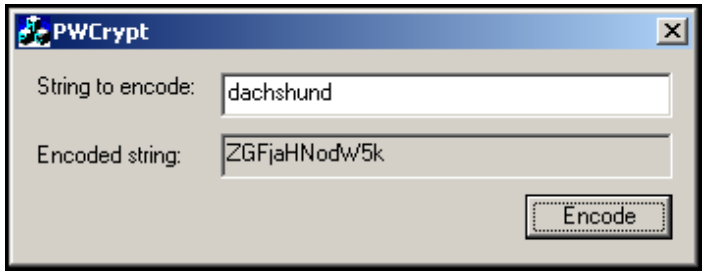
   The PWCrypt dialog box opens (see Figure 3-1).

2. In the String to encode field, type the new password, and then click **Encode**.

   The encrypted password appears in the Encoded string field.

3. Copy the encrypted password and paste it into the appropriate registry key.

Figure 3-1. The PWCrypt dialog box, with encrypted password displayed.



CRS Database Password

Under the HKEY_LOCAL_MACHINE\SOFTWARE\ODBC\ODBC.ini registry entry, update the following registry keys:

- \FCRasSvrDB\SPLKPWD
- \Sync_Server_A\SPLKPWD

Directory Services Database Password

Update the registry key:

- HKEY_LOCAL_MACHINE\SOFTWARE\Spanlink\Site Setup\ LDAP_PWD

Updating the CAD Servers' IP Address

If you change the IP address of the machine on which the CAD servers are installed (in most cases, the CRA server), you must make sure that this change is made throughout the system. The IPUpdate utility accomplishes this task. It updates:

- LDAP
- Registry settings
- Configuration files
- Licensing files

▶ **To update the CAD servers' IP address:**

1. Double-click the utility file **IPUpdate.exe** located in the *CRS IP address*\DESKTOP_CFG\Util folder.

   A command window opens and displays:

   ```
   Current CRA Server IP Address is: <IP address>. Is this
     correct? (Y)
   ```

2. Type **Y** (yes) or **N** (no) to answer the question.

   If you answer yes, the program proceeds to the command line in Step 3. If you answer no, the command window displays:

   ```
   Enter new IP address for the CRA Server:
   ```

3. Type the new IP address and then press **Enter**.

   The new IP address is verified (pinged), and the command window displays:

   ```
   Current LDAP Server IP Address is: <IP address>. Is
     this correct? (Y)
   ```

4. Type **Y** or **N** to answer the question.

   NOTE: LDAP is usually on the same server as is Cisco CallManager.

   If you answer yes, the program proceeds to the command line in Step 5. If you answer no, the command window displays:

   ```
   Enter new IP address for the LDAP Server:
   ```

5. Type the new IP address and then press **Enter**.

   The new IP address is verified (pinged), and the command window displays:

```
Update the CRA server with this IP address
  <new IP address> now? (Y)
```

6. Type **Y** to proceed with updating the CRA IP address, or **N** to cancel the operation.

   LDAP, registry entries, configuration files, and licensing files are updated with the new CRA server IP address.

Using a Command Line to Update the CRA IP Address

You can type a command line to update the CRA IP address, rather than use the utility IPUpdate.exe. The syntax for the command is:

```
ipupdate <new CRA IP address> <LDAP IP address>
```

A missing or incorrect IP address automatically starts the IPUpdate.exe utility.

Configuration Files

Configuration files determine Cisco Desktop's behavior. Do not edit these configuration files manually—this section is for informational purposes only.

Each configuration file is discussed in detail later in this section.

Table 3-14. Location of Cisco Desktop configuration files

Application	Configuration File	See Page
Desktop Administrator	Actions.ini	3-18
	Admin.ini	3-18
	DataFields.ini	3-22
	dialplan.ini	3-22
	enterprise.ini	3-25
	EventsRules.ini	3-26
	UserInterface.ini	3-35
	LicensingAdmin.cfg	3-31
Agent Desktop	CallChat.ini	3-21
	fastcalllocal.ini	3-27
	PhoneDev.ini	3-32
	PhoneNumbers.ini	3-32
Call/Chat Server	FCCServer.cfg	3-28
Directory Services Sync Server	DirAccessSynSvr.cfg	3-24
Enterprise Server	ssCTIconfig.cfg	3-33
	ssDataTypes.cfg	3-34
	ssECCs.cfg	3-34
	ssLayoutss.cfg	3-35
InstallManager	IM.cfg	3-31

Table 3-14. Location of Cisco Desktop configuration files — *Continued*

Application	Configuration File	See Page
IP Phone Agent Server	AgtStateClientTest.cfg	3-19
	AgtStateSvr.cfg	3-19
	TIAJ.cfg	3-35
Recording and Statistics Server	FCRasSvr.cfg	3-29
Supervisor Desktop	Supervisor.ini	3-35
Voice-Over IP Monitor Server	FCVoIPMonSvr.cfg	3-30

Actions.ini

Default location: C:\Program Files\Cisco\Desktop\config\default

Table 3-15. Actions.ini file information

Section	Field / Description
[Call Control]	List of call control actions as set up in Desktop Administrator.
[Macros]	List of macros as set up in Desktop Administrator.
[Launch]	List of actions that execute the named application.
[Agent State]	List of agent state actions as set up in Desktop Administrator.
[Utility]	List of utility actions as set up in Desktop Administrator.

Admin.ini

Default location: C:\Program Files\Cisco\Desktop\config

Table 3-16. Admin.ini file information

Section	Field / Description
[Program Log]	**Path**. The path to the administrator.log log file.
	Size. The size of the log file. Default value = 300000

Table 3-16. Admin.ini file information

Section	Field / Description
[Debug Log]	**Path**. The path to the administrator.dbg debug file.
	Size. The size of the debug file. Default value = 300000.
	Level. The level of debugging, from 0–6000. The higher the value, the more detailed the debug file. Default value = 0. Recommended level: 30.

AgtStateClientTest.cfg

Default location: C:\Program Files\Cisco\Desktop\IP Phone Agent Interface\config

Table 3-17. AgtStateClientTest.cfg file information

Section	Field / Description
[Program Log]	**Path**. The path to the AgtStateClientTest.log file.
	Size. The size of the log file. Default value = 3000000.
	Files. The maximum number of files to create in the log file pool. Default value = 2.
[Debug Log]	**Path**. The path to the AgtStateClientTest.dbg debug file.
	Size. The size of the debug file. Default value = 3000000.
	Range. The debug levels that should be written to the debug file (3000–8000). Default value = 3000, 3010, 3020. Recommended range: 3000–8000.
	Files. The maximum number of files to create in the debug file pool. Default value = 2.
[General]	**Max List Items**. The maximum number of items in the GUI list. Default value = 1000.
	Recovery Retry Time. The recovery retry time, in milliseconds. Default value = 60000.

AgtStateSvr.cfg

Default location: C:\Program Files\Cisco\Desktop\IP Phone Agent Interface\config

Table 3-18. AgtStateSvr.cfg file information

Section	Field / Description
[Program Log]	**Path**. The path to the AgtStateSvr.log file.
	Size. The size of the log file. Default value = 3000000.
	Files. The maximum number of files to create in the log file pool. Default value = 2.
[Debug Log]	**Path**. The path to the AgtStateSvr.dbg debug file.
	Size. The size of the debug file. Default value - 3000000.
	Range. The debug levels that should be written to the debug file (3000–8000). Default value = 3000,3010,3020. Recommended ranges: 3000–8000.
	Files. The maximum number of files to create in the log file pool. Default value = 2.
[IP Phone]	**MenuRefresh.** The refresh rate for the agent state change menu, in seconds.
	RequestTimeout. The time to wait for response from CTITest, in seconds.
[CTI Services]	A list of the masks specified when opening a connection to the CTI server.
[General]	**Change State Sleep Time**. The time to sleep after successfully changing state, in milliseconds. Default value = 0.
	CM User ID. The CallManager user ID used to push data to the IP phone. Default value = Telecaster.
	CM User Pwd. The user password associated with the CallManager user ID. Default value = telecaster.
	DumpFile. The path to the file to which server download information is written.

Table 3-18. AgtStateSvr.cfg file information

Section	Field / Description
[General] continued	**Lcns Check Sleep Time**. Time between license checks, in seconds. Default value = 3.
	LicenseChk. If set to YES, performs license checking and recovery. Default value = YES. **NOTE**: If the IP Phone Agent server is installed on multiple logical contact centers which use the same shared configuration files, only one of them can have this set to YES. All others must be manually changed to NO.
	Lock Timeout. The lock timeout, in seconds.
	Max String Length. The maximum length of string return from language DLLs.
	Signal Timeout. The signal timeout, in milliseconds. Default value = 3000.
	Sleep Before Delivered Push. The time before pushing data to the IP phone on receipt of the Delivered event, in milliseconds. Default value = 500.
	Sleep Before Established Push. The time before pushing data to the IP phone on receipt of the Established event, in milliseconds. Default value = 500.
	Worker Threads. The number of worker threads to create. Default value = 10.

CallChat.ini

The CallChat.ini file is created at runtime. It remembers the size and location of the Call/Chat application window. It is not editable.

DataFields.ini

Default location: C:\Program Files\Cisco\Desktop\config\default

Table 3-19. DataFields.ini file information

Section	Field / Description
[Titles]	**DataField*n***. Each entry is a field that appears in Agent. The field titles are used as the column headings for the appearances in Agent and as data field names in Desktop Administrator.

dialplan.ini

Default location: C:\Program Files\Cisco\Desktop\config

Table 3-20. dialplan.ini file information

Section	Field / Description
[Miscellaneous]	**ConvertTextToDigits**. If enabled, Agent converts text phone numbers (1-800-FLOWERS) to digits if enabled. Values: 0, 1 (no, yes)
	DialFromClipBoard. If enabled, Agent uses selected text from the most recently active application as the dial string when **Make Call** is clicked, if enabled. Values: 0, 1 (no, yes)
	ShowDialPad. If enabled, Agent does not display the dial pad when **Make Call** is clicked and the call is dialed automatically. If not enabled, the user must click **Dial** on the dial pad. Values: 0, 1 (no, yes)
[AdvancedInternal]	**MaxExtensionLength**. The maximum number of digits in an internal extension. Values: 1–7
	SevenDigitExt*n*. The list begins with an exchange and is followed by 2 numbers indicating a range of subscriber digits. The exchange combined with the subscriber digit range represents 7-digit local phone numbers. *n* = a number, e.g. SevenDigitExt1.

Table 3-20. dialplan.ini file information — *Continued*

Section	Field / Description
[AdvancedExternal]	**NeighborAreaCoden**. The list begins with an area code adjacent to the local area code. It is followed by a list of numbers indicating all of the exchanges in the neighboring area code that can be dialed as 7-digit or 10-digit numbers. If the initial area code is followed by ALL, you can dial all exchanges in the neighboring area code as local numbers. *n* = a number, e.g. NeighborAreaCode1.
[NumberFormat]	**AreaCode**. If enabled, Agent includes the area code in formatted numbers. Values: 0, 1 (no, yes)
	Exchange. If enabled, Agent includes the exchange in formatted numbers. Values: 0, 1 (no, yes)
	Subscriber. If enabled, Agent includes subscriber digits in formatted numbers. Values: 0, 1 (no, yes)
	AreaCodePar. If enabled, Agent displays parentheses around the area code in formatted numbers. Values: 0, 1 (no, yes)
	AreaCodeSeparator. Agent displays a dash, a space, or no space between the area code and the exchange in formatted numbers. Values: Dash, Space, None
	ExchangeSeparator. Agent displays a dash, space, or no space between the exchange and the subscriber digits. Values: Dash, Space, None
	Leading*n*. If enabled, Agent adds a leading *n* to the extension. Values: 0, 1 (no, yes)
	RemoveFirstXDigits. Agent removes this number of leading digits from a displayed internal extension.
	RemoveLastXDigits. Agent removes this number of trailing digits from a displayed internal extension.
[OutgoingGeneral]	**LocalAreaCode**. Indicates the local area code to be added when formatting dial strings.
	LocalPrefix. Indicates the local line access code to be added when formatting dial strings.

Table 3-20. dialplan.ini file information — *Continued*

Section	Field / Description
[OutgoingGeneral] continued	**LongDistancePrefix**. Indicates the long distance line access code to be added when formatting dial strings.
	OneOnLongDistance. If enabled, adds a 1 as prefix to a long distance dial string. Values: 0, 1 (no, yes)
	AreaCodeOnTollCalls. If enabled, automatically includes the area code on dial strings for toll calls. Values: 0, 1 (no, yes)
	AreaCodeOnLocalCalls. If enabled, includes the area code in the dial string for local calls. Values: 0, 1 (no, yes)
	LocalExchanges. A list of exchanges of local numbers.
[SpecialCodes]	**SpecialDialingCode*n***. Special dialing codes supported by the switch.

DirAccessSynSvr.cfg

Default location: C:\Program Files\Cisco\Desktop\Directory Services\config\

Table 3-21. DirAccessSynSvr.cfg file information

Section	Field / Description
[Program Log]	**Path**. The path to the DirAccessSynSvr.log file.
	Size. The size of the log file. Default value = 300000
[Debug Log]	**Path**. The path to the DirAccessSynSvr.dbg debug file.
	Size. The size of the debug file. Default value–300000.
	Range. The debug levels that should be written to the debug file (4000–5000). Default value = 0 (no debug logging). Recommended range: 4000.

Table 3-21. DirAccessSynSvr.cfg file information — *Continued*

Section	Field / Description
[Synchronization]	**Period**. The interval, in minutes, at which the server syncs between CallManager and ICD. Default = 10 minutes.
[Database]	**UserID.** The user ID needed to access the ICD database. Default = sa.
	Password. The password needed to access the ICD database. Default = [blank]. The password is encrypted.

enterprise.ini

Default location: C:\Program Files\Cisco\Desktop\config\default

Table 3-22. enterprise.ini file information

Section	Field / Description
[Data View]	**ShowWindow**. If enabled, displays the data view pane in Enterprise Data. Values: 0 = disabled, 1 = enabled.
[Data Options]	**AllowAgentEdit**. If enabled, the agent is able to edit enterprise data. Values: 0 = disabled, 1 = enabled.
[Call Activity View]	**ShowWindow**. If enabled, displays the call activity view in Enterprise Data. Values: 0 = disabled, 1 = enabled.
[Call Activity Threshhold1]	Sets threshold levels for displaying caution icon next to device type in Enterprise Data call activity view. Level set individually for **CSQ**, **Agent**, and **Total**.
[Call Activity Threshhold2]	Sets threshold levels for displaying warning icon next to device type in Enterprise Data call activity view. Level set individually for **CSQ**, **Agent**, and **Total**.

EventsRules.ini

Default location: C:\Program Files\Cisco\Desktop\config\default

Table 3-23. EventsRules.ini file information

Section	Field / Description
[Startup]	**Rule0**. The name of a rule. Each rule is saved under the event to which it is assigned.
	Rule1. The name of a rule. Each rule is saved under the event to which it is assigned.
	<default>. The default rule. It is always last.
[ShutDown]	**Rule0**. The name of a rule. Each rule is saved under the event to which it is assigned.
	Rule1. The name of a rule. Each rule is saved under the event to which it is assigned.
[Dropped]	**Rule0**. The name of a rule. Each rule is saved under the event to which it is assigned.
[Answered]	**Rule0**. The name of a rule. Each rule is saved under the event to which it is assigned.
[Startup<Default>] (the event and rule name)	**Enabled**. Lists rules that are enabled. Values: 0 = disabled, 1 = enabled.
	AnyCondition. Conditions that must be true to trigger the rule. Values: 0 = all conditions must be true, 1 = any condition can be true.

Table 3-23. EventsRules.ini file information — *Continued*

Section	Field / Description
Information in this section appears up to 3 times, once for each allowed condition of the above rule	***N*DataField**. The index of the data field. Values = 0 and up.
	***N*ExternalData**. Values: 0, 1
	Action*N*. Describes the source of the data. Values: 0 = data is from Agent; 1 = data is from CTI Enterprise Data server.
	***N*FilterType**. Values: Empty, Not_Empty, In_List, Not_In_List, Data_Length.
	FilterList. Items in the list are separated by spaces.
	***N*Enabled**. Values: 0 = the condition is disabled; 1 = the condition is enabled.
	***N*MaxLen**. If the FilterType is DataLength, the maximum length of the data.
	***N*MinLen**. If the FilterType is DataLength, the minimum length of the data.
	Action*N*. The name of the actions to run if the rule evaluates to true.

fastcalllocal.ini

Default location: C:\Program Files\Cisco\Desktop\config

Table 3-24. fastcalllocal.ini file information

Section	Field / Description
[Interface]	(Agent window size/position). Agent remembers the size and position of its window from when it was last run. It uses the values in **WindowLeft**, **WindowTop**, **WindowWidth**, and **WindowHeight** to do this.
	Column*n*. The width of the columns defined in DataFields.ini.
[Paths]	**AdminGroupPath**. The path to the work flow group configuration file.

Table 3-24. fastcalllocal.ini file information — *Continued*

Section	Field / Description
[Program Log]	**Path**. The path to the agent.log log file.
	Size. The size of the log file. Default value = 300000
[Debug Log]	**Path**. The path to the agent.dbg debug file.
	Size. The size of the debug file. Default value = 300000.
	Level. The level of debugging, from 0–6000. The higher the value, the more detailed the debug file. Default value = 0. Recommended level: 30.
[MacrosMisc]	**DelayTime**. The time in milliseconds to delay between each keyboard event when playing back a keystroke macro.

FCCServer.cfg

Default location: C:\Program Files\Cisco\Desktop\Chat Server\config

Table 3-25. FCCServer.cfg file information

Section	Field / Description
[Program Log]	**Size**. The maximum size in bytes of FCCServer.log. Default value = 300000
	Files. The maximum number of files to create in the log file pool. Default value = 2.
[Debug Log]	**Size**. The maximum size in bytes of FCCServer.dbg. Default value = 300000.
	Files. The maximum number of files to create in the log file pool. Default value = 2.
	Level. The level of debugging information sent to the debug log file. Values = 0–4; default value = 0. Recommended level: 2. **NOTE**: Turning on the debug log may severely impact the performance of the server.

Table 3-25. FCCServer.cfg file information

Section	Field / Description
[General]	**Clean Up Interval**. Time interval, in minutes, the server waits before invoking its cleanup routine. This routine checks for expired marquee messages and sends notification to clients for those that are expired. It also sends call status messages to clients for any calls that have exceeded the call expiration interval. Default value = 5.
	Call Expiration Interval. Time interval, in minutes, after which the server suspects that a call ID may no longer be valid and sends a call status message to the client to check if the call is still in progress. Default value = 15.
	Application Expiration Interval. Time interval, in minutes, after which the server suspects that an application may no longer exist and sends a heart beat message to the application to check if it is still alive. Default value = 20.

FCRasSvr.cfg

Default location: C:\Program Files\Cisco\Desktop\Chat Server\config

Table 3-26. FCRasSvr.cfg file information

Section	Field / Description
[Program Log]	**Size**. The maximum size in bytes of the program log. Default value = 300000
	Files. The maximum number of files to create in the log file pool. Default value = 2.
[Debug Log]	**Size**. The maximum size in bytes of the debug file. Default value = 300000.
	Files. The maximum number of files to create in the log file pool. Default value = 2.
	Range. The debug levels that should be written to the debug file. Default value = 0 (no debug logging).
	Level. The level of debugging information sent to the debug log file. Values = 0–4; default value = 0. Recommended level: 2.

Table 3-26. FCRasSvr.cfg file information

Section	Field / Description
[Optional DSN fields]	SPLKPWD. The password.
	SPLKUID. The user ID.
	SPLKNETWORK. the network name.
	SPLKDATABASE. The database name.

FCVoIPMonSvr.cfg

Default location: C:\Program Files\Cisco\Desktop\VoIP\config

Table 3-27. FCVoIPMonSvr.cfg file information

Section	Field / Description
[Program Log]	**Size**. The maximum size in bytes of FCVoIPMonSvr.log. Default value = 300000
	Files. The maximum number of files to create in the log file pool. Default value = 2.
[Debug Log]	**Size**. The maximum size in bytes of FCVoIPMonSvr.dbg. Default value = 300000.
	Level. The level of debugging information sent to the debug log file. Values = 0–4; default value = 0. Recommended debugging level: 2. **NOTE**: Setting a debug level greater than zero may severely impact the performance of the server.
	Files. The maximum number of files to create in the log file pool. Default value = 2.

IM.cfg

Default location: in the directory where InstallManager.exe is located.

Table 3-28. IM.cfg file information

Section	Field / Description
[Program Log]	**Size**. The maximum size in bytes of IM.log. Default value = 300000
	Files. The maximum number of files to create in the log file pool. Default value = 2.
[Debug Log]	**Size**. The maximum size in bytes of IM.dbg. Default value = 300000.
	Files. The maximum number of files to create in the log file pool. Default value = 2.
	Level. The level of debugging information sent to the debug log file. Values = 2000–3000; default value = 2000. Recommended level: 2000. **NOTE**: Turning on the debug log may severely impact the performance of the server.

LicensingAdmin.cfg

Default location: C:\Program Files\Cisco\Desktop\config.

Table 3-29. LicensingAdmin.cfg file information

Section	Field / Description
[Program Log]	**Size**. The maximum size in bytes of LicensingAdmin.log. Default value = 300000
	Files. The maximum number of files to create in the log file pool. Default value = 2.

Table 3-29. LicensingAdmin.cfg file information

Section	Field / Description
[Debug Log]	**Size**. The maximum size in bytes of LicensingAdmin.dbg. Default value = 300000.
	Files. The maximum number of files to create in the log file pool. Default value = 2.
	Level. The level of debugging information sent to the debug log file. Values = 5000–6000; default value = 2000, 3000, 4000, 5000, 6000, or 7000. **NOTE**: Turning on the debug log may severely impact the performance of the server.

PhoneDev.ini

Default location: C:\Program Files\Cisco\Desktop\config

Table 3-30.

Section	Field / Description
[PhoneDevice]	**Appearance*N***. The agent's phone extension.
[ReqTimeout]	**Milleseconds=*N***. The number of milliseconds to wait before the login request times out. This section does not normally appear in the file unless the user wants to specify a wait time other than the default of 4000 milliseconds (4 seconds), which is in the program code. The section must be added manually for a different wait time to go into effect.

PhoneNumbers.ini

Default location: C:\Program Files\Cisco\Desktop\config

Table 3-31. PhoneNumbers.ini file information

Section	Field / Description
[PhoneNumbers]	**Number*N***. A telephone number entered in the personal phone book. There may be up to 100.

ssCTIconfig.cfg

Default location: C:\Program Files\Cisco\Desktop\Enterprise\config

Table 3-32. ssCTIconfig.cfg file information

Section	Field / Description
[Call Archiving]	**Archiving Mode**. Turns on call data archiving. Values = 0 (off), 1 (on). Default value = 0.
[Program Log]	**Size**. The maximum size in bytes of ssCTIconfig.log. Default value = 300000.
	Files. The maximum number of files to create in the log file pool. Default value = 2.
[CTI Server]	**Login Name**. The login or logical ID, depending on the telephony server type.
	Password or Network. The password or network, depending on the telephony server type. No default value is set.
	Cleanup Interval. The time interval in minutes for the Enterprise Server to do a call history cleanup. Default value = 60.
	Sleep Interval. The time interval in milliseconds that the Enterprise Server delays before sending call activity information back to the caller.
[List of ACD Groups to Monitor]	Not used.
[List of Devices to Monitor]	Not used.
[Debug Log]	**Size**. The maximum size in bytes of ssCTIHandler.dbg, ssCTIMain.dbg, and ssCTIMonitor.dbg. Default value = 300000.
	Files. The maximum number of files to create in the log file pool. Default value = 2.
	Level. The level of debugging information sent to the debug log file. Values = 0–4; default value = 0. Recommended level for debugging: 2. **NOTE**: Turning on the debug log may severely impact the performance of the server.

ssDataTypes.cfg

Default location: C:\Program Files\Cisco\Desktop\Enterprise\config

Table 3-33. ssDataTypes.cfg file information

Section	Field / Description
[Screen Pop Registered Data Types]	**Name**. The name of the listed data type.
	Minimum Size. The minimum number of characters to save for this data type.
	Maximum Size. The maximum number of characters to save for this data type.

ssECCs.cfg

Default location: C:\Program Files\Cisco\Desktop\Enterprise\config

Table 3-34. ssECCs.cfg file information

Section	Field / Description
[ECC Scalar Variables to Data Type Mapping]	**ECCn**. The ICM ECC scalar variable name mapped to the enterprise data type. For example, ECC1=201
[ECC Array Variables to Data Type Mapping]	**ECC_Arr n**. The ECC array variable name and array index mapped to the enterprise data type. For example, ECC_Arr 1=211.
[ECC Arrays Data Type List	**ECC_ARR_<name>**. The ECC array variable name and the list of enterprise data types for that array. For example, ECC_ARR_Account=204, 205, 206, 207

ssLayouts.cfg

Default location: C:\Program Files\Cisco\Desktop\Enterprise\config

Table 3-35. ssLayouts.cfg file information

Section	Field / Description
[Screen Pop Layouts]	<layout name>|Layout Fields=<list of data types to display to the agent> For example: Default|Layout Fields=252|254|252

Supervisor.ini

The default location is Program Files\Cisco\Desktop\config

Table 3-36. Supervisor.ini file information

Section	Field / Description
[Program Log]	**Path**. The path to the supervisor.log file.
	Size. The size of the log file. Default value = 300000.
[Debug Log]	**Path**. The path to the supervisor.dbg file.
	Size. The size of the debug file. Default value = 300000.
	Level. The level of debugging, from 0–6000. The higher the value, the more detailed the debug file. Default value = 0. Recommended level: 30.

TIAJ.cfg

The default location is \Program Files\wfavvid\tomcat_appadmin\conf. This is a Java properties file. The information in Table 3-37 is a subset of the entire file, and is the section concerned with setting up debugging and error logging, and configuring the agent ID and password fields to use numeric entries only. .

You must restart the CiscoCRAServletEngine for any changes you make to take effect.

Table 3-37. TIAJ.cfg file information

Entry	Description
log4j.rootLogger=debug, R	Turns on debug and error logging. Substitute the **=debug, R** entry for the **=error, R** entry to turn on the debug log.
log4j.rootLogger=error, R	Turns on error logging only (default).
log4j.appender.R.File=logs\\TIAJ.log	Sets the location of the log file.
logs4j.appender.R.MaxFileSize=1000KB	Sets the size of the log before it rolls over to the next backup set. (TIAJ.log is copied to TIAJ.log.1, then TIAJ.log.2, up to the maximum number of backup sets, then overwrites TIAJ.log.1, and so on.)
log4j.appender.R.MaxBackupIndex=10	Sets the number of backup sets.
inputflag.login.id=N	Configures the agent ID field on the Login screen to accept numeric entries (set to A for alphanumeric entries).
inputflag.login.pwd=N	Configures the password field on the Login screen to accept numeric entries (set to A for alphanumeric entries).

UserInterface.ini

The default location is Program Files\Cisco\Desktop\config\default.

Table 3-38. UserInterface.ini file information

Section	Field / Description
[Misc]	**LocalAdmin**. If enabled, allows Agent local administration. Values: 0 = disabled; 1 = enabled.
	StatusBar. If enabled, displays the status bar in Agent. Values: 0 = disabled; 1 = enabled.
	FirstCallRule. If enabled, events are processed for only the first (oldest) call appearance. Values: 0 = disabled; 1 = enabled.
	ViewOption. Determines the way in which the Agent window is displayed. Values: Normal, Keepopen, Alwaystop, Stealth.
[Macro]	**HotKey**. Contains the key a user pressed to suspend macro recording and display the Macro Recording Suspended dialog box. Values: F2, F6, F11, Pause.
[XXXXButton]	**Hint**. The text displayed as hover text over an Agent call control or task button.
	ActionX. Sets the actions to run when a task button is clicked. Values: MacroXXXX, Call Control XXXX, Launch XXXX.

Registry Entries

Site Setup

HKEY_LOCAL_MACHINE\SOFTWARE\Spanlink\Site Setup

Table 3-39. Site Setup registry entries

Value	Type	Description
LDAP_BIND_DN	string	Login ID to LDAP.
LDAP_HOSTA	string	IP address of the primary Directory Services server
LDAP_HOSTB	string	IP address of the secondary Directory Services server
LDAP_LCC	string	Name of the logical contact center
LDAP_PORTA	DWORD	Primary Directory Services Port ID
LDAP_PORTB	DWORD	Secondary Directory Services Port ID
LDAP_PWD	string	Login password for LDAP. This password is encrypted.
LDAP_ROOT	string	The root distinguishing name of the Cisco Desktop Directory Services information.
LDAP_SVR_PORT	DWORD	The port used to log into Directory Services. Default = 0.
LDAP_ICD_USER	string	Location of users in LDAP used by the Sync server.
LDAP_TYPE	DWORD	The type of LDAP used.

Agent Desktop

HKEY_LOCAL_MACHINE\SOFTWARE\Spanlink\Spanlink FastCall Agent\

Table 3-40. Agent Desktop registry entries

Key	Value	Type	Description
Config	App version	string	Current version of the software
	CTI_server	string	Hostname or IP address of the CTI server.
	Install directory	string	Location of the installation directory
	Media term	string	T/F. Indicates if media termination is running.
	Shortcut icon path	string	Location of the start shortcut under Start Menu–Programs
	Switch type	string	Type of telephony switch the system is running under
	Version	string	Current version of Agent

Base

HKEY_LOCAL_MACHINE\SOFTWARE\Spanlink\Base\

Table 3-41. Base registry entries

Key	Value	Type	Description
Config	App version	string	Current version of the software
	Root install directory	string	Location of the installation directory.
	Version	string	Initial software version as set up in Install Shield

Call/Chat Server

HKEY_LOCAL_MACHINE\SOFTWARE\Spanlink\FastCall Chat Server\

Table 3-42. Call/Chat Server registry entries

Key	Value	Type	Description
Config	App version	string	Current version of the software
	Install directory	string	Base installation directory
	Product name	string	Used to brand the product: affects serve name, Windows application log entries
	Version	string	Initial software version as set up in Install Shield
Setup	IOR hostname	string	Hostname or IP address of the server. Needed in multiple network card systems to ensure the server uses the IP address accessible to its clients in the CORBA IOR.

Desktop Administrator

HKEY_LOCAL_MACHINE\SOFTWARE\Spanlink\Spanlink FastCall Administrator\

Table 3-43. Desktop Administrator registry entries

Key	Value	Type	Description
Config	App version	string	Current version of the software
	Config directory	string	Location of the configuration directory
	Install directory	string	Location of the installation directory
	Shortcut icon path	string	Location of the start shortcut under StartMenu–Programs
	Switchtype	string	Type of telephony switch the system is running under
	Version	string	Initial software version as set up in Install Shield

Directory Services

HKEY_LOCAL_MACHINE\SOFTWARE\Spanlink\Directory Services\

Table 3-44. Directory Services registry entries

Key	Value	Type	Description
Config	App version	string	Current version of the software
	Install directory	string	Base installation directory
	Master		
	Slave defined		
	Version	string	Initial software version as set up in Install Shield

Documentation

HKEY_LOCAL_MACHINE\SOFTWARE\Spanlink\Spanlink FastCall Documentation\

Table 3-45. Documentation registry entries

Key	Value	Type	Description
Config	App version	string	Current version of the software
	Install directory	string	Location of the installation directory.
	Switch type	string	Type of telephony switch the system is running under
	Version	string	Initial software version as set up in Install Shield

Enterprise Administrator

HKEY_LOCAL_MACHINE\SOFTWARE\Spanlink\FastCall Enterprise Administrator\

Table 3-46. Enterprise Administrator registry entries

Key	Value	Type	Description
Config	Install directory	string	Location of the installation directory
	Switchtype	string	Type of telephony switch the system is running under
	Version	string	Initial software version as set up in Install Shield

Enterprise Data

HKEY_LOCAL_MACHINE\SOFTWARE\Spanlink\Spanlink FastCall Enterprise Data\

Table 3-47. Enterprise Data registry entries

Key	Value	Type	Description
Config	Install directory	string	Location of the installation directory.
	Shortcut icon path	string	Location of the start shortcut under StartMenu–Programs.
	Version	string	Initial software version as set up in Install Shield.
Setup	Increment	DWORD	Time interval between each retry.
	Initial time	DWORD	Initial retry sleep time.
	Max wait time	DWORD	Maximum retry sleep time.

Enterprise Server

HKEY_LOCAL_MACHINE\SOFTWARE\Spanlink\FastCall Enterprise Server\

Table 3-48. Enterprise Server registry entries

Key	Value	Type	Description
Config	App version	string	Current version of the software
	Install directory	string	Base installation directory
	Product name	string	Used to brand the product: affects server name, Windows application log entries
	Switch Type	string	Used by to identify the switch type.
	Version	string	Initial software version as set up in Install Shield.
Setup	IOR hostname	string	Hostname or IP address of the server. Needed in multiple network card systems to ensure the server uses the IP address accessible to its clients in the CORBA IOR.

ExtraAgent Admin

HKEY_LOCAL_MACHINE\SOFTWARE\Spanlink\ExtraAgent Admin\

Table 3-49. ExtraAgent Admin registry entries

Key	Value	Type	Description
Config	App version	string	Current version of the software
	Install directory	string	Base installation directory.
	Version	string	Initial software version as set up in Install Shield.
Setup	LDAP host	string	Hostname or IP address of the Directory Services server.
	LDAP LCC	string	Name of the logical contact center.
	LDAP port	DWORD	Directory Services port ID
	LDAP Pwd	string	Encrypted login password for Directory Services.
	Server type	DWORD	
	Switch type	DWORD	Type of telephony switch the system is running under.

IP Phone Agent Server

HKEY_LOCAL_MACHINE\SOFTWARE\Spanlink\TAI\

Table 3-50. IP Phone Agent server registry entries

Key	Value	Type	Description
Config	App version	string	Current version of the software
	Install directory	string	Base installation directory.
Setup	IOR hostname	string	Hostname or IP address of the server. Needed in multiple network card systems to ensure the server uses the IP address accessible to its clients in the CORBA IOR.
	SPLKTomcat	string	Used to determine if the Tomcat server is installed on the same server.
	Tomcat home	string	Location of the Tomcat webserver files

Media Termination

HKEY_LOCAL_MACHINE\SOFTWARE\Spanlink\Media Termination\

Table 3-51. Media Termination registry entries

Key	Value	Type	Description
Config	App version	string	Current version of the software

ODBC

HKEY_LOCAL_MACHINE\SOFTWARE\ODBC\ODBC.INI\

Table 3-52. ODBC registry entries

Key	Value	Type	Description
[name of the DSN]	Database	string	Database file name.
	Description	string	Description of the database.
	Driver	string	File path of the database driver.
	LastUser	string	User ID of the last person to log into the database.
	Server	string	Hostname or IP address of the server hosting the database.
	SPLKDatabase	string	Database name that the ODBC DSN connects to in the database system.
	SPLKNetwork	string	Database-specific connection type that the ODBC client uses to connect to the database.
	SPLKPwd	string	Encrypted password used to access the database.
	SPLKUID	string	User ID used to access the database.

Recording and Statistics Server

HKEY_LOCAL_MACHINE\SOFTWARE\Spanlink\FastCall RASCAL Server

Table 3-53. Recording and Statistics server registry entries

Key	Value	Type	Description
Config	App version	string	Current version of the software
	DB script message	string	Error string indicating if the MSDE or Recording and Statistics database scripts succeed or fail.
	DB script result	string	Numerical representation of success or failure: 1 = success, 0 = failure.
	DB type	string	Database type
	Install directory	string	Location of the installation directory
	Product name	string	Name of the product being installed.
	Version	string	Initial software version as set up in Install Shield
Setup	Audio directory	string	The path (UNC naming recommended) where the recording files are placed. This location must be a shared folder where all supervisors can access the files. The Recording & Statistics service user must have Modify rights, and supervisors Read rights, to the folder. If UNC naming is not used, all users must be mapped to the drive to ensure access to the recording files.
	IOR hostname	string	Hostname or IP address of the server. Needed in multiple network card systems to ensure the server uses the IP address accessible to its clients in the CORBA IOR.
	Database User	string	The name of the user who the server connects to the database.

Table 3-53. Recording and Statistics server registry entries — *Continued*

Key	Value	Type	Description
Setup (cont'd)	Database Password	string	The password associated with the database user. This password must be encrypted.

Supervisor Desktop

HKEY_LOCAL_MACHINE\SOFTWARE\Spanlink\FastCall Chat Supervisor\

Table 3-54. Supervisor Desktop registry entries

Key	Value	Type	Description
Config	App version	string	Current version of the software
	Install directory	string	Location of the installation directory
	Shortcut icon path	string	Location of the start shortcut under StartMenu–Programs
	Type	DWORD	
	Version	string	Current version of Supervisor

Synchronization Server

HKEY_LOCAL_MACHINE\SOFTWARE\Spanlink\FastCal Synchronization Server\

Table 3-55. Synchronization Server registry entries

Key	Value	Type	Description
Config	App version	string	Current version of the software
	Install directory	string	Location of the installation directory

Voice-Over IP Monitor Client

HKEY_LOCAL_MACHINE\SOFTWARE\Spanlink\FastCall VoIP Monitor Client\

Table 3-56. Voice-Over IP Monitor Client registry entries

Key	Value	Type	Description
Config	Install directory	string	Base installation directory.
	Version	string	Initial software version as set up in Install Shield
Setup	From Agent Port	DWORD	IP port for RTP stream being sent from IP agent. Default value = 59012. Port must be an even number. The next port is reserved for RTCP stream.
	Jitter Buffer	DWORD	Amount of voice data to buffer before playing. Default value = 400 ms. On a typical internal network this value can be set as low as 50 ms. The default is set higher so the sound quality is good even on a congested network.
	Recording Jitter Buffer	DWORD	Amount of voice data to buffer before playing. Use this setting to override the default built into the API.
	Recording Port Range Start	DWORD	The starting port number for receiving UDP packets. Use this setting to override the default built into the API. Default value = 59100.
	Recording Port Range End	DWORD	The end port number for receiving UDP packets. Use this setting to override the default built into the API. Default value = 59169.
	Server Host	string	Host name of the VoIP server.

Table 3-56. Voice-Over IP Monitor Client registry entries — *Continued*

Key	Value	Type	Description
Setup [cont'd]	Sound Buffers	DWORD	Number of sound card buffers. Default = 30; minimum is 3. If the monitor sound quality is choppy, stuttering, or like a motorboat you may be able to make it sound better by adjusting this value higher. Setting the value higher increases the sound lag, and may cause a slight stutter at the beginning of a monitor session.
	To Agent Port	DWORD	IP port for RTP stream being sent to Agent IP Phone. Default value = 59010. The port must be an even number. The next port is reserved for RTCP stream.

Voice-Over IP Monitor Server

HKEY_LOCAL_MACHINE\SOFTWARE\Spanlink\FastCall VoIP Monitor Server\

Table 3-57. Voice-Over IP Monitor Server registry entries

Key	Value	Type	Description
Config	App version	string	Current version of the software
	Install directory	string	Base installation directory
	Product name	string	Used to brand the product: affects server name, Windows application log entries
	Version	string	Initial software version as set up in Install Shield.

Table 3-57. Voice-Over IP Monitor Server registry entries — *Continued*

Key	Value	Type	Description
Setup	IOR hostname	string	Hostname or IP address of the voice monitor server. Needed in multiple network card systems to ensure the monitor server uses the IP address accessible to its clients in the CORBA IOR.
	Monitor device	string	Network adapter device on which to sniff packets

Using Remote Supervisor Desktop with a Firewall

Remote Supervisor Desktop is supported in a configuration with a firewall. You must use registry setting overrides to open server ports through the firewall. (See Table 3-58.)

Table 3-58. Server Registry Overrides

Server	Port	Registry Entry Override under HKEY_LOCAL_MACHINE\SOFTWARE\Spanlink
Call/Chat Server	59000	FastCall Chat Server\Setup\OmniOrbUsePort
Voice-Over IP Monitor Server	59002	FastCall VoIP Monitor Server\Setup\OmniOrbUsePort
Recording & Statistics Server	59003	FastCall Rascal Server\Setup\OmniOrbUsePort
Enterprise Server	59004	FastCall Enterprise Server\Setup\OmniOrbUsePort
IP Phone Agent Server	59010	TAI\Setup\OmniOrbUsePort
Synchronization Server	59011	FastCall Synchronization Server\Setup\OmniOrbUsePort
Chat Server DLL (Call/Chat)	59020	FastCall Chat Server API\Setup\OmniOrbUsePort
Chat Server DLL (Supervisor)	59021	

In a typical installation, the Desktop Product Suite servers are installed on a machine inside the firewall, and receive a non-routable IP address. Non-routable IP addresses can be one of the following:

Class A: 10.nnn.nnn.nnn

Class B: 172.nnn.nnn.nnn

Class C: 192.168.nnn.nnn

For Remote Supervisor Desktop to access the servers through a firewall, the OmniOrbUsePort setting for each server must set to a generic domain name (for instance, CiscoServers) instead of an IP address.

The generic domain name is then entered into the HOSTS file on the server machine so that it maps the domain name to an IP address. For example:

CiscoServers 172.1.2.3

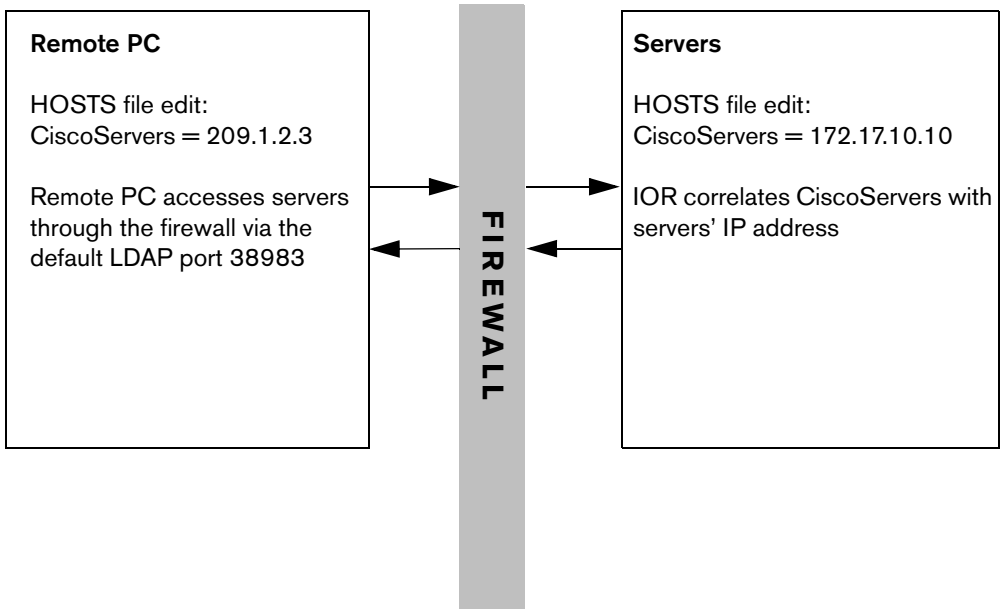
This allows anyone connecting to the Cisco servers from inside the firewall to see the IP address, 172.1.2.3.

On the Remote Supervisor Desktop machine, edit the HOSTS file to add an entry that maps the domain name to the IP address set by the firewall to the server machine inside the network. For instance:

CiscoServers 123.456.789.012

When the supervisor, inside or outside the firewall, tries to connect to the server, it reads the IOR from Directory Services where the server IP address is stored. The generic domain name serves as an interface to relate the IP addresses to each other, making it possible for remote supervisors to connect to agents outside the contact center.

Figure 3-2. Accessing CAD servers through a firewall.



KEY:
209.1.2.3 = firewall's static IP address
172.17.10.10 = servers' IP address

Call History Archiving

When call history archiving is enabled (see Chapter 2, "Enterprise Data Configuration" in the *Cisco Desktop Product Suite 4.5.5 Desktop Administrator User Guide*), a file detailing the history and stored data of each call is written to a file in the Reports directory. The file is available shortly after midnight and is named in the format **WeekdayName.txt**, where WeekdayName is the day of the week (for instance, Monday.txt, Tuesday.txt, and so on).

Two lines are written for each call: one detailing the history and one detailing the stored data. The lines are written in the following format:

```
H|Call ID[|Device,Device Type,Delivered Time,Established
Time,Dropped Time]
D|Call ID[|Data Type,Data Value,Stored Time]
```

The record prefixed with "H" details the call's history. The record prefixed with "D" details the stored data for the call.

Record	Field	Description
H, D	Call ID	The telephony server-provided call identifier.
H	Device	The device name.
H	Device Type	The type of device: A Agent Q ACD queue I IVR port O Other
H	Delivered Time	The calendar time* when the call was delivered to the device. 0 if no information.
H	Established Time	The calendar time when the device connected. 0 if no information.
H	Dropped Time	The calendar time when the device dropped the call. 0 if no information.
D	Data Type	The data type, 0–255.
D	Data Value	The stored data value.
D	Stored Time	The calendar time when the data value was stored.

* Calendar time is the number of seconds since 00:00:00 UTC (01/01/1970).

Logs and Error Codes

4

Logs

Error/Event Logs

Logs are listings of Cisco Desktop events and errors.

Events may represent the following:

- Actions taken by a Desktop application
- Implications of user-defined configuration settings
- Limitations of the hardware

Error codes are brief descriptions of system events.

Error and event logging is always enabled. The log files are limited to a default of 3 MB. (You may change the limit in the supervisor.ini and fastcalllocal.ini files.) When a log file reaches that size, it is closed and a new file is started.

The files are numbered, up to the total number of files set in the configuration file (the default number is 2). For example:

- agent0001.log
- agent0002.log

When agent0001.log reaches its size limit, it is closed and agent0002.log is created. When the total number of log files have been created, the first log file is overwritten.

Cisco Desktop generates the following error and event logs:

Table 4-1. Cisco Desktop error/event logs

Log Name	Type	Location and Purpose
agent.log	error/event	C:\Program Files\Cisco\Desktop\log Records events and errors in Agent Desktop.
agtStateClientTest.log	error/event	C:\Program Files\Cisco\Desktop\IP Phone Agent Interface\log Records events and errors in the AgtStateClientTest program.
AgtStateSvr.log	error/event	C:\Program Files\Cisco\Desktop\IP phone Agent Interface\log Records errors and events in the IP Phone Agent server.
DirAccessSynSvr.log	error/event	C:\Program Files\Cisco\Desktop\Directory Services\log Records events and errors in the Sync server
FCCServer.log	error/event	C:\Program Files\Cisco\Desktop\Chat Server\log Records errors and events in the Call/Chat server.
FCRasSvr.log	error/event	C:\Program Files\Cisco\Desktop\log Records errors and events in the Recording and Statistics server.
fcuninstall.log	event	C:\Program Files\Cisco\Desktop Records information required for the uninstall process.
FCVoIPMonSvr.log	error/event	C:\Program Files\Cisco\Desktop\VoIP\log Records errors and events in the Voice-Over IP Monitor server.

Table 4-1. Cisco Desktop error/event logs — *Continued*

Log Name	Type	Location and Purpose
IM.log	error/event	C:\ Records errors and events in the installation.
LicensingAdmin.log	error/event	C:\Program Files\Cisco\Desktop\log Records errors and events in License Administrator.
ssCTIHandler.log	event	C:\Program Files\Cisco\Desktop\Enterprise\log Records events in the CTI Enterprise server.
ssCTIMain.log	event	C:\Program Files\Cisco\Desktop\Enterprise\log Records events in the CTI Enterprise server.
ssCTIMonitor.log	error	C:\Program Files\Cisco\Desktop\Enterprise\log Records errors in the CTI Enterprise server.
supervisor.log	error/event	C:\Program Files\Cisco\Desktop\log Records errors and events in Supervisor and Supervisor Log Viewer.
TIAJ.log	error/debug	C:\Program Files\wfavvid\tomcat_appadmin\logs Records debug and/or errors for IP Phone Agent.

Agent Activity Logs

Agent Desktop records incoming and outgoing calls and agent state transitions to the Recording and Statistics server database. These are viewable only through the log viewers in Agent Desktop.

Call logs contain the following fields:

Table 4-2. Call Log Fields

Field	Description
Answered	Y/N. Indicates if the call was answered.
Called Info	Text description of the called station, entered at the switch.
Called Number	The phone number of the called party.
Calling Info	Text description of the calling station, entered at the switch.
Calling Number	The phone number of the calling party.
Duration	The length of time the call lasted, in HH:MM:SS format.
End Time	The time the call ended in HH:MM:SS format.
I/O	Indicates an incoming/outgoing call.
Skill Group	The number of the skill group associated with the call.
Start Time	The time the call started in HH:MM:SS format.
Station Number	The phone number of the local phone device.

Agent transition logs contain the following fields:

Table 4-3. Agent Transition Log Fields

Field	Description
Agent ID	The monitored agent's ID.
Agent State	The agent's current state.
Reason Code	The code indicating the reason for a related state change.
Start Time	The time the current state started.

Debug Logs

Cisco Desktop is able to keep debug logs, although by default this capability is disabled. If it is desired, it must be enabled by editing the **fastcalllocal.ini** and/or **supervisor.ini** files.

Debugging information is written to the various debug files, all of which have a **.dbg** suffix. These files are located in the \Program Files\Cisco\Desktop\log directory.

> **NOTE:** An exception to this is the IP Phone Agent debug log (TIAJ.log). This log can contain both debugging and error information. The default setting is error information only.

▶ **To turn on debugging:**

1. Open the appropriate **.ini** file (or **.cfg** file for servers).
2. Under the section headed **[Debug Log]**, set the value for **Level** at some value between 0 and 8000. The higher the number, the more detailed the debugging information.

   See Chapter 3, “Configuration Files” for recommended debug levels.
3. Save the .ini or .cfg file with the new setting.

Debug Levels

When setting the debug level, keep in mind that a higher debugging level slows the performance of your PC and increases the size of the debug file.

Enterprise, Call/Chat, and Recording and Statistics Servers. Do not set the debug level for these servers higher than level 4, or they will not run as a service.

VoIP Monitor Server. Silent monitor sound quality will be adversely affected if you set the debug level at more than 2. Turning on debug levels 3 or 4 causes the VoIP Monitor server to log information about each packet it receives, and this may cause it to fall behind in its packet handling. Use levels 3 or 4 only when you suspect that the VoIP Monitor server may not be receiving packets from the SPAN port.

Errors Messages

Error messages are classified by the level of severity of the error. These levels are:

- **Fatal**. The program cannot continue.
- **Major**. The program has suffered a loss of functionality, but it continues to run.
- **Minor**. There is a malfunction that is a nuisance but that does not interfere with the program's operation.
- **Informational**. Not an error, this is related information that may be useful for troubleshooting.

Agent Desktop Errors

Note: In this table, **<ln>** refers to the program line number that generates the error. This number is not constant so is represented by the variable

Table 4-4. Agent Desktop Error Messages

AP <ln>	**Text**	Action List Corrupt.
	Type	Minor
	Description	The actions configured in Desktop Administrator may be corrupt.
	Action	Check the Work Flow actions in Desktop Administrator.
AP <ln>	**Text**	EventList has reached 15.
	Type	Minor
	Description	Something is stopping events from getting processed in Cisco Agent Desktop.
	Action	Check log file for errors.
AP <ln>	**Text**	Action Index Corrupt
	Type	Minor
	Description	The actions configured in Desktop Administrator may be corrupt.
	Action	Check the Work Flow actions in Desktop Administrator.

Table 4-4. Agent Desktop Error Messages — *Continued*

AW <ln>	**Text**	Unable to write call data to RASCAL: GID=*global_ID* Error=*RASCAL_Server_errror*.
	Type	Minor
	Description	Could not write data to Recording and Statistics server.
	Action	Verify the Recording and Statistics server is running.
AW <ln>	**Text**	Unable to write agent state change to RASCAL: GID=*global_ID* Error=*RASCAL_server_error*
	Type	Minor
	Description	Could not write data to Recording and Statistics server.
	Action	Verify the Recording and Statistics server is running.
AW <ln>	**Text**	Unable to get RASCAL global ID for agent state change.
	Type	Minor
	Description	Could not obtain global ID from Recording and Statistics server.
	Action	Verify the Recording and Statistics server is running.
CA <ln>	**Text**	Unable to attach to CallChat application.
	Type	Minor
	Description	Emergency Chat messages to supervisor and Skill statistics on the Supervisor Desktop will be unavailable.
	Action	From a command prompt, go to the Desktop bin directory and run the command **regsvr32 fastcallserverproxy.dll**.

Table 4-4. Agent Desktop Error Messages — *Continued*

CC <ln>	**Text**	Server error while logging in #*error_number*: *error_string*.
	Type	Major
	Description	Agent Desktop was unable to log into the Call/Chat server.
	Action	Make sure the Call/Chat server is properly installed and running.
CC <ln>	**Text**	Server error adding user #*error_number*: *error_string*.
	Type	Major
	Description	Agent Desktop was unable to add a new user to the Call/Chat server.
	Action	Make sure the CallChat server is properly installed and running.
EI <ln>	**Text**	DelimToData Error: *Enterprise_server_error*.
	Type	Minor
	Description	While processing enterprise data received Enterprise server error.
	Action	Verify that the Enterprise server is running.
EI <ln>	**Text**	Enterprise error: Get data types for callID *call_ID*, Error: *Enterprise_server_error*
	Type	Major
	Description	Unable to get enterprise data for the current call.
	Action	Verify that the Enterprise server is running.
FC <ln>	**Text**	Unable to connect to Directory Services; *Directory_Services_error*.
	Type	Fatal
	Description	Either the Directory Services parameters are incorrect or Directory Services are unavailable.
	Action	See administrator.

Table 4-4. Agent Desktop Error Messages — *Continued*

FC <ln>	**Text**	Unable to verify license. License Error: *error_string*
	Type	Major
	Description	Agent Desktop is unable to verify the license.
	Action	Make sure the license files are correctly installed and licensing has been configured.
FD <ln>	**Text**	Unable to start recording of call. *VoIP_Monitor_server_error*.
	Type	Major
	Description	Could not start recording the call.
	Action	Refer to setup and troubleshooting sections.
FD <ln>	**Text**	Unable to logout of RASCAL server *RASCAL_server_error*.
	Type	Minor
	Description	Could not disconnect from the Recording and Statistics server. Some statistics and logs will not be available.
	Action	None.
FD <ln>	**Text**	Unable to stop recording of call *VoIP_Monitor_server_error*.
	Type	Minor
	Description	Could not stop recording the call.
	Action	Refer to setup and troubleshooting sections.
FD <ln>	**Text**	Unable to login to RASCAL server. *RASCAL_server_error*
	Type	Major
	Description	Could not connect to Recording and Statistics server. Some statistics and logs will not be available.
	Action	Refer to setup and troubleshooting sections.

Table 4-4. Agent Desktop Error Messages — *Continued*

FD <In>	**Text**	Unable to login to VoIP server. *VoIP_Monitor_server_error*.
	Type	Major
	Description	Could not connect to VoIP Monitor server. Call recording will not be available.
	Action	Refer to setup and troubleshooting sections.
FD <In>	**Text**	Unable to logout of VoIP server. *VoIP_Monitor_server_error*
	Type	Minor
	Description	Could not disconnect from VoIP Monitor server. Call recording will not be available.
	Action	None.
FD <In>	**Text**	Drop call control action–empty Call ID.
	Type	Minor
	Description	Indicates that a call control action is being attempted on a call that no longer exists, or is not in the correct state for the action to complete successfully.
	Action	None.
FD <In>	**Text**	Answer call control action–empty Call ID.
	Type	Minor
	Description	Indicates that a call control action is being attempted on a call that no longer exists, or is not in the correct state for the action to complete successfully.
	Action	None

Table 4-4. Agent Desktop Error Messages — *Continued*

FD <ln>	**Text**	Touch tones call control action–empty Call ID.
	Type	Minor
	Description	Indicates that a call control action is being attempted on a call that no longer exists, or is not in the correct state for the action to complete successfully.
	Action	None
FD <ln>	**Text**	Redirect call control action–empty Call ID.
	Type	Minor
	Description	Indicates that a call control action is being attempted on a call that no longer exists, or is not in the correct state for the action to complete successfully.
	Action	None
FD <ln>	**Text**	Conference call control action–empty Call ID.
	Type	Minor
	Description	Indicates that a call control action is being attempted on a call that no longer exists, or is not in the correct state for the action to complete successfully.
	Action	None
FD <ln>	**Text**	Super transfer call control action–empty Call ID.
	Type	Minor
	Description	Indicates that a call control action is being attempted on a call that no longer exists, or is not in the correct state for the action to complete successfully.
	Action	None

Table 4-4. Agent Desktop Error Messages — *Continued*

FD <In>	**Text**	Blind transfer call control action–empty Call ID.
	Type	Minor
	Description	Indicates that a call control action is being attempted on a call that no longer exists, or is not in the correct state for the action to complete successfully.
	Action	None
FD <In>	**Text**	Blind transfer call control action–destination Call ID is empty Call ID.
	Type	MInor
	Description	Indicates that a call control action is being attempted on a call that no longer exists, or is not in the correct state for the action to complete successfully.=
	Action	None
FD <In>	**Text**	Drop call control action–drop failed
	Type	Minor
	Description	Unable to drop the call. The call may no longer exist or may not be in a state where it can be dropped.
	Action	None
FD <In>	**Text**	Answer call control action–answer failed
	Type	Minor
	Description	Unable to answer the call. The call may no longer exist, or may not be in a state where it can be answered.
	Action	None

Table 4-4. Agent Desktop Error Messages — *Continued*

FD <ln>	**Text**	Touch tones call control action–send DTMF failed
	Type	Minor
	Description	Unable to send touch tones for this call. The call may no longer exists, or may not be in a state that is able to accept touch tones.
	Action	None
FD <ln>	**Text**	Make call control action–place call failed
	Type	Minor
	Description	Unable to place an outbound call. The phone may not have any available lines, or the ACD may not allow a call at this time.
	Action	None
FD <ln>	**Text**	Super transfer call control action–calls for invalid state
	Type	Minor
	Description	Supervised transfer failed. The call being transferred is not in the correct state.
	Action	None
FD <ln>	**Text**	Blind transfer call control action–calls in invalid state
	Type	Minor
	Description	Blind transfer failed. The call being transferred is not in the correct state.
	Action	None

Table 4-4. Agent Desktop Error Messages — *Continued*

FD <ln>	**Text**	Blind transfer call control action–setup transfer failed
	Type	Minor
	Description	Unable to create the consultation call for blind transfer. No more lines may be available, or the ACD may not allow a consultation call at this time.
	Action	None
FD <ln>	**Text**	Blind transfer call control action–complete transfer failed.
	Type	Minor
	Description	Unable to complete the transfer. One of the calls may no longer be active, or the ACD may not allow the transfer to be completed at this time.
	Action	None
FF <ln>	**Text**	Maximum number of clients already reached.
	Type	Fatal
	Description	Agent can only support X number of clients as defined by the operating system, and is already supporting the maximum number of clients.
	Action	Shut down one or more Agent clients and try again. Agent clients include Enterprise Data server and CTI Call/Chat server.
FF <ln>	**Text**	Unable to attach to or create FastCall Application.
	Type	Fatal
	Description	Desktop is not running or registered as a COM server.
	Action	From a command prompt, go to the Desktop bin directory and run the command **regsvr32 fastcallserverproxy.dll**

Table 4-4. Agent Desktop Error Messages — *Continued*

FF <ln>	**Text**	COM error. Unable to properly initialize.
	Type	Fatal
	Description	Desktop may not be running or be registered as a COM server.
	Action	From a command prompt, go to the Desktop bin directory and run the command **regsvr32 fastcallserverproxy.dll**
FF <ln>	**Text**	FastCall is not properly installed on your system.
	Type	Fatal
	Description	A component or configuration of Desktop is corrupt or not installed properly.
	Action	Uninstall all Desktop components and reinstall.
FF <ln>	**Text**	Failed to write data to the Cisco Desktop Enterprise Data Server.
	Type	Major
	Description	An error was returned while trying to write data to the enterprise server.
	Action	Make sure the enterprise server is properly installed and running.
PD <ln>	**Text**	Error making calls.
	Type	Minor
	Description	Call Control error. Cannot perform the required Make Call.
	Action	Check if the CallManager is still in service. If the server is running, try to shut down and restart Agent.

Table 4-4. Agent Desktop Error Messages — *Continued*

PD <ln>	**Text**	Error holding call.
	Type	Minor
	Description	Call Control error. Cannot put the call on hold.
	Action	Check if the CallManager is still in service. If the server is running, try to shut down and restart Agent.
PD <ln>	**Text**	Error unholding call.
	Type	Minor
	Description	Call Control error. Cannot release the call from on hold.
	Action	Check if the CallManager is still in service. If the server is running, try to shut down and restart Agent.
PD <ln>	**Text**	Error drop a call.
	Type	Minor
	Description	Call Control error. Cannot drop the call.
	Action	Check if the CallManager is still in service. If the server is running, try to shut down and restart Agent.
PD <ln>	**Text**	Error answering call.
	Type	Minor
	Description	Call Control error. Cannot answer the call.
	Action	Check if the CallManager is still in service. If the server is running, try to shut down and restart Agent.

Table 4-4. Agent Desktop Error Messages — *Continued*

PD <ln>	**Text**	Error setup transfer call.
	Type	Minor
	Description	Call Control error. Transfer cannot be set up.
	Action	Check if the CallManager is still in service. If the server is running, try to shut down and restart Agent.
PD <ln>	**Text**	Error complete transfer call.
	Type	Minor
	Description	Call Control error. Cannot complete transfer.
	Action	Check if the CallManager is still in service. If the server is running, try to shut down and restart Agent.
PD <ln>	**Text**	Error setup conference call.
	Type	Minor
	Description	Call Control error. Conference cannot be set up.
	Action	Check if the CallManager is still in service. If the server is running, try to shut down and restart Agent.
PD <ln>	**Text**	Error complete conference call.
	Type	Minor
	Description	Call Control error. Cannot complete conference.
	Action	Check if the CallManager is still in service. If the server is running, try to shut down and restart Agent.
PD <ln>	**Text**	Error send DTMF tones.
	Type	Minor
	Description	Call Control error. Error in DTMF tone.
	Action	Check if the CallManager is still in service. If the server is running, try to shut down and restart Agent.

Table 4-4. Agent Desktop Error Messages — *Continued*

PD <ln>	**Text**	HeartBeatFailure: ICD offline
	Type	Fatal
	Description	The CRA engine has disconnected the agent.
	Action	Verify the CRA engine is running and log in again.
PD <ln>	**Text**	HeartBeatFailure: CallManager offline.
	Type	Fatal
	Description	The phone, the CallManager, or the CTI Manager is out of service.
	Action	Verify that the phone, CallManager, and the CTI Manager are all working correctly.
PD <ln>	**Text**	Could not create thread, login failed.
	Type	Fatal
	Description	Internal error.
	Action	Verify that the application is completely shut down and not running in the background (check in Task Manager) and restart the application.
PD <ln>	**Text**	PhoneDevStartup: INI file and path are too long.
	Type	Fatal
	Description	Unable to open phonedev.ini.
	Action	Try reinstalling the application using the default path supplied in the installation program.
PD <ln>	**Text**	PhoneDevStartup: No call appearances have been set up.
	Type	Fatal
	Description	The call appearances haven't been set up in phonedev.ini.
	Action	The phone extension needs to be set up via Desktop Administrator.

Table 4-4. Agent Desktop Error Messages — *Continued*

PD <ln>	**Text**	PhoneDevStartup: Initialization failed, could not create message window.
	Type	Fatal
	Description	Unable to receive CTI events.
	Action	Verify that the application is completely shut down and not running in the background (check in Task Manager) and restart the application.
PD <ln>	**Text**	CTIServerLogin: Create session to SplkJtapiServer failed.
	Type	Fatal
	Description	Could not connect to JTAPI server.
	Action	Verify that the application is completely shut down and not running in the background (check in Task Manager) and restart the application.
PD <ln>	**Text**	CTIServerLogin: Error trying to monitor device: *device_ID.*
	Type	Fatal
	Description	Could not monitor the device.
	Action	Verify that the device is correct and that the device is correctly set up in the CallManager.
PD <ln>	**Text**	PhoneDevStartup: Error login: There is no Host Name.
	Type	Fatal
	Description	Host name is empty.
	Action	The host name needs to be set up via Desktop Administrator.

Table 4-4. Agent Desktop Error Messages — *Continued*

PD <ln>	**Text**	PhoneDevStartup: Error login: There is no port.
	Type	Fatal
	Description	Port number is empty.
	Action	The port number needs to be set up via Desktop Administrator.
PD <ln>	**Text**	ICDServerLogin: Failed to establish session to ICD server side A UserName *user_name* AgentDN *user_extension*.
	Type	Fatal
	Description	Could not send open request to CRA engine.
	Action	Verify host and port are correct. Verify CRA engine is running.
PD <ln>	**Text**	Failed to login into CTI server.
	Type	Fatal
	Description	Could not log into CallManager.
	Action	Verify CallManager IP address is correct. Verify CallManager and CTI Manager are running.
PD <ln>	**Text**	OnSnapShot: Error doing call snapshot
	Type	Major
	Description	Snapshot device request failed.
	Action	Verify that the CRA engine is running.
PD <ln>	**Text**	OnFailureEvent: Failure status code = *error_ code error_string*
	Type	Major
	Description	Indicates an error condition with the CRA engine and the agent desktop.
	Action	Verify the Desktop ID, password, and extension are correct and that the extension and agent is correctly configured in CallManager and CRA.

Table 4-4. Agent Desktop Error Messages — *Continued*

PD <In>	**Text**	OnControlFailureConf: FailureCode = *error_code error_string*
	Type	Major
	Description	A request sent to the CRA was failed.
	Action	Verify the Desktop ID, password, and extension are correct, and that the extension and agent are correctly configured in CallManager and CRA.
PD <In>	**Text**	OnFailureConf: Failure status code = *error_code error_string*
	Type	Major
	Description	A request sent to the CRA engine was failed.
	Action	Verify that the Desktop ID, password, and extension are correct, and that the extension and agent are correctly configured in CallManager and CRA.
VD <In>	**Text**	Error retrieving agent state data from RASCAL: *error_string*
	Type	Minor
	Description	Agent Desktop was unable to retrieve agent state data from the Recording and Statistics server.
	Action	Make sure the Recording and Statistics server is properly installed and running.

Call/Chat Server Errors

Table 4-5. Call/Chat Server Error Messages

FCCS100	**Type**	Fatal
	Text	Unable to open registry: HKEY_LOCAL_ MACHINES
	Description	The Call/Chat server was unable to read the value from the registry. The entry should have been created on install.
	Action	Reinstall if the entry is not in the registry.
FCCS101	**Type**	Fatal
	Text	Unable to read registry entry: HKEY_LOCAL_ MACHINE\\SOFTWARE\\Spanlink\\FastCall Chat Server\\Config...
	Description	The Call/Chat server was unable to read the value from the registry. The entry should have been created on install.
	Action	Reinstall if the entry is not in the registry.
FCCS102	**Type**	Fatal
	Text	FastCall Chat Server Main: Unable to initialize log files...
	Description	The Call/Chat server was unable to open the log files. This message does not appear in the log since the log cannot be opened, however, it does appear in the system debugger window. You can use a system debug tool such as DebugView to view the message.
	Action	Make sure the log directory exists and is writable.
FCCS103	**Type**	Fatal
	Text	Unable to open registry entry: HKEY_LOCAL_ MACHINE\SOFTWARE\Spanlink\FastCall Chat Server\Setup
	Description	The Call/Chat server was unable to open the specified registry key.
	Action	Reinstall the Call/Chat server if the entry is not in the registry.

Table 4-5. Call/Chat Server Error Messages — *Continued*

FCCS104	**Type**	Fatal
	Text	Could not start a single working thread, can't continue.
	Description	The Call/Chat server was unable to create any worker threads.
	Action	Restart the Call/Chat server service. If the problem persists, your WinNT system is probably over loaded. Use standard WInNT tools such as Performance Monitor to diagnose the problem.
FCCS108	**Type**	Fatal
	Text	Could not create thread fcPeriodicCleanupThreadHandle. Login Failed. Exiting.
	Description	The Call/Chat server was unable to start the cleanup thread.
	Action	Restart the server. If the problem persists, your WinNT system is probably overloaded. Use standard WinNT tools like Performance Monitor to diagnose the problem.
FCCS109	**Type**	Fatal
	Text	Could not detach thread fcPeriodicCleanupThreadHandle. Login failed. Exiting.
	Description	The Call/Chat server was unable to release the cleanup thread handle.
	Action	Restart the server. If the problem persists, your WinNT system is probably overloaded. Use standard WinNT tools like Performance Monitor to diagnose the problem.
FCCS110	**Type**	Fatal
	Text	Could not create thread fcCorbaServer/ Login Failed. Exiting.
	Description	The Call/Chat server was unable to start the CORBA server thread.
	Action	Restart the server. If the problem persists, your WinNT system is probably overloaded. Use standard WinNT tools like Performance Monitor to diagnose the problem.

Table 4-5. Call/Chat Server Error Messages — *Continued*

FCCS111	**Type**	Fatal
	Text	Could not detach thread fcCorbaServer. Login Failed. Exiting.
	Description	The Call/Chat server was unable to release the CORBA server thread.
	Action	Restart the server. If the problem persists, your WinNT system is probably overloaded. Use standard WinNT tools like Performance Monitor to diagnose the problem.
FCCS200	**Type**	Major
	Text	Failed to update the LDAP server: *description*
	Description	The Call/Chat server was unable to update the LDAP server with the CORBA IOR, which is used by clients to connect to the monitor server.
	Action	The Call/Chat server retries the operation. See the *description* to determine the cause of the failure.Verify that the LDAP server is running. Reinstall the Call/Chat server if the LDAP server has moved.
FCCS201	**Type**	Major
	Text	impl_is_ready() returned. Shutting down the server thread.
	Description	A remote CORBA client request was made to shut down the server. This should not happen under normal circumstances.
	Action	Restart.
FCCS202	**Type**	Major
	Text	Caught in a CORBA exception.
	Description	An exception occurred in the CORBA server thread.
	Action	The Call/Chat server retries the operation.

Table 4-5. Call/Chat Server Error Messages — *Continued*

FCCS203	**Type**	Major
	Text	Unable to read registry entry: HKEY_LOCAL_MACHINE\\SOFTWARE\\Spanlink\\FastCall Chat Server\\Config\\Product Name
	Description	The Call/Chat server is unable to read the value from the registry. The entry should have been created on install.
	Action	Reinstall if the entry is not in the registry.
FCCS204	**Type**	Major
	Text	Unable to set process priority to high.
	Description	The Call/Chat server was unable to set its process priority to “high”.
	Action	None
FCCS205	**Type**	Major
	Text	Could not create VPN thread (x).
	Description	The Call/Chat server was unable to start the VPN thread.
	Action	Restart the Call/Chat server service if you have any VPN agents or supervisors.
FCCS206	**Type**	Major
	Text	Could not detach VPN thread (x).
	Description	The Call/Chat server was unable to close the handle for the VPN thread. This may result in a handle resource leak.
	Action	None.

Table 4-5. Call/Chat Server Error Messages — *Continued*

FCCS207	**Type**	Major
	Text	Initializing the Winsock library failed. Exit VPN thread!
	Description	The Call/Chat server was unable to initialize the winsock library.
	Action	• If you have any VPN agents or supervisors, restart the Call/Chat server service. • If the problem persists, your WinNT system is probably overloaded. Use standard WinNT tools such as Performance Monitor to diagnose the problem. • Verify that the Call/Chat server is installed on a supported platform. • Verify that the winsock library is installed correctly.
FCCS208	**Type**	Major
	Text	Creating the listening socket failed. Exit the VPN thread!
	Description	The Call/Chat server was unable to create a listening socket for the VPN thread.
	Action	• If you have any VPN agents or supervisors, restart the Call/Chat server service. • If the problem persists, your WinNT system is probably overloaded. Use standard WinNT tools such as Performance Monitor to diagnose the problem.
FCCS209	**Type**	Major
	Text	Couldn't find the local IP address. Exit the VPN thread!
	Description	The Call/Chat server was unable to find its local IP address.
	Action	• If you have any VPN agents or supervisors, restart the Call/Chat server service. • If the problem persists, your WinNT system is probably overloaded. Use standard WinNT tools such as Performance Monitor to diagnose the problem.

Table 4-5. Call/Chat Server Error Messages — *Continued*

FCCS210	**Type**	Major
	Text	The VPN thread failed to bind to the local address. Exit the VPN thread!
	Description	The Call/Chat server was unable to bind to its local IP address.
	Action	• If you have any VPN agents or supervisors, restart the Call/Chat server service. • If the problem persists, your WinNT system is probably overloaded. Use standard WinNT tools such as Performance Monitor to diagnose the problem.
FCCS211	**Type**	Major
	Text	Could not create the job manager thread (x).
	Description	The Call/Chat server was unable to start the job manager thread.
	Action	• If you have any VPN agents or supervisors, restart the Call/Chat server service. • If the problem persists, your WinNT system is probably overloaded. Use standard WinNT tools such as Performance Monitor to diagnose the problem.
FCCS212	**Type**	Major
	Text	Could not detach job manager thread (x).
	Description	The Call/Chat server was unable to close the handle for the job manager thread. This may result in a handle resource leak.
	Action	None.

Table 4-5. Call/Chat Server Error Messages — *Continued*

FCCS213	**Type**	Major
	Text	VPN thread failed to listen to the local address. Exit the VPN thread!
	Description	The Call/Chat server was unable to listen for connections on its local IP address.
	Action	• If you have any VPN agents or supervisors, restart the Call/Chat server service. • If the problem persists, your WinNT system is probably overloaded. Use standard WinNT tools such as Performance Monitor to diagnose the problem.
FCCS221	**Type**	Major
	Text	Could not create working thread (x).
	Description	The Call/Chat server was unable to create a working thread.
	Action	• If you have any VPN agents or supervisors, restart the Call/Chat server service. • If the problem persists, your WinNT system is probably overloaded. Use standard WinNT tools such as Performance Monitor to diagnose the problem.
FCCS222	**Type**	Major
	Text	Could not close handle for working thread (x).
	Description	The Call/Chat server was unable to close the handle for a working thread. This may result in a handle resource leak.
	Action	• If this happens repeatedly, then restart the Call/Chat server service. • If the problem persists, your WinNT system is probably overloaded. Use standard WinNT tools like Performance Monitor to diagnose the problem.
FCCS260	**Type**	Major
	Text	Caught exception sending message to application *application_id*, logout application.
	Description	The application is logged out by the server.
	Action	None

Table 4-5. Call/Chat Server Error Messages — *Continued*

FCCS300	**Type**	Informational
	Text	fcCorbaServer *IORstring*.
	Description	The IOR string for the Call/Chat CORBA server.
	Action	None.
FCCS301	**Type**	Informational
	Text	Cfgfile is *file path*.
	Description	The location of the configuration file.
	Action	None.
FCCS302	**Type**	Informational
	Text	Begin FC Chat Server program...
	Description	The Call/Chat server was started.
	Action	None.
FCCS303	**Type**	Informational
	Text	End of FC Chat Server Main program.
	Description	The Call/Chat server was stopped.
	Action	None.
SL1000	**Type**	Fatal
	Text	Spanlink Chat Server failed to install. Error *reason*
	Description	The Call/Chat server was not successfully installed.
	Action	The service might already be installed.
SL1001	**Type**	Fatal
	Text	Could not remove Spanlink Chat Server. Error *reason*
	Description	The Call/Chat server was not successfully removed.
	Action	The service might not be installed.

Table 4-5. Call/Chat Server Error Messages — *Continued*

SL1002	**Type**	Fatal
	Text	Invalid Arguments. Exiting.
	Description	Invalid command line arguments were passed to the service.
	Action	Ensure the arguments passing to the program are valid. Valid arguments are: • -i: install service • -u: uninstall service • none: run service
SL1003	**Type**	Fatal
	Text	The Control Handler could not be installed.
	Description	Error in registering the NT service control request handler.
	Action	This is a system error that requires development support. Contact Spanlink Communications technical support.
SL1004	**Type**	Fatal
	Text	The initialization process failed.
	Description	There was an error in initializing service.
	Action	This is program-specific. The Call/Chat server does nothing that could cause this error.
SL2000	**Type**	Major
	Text	Invalid request.
	Description	An invalid command was sent to the service.
	Action	The program needs to send valid messages to the service.
SL3000	**Type**	Informational
	Text	Spanlink Chat Server Version *version*.
	Description	Provides the Call/Chat server version number.
	Action	None.

Table 4-5. Call/Chat Server Error Messages — *Continued*

SL3001	**Type**	Informational
	Text	The service is installed.
	Description	Call/Chat server *program* has been installed. This is the status of the service.
	Action	None
SL3002	**Type**	Informational
	Text	Spanlink Chat Server is already installed.
	Description	Call/Chat server has already been installed prior to this installation.
	Action	None.
SL3003	**Type**	Informational
	Text	Spanlink Chat Server installed.
	Description	The Call/Chat server was successfully installed.
	Action	None
SL3004	**Type**	Informational
	Text	Spanlink Chat Server is not installed.
	Description	The Call/Chat server was not successfully installed.
	Action	None.
SL3005	**Type**	Informational
	Text	Spanlink Chat Server removed.
	Description	The Call/Chat server was successfully removed.
	Action	None
SL3006	**Type**	Informational
	Text	Service removed.
	Description	The service was successfully removed.
	Action	None
SL3007	**Type**	Informational
	Text	Service not removed.
	Description	The service was not successfully removed.
	Action	None.

Table 4-5. Call/Chat Server Error Messages — *Continued*

SL3008	**Type**	Informational
	Text	Service Started
	Description	The service has started.
	Action	None.
SL3009	**Type**	Informational
	Text	Service Control Stop message
	Description	The NT service received a message to STOP.
	Action	None.
SL3010	**Type**	Informational
	Text	Service Stopped.
	Description	The NT service has stopped.
	Action	None
SL3011	**Type**	Informational
	Text	Service Control Pause message
	Description	The service received a message to pause.
	Action	None
SL3012	**Type**	Informational
	Text	Service Paused.
	Description	The service has been paused.
	Action	None
SL3013	**Type**	Informational
	Text	Service Control Continue message
	Description	The service has received a message to continue.
	Action	None
SL3014	**Type**	Informational
	Text	Service Control Interrogate message.
	Description	The service received a message to return its status.
	Action	None

Table 4-5. Call/Chat Server Error Messages — *Continued*

SL3015	**Type**	Informational
	Text	Service Control Shutdown message
	Description	The service received a shutdown message; this usually appears when the system is shutting down.
	Action	None
SL3016	**Type**	Informational
	Text	Service Stopped.
	Description	The service has been stopped.
	Action	None
SL3017	**Type**	Informational
	Text	Service User Control message
	Description	The service received a user-specific message.
	Action	None.

DAClient DLL Errors

NOTE: For additional debugging, include a debug range of 4000–4004 in the configuration file of the application that uses DAClient.

Table 4-6. DAClient DLL Error Messages

DA0001	**Type**	Informational
	Text	*number* is not a valid DA type. Using OpenLDAP type.
	Description	The *number* is not a valid Directory Services type.
	Action	Change the registry key Site Setup, LDAP_TYPE value to a valid value: 1.....OpenLDAP 2.....DC Directory 3.....Active Directory 4.....iPlanet

Table 4-6. DAClient DLL Error Messages — *Continued*

DA0005	**Type**	Informational
	Text	An unexpected error occurred.
	Description	An unexpected exception was caught.
	Action	If this happens consistently, check the inputs and possibly reinstall the software.
DA0008	**Type**	Informational
	Text	Failed to connect to LDAP server *server_name*.
	Description	Could not connect to the computer on *server_name*.
	Action	• Check that the Cisco Desktop LDAP Monitor is started and that LDAPMon as well as slapd are running • On the Directory Services client PC, check to see if the Site Setup registry entries are correct. The most common errors are the LDAP_HOSTA/LDAP_HOSTB or LDAP_PORTA/LDAP_PORTB values are incorrect. • Check that you can ping the Directory Services server PC from the client PC.
DA0010	**Type**	Informational
	Text	Failed to bind to LDAP server. *error_description*.
	Description	Could not connect and log in to the Directory Services server.
	Action	• Check that the Cisco Desktop LDAP Monitor is started and that LDAPMon as well as slapd are running • On the Directory Services client PC, check to see if the Site Setup registry entries are correct. The most common errors are the LDAP_HOSTA/LDAP_HOSTB or LDAP_PORTA/LDAP_PORTB, LDAP_BIND_DN, or LDAP_PWD values are incorrect. • Check that you can ping the Directory Services server PC from the client PC.
DA0011	**Type**	Informational/Debug
	Text	Failed to find *search_base*, filter *filter*, *error_description*.

Table 4-6. DAClient DLL Error Messages — *Continued*

	Description	Could not find specific data in Directory Services.
	Action	• Check whether the logical contact center specified in the Site Setup registry entry on the Directory Services client PC is correct. • Use DSBrowser to check if the information is in Directory Services. • For information that originated from ICD, verify that they exist on ICD and there is no problem with the Sync server.
DA0012	**Type**	Informational/Debug
	Text	Failed to get *attribute* value in *search_base*.
	Description	Could not find specific data in Directory Services.
	Action	• You get this message if the value is empty; in this case you can ignore it. • Check whether the logical contact center specified in the Site Setup registry entry on the Directory Services client PC is correct. • Use DSBrowser to check if the information is in Directory Services. • For information that originated from ICD, verify that they exists on ICD and there is no problem with the Sync server. • Check that the LDAP password used is correct and is not empty. An empty password means an anonymous login, which may not have access to certain data.
DA0026	**Type**	Informational
	Text	Could not read entries in *section_name* section.
	Description	Could not read the entry in a certain section of the configuration file.
	Action	• Check that the file exists. • Check that the section and key/values exists.

Table 4-6. DAClient DLL Error Messages — *Continued*

DA0027	**Type**	Informational/Debug
	Text	Validate error.
	Description	Required values are missing or incorrect for the object (agent, team, etc.).
	Action	Make sure all required values are valid.
DA0028	**Type**	Informational/Debug
	Text	Agent *agent_ID* is already assigned to another team *team_name*.
	Description	The agent is already assigned to another team. Each agent can be on only one team.
	Action	Remove the agent from the other team if you want to assign him/her to this team.
DA10000	**Type**	Informational
	Text	An unexpected error occurred.
	Description	An unexpected exception was caught.
	Action	If this error occurs consistently, check the inputs and possibly reinstall the software.
DA10030	**Type**	Informational
	Text	Could not open registry key *key*.
	Description	Could not open the registry key.
	Action	• Check that the Site Setup registry key exists and contains the right keys. • Check that the user of the executable has permissions to read/write to the registry.
DA10031	**Type**	Informational
	Text	Could not read value *key* in registry key *registry_root*.
	Description	Could not read the registry key.
	Action	• Check that the Site Setup registry key exists and contains the right keys. • Check that the user of the executable has permissions to read/write to the registry.

Table 4-6. DAClient DLL Error Messages — *Continued*

DA10032	**Type**	Informational
	Text	LDAP information could not be obtained.
	Description	LDAP information could not be obtained from the Site Setup registry key.
	Action	• Check that the Site Setup registry key exists and contains the right keys. • Check that the user of the executable has permissions to read/write to the registry.
DA10033	**Type**	Informational/Debug
	Text	*argument* is empty.
	Description	The required attribute value passed in is empty.
	Action	Make sure the inputs entered are valid.
DA10034	**Type**	Informational/Debug
	Text	LCC *name* already exists.
	Description	Trying to add a Logical Contact Center *name* that already exists.
	Action	No action needed.
DA10035	**Type**	Informational/Debug
	Text	Failed to add *DN*. *error_description*.
	Description	Failed to add Distinguished Name *DN* because of *error_description*.
	Action	• Check error description. • Check whether the DN already exists. • Check that the LDAP password used is correct and is not empty. An empty password means an anonymous login, which may not have access to certain data.

Table 4-6. DAClient DLL Error Messages — *Continued*

DA10036	**Type**	Informational/Debug
	Text	Failed to delete *DN*. *error_description*.
	Description	Failed to delete Distinguished Name *DN* because of *error_description*.
	Action	• Check *error_description*. • Check whether the DN exists. • Check that the LDAP password used is correct and is not empty. An empty password means an anonymous login, which may not have access to certain data.
DA10037	**Type**	Informational/Debug
	Text	Modifications to Directory Services not allowed when the promary is offline.
	Description	You attempted to change data in the secondary LDAP server.
	Action	Only data on the primary LDAP server can be changed. Make sure your primary LDAP server is started and try again.
DA10039	**Type**	Informational
	Text	Failed to update DN, *error_description*.
	Description	Failed to update distinguished name DN because of *error_description*.
	Action	• Check error_description. • Check whether the DN exists. • Check that the LDAP password used is correct and is not empty. An empty password means an anonymous login, which may not have access to certain data.
DA10040	**Type**	Informational
	Text	An error occurred in starting a thread.
	Description	An error occurred in creating the recovery thread.
	Action	Check the number of threads and amount of memory used by the program.

Table 4-6. DAClient DLL Error Messages — *Continued*

DA10041	**Type**	Informational
	Text	An error occurred in detaching thread.
	Description	An error occurred in detaching the recovery thread.
	Action	Check the number of threads and amount of memory used by the program.
DA10042	**Type**	Informational
	Text	Attempting to connect too quickly after last attempt.
	Description	DAClient attempted to query LDAP too soon after the last failed attempt to connect to LDAP.
	Action	Wait a few more seconds, then try again.
DA10043	**Type**	Informational
	Text	Could not set event for block handle: *error_description.*
	Description	Could not notify the recovery thread due to *error_description.*
	Action	None.

Enterprise Server Errors

Table 4-7. Enterprise Server Error Messages

SL1000	**Type**	Fatal
	Text	Spanlink Storage Server failed to install. Error *reason*.
	Description	The Enterprise server was not successfully installed.
	Action	The service might already be installed.
SL1001	**Type**	Fatal
	Text	Could not remove Spanlink Storage Server. Error *reason*.
	Description	The Enterprise server was not successfully removed.
	Action	The service might not be installed.
SL1002	**Type**	Fatal
	Text	Invalid Arguments. Exiting.
	Description	Invalid command line arguments were passed to the service.
	Action	Ensure the arguments passing to the program are valid. Valid arguments are: • -i: install service • -u: uninstall service • none: run service
SL1003	**Type**	Fatal
	Text	The Control Handler could not be installed.
	Description	Error in registering the NT service control request handler.
	Action	This is a system error that requires development support. Contact technical support.
SL1004	**Type**	Fatal
	Text	The initialization process failed.
	Description	There was an error in initializing service.
	Action	This is program-specific. The Enterprise server does nothing that could cause this error.

Table 4-7. Enterprise Server Error Messages — *Continued*

SL2000	**Type**	Major
	Text	Invalid request.
	Description	An invalid command was sent to the service.
	Action	The program needs to send valid messages to the service.
SL3000	**Type**	Informational
	Text	Spanlink Storage Server Version *version*.
	Description	Provides the Enterprise server version number.
	Action	None.
SL3001	**Type**	Informational
	Text	The service is installed.
	Description	Enterprise server NT *program* has been installed. This is the status of the service.
	Action	None
SL3002	**Type**	Informational
	Text	Spanlink Storage Server is already installed.
	Description	Enterprise server has already been installed prior to this installation.
	Action	None.
SL3003	**Type**	Informational
	Text	Spanlink Storage Server installed.
	Description	The Enterprise server was successfully installed.
	Action	None
SL3004	**Type**	Informational
	Text	Spanlink Storage Server is not installed.
	Description	The Enterprise server was not successfully installed.
	Action	None.
SL3005	**Type**	Informational
	Text	Spanlink Storage Server removed.
	Description	The Enterprise server was successfully removed.
	Action	None

Table 4-7. Enterprise Server Error Messages — *Continued*

SL3006	**Type**	Informational
	Text	Service removed.
	Description	The service was successfully removed.
	Action	None
SL3007	**Type**	Informational
	Text	Service not removed.
	Description	The service was not successfully removed.
	Action	None.
SL3008	**Type**	Informational
	Text	Service Started
	Description	The service has started.
	Action	None.
SL3009	**Type**	Informational
	Text	Service Control Stop message
	Description	The NT service received a message to STOP.
	Action	None.
SL3010	**Type**	Informational
	Text	Service Stopped.
	Description	The NT service has stopped.
	Action	None
SL3011	**Type**	Informational
	Text	Service Control Pause message
	Description	The service received a message to pause.
	Action	None
SL3012	**Type**	Informational
	Text	Service Paused.
	Description	The service has been paused.
	Action	None

Table 4-7. Enterprise Server Error Messages — *Continued*

SL3013	**Type**	Informational
	Text	Service Control Continue message
	Description	The service has received a message to continue.
	Action	None
SL3015	**Type**	Informational
	Text	Service Control Shutdown message
	Description	The service received a shutdown message; this usually appears when the system is shutting down)
	Action	None
SL3016	**Type**	Informational
	Text	Service Stopped.
	Description	The service has been stopped.
	Action	None
SL3017	**Type**	Informational
	Text	Service User Control message
	Description	The service received a user-specific message.
	Action	None.
SS1000	**Type**	Fatal
	Text	Could not create thread (*thread_name*). Login Failed. Exiting.
	Description	Not able to create the named thread. System problem.
	Action	This is a system error that requires development support. Contact technical support.
SS1001	**Type**	Fatal
	Text	Could not detach thread (*thread_name*). Login failed. Exiting.
	Description	Not able to detach thread. System problem.
	Action	This is a system error that requires development support. Contact technical support.

Table 4-7. Enterprise Server Error Messages — *Continued*

SS1002	**Type**	Fatal
	Text	Failed to setup monitor. Exiting.
	Description	Not able to setup monitoring of devices. Exiting program.
	Action	This message displayed with other error. See other error for reason.
SS1004	**Type**	Fatal
	Text	Failed to setup monitor. Retry.
	Description	Message displayed when the Enterprise Server failed to set up monitoring of devices. It will attempt to set up monitor after some interval.
	Action	This message displayed with other error. See other error for reason.
SS1005	**Type**	Fatal
	Text	Failed to update the LDAP server.
	Description	The Enterprise Server was unable to update the LDAP server with the CORBA IOR.
	Action	Restart the Directory Service followed by the Enterprise Server service.
SS1006	**Type**	Fatal
	Text	Caught a CORBA Exception.
	Description	A CORBA error occurred.
	Action	Restart the Enterprise Server service. If the problem persists, stop the service and change Level to 5 in the Debug Log section of the configuration file. This will allow you to run the Enterprise Server as a console application and turns on the highest level of CORBA tracing. Run CTI EnterpriseServer. exe and attempt to recreate the error. Use trace to identify the problem.
SS1011	**Type**	Fatal
	Text	Server name not provided.
	Description	The CTI server name is not available.
	Action	Check the LDAP value. Restart Enterprise server.

Table 4-7. Enterprise Server Error Messages — *Continued*

SS2000	**Type**	Major
	Text	Monitored Device ID not available. Return FAILURE.
	Description	The event message did not have the device being monitored. Failed to handle event.
	Action	CTI Server error.
SS2001	**Type**	Major
	Text	Error in updating call data. Return FAILURE.
	Description	Error occurred in updating data for the call.
	Action	This is a system error that requires development support. Contact technical support.
SS2009	**Type**	Major
	Text	Device not monitorable.
	Description	Invalid agent extension.
	Action	Make sure the device specified is a valid agent device. The device has to be administered in CRS.
SS3000	**Type**	Informational
	Text	Begin Storage Server program
	Description	Beginning Enterprise Server program.
	Action	None.
SS3001	**Type**	Informational
	Text	End of Storage Server program
	Description	Ending Enterprise Server program
	Action	None.
SS3002	**Type**	Informational
	Text	Lost connection to the CTI Server. Retry logging in.
	Description	Storage Server lost its connection to the CTI Server.
	Action	Retry logging in.

Table 4-7. Enterprise Server Error Messages — *Continued*

SS3003	**Type**	Informational
	Text	WaitForSingleObject Failed. Exiting.
	Description	Failed to wait for events. Exiting program.
	Action	None.
SS3005	**Type**	Informational
	Text	The event list is getting long. Events are not being processed fast enough.
	Description	Events are not being processed fast enough.
	Action	None.
SS3006	**Type**	Informational
	Text	Error message received from CTI Server. Monitored Device (*device*) Event Qualifier (*reason*).
	Description	Error message from CTI Server for specific device.
	Action	None.
SS3012	**Type**	Informational
	Text	No %s devices in configuration file.
	Description	No devices to monitor.
	Action	None.
SS3014	**Type**	Informational
	Text	Could not monitor device (*device*) Error (*reason*).
	Description	Error in attempting to monitor specified device for specified reason.
	Action	None.
SS3015	**Type**	Informational
	Text	IOR
	Description	The name of the CORBA IOR that identifies the Enterprise Data server.
	Action	None.

Table 4-7. Enterprise Server Error Messages — *Continued*

SS3024	**Type**	Informational
	Text	Sync server failed to get device information, return error *error*. Try config file.
	Description	Can't use the Sync server to retrieve device information.
	Action	None.
SS3025	**Type**	Informational
	Text	Get enterprise data before call record is created.
	Description	Client attempt to get calling information before the call is created.
	Action	Enterprise server tries 5 times to get information.

FCICD Client DLL Errors

Table 4-8. FCICD Client DLL Error Messages

FCID0001	**Text**	Unknown exception
	Type	Major
	Description	An exception is thrown during the program execution
	Action	None
FCICD0002	**Text**	Could not malloc data space
	Type	Fatal
	Description	Insufficient memory
	Action	Close some programs to free up memory
FCICD0003	**Text**	Failed to create a valid ICD message Msg *message_type* Error *error_code*:*error_string* Element *element_ID*:*element_index*
	Type	Fatal
	Description	The message cannot be validated
	Action	None

Table 4-8. FCICD Client DLL Error Messages — *Continued*

FCICD0004	**Text**	Failed to encode message Msg *message_type*
	Type	Fatal
	Description	The message cannot be encoded
	Action	None
FCICD0005	**Text**	Error in receiving socket message from ICD server. Shutting down socket connection
	Type	Fatal
	Description	There is a problem with the socket receiving data
	Action	None
FCICD0006	**Text**	CTIMsgDecode: Failed to create a valid ICD message Msg *message_type* Error *error_code*:*error_string* Element *element_ID*:*element_index*
	Type	Fatal
	Description	The message cannot be decoded
	Action	None
FCICD0007	**Text**	Socket read timeout, retrying HeartbeatFailureFunction
	Type	Fatal
	Description	There was a timeout reading data from the ICD server.
	Action	None
FCICD0008	**Text**	Reached maximum number of heartbeat tries
	Type	Fatal
	Description	Desktop Agent, Enterprise server, or IP Phone Agent server is going to reconnect to the ICD server because the maximum number of heartbeat tries has been reached
	Action	None

Table 4-8. FCICD Client DLL Error Messages — *Continued*

FCICD0009	**Text**	Socket not open, retrying HeartbeatFailureFunction
	Type	Fatal
	Description	Desktop Agent, Enterprise server, or IP Phone Agent server is going to reconnect to the ICD server because the socket was not open
	Action	None
FCICD0010	**Text**	Socket null address, retrying HeartbeatFailurFunction
	Type	Fatal
	Description	Desktop Agent, Enterprise server, or IP Phone Agent server is going to reconnect to the ICD server because the socket pointer was null
	Action	None
FCICD0011	**Text**	Error: *error_code* in receiving socket message from ICD server
	Type	Fatal
	Description	Desktop Agent, Enterprise server, or IP Phone Agent server is going to reconnect to the ICD server because there was a problem with the socket receiving data
	Action	None
FCICD0012	**Text**	Return: socketRC=*socket_error_code*, failed to send message to ICD server
	Type	Fatal
	Description	Failed to send a message to the ICD server
	Action	None

Table 4-8. FCICD Client DLL Error Messages — *Continued*

FCICD0013	**Text**	Failed to disconnect socket connection
	Type	Fatal
	Description	Failed to disconnect the socket connection with the ICD server
	Action	None
FCICD0014	**Text**	Return:socketRC=*socket_error_code*, failed to receive message header from ICD server
	Type	Fatal
	Description	Failed to receive message header from the ICD server
	Action	None
FCICD0015	**Text**	Return:socketRC=*socket_error_code*, failed to receive message from ICD server
	Type	Fatal
	Description	Failed to receive message body from the ICD server
	Action	None

IP Phone Agent Server Errors

NOTE: For additional debugging, include debug ranges of 3000–3004. 3010–3014, and 3020–3024 in the IP Phone Agent configuration file.

Table 4-9. IP Phone Agent Server Error Messages

ASL10000	**Text**	An unexpected error occurred.
	Type	Informational
	Description	An unexpected exception was caught.
	Action	If it happens consistently: • Check the inputs • Restart the server • Reinstall software
ASL10001	**Text**	The *argument* is empty.
	Type	Informational
	Description	The required value passed in is empty.
	Action	Make sure the inputs entered are valid.
ASL10002	**Text**	The state *state* was not found in the transition map.
	Type	Informational/Debug
	Description	The state *state* was not found in an internal map.
	Action	Using DSBrowser, check whether the state is defined in Directory Services under Application Data, Supported States and Application Data, Transition *state*. There could be some setup errors in Directory Services.

Table 4-9. IP Phone Agent Server Error Messages — *Continued*

ASL10003	**Text**	Could not add *key* to *internal_map*.
	Type	Informational/Debug
	Description	Problems occur in adding key/values into the internal map in memory.
	Action	• The key could already exist. • Attempt the action again. • Restart the server.
ASL10005	**Text**	The agent extension *extension* is already used by another agent.
	Type	Informational
	Description	Another agent is logged in and using that extension.
	Action	• Use a different extension if you want the other agent to keep using the extension. • Log out the other agent if you don't want him/her to keep using the extension. • Restart the server if no one is currently using the same extension.
ASL10006	**Text**	Agent *agent_ID* is already logged in.
	Type	Informational
	Description	The agent is already logged in.
	Action	Log out the agent and log in again.
ASL10007	**Text**	Agent *agent_ID* has outstanding request.
	Type	Informational/Debug
	Description	A request is in progress for the agent.
	Action	Wait for a while and try again. If the server continues to time out, restart the server.

Table 4-9. IP Phone Agent Server Error Messages — *Continued*

ASL10008	**Text**	Agent *agent_ID* could not be found in agent list map.
	Type	Informational
	Description	Attempting to perform a request for an agent that has not been added to the internal agent list map in memory. This may occur if the ICD server is restarted by the IP Phone Agent server is not, or if the IP phone agent was logged out but not through IP Phone Agent.
	Action	Restart the IP Phone Agent server.
ASL10009	**Text**	The state number *number* is invalid.
	Type	Informational/Debug
	Description	The state number passed in is not a recognized state.
	Action	• Restart IP Phone Agent server. • Reinstall the software.
ASL10010	**Text**	Could not reset event for agent *agent_ID*. *Error_description*.
	Type	Informational/Debug
	Description	Could not reset the event handler for the agent object.
	Action	• Check *error_description*. • Restart IP Phone Agent server. • Reinstall the software.

Table 4-9. IP Phone Agent Server Error Messages — *Continued*

ASL1011	**Text**	Could not set event for agent *agent_ID*. *Error_description*.
	Type	Informational/Debug
	Description	Could not set the event handler for the agent object. This may cause the requesting thread to wait until it times out.
	Action	• Check *error_description*. • Restart IP Phone Agent server. • Reinstall the software.
ASL1012	**Text**	Timeout during *request* call.
	Type	Informational
	Description	The requesting thread timed out while waiting for a response from the ICD server.
	Action	• Check how busy the CPU is. • Check whether the ICD server is running. • Restart the IP Phone Agent server.
ASL10013	**Text**	Set agent state call failed *ICD_error_code*.
	Type	Informational
	Description	An error occurred while trying to set the agent state.
	Action	Check the ICD error code.
ASL10014	**Text**	Invoke ID *ID* could not be found in invoke ID map.
	Type	Informational/Debug
	Description	The invoke ID was not found in an internal memory map.
	Action	This is usually not a problem since the handling of the request might have already completed on another thread.

Table 4-9. IP Phone Agent Server Error Messages — *Continued*

ASL10015	**Text**	Result is for a different invoke ID.
	Type	Informational
	Description	The response from the ICD came back too late.
	Action	Check how busy the CPU is.
ASL10016	**Text**	Request timeout value cannot be zero or negative.
	Type	Informational
	Description	The request timeout value passed in is invalid.
	Action	Change the value to positive in the AgtStateSvr.cfg file.
ASL10017	**Text**	Have reached maximum licenses allowed.
	Type	Informational
	Description	The maximum number of concurrent agents logged in has been reached.
	Action	Contact your sales representative for more licenses.
ASL10018	**Text**	The request type is invalid.
	Type	Informational/Debug
	Description	The request type is invalid.
	Action	• Restart IP Phone Agent server • Reinstall the software
ASL10019	**Text**	Could not create agent object.
	Type	Informational
	Description	Could not create an agent object in memory.
	Action	• Check the amount of memory and free disk space. • Restart IP Phone Agent • Reinstall the software

Table 4-9. IP Phone Agent Server Error Messages — *Continued*

ASL10020	**Text**	The session handle is NULL.
	Type	Informational
	Description	The socket handle to ICD server is NULL. This can happen if the ICD server has gone down or if something has broken the socket connection.
	Action	• Check that the ICD server is running. • Restart the IP Phone Agent server • Reinstall the software.
ASL10021	**Text**	set agent state call failed–*error_description*.
	Type	Informational
	Description	An error occurred when sending a socket message to the ICD server. This can happen if the ICD server has gone down or if something has broken the socket connection.
	Action	• Check that the ICD server is running. • Restart the IP Phone Agent server • Reinstall the software.
ASL10023	**Text**	*error_code*: Invalid error code.
	Type	Informational/Debug
	Description	An unknown error code was passed in.
	Action	• Restart IP Phone Agent server • Reinstall the software
ASL10024	**Text**	The ID is not in a valid range.
	Type	Informational
	Description	An unknown error code was passed in.
	Action	• Restart IP Phone Agent server • Reinstall the software

Table 4-9. IP Phone Agent Server Error Messages — *Continued*

ASL10025	**Text**	The *item* is not found in the generic message from Chat server.
	Type	Informational
	Description	A field value was not passed in the generic message from the Call/Chat server.
	Action	• Check the Call/Chat server log. • Restart the IP Phone Agent and Call/Chat servers.
ASL10026	**Text**	The DLL already exists.
	Type	Informational
	Description	The DLL to load error description information has already been loaded.
	Action	Check Directory Services for duplicate DLL listing under Application Data, Language DLL List, and remove the duplicate.
ASL10027	**Text**	The key in the configuration file section could not be read.
	Type	Informational
	Description	The specified key in the configuration file section could not be read.
	Action	Check the configuration file to see if the key exists. If not, add it in.
ASL10028	**Text**	The DLL *name* could not be loaded.
	Type	Informational
	Description	The specified DLL could not be dynamically loaded into the program.
	Action	Check that the DLL exists in the proper location.

Table 4-9. IP Phone Agent Server Error Messages — *Continued*

ASL10029	**Text**	Could not add DLL *name* to the map.
	Type	Informational
	Description	The specified DLL could not be loaded into the memory map.
	Action	Check if the DLL was specified twice in Directory Services.
ASL10030	**Text**	The registry key could not be opened.
	Type	Informational.
	Description	The specified registry key could not be opened.
	Action	Check if the registry key exists.
ASL10031	**Text**	The value of the registry key could not be read.
	Type	Informational
	Description	The value in the registry key could not be read.
	Action	Check if the registry key exists.
ASL10032	**Text**	Could not read *name* key in *application*.
	Type	Informational
	Description	The key/application value does not exist under Application Data in Directory Services.
	Action	Check if the key/application exists. Add if needed.
ASL10051	**Text**	Missing config file key.
	Type	Informational
	Description	The configuration file does not have the specified key.
	Action	Check if the key exists. Add if needed.

Table 4-9. IP Phone Agent Server Error Messages — *Continued*

ASL10052	**Text**	Chat server error: *error_description*.
	Type	Informational
	Description	A Call/Chat server error occurred.
	Action	Check the error description and Call/Chat server troubleshooting (See "Call/Chat Server Problems" on page 5-31.).
ASL10053	**Text**	Error registering Windows class for chat server msg: *error_description*.
	Type	Informational
	Description	Error in registering a Windows class.
	Action	Check the error description and Windows troubleshooting.
ASL10054	**Text**	Could not get *application* data from LDAP: *error_description.*
	Type	Informational
	Description	Error in getting key/value from *application* under Application Data in Directory Services because of *error_description*.
	Action	Check the error description.
ASL10055	**Text**	pushWrapupCodes failed for IP Phone *IP address.*
	Type	Informational
	Description	Error in pushing wrapup codes for IP Phone Agent with IP address *IP_address*.
	Action	Check the debug messages just before it occurred for more details.

Table 4-9. IP Phone Agent Server Error Messages — *Continued*

ASL10056	**Text**	The agent could not change to specified state from current state.
	Type	Informational
	Description	The agent could not change to the specified state from the current state.
	Action	The agent state could have been changed by other s and is not reflected in the menu options. No action needed.
ASL10057	**Text**	An invalid password was entered.
	Type	Informational
	Description	The agent entered an invalid password.
	Action	Enter the correct password.
ASL10058	**Text**	Error in creating session *error_description* with host *host* port *port*.
	Type	Informational
	Description	An error occurred in creating a CTI session with CTI server.
	Action	Check the error description.
ASL10059	**Text**	No confirmation in starting session *error_ description* with host *host* port *port* login *login* pwd *password*.
	Type	Informational
	Description	An error occurred in starting a CTI session with the CTI server.
	Action	Check the error description.
ASL10060	**Text**	Error in stopping session *error_code*.
	Type	Informational
	Description	An error occurred in stopping the CTI session with the CTI server.
	Action	Check the error code.

Table 4-9. IP Phone Agent Server Error Messages — *Continued*

ASL10061	**Text**	Skipping event handling because it is currently resetting agent.
	Type	Informational
	Description	The application is ignoring an event while in the middle of resetting an agent.
	Action	No action needed.
ASL10067	**Text**	Could not open *filename*.
	Type	Informational
	Description	Could not open the file *filename*.
	Action	• Check if the directory exists, and can be written to by the server. • Check if the file exists and is writable.
ASL10068	**Text**	Enterprise error in *function: error_message*.
	Type	Informational
	Description	An enterprise error was encountered.
	Action	Depending on the enterprise error, verify that the Enterprise server is running, and check if changes in Enterprise configuration are needed.
ASL10069	**Text**	PushData failed for IPPhone *IP_address*.
	Type	Informational
	Description	A problem was encountered in trying to push data to the IP phone.
	Action	• Verify that the IP phone is associated with the user **telecaster** in CallManager. • Verify that the IP phone can be reached from the server computer by typing http://*phone_IP_address*

Table 4-9. IP Phone Agent Server Error Messages — *Continued*

TA11000	**Text**	An unexpected error occurred.
	Type	Informational
	Description	An unexpected exception was caught.
	Action	If this error is received consistently: • Check the inputs • Restart the server • Reinstall the software
TA11001	**Text**	Invalid error code.
	Type	Informational
	Description	An unknown error code was passed in.
	Action	No action needed.
TA11002	**Text**	The *argument* is empty.
	Type	Informational
	Description	The required value passed in is empty.
	Action	Make sure the inputs entered are valid.
TA11003	**Text**	The LDAP information could not be accessed.
	Type	Informational
	Description	The LDAP information could not be accessed from Directory Services.
	Action	Check if the information is missing. Add if needed.
TA11004	**Text**	A CORBA error with minor error of *number* and completed flag of *number* was caught.
	Type	Informational
	Description	A CORBA exception was caught.
	Action	Check client connection with server.

Table 4-9. IP Phone Agent Server Error Messages — *Continued*

TA11005	**Text**	*message*
	Type	Informational
	Description	Information messages related to NT services.
	Action	No action needed.
TA11006	**Text**	*Service* is already installed.
	Type	Informational
	Description	The NT service has already been installed.
	Action	No action needed.
TA11007	**Text**	*Service* is not installed.
	Type	Informational
	Description	The NT service has not been installed.
	Action	No action needed.
TA11008	**Text**	Service could not be installed as a Windows NT service. The Windows NT service error code is *code*.
	Type	Fatal
	Description	The NT service could not be installed.
	Action	Check the error code.
TA11009	**Text**	The *service* Windows NT service could not be uninstalled. The Windows NT service error code is *code*.
	Type	Fatal
	Description	The NT service could not be uninstalled.
	Action	Check the error code.

Table 4-9. IP Phone Agent Server Error Messages — *Continued*

TA11010	**Text**	The argument passed to the program is invalid and the program will exit.
	Type	Fatal
	Description	An invalid argument was passed.
	Action	Check the argument passed to the program.
TA11011	**Text**	The Windows NT service was not removed successfully.
	Type	Informational
	Description	The Windows NT service was not removed successfully.
	Action	Check if the NT service still exists.
TA11012	**Text**	The initialization of the Windows NT service was unsuccessful.
	Type	Fatal
	Description	The initialization of the Windows NT service was unsuccessful.
	Action	Check if the NT service still exists.
TA11013	**Text**	An invalid request was received by the Windows NT service from the Windows NT service manager.
	Type	Major
	Description	An invalid request was received by the Windows NT service from the Windows NT service manager.
	Action	No action needed.

Table 4-9. IP Phone Agent Server Error Messages — *Continued*

TA11014	**Text**	The Windows NT service is not able to register itself with the Windows NT service manager.
	Type	Fatal
	Description	The Windows NT service is not able to register itself with the Windows NT service manager.
	Action	Check if the NT service exists.
TA11015	**Text**	Could not read *key* key in *section* section.
	Type	Informational
	Description	Could not read the key under the specified section in the configuration file.
	Action	Check if the key and section exists in the configuration file.
TA11016	**Text**	Error in creating session *error_description* with host *host* port *port*.
	Type	Informational
	Description	An error occurred in creating a CTI session with the CTI server.
	Action	Check the error description.
TA11017	**Text**	Error in stopping session *error_code*.
	Type	Informational
	Description	An error occurred in stopping the CTI session with the CTI server.
	Action	Check the error code.
TA11018	**Text**	An error occurred in starting a thread.
	Type	Informational
	Description	An error occurred in starting a thread.
	Action	Check the number of threads and memory used by the program.

Table 4-9. IP Phone Agent Server Error Messages — *Continued*

TA11019	**Text**	An error occurred in detaching thread.
	Type	Informational
	Description	An error occurred in detaching a thread.
	Action	Check the number of threads and memory used by the program.
TA11020	**Text**	It must be connected before it can run.
	Type	Informational
	Description	A connection to the CTI server must be established before it can run the event manager.
	Action	Check why the CTI connection could not be established.
TA11021	**Text**	The CORBA IOR value obtained from the LDAP server does not come from the right server.
	Type	Informational
	Description	The CORBA IOR value obtained from the LDAP server does not come from the right server.
	Action	No action needed.
TA11022	**Text**	No confirmation in starting session *error_description* with host *host* port *port*.
	Type	Informational
	Description	An error occurred in starting a CTI session with the CTI server.
	Action	Check the error description.
TA11023	**Text**	The license file could not be opened.
	Type	Informational
	Description	The license file could not be opened.
	Action	No action needed.

Table 4-9. IP Phone Agent Server Error Messages — *Continued*

TA11024	**Text**	The license file could not be closed.
	Type	Information
	Description	The license file could not be closed.
	Action	No action needed.
TA11025	**Text**	The license value could not be obtained from the license file.
	Type	Informational
	Description	The license value could not be obtained from the license file.
	Action	No action needed.
TA11026	**Text**	Error in destroying session *error_code*.
	Type	Informational
	Description	Could not destroy session with the CTI server.
	Action	Check the error code.
TA11027	**Text**	Could not signal handle *error_description*.
	Type	Informational
	Description	Could not set an event.
	Action	Check the error description.
TA11028	**Text**	Error in calling GetExitCodeThread.
	Type	Informational
	Description	Error in calling GetExistCodeThread.
	Action	No action needed.
TA11029	**Text**	An unknown error.
	Type	Informational
	Description	An unknown error occurred.
	Action	No action needed.

Table 4-9. IP Phone Agent Server Error Messages — *Continued*

TA11030	**Text**	The agent is not login.
	Type	Informational
	Description	The agent is not logged in.
	Action	Log in the agent before changing states.
TA11031	**Text**	The license file has been moved.
	Type	Informational
	Description	The license file has been moved.
	Action	No action needed.
TA11032	**Text**	An invalid password was entered.
	Type	Informational
	Description	An invalid password was entered.
	Action	Enter the correct password.

License Administrator Errors

NOTE: For additional debugging, include debug ranges of 5000–5004 in the License Administrator configuration file.

Table 4-10. License Administrator Error Messages

LA0001	**Text**	The file name is undefined.
	Type	Informational
	Description	The license file name and path passed into the function is undefined.
	Action	Make sure Directory Services is available. Make sure the License Administration is properly installed and running. Stop and start it again.

Table 4-10. License Administrator Error Messages — *Continued*

LA0002	**Text**	An unexpected error occurred.
	Type	Informational
	Description	An unexpected exception was caught.
	Action	Make sure the License Administration is properly installed and running. Stop and start it again.
LA0003	**Text**	Could not open license file <filename> <error description>.
	Type	Informational
	Description	The specified license file could not be opened.
	Action	Check that the file exists and can be reached. If the error description says “checksum error,” copy the LicenseFile.lf from another subdirectory over the problem one and relicense that item. If the error description says the license file is missing: • Check the config root path key in *logical_contact_center*/App Data via DSBrowser. It should have the configuration path entered during Cisco Desktop Administrator installation. • Check that the config root path can be reached from the client PC (via Windows Explorer) and the user has permission to read/write to the LicenseFile.lf file. • Check whether the IP address or host name is used in the config root path. The client PC must have it mapped using the same method, IP address or host name. • If the config root path is local to the Administration PC, check whether the PC’s network identifier is valid. • Check that the agent has read/write access to LicenseFile.lf. • Check that the agent can create and delete files in the directory where LicenseFile.lf resides.

Table 4-10. License Administrator Error Messages — *Continued*

LA0004	**Text**	Could not read license file <filename>.
	Type	Informational
	Description	Could not read values from the license file.
	Action	Make sure the system is properly licensed via License Administrator.
LA0005	**Text**	Could not write to license file *filename*.
	Type	Informational
	Description	Could not write values to the license file.
	Action	Make sure the administrator has permission to write to the license file.
LA0006	**Text**	The license file has been moved.
	Type	Informational
	Description	The license file has been moved from where it was when the product was licensed.
	Action	Check the config root path key in *logical_contact_center*/App Data via DSBrowser. It should have the configuration path entered during the installation of Desktop Administrator. Note that if a second instance of Desktop Administrator was installed and used a different configuration path and did not set the license again, it will cause this error. Under the configuration path should be a license directory with subdirectories for each license type. Each of them should have a LicenseFil.lf, which is writable. Relicensing via License Administrator fixes this problem.
LA0007	**Text**	Could not close license file. *error_description*.
	Type	Informational
	Description	Could not close the license file.
	Action	Check the error description for possible reasons.

Table 4-10. License Administrator Error Messages — *Continued*

LA0008	**Text**	MACHNM1.exe is not present or corrupt.
	Type	Informational
	Description	The file MACHNM1.exe is missing or corrupt.
	Action	Make sure the executable exists, is in the system path, and works.
LA0009	**Text**	LDAP: *error_description*.
	Type	Informational
	Description	An LDAP error has occurred.
	Action	Check the error description for possible reasons.
LA0010	**Text**	An invalid license type was specified.
	Type	Informational
	Description	An invalid license type was specified.
	Action	Make sure License Administrator is properly installed and running. Stop and start it again.
LA0011	**Text**	An invalid trigger code/number was entered.
	Type	Informational
	Description	The license code and/or verification number entered was incorrect for that license type.
	Action	Check that the license code/verification numbered is correct.
LA0012	**Text**	An unknown trigger code was sent. *trigger_code*
	Type	Informational
	Description	The license code entered was incorrect for that license type.
	Action	Check that the license code entered is correct.

Table 4-10. License Administrator Error Messages — *Continued*

LA0013	**Text**	Could not open a semaphore file. No more licenses available.
	Type	Informational
	Description	You have reached the maximum concurrent users licensed.
	Action	• Check that the agent has read/write access to the LicenseFile.lf file. • Check that the agent can create and delete files in the directory where LicenseFile.lf resides. • The maximum number of runtime licenses has been created. Contact your sales representative for more licenses.
LA0014	**Text**	Error in copying file *source_file* to *destination_file*: *error_description*.
	Type	Informational
	Description	An error occurred in copying a source file to a destination file.
	Action	• Check that the destination directory exists and can be written to. • Check that the source file exists.
LA0015	**Text**	Information.
	Type	Informational
	Description	Information has been entered into the application's debug and log files.
	Action	None.

Recording and Statistics Server Errors

Table 4-11. Recording and Statistics Server Error Messages

FCVRS100	**Type**	Fatal
	Text	Unable to read registry entry: *registry_entry*
	Description	The server was unable to read the value from the registry. The entry should have been created on install.
	Action	Reinstall if the entry is not in the registry.
FCVRS101	**Type**	Fatal
	Text	Unable to read App: *application*, Key: *key_name*, from LDAP: *description*
	Description	The server was unable to read the value for the *key_name* for the application *application* from Directory Services. The entry should have been created on install.
	Action	Reinstall if the entry is not in Directory Services.
FCVRS102	**Type**	Fatal
	Text	Unable to start Periodic Cleanup Thread. Exiting…
	Description	The server was unable to start the cleanup thread.
	Action	Restart.
FCVRS103	**Type**	Fatal
	Text	Unable to detach Periodic Cleanup Thread Handle. Exiting…
	Description	The server was unable to release the cleanup thread handle.
	Action	Restart.
FCVRS104	**Type**	Fatal
	Text	Unable to start CORBA Server Thread. Exiting…
	Description	The server was unable to start the CORBA server thread.
	Action	Restart.

Table 4-11. Recording and Statistics Server Error Messages — *Continued*

FCVRS105	**Type**	Fatal
	Text	Unable to detach CORBA Server Thread Handle. Exiting…
	Description	The server was unable to release the CORBA thread handle.
	Action	Restart.
FCVRS106	**Type**	Fatal
	Text	Unable to start database consumer thread. Exiting…
	Description	The server was unable to start the database thread.
	Action	Restart.
FCVRS107	**Type**	Fatal
	Text	Unable to detach database consumer thread. Existing…
	Description	The server was unable to release the database thread handle.
	Action	None.
FCVRS200	**Type**	Major
	Text	Failed to update the LDAP server: *description*
	Description	The server was unable to update Directory Services with the CORBA IOR, which is used by clients to connect to the server.
	Action	• The server will retry the operation. See [*description*] to determine the cause of failure. • Verify that the Directory Services server is running. • Reinstall the Recording and Statistics server if the Directory Services server has moved.
FCVRS201	**Type**	Major
	Text	impl_is_ready() returned. Shutting down the server thread.
	Description	A request was made to shut down the server.
	Action	Restart.

Table 4-11. Recording and Statistics Server Error Messages — *Continued*

FCVRS202	**Type**	Major
	Text	Caught a CORBA exception.
	Description	An exception occurred in the CORBA server thread.
	Action	The server retries the operation.
FCVRS203	**Type**	Major
	Text	Unable to read App: *application*, Key: *key_name*, from LDAP: *description*.
	Description	The server was unable to read the value for the *key_name* for the application *application* from Directory Services. The entry should have been created on install but the Recording and Statistics server will use the default or attempt to reread at a later time.
	Action	None. However, if the problem continues to appear in the log file, reinstall the application if it is not in LDAP.
FCVRS204	**Type**	Major
	Text	Caught an exception while trying to retrieve the globalID.
	Description	The server encountered an exception getting the next global ID.
	Action	Restart.
FCVRS205	**Type**	Major
	Text	Caught an exception while updating data.
	Description	The server encountered an exception while updating the database data.
	Action	Restart.
FCVRS206	**Type**	Major
	Text	Caught an exception while writing to the agent state log.
	Description	The server encountered an exception while inserting the agent's state change.
	Action	Restart.

Table 4-11. Recording and Statistics Server Error Messages — *Continued*

FCVRS207	**Type**	Major
	Text	Caught an exception wile trying to retrieve the agent state log.
	Description	The server encountered an exception while retrieving the state lists for an agent.
	Action	None.
FCVRS208	**Type**	Major
	Text	Caught an exception while trying to write to the call log.
	Description	The server encountered an exception inserting the agent's call record into the database.
	Action	Restart.
FCVRS209	**Type**	Major
	Text	Caught an exception while trying to delete a call.
	Description	The server encountered an exception deleting a call from the database.
	Action	Restart.
FCVRS210	**Type**	Major
	Text	Caught an exception while trying to retrieve the call log.
	Description	The server encountered an exception getting the call log for an agent.
	Action	None.
FCVRS211	**Type**	Major
	Text	Caught an exception while trying to start a recording.
	Description	The server encountered an exception starting a recording on a particular extension.
	Action	Restart.
FCVRS212	**Type**	Major
	Text	Caught an exception while trying to stop a recording.
	Description	The server encountered an exception while stopping a recording for a particular extension.
	Action	Restart.

Table 4-11. Recording and Statistics Server Error Messages — *Continued*

FCVRS213	**Type**	Major
	Text	Caught an exception while trying to delete a recording.
	Description	The server encountered an exception deleting a recording from the database.
	Action	Restart.
FCVRS214	**Type**	Major
	Text	Caught an exception while trying to retrieve the recording log.
	Description	The server encountered an exception getting the recorded file list from the database.
	Action	None.
FCVRS215	**Type**	Major
	Text	Caught an exception while trying to retrieve the user statistics.
	Description	The server encountered an exception getting the user (agent) statistics.
	Action	None.
FCVRS216	**Type**	Major
	Text	Caught an exception while trying to retrieve the team statistics.
	Description	The server encountered an exception getting the team statistics from the server.
	Action	None.
FCVRS217	**Type**	Major
	Text	Caught an exception while processing a server message.
	Description	The server encountered an error processing the indicated message from the client.
	Action	None.

Table 4-11. Recording and Statistics Server Error Messages — *Continued*

FCVRS218	**Type**	Major
	Text	Unable to establish a connection to the FCRasSvr database, error *description*.
	Description	The server was unable to connect the database FCRasSvr.
	Action	• Verify that the MS SQL server is running. • Verify that the FCRasSvr database has been created on the SQL server to which the Recording and Statistics server points • Verify the ODBC datasource.
FCVRS219	**Type**	Major
	Text	Cache population failed. Trying again.
	Description	The server was unable to cache the statistics from the database tables. It will try again.
	Action	None.
FCVRS220	**Type**	Major
	Text	Caught an exception while running daily cleanup.
	Description	The server encountered an exception cleaning up the data.
	Action	None.
FCVRS221	**Type**	Major
	Text	Caught an exception while running recording heartbeat cleanup.
	Description	The server encountered an exception while checking the recording heartbeats.
	Action	None.
FCVRS222	**Type**	Major
	Text	Unable to retrieve data, query is *query*, error *description*.
	Description	The server was unable to get the data for the indicated query with the error listed.
	Action	None.

Table 4-11. Recording and Statistics Server Error Messages — *Continued*

FCVRS223	**Type**	Major
	Text	Unable to update data, query is *query*, error *description*.
	Description	The server was unable to update the data for the indicated query with the error listed.
	Action	None.
FCVRS224	**Type**	Major
	Text	Unable to insert data, query is *query*, error *description*.
	Description	The server was unable to insert the data for the indicated query with the error listed.
	Action	None.
FCVRS225	**Type**	Major
	Text	Unable to delete data, query is *query*, error *description*.
	Description	The server was unable to delete the data for the indicated query with the error listed.
	Action	None.
FCVRS226	**Type**	Major
	Text	Unable to create file *audio_file* for recording.
	Description	The server does not have permission to write to the location where the recorded files are to be placed.
	Action	Make sure the server's service (Cisco RASCAL Server) is logging in as a user and that the user has modify permissions to the indicated directory.
FCVRS227	**Type**	Major
	Text	Retrieving GlobalID failed. Trying again…
	Description	The server was unable to determine the starting global ID.
	Action	Verify if SQL server is running where the FCRasSvr database is installed.

Table 4-11. Recording and Statistics Server Error Messages — *Continued*

FCVRS228	**Type**	Major
	Text	Caught an exception inserting *query_type* into queue.
	Description	The server encountered an exception adding a record to the database queue.
	Action	None.
FCVRS229	**Type**	Major
	Text	SQL Query failed with SQL error *description* for query *query*.
	Description	The server was unable to perform the SQL query action with the error listed.
	Action	None.
FCVRS230	**Type**	Major
	Text	Maximum number of concurrent recordings of [max] have been reached.
	Description	An attempt to record has been made while there are already the maximum number of concurrent recordings in progress.
	Action	None
FCVRS231	**Type**	Major
	Text	Maximum hard disk size limit of [hard drive limit] MB has been reached.
	Description	The Recording & Statistics server has detected that the location of the recordings has reached the maximum hard drive limit.
	Action	• Unsave unneeded recordings so the server can delete them. • Free up space by deleting unnecessary files on the hard drive. • Find another location with adequate storage where the recordings can be stored. • Acquire a larger hard drive for the recordings.

Table 4-11. Recording and Statistics Server Error Messages — *Continued*

FCVRS232	**Type**	Major
	Text	Caught an exception while trying to save/unsave a recording.
	Description	The server encountered an exception saving or unsaving a recording.
	Action	Restart the server.
FCVRS300	**Type**	Informational
	Text	Begin program version *major_version:minor_version*
	Description	The server was started.
	Action	None.
FCVRS301	**Type**	Informational
	Text	End of Server Main program
	Description	The server was stopped.
	Action	None.
FCVRS302	**Type**	Informational
	Text	*IOR*
	Description	The CORBA IOR that identifies the server.
	Action	None.
FCVRS303	**Type**	Informational
	Text	Successful update of LDAP…
	Description	The CORBA IOR has been successfully updated or inserted into the Directory Services server.
	Action	None.
FCVRS304	**Type**	Informational
	Text	Using registry entry, overriding LDAP: *registry_key*
	Description	The server will override the default location where the recorded files are placed.
	Action	None.

Table 4-11. Recording and Statistics Server Error Messages — *Continued*

FCVRS305	**Type**	Informational
	Text	*audio_directory*
	Description	The server will place the recorded files in this directory.
	Action	None.
FCVRS306	**Type**	Informational
	Text	Connected to RASCAL database version: *last_version:current_version*
	Description	Provides the last database version number and the current version number.
	Action	None.
FCVRS307	**Type**	Informational
	Text	Connect to VoIP Monitor server.
	Description	The server has detected and connected the VoIP Monitor server. Recording is allowed.
	Action	None.
FCVRS308	**Type**	Informational
	Text	Populating the statistics cache from table data. This may take a few minutes.
	Description	The server is caching data for statistics.
	Action	None.
FCVRS309	**Type**	Informational
	Text	Cache population complete.
	Description	The server is done caching data for statistics.
	Action	None.
FCVRS310	**Type**	Informational
	Text	Performing daily cleanup.
	Description	The server is deleting old database records and recordings.
	Action	None.

Table 4-11. Recording and Statistics Server Error Messages — *Continued*

FCVRS311	**Type**	Informational
	Text	Daily cleanup complete.
	Description	The server has completed the daily cleanup routine.
	Action	None.
FCVRS312	**Type**	Informational
	Text	Setting process *process_ID* to HIGH_PRIORITY_CLASS failed.
	Description	The server failed to set its process priority to High.
	Action	None.
FCVRS313	**Type**	Informational
	Text	Retrieving global ID.
	Description	The server is caching the next available global ID.
	Action	None.
FCVRS314	**Type**	Informational
	Text	Retrieving global ID is complete.
	Description	The server has completed retrieving the global ID.
	Action	None.
FCVRS315	**Type**	Informational
	Text	Using registry entry: HKEY_LOCAL_MACHINE\SOFTWARE\Spanlink\FastCall RASCAL Server\Setup\OmniOrbUserPort, port is *port*.
	Description	The server will use the default TCP port for CORBA.
	Action	None.
FCVRS316	**Type**	Informational
	Text	Using registry entry: HKEY_LOCAL_MACHINE\SOFTWARE\Spanlink\FastCall RASCAL Server\Setup\Database User, database use is *name*.
	Description	The server will use the default database user.
	Action	None.

Table 4-11. Recording and Statistics Server Error Messages — *Continued*

FCVRS317	**Type**	Informational
	Text	Using registry entry: HKEY_LOCAL_ MACHINE\SOFTWARE\Spanlink\FastCall RASCAL Server\Setup\Database Password, *password*
	Description	The server will use the specified database password.
	Action	None.
FCVRS318	**Type**	Informational
	Text	Using registry entry: *registry_entry*, *value*.
	Description	The server is overriding the default or LDAP values for the indicated registry entry and value.
	Action	None.
FCVRS400	**Type**	Minor
	Text	Unable to login to the VoIP Monitor Server…
	Description	The server was unable to log into the monitor server.
	Action	None.
FCVRS401	**Type**	Minor
	Text	Connected to RASCAL database version unknown.
	Description	The server was able to connect to the database FCRasSvr but was unable to identify the database version.
	Action	Reinstall the Recording and Statistics server if the database version is not correct.
FCVRS402	**Type**	Minor
	Text	GlobalID *ID* has missed 3 heartbeats stopping recording.
	Description	The server is terminating the existing recording because the client recording started with the identified global ID has not reissued the request to record within 15 minutes (3 heartbeats).
	Action	Verify that the client who issued the request is up and running, and that it has a valid CORBA IOR string.

Table 4-11. Recording and Statistics Server Error Messages — *Continued*

FCVRS403	**Type**	Minor
	Text	Unable to load VoIP Monitor Client DLL for recording.
	Description	The server was unable to load the VoIP Monitor recording client DLL.
	Action	• Make sure the FCVoIPMonClientRec.dll file is in the same folder as FCRasSvr.exe. If it is not, reinstall the server. • If the file is in the correct folder, restart the service.
SL1000	**Type**	Fatal
	Text	Spanlink FastCall RASCAL Server failed to install. Error *reason*.
	Description	The server was not successfully installed.
	Action	The service might already be installed.
SL1001	**Type**	Fatal
	Text	Could not remove Spanlink FastCall RASCAL Server. Error *reason*.
	Description	The server was not successfully removed.
	Action	The service might not be installed.
SL1002	**Type**	Fatal
	Text	Invalid Arguments, Exiting
	Description	Invalid command line arguments were passed to the service.
	Action	Ensure that the arguments passed to the program are valid. Valid arguments are: • –i: install service • –u: uninstall service • –v: display version information • none: run service

Table 4-11. Recording and Statistics Server Error Messages — *Continued*

SL1003	**Type**	Fatal
	Text	The Control handler could not be installed
	Description	Error in registering the NT service control request handler.
	Action	This is a system error that requires development support. Contact Spanlink Communications technical support.
SL1004	**Type**	Fatal
	Text	The initialization process failed
	Description	There was an error in initializing the service.
	Action	This is a system error that requires development support. Contact Spanlink Communications technical support.
SL2000	**Type**	Major
	Text	Invalid request
	Description	An invalid command was sent to the service.
	Action	Validate the command being sent to the service by the application.
SL3000	**Type**	Informational
	Text	Spanlink FastCall RASCAL Server Version *major_version:minor_version*
	Description	Provides the server version number.
	Action	None.
SL3001	**Type**	Informational
	Text	The service Spanlink FastCall RASCAL Server is installed
	Description	The server (program) has been installed.
	Action	None.
SL3002	**Type**	Informational
	Text	Spanlink FastCall RASCAL Server is already installed
	Description	The server has already been installed.
	Action	None.

Table 4-11. Recording and Statistics Server Error Messages — *Continued*

SL3003	**Type**	Informational
	Text	Spanlink FastCall RASCAL Server is not installed.
	Description	The server was not successfully installed.
	Action	None.
SL3004	**Type**	Informational
	Text	Spanlink FastCall RASCAL Server is not installed.
	Description	The server was not successfully installed.
	Action	None.
SL3005	**Type**	Informational
	Text	Spanlink FastCall RASCAL Server removed.
	Description	The server was successfully removed.
	Action	None.
SL3006	**Type**	Informational
	Text	Service Removed
	Description	The service was successfully removed.
	Action	None.
SL3007	**Type**	Informational
	Text	Service Not Removed
	Description	The service was not successfully removed.
	Action	None.
SL3008	**Type**	Informational
	Text	Service Started
	Description	The service has started.
	Action	None.
SL3009	**Type**	Informational
	Text	Service Control Stop message
	Description	The NT service received a message to STOP.
	Action	None.

Table 4-11. Recording and Statistics Server Error Messages — *Continued*

SL3010	**Type**	Informational
	Text	Service Stopped.
	Description	The NT service has stopped.
	Action	None.
SL3011	**Type**	Informational
	Text	Service Control Pause message
	Description	The service received a message to pause.
	Action	None.
SL3012	**Type**	Informational
	Text	Service Paused
	Description	The service has been paused.
	Action	None.
SL3013	**Type**	Informational
	Text	Service Control Continue message
	Description	The service received a message to continue.
	Action	None.
SL3014	**Type**	Informational
	Text	Service Control Interrogate message
	Description	The service received a message to return its status.
	Action	None.
SL3015	**Type**	Informational
	Text	Service Control Shutdown message
	Description	The service received a shutdown message; this usually appears when the system is shutting down.
	Action	None.
SL3016	**Type**	Informational
	Text	Service Stopped
	Description	The service has stopped.
	Action	None.

Table 4-11. Recording and Statistics Server Error Messages — *Continued*

SL3017	**Type**	Informational
	Text	Service User Control message
	Description	The service received a user-specified message.
	Action	None.

Supervisor Desktop Errors

Note: In this table, **<ln>** refers to the program line number that generates the error. This number is not constant so is represented by the variable

Table 4-12. Supervisor Error Messages

CC <ln>	**Text**	Server error while adding user # *error_number*; *error_string*.
	Type	Fatal
	Description	Could not add the call/chat user.
	Action	Make sure the Call/Chat server is properly installed and running.
CC <ln>	**Text**	Chat server error *error_number,* while barging in on deviceID *extension* on callID *call_ID*; *error_ string.*
	Type	Major
	Description	Supervisor Desktop was unable to complete a barge-in.
	Action	Make sure the Call/Chat server is properly installed and running.
CC <ln>	**Text**	Server error *error_number*, while intercepting deviceID *extension* on callID *call_ID*: *error_ string*.
	Type	Major
	Description	Supervisor Desktop was unable to complete an intercept.
	Action	Make sure the Call/Chat server is properly installed and running.

Table 4-12. Supervisor Error Messages — *Continued*

SD <ln>	**Text**	Unable to login to RASCAL server. *RASCAL_server_error*
	Type	Major
	Description	Could not log into the Recording and Statistics server.
	Action	Make sure the Recording and Statistics server is properly installed and running.
SD <ln>	**Text**	Unable to logout of RASCAL server. *RASCAL_server_error*.
	Type	Minor
	Description	Could not log out of the Recording and Statistics server.
	Action	Make sure the Recording and Statistics server is properly installed and running.
SE <ln>	**Text**	Found CallID *call_ID*, but call was NULL.
	Type	Major
	Description	An invalid call was found for the given call ID.
	Action	Restart Supervisor Desktop.
SE <ln>	**Text**	Unable to log into the Voice over IP Monitor Server.
	Type	Major
	Description	Supervisor is unable to get information from the Voice-over IP Monitor server.
	Action	Make sure the Voice-over IP Monitor server is running, and the IP/Host name of the Directory Services server is correct.

Table 4-12. Supervisor Error Messages — *Continued*

SE <In>	**Text**	Call Chat server error. Error: *chat_server_error* Server: *directory_services_server_name* Port: *directory_services_port* LCC: l*ogical_contact_ center*
	Type	Major
	Description	An error was received while Supervisor was retrieving information from the Call/Chat server.
	Action	Make sure the Call/Chat server is properly installed and running.

Voice-Over IP Monitor Server Errors

Table 4-13. Voice-Over IP Monitor Server Error Messages

FCVMS104	**Type**	Fatal
	Text	Unable to read registry entry: (HKEY_LOCAL_MACHINE\Spanlink\FastCall VoIP Monitor Server\Setup\IOR Hostname)
	Description	The monitor server is unable to read the value from the registry. The entry should have been created on install.
	Action	Reinstall if the entry is not in the registry.
FCVMS105	**Type**	Fatal
	Text	Unable to read registry entry: (HKEY_LOCAL_MACHINE\Spanlink\FastCall VoIP Monitor Server\Setup\Monitor Device)
	Description	The monitor server is unable to read the value from the registry. The entry should have been created on install.
	Action	Reinstall if the entry is not in the registry.
FCVMS108	**Type**	Fatal
	Text	Unable to start Periodic Cleanup Thread. Exiting…
	Description	The monitor server was unable to start the cleanup thread.
	Action	Restart.
FCVMS109	**Type**	Fatal
	Text	Unable to detach Periodic Cleanup Thread Handle. Exiting…
	Description	The monitor server was unable to release the cleanup thread handle.
	Action	Restart.
FCVMS110	**Type**	Fatal
	Text	Unable to start Corba Server Thread. Exiting…
	Description	The monitor server was unable to start the CORBA server thread.
	Action	Restart.

Table 4-13. Voice-Over IP Monitor Server Error Messages — *Continued*

FCVMS111	Type	Fatal
	Text	Unable to detach Corba Server Thread Handle. Exiting…
	Description	The monitor server was unable to release the CORBA server thread.
	Action	Restart.
FCVMS112	Type	Fatal
	Text	splk_pacap_open_live() failed. *Description*
	Description	The monitor server was unable to open a connection to the Ethernet card for sniffing.
	Action	Restart.
FCVM200	Type	Major
	Text	WSAStartup() failed. *Description*
	Description	The monitor server was unable to initialize the Windows sockets library.
	Action	The monitor server will retry the operation. See *description* to determine the cause of the failure.
FCVMS201	Type	Major
	Text	socket () failed. [*Description*]
	Description	The monitor server was unable to create the socket to send RTP streams to the supervisors.
	Action	The monitor server will retry the operation. See *description* to determine the cause of the failure.
FCVMS203	Type	Major
	Text	splk_pcap_lookupnet() failed. errorBuf: *description*
	Description	A sniffing function failed.
	Action	The monitor server will retry the operation. See *description* to determine the cause of the failure.
FCVMS204	Type	Major
	Text	splk_pcap_compile() failed.
	Description	The monitor server was unable to create a low level filter for incoming packets.
	Action	The monitor server will retry the operation.

Table 4-13. Voice-Over IP Monitor Server Error Messages — *Continued*

FCVMS205	**Type**	Major
	Text	splk_pcap_setfilter() failed.
	Description	The monitor server was unable to set a low level filter for incoming packets.
	Action	The monitoring fails for this request. Other monitoring sessions continue.
FCVMS206	**Type**	Major
	Text	splk_pcap_lookupdev() failed. errorBuf = *description*
	Description	The monitor server was unable to get a list of available network cards.
	Action	The monitor server will retry the operation. See *description* to determine the cause of the failure.
FCVMS207	**Type**	Major
	Text	Error: in retrieving mac address for agent *extension*
	Description	A request was made to monitor an agent, and the monitor server was unable to retrieve the MAC address for the specified *extension* from the CallManager's SQL Server database.
	Action	• Check if anything has changed regarding the CallManager database. • Check the FCVoIP ODBC DSN for correctness. • Verify that the CallManager database is running. • Verify that a record exists in the CallManager database for *extension*. • Reinstall the monitor server if it needs to use a new username or password.
FCVMS208	**Type**	Major
	Text	Host lookup unsuccessful. Invalid host name *hostname*. End.
	Description	The monitor server was unable to look up the IP address of *hostname*.
	Action	Verify that the monitor server can resolve the IP address of the supervisor's PC by hostname.

Table 4-13. Voice-Over IP Monitor Server Error Messages — *Continued*

FCVMS209	**Type**	Major
	Text	Failed to update the LDAP server; *description*
	Description	The monitor server was unable to update the LDAP server with the CORBA IOR, which is used by clients to connect to the monitor server.
	Action	• The monitor server will retry the operation. See *description* to determine the cause of the failure. • Verify that the LDAP server is running. • Reinstall the monitor server if the LDAP server has moved.
FCVMS210	**Type**	Major
	Text	impl_is_ready() returned. Shutting down the server thread.
	Description	A request was made to shut down the server.
	Action	Restart.
FCVMS211	**Type**	Major
	Text	Caught a CORBA exception.
	Description	An exception occurred in the CORBA server thread.
	Action	The monitor server will retry the operation.
FCVMS212	**Type**	Major
	Text	setsockop() failed.
	Description	The monitor server was unable to prioritize the packet going out to supervisors.
	Action	Restart.
FCVMS213	**Type**	Major
	Text	WE are unable to connect or reconnect to the current CM. Trying subscribers.
	Description	The connection to the current CallManager failed and the reconnect did not work. If there are subscribers defined the server will try to connect to one of those.
	Action	None.

Table 4-13. Voice-Over IP Monitor Server Error Messages — *Continued*

FCVMS214	**Type**	Major
	Text	All DSNs have been unsuccessful.
	Description	The server is unable to connect to any of the available DSNs or subscribers.
	Action	Check the primary CallManager and its subscribers, if any.
FCVMS215	**Type**	Major
	Text	Initializing the Winsock library failed.
	Description	Unable to get a list of local IP addresses used to prevent sending duplicate voice packets in some network configurations.
	Action	Monitoring might experience motorboating.
FCVMS216	**Type**	Major
	Text	Could not create VPN thread *threadhandle.*
	Description	The VPN server thread could not be started.
	Action	Restart the VoIP Monitor server.
FCVMS217	**Type**	Major
	Text	Could not detach VPN thread *threadhandle*.
	Description	The VPN thread was started but could not be detached from the process.
	Action	None.
FCVMS218	**Type**	Major
	Text	Initializing the winsock library failed in the VPN thread.
	Description	Could not initialize the Windows socket library in the VPN server. The VPN thread will stop.
	Action	Restart the VoIP Monitor server.
FCVMS219	**Type**	Major
	Text	Creating the listening socket failed in the VPN thread.
	Description	Could not create a socket in the VPN server. The VPN thread will stop.
	Action	Restart the VoIP Monitor server.

Table 4-13. Voice-Over IP Monitor Server Error Messages — *Continued*

FCVMS220	**Type**	Major
	Text	Couldn't find the local IP address in the VPN thread.
	Description	Could not retrieve the local IP address. The VPN thread will stop.
	Action	Restart the VoIP Monitor server.
FCVMS221	**Type**	Major
	Text	The VPN thread failed to bind to the local address in the VPN thread.
	Description	Unable to bind to the local IP address. The VPN thread will stop.
	Action	Restart the VoIP Monitor server.
FCVMS222	**Type**	Major
	Text	VPN thread failed to listen to the local address in the VPN thread.
	Description	Unable to listen on the opened socket. The VPN thread will stop.
	Action	Restart the VoIP Monitor server.
FCVMS300	**Type**	Informational
	Text	Begin program version *major_version:minor_version*
	Description	The monitor server was started.
	Action	None.
FCVMS301	**Type**	Informational
	Text	End of Server Main program
	Description	The monitor server was stopped.
	Action	None
FCMVS302	**Type**	Informational
	Text	IOR
	Description	The CORBA IOR of the monitor server.
	Action	None.

Table 4-13. Voice-Over IP Monitor Server Error Messages — *Continued*

FCVMS303	**Type**	Informational
	Text	Update of LDAP successful.
	Description	Directory Services was successfully updated.
	Action	None.
FCVMS304	**Type**	Informational
	Text	Connection successful.
	Description	A connection to either a primary database or a subscriber was successful.
	Action	None.
FCVMS305	**Type**	Informational
	Text	VPN thread starts successfully, ready to accept connections.
	Description	The VPN thread started successfully.
	Action	None.
SL1000	**Type**	Fatal
	Text	Spanlink Monitor Server failed to install. Error *reason*
	Description	The monitor server was not successfully installed.
	Action	The service might already be installed.
SL1001	**Type**	Fatal
	Text	Could not remove Spanlink Monitor Server. Error *reason*
	Description	The monitor server was not successfully removed.
	Action	The service might not be installed.

Table 4-13. Voice-Over IP Monitor Server Error Messages — *Continued*

SL1002	**Type**	Fatal
	Text	Invalid Arguments. Exiting.
	Description	Invalid command line arguments were passed to the service.
	Action	Ensure the arguments passing to the program are valid. Valid arguments are: • -i: install service • -u: uninstall service • none: run service
SL1003	**Type**	Fatal
	Text	The Control Handler could not be installed.
	Description	Error in registering the NT service control request handler.
	Action	This is a system error that requires development support. Contact Spanlink Communications technical support.
SL1004	**Type**	Fatal
	Text	The initialization process failed.
	Description	There was an error in initializing service.
	Action	This is program-specific. The monitor server does nothing that could cause this error.
SL2000	**Type**	Major
	Text	Invalid request.
	Description	An invalid command was sent to the service.
	Action	The program needs to send valid messages to the service.
SL3000	**Type**	Informational
	Text	Spanlink Monitor Server Version *version*.
	Description	Provides the monitor server version number.
	Action	None.

Table 4-13. Voice-Over IP Monitor Server Error Messages — *Continued*

SL3001	**Type**	Informational
	Text	The service is installed.
	Description	Monitor server *program* has been installed. This is the status of the service.
	Action	None
SL3002	**Type**	Informational
	Text	Spanlink Monitor Server is already installed.
	Description	Monitor server has already been installed prior to this installation.
	Action	None.
SL3003	**Type**	Informational
	Text	Spanlink Monitor Server installed.
	Description	The monitor server was successfully installed.
	Action	None
SL3004	**Type**	Informational
	Text	Spanlink Monitor Server is not installed.
	Description	The monitor server was not successfully installed.
	Action	None.
SL3005	**Type**	Informational
	Text	Spanlink Monitor Server removed.
	Description	The monitor server was successfully removed.
	Action	None
SL3006	**Type**	Informational
	Text	Service removed.
	Description	The service was successfully removed.
	Action	None
SL3007	**Type**	Informational
	Text	Service not removed.
	Description	The service was not successfully removed.
	Action	None.

Table 4-13. Voice-Over IP Monitor Server Error Messages — *Continued*

SL3008	**Type**	Informational
	Text	Service Started
	Description	The service has started.
	Action	None.
SL3009	**Type**	Informational
	Text	Service Control Stop message
	Description	The NT service received a message to STOP.
	Action	None.
SL3010	**Type**	Informational
	Text	Service Stopped.
	Description	The NT service has stopped.
	Action	None
SL3011	**Type**	Informational
	Text	Service Control Pause message
	Description	The service received a message to pause.
	Action	None
SL3012	**Type**	Informational
	Text	Service Paused.
	Description	The service has been paused.
	Action	None
SL3013	**Type**	Informational
	Text	Service Control Continue message
	Description	The service has received a message to continue.
	Action	None
SL3014	**Type**	Informational
	Text	Service Control Interrogate message.
	Description	The service received a message to return its status.
	Action	None

Table 4-13. Voice-Over IP Monitor Server Error Messages — *Continued*

SL3015	**Type**	Informational
	Text	Service Control Shutdown message
	Description	The service received a shutdown message; this usually appears when the system is shutting down.
	Action	None
SL3016	**Type**	Informational
	Text	Service Stopped.
	Description	The service has been stopped.
	Action	None
SL3017	**Type**	Informational
	Text	Service User Control message
	Description	The service received a user-specific message.
	Action	None.

Troubleshooting

5

Server Test Programs

Provided with Cisco Desktop Product Suite are programs that enable you to test the functioning of the Enterprise server, Call/Chat server, Recording and Statistics server, and Voice-Over IP Monitor server.

These test programs are located in the folder …\Cisco\Utilities.

Enterprise Server Test Program

The Enterprise server test program (tssptest.exe) is used to exercise Enterprise server functionality from a Windows computer and communicate with the Enterprise server through different function calls.

Using the Test Program

When you initially open the program, all items under the Function menu are disabled. Once the dll library is loaded, those functions are enabled and you can proceed with testing.

1. From the **File** menu, choose **LoadLibrary**.
2. If the library splktssp.dll is loaded successfully, the options under the Functions menu are now enabled.

After the library is loaded, you must call the spConnect function in order to find out if the Enterprise server entry has been found in Directory Services.

1. From the **Functions** menu, choose **spConnect**.
2. In the spConnect dialog box, keep the default arguments and click **Send Message**.
3. If the Return Code is 0, the connection is successful and you may proceed with other function tests. If the return code is a negative number there is an error.

To test a function, follow these steps.

1. Select the function from the Functions menu.
2. In the function dialog box, enter any required arguments and click Send Message.
3. The result of the function test is displayed in the dialog box. The Return Code and description fields display the results.

Useful Functions to Test

Function	Description
spGetLibraryVersion	Returns the version of the splktssp.dll library you loaded. It should be 4.2.
spTestMessage	Tests the communication between the client and the Enterprise server. It tests to see if different types of variables can be sent to and received from the server. The return test string is **test string**.
spSpecialMessage	This function is used to send special requests to the server. Some options you can send are: • **rereaddevices**. The server rereads the device list from the configuration file and reinstalls it. • **dumplists**. The server dumps the current device list and call list in the debug file. In order to see the debug message in the server's debug file, you must turn on debugging first.
GetNNNN	All the GetNNNN functions get and display information from the Enterprise server.

Call/Chat Server Test Program

The Call/Chat server test program (FCCTest.exe) is used to test connectivity to the Call/Chat server and exercise the various server API calls.

> **NOTE:** By using the test program you can affect other Call/Chat server users, that is, agents and supervisors.

Using the Test Program

After starting the test program you must log in.

1. From the **Methods** menu, choose **Login**.

2. In the Application ID field, type a unique ID. If you use the ID of an active agent or supervisor, you will log them out of the server. The default entry, **Application 1**, should be safe unless you are running multiple test programs. If that is the case, use Application 2, Application 3, and so on.
3. Click **Login**. If the login is successful, you will see a message in the application's upper pane. A successful login means that the Directory Services server and Call/Chat server are running and able to process requests.

If debug tracing is turned on in the Call/Chat server configuration file, you can use the specialMessage method to have the Call/Chat server write its internal lists to its debug trace file. This can be useful for troubleshooting Call/Chat server-related problems with agents and supervisors.

1. From the **Methods** menu, select **specialMessage**.
2. In the dialog box, the default entry is **dumplists**. Click **OK**.
3. Open the debug trace file (…\log\FCCServer.dbg) and look for dumplists. A detailed list of agent and supervisor information should be displayed– this is what the Call/Chat server thinks the state of the contact center is.

Before leaving the test program you must log out.

1. From the **Methods** menu, choose **Logout**.
2. Click **OK**.

IP Phone Agent Server Test Program

The IP Phone Agent server test program (AgtStateClientTest.exe) is used to exercise IP Phone Agent server functionality. It is a Windows application that communicates with the IP Phone Agent server through different function calls.

The program's default location is C:\Program Files\Cisco\Desktop\IP Phone Agent Interface\bin on the machine where the IP Phone Agent server is running.

NOTE: Running this application can affect IP phone agents using the IP Phone Agent server.

Using the Test Program

To start the application:

1. In Windows Explorer, navigate to the folder

   C:\Program Files\Cisco\Desktop\IP Phone Agent Interface\bin

2. Double-click **AgtStateClientTest.exe**.

   Agent State Client Test Application starts. All buttons except Connect and Exit are disabled.

3. Click **Connect**.

   The application connects to the IP Phone Agent server and all the function call buttons are enabled.

Each button on the interface corresponds to a function call to the server, except for Exit and Clear Window.

When you click a function call button, the function call results are displayed in the "Last button click result" field. If there are other results from the function call, they are displayed in the Results window.

Click **Clear Window** to clear the Results window.

Some function call buttons pop up dialog boxes for you to complete. Fill in the necessary information and click **OK** to run the function call.

The function call buttons are:

Function Call	Description
Change Agent State	Changes a specified agent's agent state.
Change State Name	Gives you the equivalent display name of a CTI server agent state.
Disconnect	Disconnects the application from the IP Phone Agent server.
Dump Data	Retrieves data held by the server. Data can be downloaded to the screen or to a server or local file. (Retrieving agent data could affect server performance due to the amount of data sent from the server.)
Get Agent ID	Retrieves the agent ID associated with a specified IP address.
Get Agent Info	Retrieves data about a specified IP phone agent currently logged in.
Get Agent State	Retrieves the agent state associated with the IP phone agent at a specified IP address.
Get Enterprise Data	Retrieves the enterprise data associated with the agent's current call.
Get Reason Codes	Retrieves the reason codes associated with the specified agent state.

Function Call	Description
Get Screen Type	Retrieves the IP phone screen type associated with an IP address.
Get Skill Statistics	Retrieves the agent's skill statistics.
Get States Menu	Retrieves the agent states an IP phone agent at a specified IP address can change to.
Get Switch Type	Retrieves the type of switch used by the system.
Login	Logs a specified agent into the IP Phone Agent server.
Ping Server	Verified that the IP Phone Agent server is running.
Reload Info	Tells the IP Phone Agent server to reload specified information.
Reset Agent	Resets a specified agent's information in the IP Phone Agent server.
State Need Reason Code	Checks if a specified agent state requires a reason code.
Valid Agent	Checks if a specified agent is logged into the IP Phone Agent server.

License Test Program

The License test program, ChkLicenseValue.exe, is used to view information about the license files.

Using the Test Program

Double click the executable, ChkLicenseValue.exe (located in the …DESKTOP_CFG\Util folder) to open a command window. The command window displays the following information:

- License type
- Number of licenses
- Location of the license file
- Hostname or IP address of the computer from which the license value was last changed
- The date and time when the license value was last changed

The program goes through both the active license files and backup license files to generate this information. It writes the information to a log file named ChkLicenseValue001.log.

Recording and Statistics Server Test Program

The Recording and Statistics server test program, FCRasTest.exe, is a Windows application that can be used to test connectivity to the server and exercise API calls.

> **NOTE:** The API calls Login, Logout, Get Agent State Log, Get Call Log, Get Record Log, Get User Stats, Get User Team Stats, and Get Error String will not affect any contact center data. These API calls only read data from the database and do not insert or change any data.

Using the Test Program

After starting the test program you must log in.

- From the **Methods** menu, choose **Login**.

To exit the test program, you must log out.

1. From the **Methods** menu, choose **Logout**.
2. Click **OK**.

Testing API Calls

The following API calls may be tested.

API Call	Description
Get Agent State Log	Retrieves all of the state changes for the set filters.
Get Call Log	Retrieves all the calls for the set filters.
Get Record Log	Retrieves all of the calls for the set filters.
Get User Stats	Retrieves statistics for a single user and the set filters.

API Call	Description
Get User Team Stats	Retrieves the statistics for a single team and the set filters. The team statistics are calculated from midnight of the current day.
Get Error String	Retrieves an error message based on the error code. Some error strings are dependent on other errors such as Directory Services errors. They may not contain the complete error string. The error number can be any positive or negative number, or zero with the range –27 to 0.
Send Server Message	Allows the user to print out some of the internal structures of the server. Currently, the only valid string to pass in via this API call is **Dump Active Recordings**.

Voice-Over IP Monitor Server Test Program

The Voice-Over IP Monitor server test program, FCVoIPMonTest.exe, is a Windows application that can be used to test connectivity to the server and exercise API calls.

Using the Test Program

After starting the test program, you must log in. The VoIP Monitor server uses three DLLs–Monitoring, Recording, and Agent. In the test program, each DLL has its own login and logout.

1. Choose which DLL you want to test. Select the appropriate menu, then choose **Login**.
2. You will be prompted for an ID:
   - **Monitoring**. Provide a unique supervisor ID. If you use the ID of another supervisor you will log them out of the server. The default **Supervisor 1** should be safe unless you are running multiple test programs, in which case you can use Supervisor 2, Supervisor 3, etc.
   - **Recording**. Provide a unique application ID. If you use the ID of another application you will log them out of the server. The default **Application 1** should be safe unless you are running multiple test programs, in which case you can use Application 2, Application 3, etc.
   - **Agent**. No ID is required.
3. Click **Login**.

If you are successful you will see a success message in the message pane. A successful login means that the Directory Services server and the VoIP Monitor server are running and able to process your requests.

If debug tracing is turned on in the VoIP Monitor server configuration file, you can use the Special option on each DLL menu to have the server write its internal lists to its debug trace file. This can be useful for troubleshooting VoIP Monitor server-related problems with extensions and recordings.

1. From the appropriate DLL menu, select **Special**.
2. In the dialog box, the default entry is **dumplists**. Click **OK**.
3. Open the debug trace file (…\log\FCVoIPMonSvr.dbg) and look for dumplists.

Before leaving the test program you must log out.

1. From the appropriate DLL menu, choose **Logout**.
2. Click **OK**.

Restarting Servers

If you have to stop the servers for any reason, it is recommended that you start them again in this order:

1. Base servers: Call/Chat, Enterprise, and Directory Services Sync servers
2. Voice-Over IP Monitor server
3. Recording and Statistics server
4. IP Phone Agent server

The Primary Directory Services server must be started first so that the other servers can register their locations with it.

Service Names/Executables

If you need to check if a service is running, use the following table to match what is shown in the Services dialog (**Start—Settings—Control Panel—Services**) with a particular executable.

Service Name	Executable	Server Name
Cisco Desktop Call Chat Server	FCCSErver.exe	Call/Chat Server
Cisco Desktop Enterprise Server	cti storage server.exe	Enterprise Server
Cisco Desktop Record and Statistics Server	FCRasSvr.exe	Recording and Statistics Server
Cisco Desktop Sync Server	DirAccessSynSvr.exe	Directory Services Sync Server
Cisco Desktop TAI Server	AgtStateSvr.exe	IP Phone Agent Server
Cisco Desktop VoIP Monitor Server	FCVoIPMonSvr.exe	Voice-Over IP Monitor Server

Manually Removing Cisco Desktop Applications

It may become necessary to manually remove Cisco Desktop applications from your PC. Some reasons for this are:

- The Windows Add/Remove Programs utility does not completely remove a Cisco Desktop application.
- You are unable to upgrade Cisco Desktop applications due to files and settings created in a previous version.

IMPORTANT. Do not use this procedure unless you are advised to do so by the Cisco Technical Assistance Center (TAC). Contact TAC first to see if there are other solutions to the problem you are experiencing.

This procedure does not remove all Cisco Desktop elements, only those that may interfere with subsequent installations.

NOTE: This procedure removes all Cisco Desktop applications. If you want to remove only specific Cisco Desktop applications, contact TAC.

NOTE: Depending on which Cisco Desktop applications are installed on your computer, you may find all or only some of the following registry keys and folders.

▶ **To manually remove all Cisco Desktop applications from your computer:**

1. From the **Start** menu, choose **Run**.

   The Run dialog box appears.

2. Type **Regedit** and then press **OK**.

   The Registry Editor window appears.

3. Delete the following registry keys:

   Under HKEY_LOCAL_MACHINE\SOFTWARE, delete the key:

   Spanlink

   Under HKEY_LOCAL_MACHINE\SOFTWARE\ODBC\ODBC.INI, delete the keys:

   FCRasSvrDB

   FCVoIP

   FCVoIP_sub_1

   FCVoIP_sub_2

   FCVoIP_sub_3

FCVoIP_sub_4

SYNC_SERVER_A

SYNC_SERVER_B

Under HKEY_LOCAL_MACHINE\SOFTWARE\ODBC\ODBC.INI\ ODBC Data Sources, delete the values:

FCRasSvrDB

FCVoIP

FCVoIP_sub_1

FCVoIP_sub_2

FCVoIP_sub_3

FCVoIP_sub_4

SYNC_SERVER_A

SYNC_SERVER_B

Under HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\ CurrentVersion\Uninstall, delete the keys:

{1F99B160-BDCE-11D5-84FE-0001031A6A35}

{2A879B13-E744-11D4-849E-0001031A6A35}

{2DF142C0-11F6-11D4-8770-00105AA752A8}

{3AFB74C0-527B-11D4-8776-00105AA752A8}

{3E2F65E8-7773-11D4-8466-0001031C0C0B}

{3F2EEAA1-1F49-11D4-8770-00105AA752A8}

{4FE45CA0-9E24-11D5-84F4-0001031A6A35}

{536A8CD0-F07E-11D4-849F-0001031A6A35}

{671EAD40-79FA-11D5-84E8-0001031A6A35}

{7816039C-78FE-11D4-8466-0001031C0C0B}

{AEF488C0-5B62-11D5-84E0-0001031A6A35}

{B2C70A61-0941-11D4-8770-00105AA752A8}

{BF7D7545-3373-11D5-84D1-0001031A6A35}

{FD3E6760-4B71-11D4-8773-00105AA752A8}

Under HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services, delete the keys:

FastCall Chat Server

RASCALServer

Spanlink

Spanlink FastCall Enterprise Server

splkldap

splkldapmon

SyncServer

TAIServer

VoIPMonitorServer

4. Access the Windows Add/Remove Programs dialog box (**Start > Control Panel > Add/Remove Programs**). If you find any Cisco Desktop application names in the list of programs installed on the computer, search for them (without the version number) under the registry location HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services and delete them.
5. In Windows Explorer, delete the following folders and their contents:

   C:\Program Files\Cisco\Desktop

   C:\Program Files\Cisco\IM

   C:\Program Files\Spanlink

   C:\Program Files\Cisco\Desktop_Cfg

   (Do not delete the Desktop_Cfg folder if you wish to preserve configuration data and agent recordings from an on-board Recording & Statistics server.)

   C:\Program Files\Cisco\AudioFiles

   (Do not delete the AudioFiles folder if you wish to preserve agent recordings from an off-board Recording & Statistics server.)
6. Under the C:\Program Files\Installshield Installation Information folder, delete the following folders.

   Note that this is a hidden folder. You may need to change your Windows Explorer Folder Options to enable viewing hidden files and folders.

   {1F99B160-BDCE-11D5-84FE-0001031A6A35}

   {2A879B13-E744-11D4-849E-0001031A6A35}

   {2DF142C0-11F6-11D4-8770-00105AA752A8}

   {3AFB74C0-527B-11D4-8776-00105AA752A8}

{3E2F65E8-7773-11D4-8466-0001031C0C0B}

{3F2EEAA1-1F49-11D4-8770-00105AA752A8}

{4FE45CA0-9E24-11D5-84F4-0001031A6A35}

{536A8CD0-F07E-11D4-849F-0001031A6A35}

{671EAD40-79FA-11D5-84E8-0001031A6A35}

{7816039C-78FE-11D4-8466-0001031C0C0B}

{AEF488C0-5B62-11D5-84E0-0001031A6A35}

{B2C70A61-0941-11D4-8770-00105AA752A8}

{BF7D7545-3373-11D5-84D1-0001031A6A35}

{FD3E6760-4B71-11D4-8773-00105AA752A8}

7. Reboot the computer before attempting to reinstall any Cisco Desktop applications.

General Problems

Problem The configuration files located on the share were deleted, and now none of the Cisco Desktop applications function.

Solution To replace the shared configuration files, you must uninstall Cisco Desktop Administrator, and then reinstall CRS.

NOTE: You will have to configure teams, workgroups, and the Agent Desktop interface again, since those settings were lost with the previous configuration files.

Agent Desktop Problems

Agent Interface

Problem Every time I hang up the telephone, Agent disappears.

Solution In normal mode, Agent automatically minimizes when there are no active calls. Set up this behavior in Desktop Administrator. To prevent the Agent window from minimizing, click **User Interface**, and then select the **Miscellaneous** tab. Select **Keep Open**.

Problem There is a message in the status bar but it is too long to read.

Solution Double-click the status bar to bring up a message box with the full text.

Problem I have made changes in Desktop Administrator, but they are not having an effect in Agent.

Solution You must restart Agent in order for the changes to take effect.

Problem In Agent, I used the file menu to change from Normal to Always on Top. When I restart Agent, the setting is not saved.

Solution Changes made to local settings via Agent are only temporary overrides of the global settings. Permanent changes must be made via Desktop Administrator.

Problem Sometimes during a conference call, a conference member shows up as <Unavailable>.

Solution <Unavailable> represents a party outside the switch. The switch sends the trunk number of the external party to the desktop, where it has no meaning. Agent replaces the trunk number with <Unavailable>.

Problem When I start Agent, I get two messages, one for Enterprise Data and the other for Call/Chat. The message is identical for both and reads, "Cisco Agent Desktop was unable to properly initialize."

Solution You must register the file fastcallserverproxy.dll with the system. To do this, open a DOS session (click **Start—Programs—Command Prompt**) and navigate to the folder that contains fastcallserverproxy.dll (typically this is C:\Program Files\Cisco\Desktop\bin). At the prompt type:

Windows 9x:
C:\windows\system\regsvr32 fastcallserverproxy.dll

Windows NT and 2000:
C:\winnt\system32\regsvr32 fastcallserverproxy.dll

and press **Enter**. Then close the DOS window and restart Agent.

Problem I sent my supervisor an emergency chat message but he never received it.

Solution Supervisors receive emergency chat messages only if they are monitoring into the same team as that of the agent who sent the message.

Problem While running Agent Desktop, I keep getting the error message, "Macro file failed to open."

Solution Try turning off any virus scanning applications on your desktop. Virus scanning applications attempt to intercept calls to open a file to do their own processing first. This may cause the file to be opened in such a way that restricts other applications from opening the file.

Problem The agent can't view any skills statistics in Agent Desktop.

Solution If an agent is not assigned to a skill group, no skills statistics are available.

Problem When the agent starts Agent Desktop, a call appearance is displayed showing that the agent is on a call, even though there is no active call on the agent's phone.

Solution On startup, Agent Desktop asks the CTI server for a snapshot of any existing phone calls to display to the user. Occasionally the CTI server returns invalid data. To dismiss the invalid data, click the Drop button on the toolbar. If the call appearance persists, the agent may have to close Agent Desktop, pick up the phone receiver to get a dial tone, hang up, and then restart Agent Desktop.

Problem While trying to uninstall Agent Desktop, I get a Dr. Watson error message that names MediaClient.exe as a problem and Agent Desktop doesn't uninstall completely.

Solution When Agent Desktop closes improperly, MediaClient.exe does not terminate automatically. If it is left running, it prevents Agent Desktop from uninstalling correctly. You must close it manually by pressing Ctrl + Alt + Delete and closing it in the Task Manager window, or by rebooting your machine.

Problem The error message, "A required file, jvm.dll, was not found" is generated when trying to start Agent Desktop.

Solution Agent Desktop requires Java Virtual Machine version 1.3.1 to run. If there is another application on the PC that uses a different version, and that version is listed first in the environmental variable path, then this error message is returned.

The user should not have more than one version of Java Virtual Machine on the PC in order for Agent Desktop run correctly. Note that this may interfere with the running of other applications that use different versions.

Problem After upgrading Agent Desktop with Media Termination, when I try to log in I notice that the volume slider has disappeared. I receive an error message, "Either your phone or the CallManager is offline."

Solution A portion of the installation did not complete successfully. Run the upgrade again. If the problem persists, contact support.

Problem After a server autorecovery, media termination agents are unable to log in. They receive the error message, "Unable to start Media Termination."

Solution By default, Media Termination attempts to connect to the CallManager every 2 seconds for 30 tries. If the connection is not made in that time, it times out. If this is a persistent problem, you can increase the number of attempts made by adding the registry key on the agent's PC:

HKEY_CURRENT_USER\Software\Spanlink\Media Termination\config

The key is in DWORD format, and may be any value above 30 (the default).

Problem After successfully installing Agent Desktop with Media Termination, I installed Cisco CTI OS Agent Phone. Now I can't log into Agent Desktop and get the error, "Can't find MediaTermClient."

Solution Cisco CTI OS Agent Phone also installs media termination, and the executable has the same name as the one for Agent Desktop's media termination executable. Therefore Agent Desktop no longer functions correctly.

These two applications cannot exist on the same PC. To correct the problem, remove CTI OS Agent Phone, Agent Desktop, and Base, and then reinstall Agent Desktop with Media Termination.

Call Control

Problem I can make and receive internal calls but get errors when I try to make an external call.

Solution You must configure the dial string properly for outgoing calls. Some switches are set up to automatically dial a 9 to get an outside line, while others require you to dial a 9. The dial string must take into account how the switch is set up.

Problem My call control action does not work properly.

Solution Try performing the same action manually using the dial pad. Telephone numbers are formatted the same way when used in call control actions as they are when making calls manually. Make sure that the dial string is configured properly for outgoing calls.

Problem I have four actions assigned to an event, but only the first two run.

Solution When executing a set of actions, execution is halted if any of the actions fail. This is because some actions may depend on previous actions executing correctly. Find out why the third action is failing and correct it.

Dial Pad

Problem The only phone book appearing on the dial pad dialog box is the recent call list.

Solution The administrator disabled the phone books.

Problem I have global phone books but no personal phone book.

Solution The administrator disabled personal phone books.

Problem When editing a phone book, I can't add an entry after editing the first name, last name, or notes.

Solution You must enter a phone number before the Add button is enabled.

Problem I can edit the personal phone book, but not other phone books.

Solution The personal phone book is not shared by other agents. The other phone books are shared, and may be edited only by the administrator.

Log Viewer

Problem I can't find the Log Viewer executable.

Solution Log Viewer is now part of Agent, and can be accessed by choosing the option **File—View Logs** from the Agent menu bar.

Problem When opening the Log Viewer, <N/A> is displayed in the first row.

Solution If there is no data for the selected day, the first row of the log viewer is filled with <N/A>.

Problem I changed the viewing options but pressed cancel. Why weren't the changes to the filters canceled?

Solution There is a cancel button for each of the filter dialog boxes. Once a filter has been accepted, it is saved. The cancel button on the options dialog box only cancels changes made to the columns.

Macros

Problem The keystroke macros I created do not play back correctly on dropped events.

Solution If you are running Agent in normal mode (maximized when a call is received, and minimized when there are no call appearances), keystroke macros may play back to the wrong window. When Agent minimizes after a call is dropped, it steals focus from the target keystroke macro window. To fix this, place a [Delay] <milliseconds> command at the beginning of the keystroke macro. This allows time for Agent to minimize before playing back the keystroke macro. For example:

[DELAY] 1000
[APPLICATION:NOTEPAD=UNTITLED - NOTEPAD]

Problem Macros are not playing back correctly.

Solution When playing keystrokes to a window, Agent must first find the window. When recording the macro, Agent saves the window's title and class name (an internal Windows variable associated with a window). On playback, Agent searches in this order:

1. Find a window with the saved title and class name.
2. Find a window with the saved class name.
3. Find a window with the saved title.

If Agent does not find a window matching one or more of these criteria, it displays an error message.

If there are two windows with the same name and class, Agent may play back the macro to the incorrect window.

If there are several windows with the same class name, and the title of the target window has changed, Agent may play back the macro to the incorrect window.

Some compilers/class libraries use the same class name for all windows. If you have developed an in-house application, you may need to change the class name in your application.

Problem My keystroke macro will not play back even though the target application is running.

Solution Agent uses the application's class name and title to find the target application. Some applications change title and class name when changing screens. If this happens, Agent may not be able to locate the target application. Try using just the window title or class name to find the target application.

Example 1: Find both the title (NOTEPAD) and class (UNTITLED - NOTEPAD).

[APPLICATION:NOTEPAD=UNTITLED - NOTEPAD]
[SHIFT] D
et cetera.

Example 2: Find just the class (NOTEPAD):

[APPLICATION:NOTEPAD=]
[SHIFT] D
et cetera.

Example 3: Find just the title (UNTITLED - NOTEPAD):

[APPLICATION:=UNTITLED - NOTEPAD]
[SHIFT] D
et cetera.

Problem I created a macro and put in some delays. Now the PC appears to lock up while the macro runs.

Solution When a macro runs, the operating system takes over the PC and locks out all user input. This is a characteristic of the operating system. Try to minimize the length of time your macro runs.

Problem My keystroke macro plays the wrong keys to the wrong window.

Solution Make sure macro playback starts from the same place every time it runs. Have the macro start from the same starting window with the cursor in the same starting position as when the macro was recorded.

Problem When my macro is played back, it seems to be missing keystrokes, or my PC locks up.

Solution Due to the wide variety of systems and configurations, macro playback speed can vary. To slow down the rate at which a macro plays back keystrokes, add this section to the **fastcalllocal.ini** file:

[MacrosMisc]
DelayTime=<n milliseconds>

where <n milliseconds> is some value in milliseconds to delay between each macro event.

Problem After my macro runs, focus remains on the application to which it played. How do I make the macro change focus to Agent (or some other application)?

Solution To change focus to Agent, edit the macro and insert this line at the end:

[APPLICATION:FASTCALL_AGENT=FASTCALL AGENT]

You can also change focus to an application other than Agent. To determine the line to insert, create a dummy macro and play a few keystrokes to the application. When you finish recording, cut and paste the application's text identifier from the dummy macro to the macro you wish to edit.

Problem Sometimes when a macro is running, my PC appears to lock up for short periods of time.

Solution A [DELAY] statement in a macro causes the system user-input hook to keep control of your system. The PC runs but rejects all user input until the macro finishes playing. To limit this problem, use the shortest delays possible.

Problem I pressed Ctrl + Alt + Del while a macro was running, and now the Agent window is locked up.

Solution You cannot click **Start** or press **Ctrl+ Break**, **Ctrl + Esc**, or **Ctrl + Alt + Del** when recording a macro. The Windows operating system unhooks the system keyboard hook when Start is pressed.

Media Termination

Problem I am using Cisco Desktop Agent with Media Termination on a computer with multiple network adapter cards. When I switch from using one NIC to the other to connect to the network, media termination will not start and I cannot log in. (An example of this situation is running media terminated CAD on a laptop that can connect to the network using either an Ethernet or wireless connection.)

Solution Each NIC has its own MAC address. The Cisco CallManager must be able to associate a MAC address with an extension in order for CAD to function correctly. If the CallManager knows about only one of the multiple NICs, only that one will work.

If an agent is going to use a computer with multiple NICs, CallManager must be configured to recognize each NIC's MAC address.

Problem A media terminated CAD agent cannot log in for the first time after the CallManager has failed over.

Solution A media terminated CAD agent should log in at least once when the primary CallManager is running (provided that the CRS setup points to a cluster of CallManagers). Otherwise, the agent cannot log in after a CallManager failover occurs.

The MedaClient must have at least one successful connection to and registration with a CallManager before failover occurs, because it is after this successful connection/registration that the MediaClient requires and receives from the CallManager information about all the other CallManagers in the cluster. If it is not

received, the MediaClient has no way of knowing with which other CallManager to connect.

Work Flow

Problem I made some changes in Work Flow Setup, and when I decided to cancel the changes, they were already saved.

Solution When you create a new action, any changes are automatically saved before returning to the Select Action dialog box.

Problem I cannot get a rule to work based on an internal extension number.

Solution When Agent compares the telephone numbers, if the dial string number format includes a leading x, then the telephone numbers in the list must also include a leading x.

Problem I'm having trouble with an action that launches my external application.

Solution Sometimes the operating system can be confused by spaces in directories and file names. If you have an application such as **C:\Program Files\Acme\Search Database.exe /t/x**. you may need to add quotes around the directory and executable. For example, the above would be "**C:\Program Files\Acme\Search Database.exe" /t/x**

Problem When Agent attempts to launch an external application, I get the following error: "Error Launching Application…The system cannot find the file specified."

Solution When creating a launch external application action, you must include the extension of the application you wish to launch. For example, to launch Windows Notepad, **C:\Windows\Notepad.exe** is correct, while **C:\Windows\Notepad** is incorrect.

If the path to the executable or an argument contains spaces, it must be enclosed in quotes, for instance, **“C:\Program Files\MyFile.doc”**.

Problem I configured a task button to send an email message, and changed the hint to Send Email (Ctrl + S). The shortcut keys do not work.

Solution For any task button, you may only change the hint text. You cannot change the shortcut key.

Call/Chat Problems

Problem Call/Chat and Supervisor do not work properly on PCs with multiple IP addresses.

Solution Call/Chat and Supervisor are both CORBA servers and CORBA clients. When they start up, the CORBA server arbitrarily picks one on the IP addresses to use when forming its Interoperable Object Reference (IOR). The IOR is what clients (in this case, the client is the Chat Server) use to connect to the server (Call/Chat or Supervisor). If one of the IP addresses is inaccessible to the Chat server, then it will be unable to send data to Call/Chat or Supervisor.

You can force Call/Chat and Supervisor to use a particular IP address by setting the environment variable OMNIORB_ USEHOSTNAME to the IP address that you wish to use. The variable must be set before starting Agent or Supervisor.

To set the environment variable:

Windows NT: In the Control Panel, double-click System. In the System Properties dialog, select the Environment tab. In the Variable field, enter OMNIORB_USEHOSTNAME, and in the Value field, enter the IP address you wish to use. Click OK.

WIndows 2000: In the Control Panel, double-click System. In the System Properties dialog, select the Advanced tab. Click the Environment Variable button and then Add to add OMNIORB_ USERHOSTNAME and the IP address to the System Variable list.

Windows 98: Open the autoexec.bat file. Add the command:

SET OMNIORB_USEHOSTNAME=(IP address)

where (IP address) is the IP address you wish to use. Save the autoexec.bat file and reboot the computer.

Problem Upon completing a conference, Call/Chat and Supervisor Desktop show an extra party on the call.

Solution Occasionally, each agent receives different data from the CTI server. For example, Customer (555-5555) calls Agent A. The CTI server reports 555-5555 to AGent A as the calling number. Agent A then conferences in AGent B. However, in this case the CTI server

reports “unavailable” as the customer number to Agent B. When the time comes to merge the data from the two agents (Agent A, Agent B, customer number and “unavailable”), an extra party is added because the customer number and “unavailable” cannot be distinguished.

Problem When I try to launch callchat.exe, a message appears telling me to run Cisco Desktop, and then quits.

Solution Although Call/Chat is a separate executable, it is dependent on Agent for information. When Agent is started, it attempts to start Call/Chat. If the launch fails, Agent will still run, but Call/Chat will be unavailable.

Problem Agent reports that it can’t launch Call/Chat.

Solution Call/Chat is dependent of the Call/Chat Server for communication with other call/chat applications, and will not launch if there are problems with this server. Check with the administrator to make sure that this server is running and that the host address for it is properly set.

Problem How can I tell if the Call/Chat server is running?

Solution On the PC where the server is installed, open Windows Control Panel and double-click **Services** (Windows NT) or Administrative Tools–Services (Windows 2000). The Cisco Desktop Call Chat Server should be listed.

If it’s status is not **Started**, select it and click **Start**.

Problem After completing a conference call, Call/Chat and Supervisor Desktop show an extra party on the call.

Solution Occasionally, each agent receives different data from the CTI server. For example, a customer (555-5555) calls Agent A. The CTI server reports 555-5555 as the calling number to Agent A. Agent A then conferences in Agent B. However, in this case the CTI server reports <Unavailable> as the customer number to Agent B. When

the time comes to merge the data from the two agents (Agent A, Agent B, customer number, and <Unavailable>), an extra party is added because the customer number and <Unavailable> cannot be distinguished.

Call/Chat Server Problems

Problem The following error occurs when trying to start the Call/Chat server:

Could not start the FastCall Chat Server Service on \\[*computer*] Error 2140: An internal Windows NT error occurred.

Solution **Windows NT**: Look at the Windows NT event log to see why the service failed to start.

1. Click **Start—Programs—Administrative Tools—Event Viewer**.
2. On the **Log** menu, click **Application**.
3. Select a message that displays **Cisco Desktop Chat Server** as the source. This should provide more information on the cause of the failure.

Windows 2000: Look at the Windows 2000 event log to see why the service failed to start.

1. Click **Start—Settings—Control Panel—Administrative Tools—Event Viewer**.
2. Click **Application log** in the tree control.
3. Select a message that displays **Cisco Desktop Chat Server** as the source. This should provide more information on the cause of the failure.

Desktop Administrator Problems

Problem During Desktop Administrator installation, I tried to install the configuration files on a network drive. I got the following error:

"The drive does not support long file names. You must choose a drive that support long file names. See your network administrator for more information."

Solution You must enable long file name support on the network drive, or choose another drive that does support them. You can also install the configuration files on the administrator PC. You must enable File Sharing If you install the configuration files on the administrator PC.

Problem I cannot create a new work flow group.

Solution The work flow group name is already used for another group, and/or the work flow group name is not a valid Windows directory name.

Problem I cannot restore a Desktop Administrator backup.

Solution The Desktop Administrator config directory is write-protected, and/or Desktop Administrator cannot create the config directory to which to restore the files.

Problem I received an error message indicating that Directory Services (LDAP) size has exceeded the limit.

Solution Make sure the setting on the Directory Services server for items returned in a search is high enough (MaxPageSize for Active Directory). This number should be at least:

(max. # agents or devices × 5) + 100

Enterprise Data Problems

Problem Enterprise Data does not display data on outbound calls.

Solution Enterprise Data only displays data for inbound calls.

Problem Enterprise Data does not display data for inbound calls.

Solution The agent's phone must be on the list of devices that the Enterprise server is monitoring. Make sure that the Enterprise Data server is properly installed and running. If everything appears to be working correctly, try rebooting the PC on which it is installed. After the PC has been rebooted, restart Agent at the agents' desktops.

Problem Enterprise Data displays data after a call has been dismissed.

Solution Enterprise Data displays data from the last call until a new call is received. This allows agents to use the enterprise data for after-call work.

Problem When starting Desktop Administrator, I received the error message, "Cisco Desktop Administrator is running," but the application does not appear as a button on the Windows taskbar.

Solution Follow these steps:

1. Press **Ctrl-Alt-Delete** to start the Windows Task Manager, and then click the Processes tab.
2. Select the process **SplkView.exe,** and then click **End Process** to stop it.
3. Start Desktop Administrator again.

Problem While shutting down Desktop Administrator, I received the error message, "The RPC Server is unavailable."

Solution Follow these steps:

1. Press **Ctrl-Alt-Delete** to start the Windows Task Manager, and then click the Processes tab.
2. Select the process **SplkView.exe,** and then click **End Process** to stop it.

Problem While starting Desktop Administrator, I received the error mesage, "Erro loading application *application_name*," where *application_name* is one of the following:

- Enterprise Administrator
- Destkop Administrator
- ICD Administrator
- Personnel

Solution Ensure the following executables are in the …\Program Files\Cisco\Desktop\bin folder:

- TSSPAdm.exe
- Administrator.exe
- IPCCAdm.exe
- Personnel.exe

If they are not there, reinstall Desktop Administrator.

If the executables are in the bin folder, double-click each file to self-register them with the Windows operating system.

Enterprise Server Problems

Problem How can I check to see if Enterprise Server is completely installed?

Solution Open Windows Control Panel and double-click **Services**. The Cisco Desktop Enterprise Server should be listed.

If it is not listed, reinstall the Enterprise server.

Problem How can I tell if the Directory Services server is running?

Solution Open Windows Control Panel and double-click **Services**. Check the status of **Cisco Directory Services**; if the status is not **Started**, select it and click **Start**.

Problem How can I tell if the Enterprise server is running?

Solution Open Windows Control Panel and double-click **Services**. Check the status of **Cisco Desktop Enterprise Server**; if the status is not **Started**, select it and click **Start**.

Problem When the user attempts to start Enterprise Service, the following error displays:

"Could not start the Cisco Enterprise Service on \\<Computer>

Error 2140: An internal Windows NT error occurred."

Solution Look at the Windows NT event log to see why the Service failed to start.

1. Click **Start—Programs—Administrative Tools—Event Viewer**.
2. On the **Log** menu, click **Application**.
3. Select a message that displays **Enterprise Server** as the source. This should provide more information on the cause of the failure.

Problem No screen pops appear when the user makes calls to and from devices.

Solution Try the following:

- Use a testing program to make sure the device is being monitored.
- Check to see if the Sync server is running.
- Check to see if the CRA engine is running.
- Check to see if an agent is logged in to the device.

Problem Nothing happens when the user calls a particular device.

Solution Try the following:

- Make sure the device is being monitored.
- Check the NT event log to see if there are any error messages for the device.

Problem Agents report that Enterprise Data does not display some data for a call.

Solution When the Enterprise server goes through autorecovery while a call is in queue, custom enterprise data (data saved by the IVR script) will not appear in the Enterprise Data window. Calls that get in queue after the server recovers will show all enterprise data.

Problem Agents report that the DNIS displayed in Enterprise Data is incorrect.

Solution If a call arrives at the agent's phone while the Enterprise server is going through autorecovery, the DNIS shown in the Enterprise Data window will be incorrect. This results from the Enterprise server seeing only partial CTI data during autorecovery. Subsequent calls will be displayed correctly.

Problem The agent reports that enterprise data appears only intermittently.

Solution If the logging level is set too high, Enterprise server performance is impeded. Check the configuration file ssCTIconfig.cfg to ensure that the debug level is set no higher than 2 (for debugging and testing) or 0 (for normal operation).

IP Phone Agent Problems

Problem The agent can't log into the IP Phone Agent service.

Solution Although CallManager allows usernames and passwords to be entered in both uppercase and lowercase, the IP Phone Agent service does not recognize uppercase letters.

Ensure that all agent usernames and passwords in CallManager are in lowercase.

Problem Enterprise data does not pop on the IP phone when the phone rings or when it is answered.

Solution Verify that:

- the phone and any route points used are monitored by the Enterprise server.
- the phone is associated with the **telecaster** user in CallManager.
- the agent is logged into the phone.
- if the agent logs into Cisco Agent Desktop using the same phone and user ID, enterprise data does pops correctly.
- the user **telecaster** exists in CallManager, and that it uses the password **telecaster**.
- the enterprise data field labels do not contain the following symbols:

  <> . . . . . left and right angle brackets

  & . . . . . ampersand

  ‘ . . . . . apostrophe

  “. . . . . double quote

  (space) . . . spacebar

  These symbols prevent enterprise data from being displayed on the IP phone.

- Log the agent out, unplug the phone, and then plug it back in. This ensures there is a hard reset. This might be necessary if the phone previously pointed to a different CallManager.

Problem I'm trying to get IP Phone Agent to work, and can't find the file it is trying to reference–IPAgentinitial.jsp. Where is this file?

Solution In setting up the IP Phone Agent service in Cisco CallManager, you reference a file called IPAgentInitial.jsp. However, this file is actually implemented by a file called IPAgentIntial.class. For more information on setting up IP Phone Agent, see the section, "Configuring Cisco CallManager IP Phones to Work With IP Phone Agent" in the Installation Guide.

Problem The IP Phone Agent service doesn't work.

Solution Check to see if the Cisco CallManager where the IP Phone Agent service is configured is functioning. If it is down, so is the phone service.

Restart Cisco CallManager to restore the IP Phone Agent service.

License Administration Problems

Problem I received the following message: “There are no licenses available. Please contract your Administrator for help.”

Solution All licenses are currently in use. Contact your sales representative to obtain additional licenses.

Problem I received the following message: “Cisco Agent Desktop cannot locate the license file. Please contract your Administrator for help.”

Solution Reinstall Agent Desktop.

Problem I received the following message: “Cisco Agent Desktop has had problems opening the license file, LicenseFile. lf. It is possible that the license file has been moved and is no longer available. Please contact your Administrator for help.”

Solution Look at the License.log file for specific error information and verify that the license file has not been moved.

Recording and Statistics Server Problems

Problem The CPU usage on the VoIP Monitor service PC has gone to 99%, and the PC has locked up.

Solution This can happen in several scenarios. It may occur when you disable the sniffing adapter through the Windows Network and Dialup Connections window while the VoIP Monitor service is running. Re-enabling the sniffer adapter while the VoIP Monitor service is running will not solve the problem. You must stop the VoIP Monitor service, re-enable the sniffer adapter, and then restart the VoIP Monitor service to restore normal functionality.

This may also occur if you install Cisco Security Agent (CSA) and do not reboot the computer when prompted. Manually rebooting the computer will correct the situation.

Problem The Recording and Statistics server is not recording the audio file.

Solution Check the following:

- Make sure that a SPAN port has been created on the switch for the PC's network port where the VoIP monitor server is connected.
- Make sure that the Recording and Statistics server service has permission to write to the AudioFiles folder.
- Make sure that the location of the AudioFiles folder as set in the registry entry HKEY_LOCAL_MACHINE\SOFTWARE\Spanlink\FastCall RASCAL Server is the same as that of the shared AudioFiles folder.
- If the file system where the audio files are saved is FAT32, there is a limitation of 21,844 objects in the folder. If the folder has reached this limit, delete unused audio files, or convert the drive to the NTSF file system.

To check the user of the service, open the Control Panel. Windows NT: double-click **Services**. In Windows 2000: double-click **Administrative Tools** and then **Services**.

Search for the service named Cisco Desktop Rascal Server and click the Startup button. Account should be selected and a domain account given along with the password.

Problem Supervisors cannot play back or save recordings.

Solution If the drive where the audio files are stored is changed from a FAT32 file system to an NTFS file system, supervisors need to have their permissions set so they can read and write files on the shared directory.

Files recorded under the FAT32 system can be accessed, but files recorded under the NTFS system have a higher level of security and require explicit permissions to be accessed. See Chapter 3, "Permissions Requirements" for more information.

Problem The Recording and Statistics server is returning an error when retrieving the Global ID or it is returning zero (0).

Solution Check the following:

- Verify that the FCRasSvr database has been created in the SQL server. This will require the SQL server tool Enterprise Manager. Or, you can try creating an ODBC connection to the SQL server and try to select FCRasSvr as the database. It will not appear in the list if it does not exist.

- Make sure that the server is connected to the database by checking the log file …\log\FCRasSvr.log for the error string FCRVS306.

If the database does not exist and is on the same host as the server, then run the following command: osql–U sa –P *sa password* –i *drive and directory where server is installed*\RASCAL Server\db\instrasdb.sql.

Otherwise, copy the above file instrasdb.sql to the host where the database will exist and run the above command.

Problem The supervisor is not able to monitor, but there is a 1KB .wav file in the audio files directory.

Solution If a new VoIP Monitor domain was created, restart the Recording and Statistics server. It currently does not know that the new VoIP Monitor exists.

Problem Agent Desktop is returning “No Data Found” when I try to view agent or call logs.

Solution There is no data present in the database. The selected agent must have taken calls on the day selected for there to be data in the database.

Supervisor Desktop Problems

Problem Call/Chat and Supervisor Desktop do not work properly on PCs with multiple IP addresses.

Solution Call/Chat and Supervisor are both CORBA servers and CORBA clients. When they start up, the CORBA server arbitrarily picks one on the IP addresses to use when forming its Interoperable Object Reference (IOR). The IOR is what clients (in this case, the client is the Chat Server) use to connect to the server (Call/Chat or Supervisor). If one of the IP addresses is inaccessible to the Chat server, then it will be unable to send data to Call/Chat or Supervisor.

You can force Call/Chat and Supervisor to use a particular IP address by setting the environment variable OMNIORB_ USEHOSTNAME to the IP address that you wish to use. The variable must be set before starting Agent or Supervisor.

To set the environment variable:

Windows NT: In the Control Panel, double-click System. In the System Properties dialog, select the Environment tab. In the Variable field, enter OMNIORB_USEHOSTNAME, and in the Value field, enter the IP address you wish to use. Click OK.

WIndows 2000: In the Control Panel, double-click System. In the System Properties dialog, select the Advanced tab. Click the Environment Variable button and then Add to add OMNIORB_ USERHOSTNAME and the IP address to the System Variable list.

Windows 98: Open the autoexec.bat file. Add the command:

SET OMNIORB_USEHOSTNAME=(IP address)

where (IP address) is the IP address you wish to use. Save the autoexec.bat file and reboot the computer.

Problem When I click on an agent to start monitoring, Supervisor displays the speaker icon next to the call but I get no sound.

Solution Check these things:

- Move the volume slider all the way to the right.
- Verify that the sound card in the PC is working properly.

- Verify that the agent is on a call, and is talking.
- Verify that the SPAN port on the switch has been configured correctly. IF the monitor server has been moved, or new agent IP phones have been added, then you may need to reconfigure the SPAN port.
- Check the Windows NT/2000 application log on the Voice-Over IP Monitor server for errors.

Problem The sound quality is poor, and sounds choppy like a motorboat.

Solution Try this:

- Adjust the Sound Buffers registry entry. Set it higher; and if that doesn't work set it down to 3 and work your way up.
- Adjust the Jitter Buffer registry entry. It should be at least 400; try setting it higher. If that doesn't work you may have to use a different sound card.

Problem The sound is lagged. There is a noticeable delay between when the agent speaks and when I hear the sound on the PC sound card.

Solution A little lag time is normal. Since the voice is being sent in discrete packets across the network, which may have some delay variance. The software buffers up a few seconds before playback. Try adjusting the Jitter Buffer registry entry. You may be able to set it as low as 50 ms, however, if the network gets congested this may cause the monitor to sound choppy.

Problem I don't see any of my teams or other personalized settings in my Supervisor window.

Solution If you add Supervisor to your Startup menu and your configuration files are on a network, it is possible that your configuration files aren't loaded before Supervisor starts because your PC hasn't had time to map the network drives. As a result, your personalized settings will not show.

Close Supervisor and start it again, and your personal settings will be loaded. To avoid the problem in the future, remove Supervisor

from the Startup menu, and create a desktop shortcut icon to use to start the program.

Problem I scrolled the Data View (or Message View) pane sideways to view more information, and the toolbar icons disabled.

Solution Click anywhere in the Team View pane to enable the toolbar again.

Problem I clicked the Record button to record an agent conversation and nothing happened.

Solution There is no visible message shown to you if a recording fails. If nothing happens, assume that the request failed. You will know that a recording succeeds if the icon next to the agent's conversation in the Team View pane changes to the recording icon.

Problem I tried to change an agent's state and nothing happened.

Solution There is no visible message shown to you if an agent state change request fails. If nothing happens, assume that the request failed. You will know that an agent state change succeeds if the icon next to the agent's name in the Team View pane changes to the current agent state icon.

Problem After completing a conference call, Call/Chat and Supervisor Desktop show an extra party on the call.

Solution Occasionally, each agent receives different data from the CTI server. For example, a customer (555-5555) calls Agent A. The CTI server reports 555-5555 as the calling number to Agent A. Agent A then conferences in Agent B. However, in this case the CTI server reports <Unavailable> as the customer number to Agent B. When the time comes to merge the data from the two agents (Agent A, Agent B, customer number, and <Unavailable>), an extra party is added because the customer number and <Unavailable> cannot be distinguished.

Problem Why doesn't the barge-in feature work every time I use it?

Solution This problem occurs due to a limitation in the CallManager that allows only a single conference controller for the lifetime of the call.

Consider the scenario in which an agent is talking to a customer and is unable to answer all the customer's questions. The agent conferences in the queue, which connects the customer to the next available agent. Before the call is delivered to the next agent, the first agent (the conference controller) drops the call, leaving the customer in queue.

Once the agent drops out of the call, Supervisor Desktop no longer tracks it. When the call is delivered to the next agent, Supervisor Desktop resumes tracking what is now a two-party call. However, since it was a conference call at one point, and the original conference controller has disconnected, barge-in will not work.

The workaround is to instruct agents to transfer customers to the queue rather than conference customers to the queue.

Problem Silent monitoring and recording are disabled.

Solution Silent monitoring and recording are disabled after a network interface card drvier is updated. To solve this problem, reinstall the VoIP Monitor server.

Problem I recorded a call, but when I try to play it back in Supervisor Log Viewer, nothing happens.

Solution Make sure that the PC's sound card is set as the preferred audio device in the Windows Sounds and Media Properties dialog box.

Choose **Start > Settings > Control Panel**, and then double-click the Sounds and Media icon (Windows 2000) or Multimedia icon (Windows 98) to display the Sounds and Media Properties dialog box. Select the Audio tab. Uder Sound Playback, choose your sound card from the dropdown list, and then click **OK**.

Problem The Barge-In and Intercept buttons are enabled, but when I click either button, nothing happens.

Solution Supervisor Desktop retrieves the Agent Desktop extension from the phonedev.ini file. This extension is written to the phonedev.ini file every time Agent Desktop logs in. If you start Supervisor Desktop before Agent Desktop, and use a different extension for each, barge-in and intercept will not work as expected.

We recommend that you always start Agent Desktop before Supervisor Desktop to ensure that they both use the same extension.

Problem The supervisor changed his password using the File > Change Password menu in Supervisor Desktop. However, he has forgotten the new password and needs the password changed back to the default.

Solution Before resetting the supervisor's password, note the ICD Resource settings in CRS Administrator, and to which teams the supervisor is assigned in Desktop Administrator.

1. In CallManager's Userid window, remove the supervisor's ICD extension.
2. In CRS Administrator, choose **Subsystems > ICD > Resources** and verify that the supervisor's userID is no long listed.

3. In Desktop Administrator, synchronize Directory Services. Select the Locations node and then choose **Setup > Synchronize Directory Services** from the menu.
4. In CallManager's userid window, add the supervisor's ICD extension back in.
5. In CRS Administrator, choose **Subsystems > ICD > Resources** and verify that the supervisor's user ID is listed.
6. Add the supervisor's user ID to the relevant Resource Group or Skills.
7. In Desktop Administrator, synchronize Directory Services again. Select the Locations node, and then choose **Setup > Synchronize Directory Services** from the menu.
8. In Desktop Administrator, choose the Supervisors subnode under Personnel Configuration and assign the user ID as a supervisor.
9. Choose the Teams subnode and assign the supervisor to the appropriate teams.

Tomcat Webserver Problems

Problem How can I tell if the Tomcat webserver is installed correctly?

Solution Perform the following tests:

- On the PC where the IP Phone Agent server is installed, check Services in the Control Panel to see if the Tomcat service and the IP Phone Agent server are running.
- Verify you can see Tomcat's html index page. In your web browser, enter the URL http://<IP address of the machine where Tomcat is installed>:8088/.
- Attempt to display the following page in your web browser without an error: http://<IP address of the machine where Tomcat is installed>:8088/ipphone/jsp/sciphonexml/IPAgentInitial.jsp

If these tests fail, check the following:

- JRE is installed on your PC.
- Ensure these two entries are set in the …\IP Phone Agent\Tomcat\conf\wrapper.properties file:

  wrapper.tomcat_home=…\IPPhon~1\Tomcat

  wrapper.java_home=…\JavaSoft\JRE\1.3 or 1.3.1

  Note: DOS may truncate any long file names to conform to the 8.3 filename format. These entries must use the short DOS file names your machine has created for the file.
- The file that maps URLs with JSP pages to the correct java servlets, web.xml, must be in the …\Tomcat\webapps\ipphone\web-inf directory.
- This entry must be set in the registry: HKEY_LOCAL_MACHINE\\SOFTWARE \\Spanlink\\TAI\\Setup\\TOMCAT HOME = c:\program Files\Cisco\Desktop\IP Phone Agent Interface\Tomcat\
- If port 8088 does not work, check the port parameter in the file Tomcat/conf/server.xml for the correct value.