CHAPTER 10

Services

Cisco provides several Windows services that you install when you install the Cisco CallManager. Once you install the services, you can configure the service by modifying the service parameters. For more information about service parameters, refer to the Service Parameters Configuration section in the *Cisco CallManager Administration Guide*.

This section provides a description of the available services:

Cisco CallManager

The Cisco CallManager service runs on the Cisco IP Telephony Applications Server to provide software-only call processing as well as signaling and call control functionality. You install the Cisco CallManager service from the Cisco CallManager CD by checking the Cisco CallManager check box on the CallManager Components window.

After you install the service, you configure your Cisco CallManager by modifying the service parameters on the Service Parameters Configuration pane of the Cisco CallManager Administration. Cisco provides over 100 service parameters for the Cisco CallManager service. To view a list of parameters and their descriptions, click the "i" button in the upper, right corner of the Service Parameters Configuration pane. To view the list with a particular parameter at the top, click that parameter on the pane.

You must restart Cisco CallManager after making certain changes in the Cisco CallManager Administration. Table 10-1 lists the changes requiring a restart.

Table 10-1 Restart Conditions

Field Description	Path to This Parameter in Cisco CallManager Administration
IP address of the Cisco CallManager server	System > Server
Partition for auto-registration	System > Cisco CallManager
External phone number mask for auto-registration	System > Cisco CallManager
TCP port settings for the Cisco CallManager server	System > Cisco CallManager

Tips In general, make as many configuration changes as possible at one time and restart Cisco CallManager only once after completing the changes.

Cisco TFTP

Cisco Trivial File Transfer Protocol (TFTP) builds and serves files consistent with the trivial file transfer protocol, a simplified version of FTP. Cisco TFTP serves embedded component executable, ringer files, and device configuration files.

A configuration file includes a list of Cisco CallManagers to which devices (telephones and gateways) make connections. When a device boots, the component queries a Dynamic Host Configuration Protocol (DHCP) server for its network configuration information. The DHCP server responds with an IP address for the device, a subnet mask, a default gateway, a Domain Name System (DNS) server address, and a TFTP server name or address.

The device requests a configuration file from the TFTP server. The configuration file contains a list of Cisco CallManagers and the TCP port through which the device connects to those Cisco CallManagers. Cisco IP Phone 7960 and 7940 models, the configuration file also contains phone button URL information.

If the device receives the Cisco CallManager name, the device resolves the name using DNS, and a Cisco CallManager connection is opened. If the device does not receive either an IP address or name, the device uses the default server name.

For more information about TFTP, see the "Cisco TFTP" section on page 8-1.

Cisco Database Layer Monitor

The Cisco Database Layer Monitor service monitors aspects of the database layer as well as call detail records (CDRs). The database layer comprises a set of dynamic link libraries (DLLs) that provide a common access point for applications that need to access the database to add, retrieve, and change data. The Cisco Database Layer Monitor service performs functions such as determining whether the primary server is available during failover, deleting the oldest CDRs when the limit defined in the MaxCDRecords parameter is reached, and moving CDRs from a subscriber to the primary database at a given interval, if needed.

Cisco Messaging Interface

The Cisco Messaging Interface allows you to connect a simplified message desk interface (SMDI)-compliant external voice-mail system with the Cisco CallManager. The CMI service provides the communication between the voice-mail system and Cisco CallManager. The SMDI defines a way for a phone system to provide a voice-mail system with the information needed to intelligently process incoming calls.

You configure the CMI service parameters to define aspects of the CMI service, including

- The serial port connection that CMI uses to communicate with the voice-mail system
- The voice-mail directory number
- The name of the primary and backup Cisco CallManager

For more a general description of how to integrate an SMDI-compliant voice-mail system with Cisco CallManager, see the "SMDI Voice Mail Integration" section on page 22-1.

Cisco IP Voice Media Streaming App

The Cisco IP Voice Media Streaming Application provides voice media streaming functionality for the Cisco CallManager for use with MTP, conferencing, and music on hold (MOH). The Cisco IP Voice Media Streaming Application relays messages from the Cisco CallManager to the IP voice media streaming driver. The driver handles the RTP streaming. The MTP and conference bridge components of the Cisco IP Voice Media Streaming Application support G.711 mu-law and a-law codecs. The MOH component supports G.711 mu-law/a-law, G.729a, and wideband codecs.

When you install the Cisco IP Voice Media Streaming Application, Cisco CallManager automatically installs the Cisco MOH Audio Translator service. For more information about this service, see the "Cisco MOH Audio Translator" section on page 10-6.

You can install the Cisco IP Voice Media Stream application from the Cisco CallManager CD or from the Cisco Service Configuration utility. During installation, Cisco CallManager automatically adds the MTP, MOH, and conference devices to the database. By default, the installation program places the executable in the C:\Program Files\Cisco\bin directory.

Note You can also install the Cisco IP Voice Media Streaming application from a command line by entering *ipvmsapp -Service*. If you do this, you must manually add the MTP, MOH, and conference bridge devices.

For more information about MTP, MOH, and conference bridges, see the "Media Termination Points" section on page 20-1, the "Music On Hold" section on page 19-1, and the "Conference Bridges" section on page 17-1.

Cisco Telephony Call Dispatcher

Telephony Call Dispatcher (TCD) service provides centralized services for Cisco WebAttendant clients and pilot points. For Cisco WebAttendant clients, TCD provides call control functionality, line state information for any accessible line within the Cisco CallManager domain, and caching of directory information. For pilot points, TCD provides automatic redirection to directory numbers listed in hunt groups and failover during a Cisco CallManager failure.

For more detailed information on how TCD works with Cisco WebAttendant clients, see the "Understanding the Cisco Telephony Call Dispatcher" section on page 30-5.

For more information on how TCD works with pilot points, see the "Understanding Pilot Points and Hunt Groups" section on page 30-8.

Cisco CTIManager

The CTI Manager contains the CTI components that interface with applications. With CTI Manager, applications have access to resources and functionality of all Cisco CallManagers in the cluster and have improved failover capability. One or more CTI Managers can be active in a cluster, but only one CTI Manager can exist

on an individual server. An application (JTAPI/TAPI) can have simultaneous connections to multiple CTI Managers; however, an application can only use one connection at a time to open a device with media termination.

Cisco MOH Audio Translator

The Cisco MOH Audio Translator service converts audio source files into various codecs so that they can be used by the MOH feature. When you install the Cisco IP Voice Media Streaming Application service, Cisco CallManager automatically installs this service.

The Cisco MOH Audio Translator service automatically translates audio files that you place in the input directory. The installation program creates this input directory during installation in the following location: c:\Cisco\DropMOHAudioSourceFilesHere. If you want to change the input directory, modify the MOHSourceDirectory service parameter.

Once the Cisco MOH Audio Translator service translates the audio files, the Cisco MOH Audio Translator service places the source audio file and the translated file in the output directory on the default MOH TFTP server established during the Cisco MOH Audio Translator service installation. To change the output directory, modify the DefaultTFTPMOHFilePath parameter; however, make sure the path points to the default MOH TFTP server. The DefaultTFTPMOHFilePath parameter contains a universal naming convention (UNC) share name that displays in the format *computer name**directory name*.

Caution Cisco recommends that you install the Cisco MOH Audio Translator service on a different server than the one used for the Cisco CallManager server. The service can cause performance degradation and errors when translating audio files if it is installed on the Cisco CallManager server.

When the user assigns or maps the audio source file to an audio source number, the default MOH TFTP server copies the files into one directory, making them available for the MOH servers. The MOH servers download the audio files in the C:\Program Files\Cisco\MOH directory. For more detailed information on how the MOH feature accesses the files once the Cisco MOH Audio Translator service places them in the output directory, see the "Music On Hold" section on page 19-1.

Cisco RIS Data Collector

The Real-time Information Server (RIS) maintains real-time Cisco CallManager information and provides an interface through which the Cisco RIS Data Collector service and the SNMP Agent retrieve that information. One RIS exists on each node containing the Cisco CallManager service. The Cisco RIS Data Collector service provides an interface for applications, such as Cisco CallManager Serviceability and the Cisco CallManager Administration, to retrieve information stored in all RIS nodes in the cluster.

Service Installation and Configuration

You can install services from the Cisco CallManager CD or using the Cisco Service Configuration utility. To install services from the CD, check the check boxes next to the services you want to install from the CallManager Components window. To install services from the Cisco Service Configuration utility, choose **Start > Programs >Cisco CallManager 3.1 > Cisco Service Configuration**. When the utility opens, check the check boxes next to the services you want to install, and click **Apply**. Follow the online instructions to complete the installation. If a service is currently activated and you uncheck it and click **Apply**, Cisco CallManager shuts it down, removes it from the service registration table, and makes it unavailable for use.

Caution Do not deactivate the Cisco CallManager service using the Cisco Service Configuration utility. If it is inadvertently deactivated, contact the Cisco Technical Assistance Center (TAC).

After you install a service, you may need to start it. If you need to start a service, refer to the "Starting and Stopping Services" section in the *Cisco CallManager Administration Guide*.

Trace Settings

Cisco CallManager Serviceability provides a web-based trace tool to assist you and support personnel in troubleshooting Cisco CallManager problems. You configure trace parameters for Cisco CallManager services that are available on any Cisco CallManager server in the cluster. For more information on configuring and using the trace tool, refer to the *Cisco CallManager Serviceability Administration Guide*.

Services Configuration Checklist

Table 10-2 lists the steps for installing and configuring services.

Table 10-2 Services Configuration Checklist

Configuration Steps		Procedures and Related Topics
Step 1	Install the services you want from the Cisco CallManager CD or from the Cisco Service utility.	*Installing Cisco CallManager Release 3.1*
Step 2	Configure the appropriate service parameters.	Service Parameters Configuration, *Cisco CallManager Administration Guide*
Step 3	Start the service.	Starting and Stopping Services, *Cisco CallManager Administration Guide*
Step 4	Troubleshoot problems using the Cisco CallManager Serviceability trace tool, if needed.	*Cisco CallManager Serviceability Administration Guide*

Where to Find More Information

Related Topics

- Conference Bridges, page 17-1
- Music On Hold, page 19-1

- Media Termination Points, page 20-1
- Cisco TFTP, page 8-1
- Understanding Cisco WebAttendant, page 30-1
- Service Parameters Configuration, *Cisco CallManager Administration Guide*
- Starting and Stopping Services, *Cisco CallManager Administration Guide*

Additional Cisco Documentation

- *Installing Cisco CallManager 3.1*
- *Cisco CallManager Serviceability Administration Guide*