



Understanding Cisco WebAttendant

Cisco WebAttendant is a client-server application that enables you to set up Cisco IP Phones as attendant consoles. The Cisco WebAttendant client provides a graphical user interface for controlling a Cisco IP Phone as an attendant console, including speed dial buttons and quick directory access for looking up phone numbers, monitoring line status, and directing calls. Cisco WebAttendant can be used by a receptionist or administrative assistant to handle calls for a department or company or by an individual.

The Cisco WebAttendant client is a plug-in application that is installed on a PC that has IP connectivity to the Cisco CallManager system. The client works in conjunction with a Cisco IP Phone that is registered to a Cisco CallManager (one client for each phone that will be used as an attendant console). Multiple clients can be connected to a single Cisco CallManager.

The Cisco Telephony Call Dispatcher (TCD) service running on the Cisco CallManager communicates with Cisco WebAttendant clients for call routing and control, monitors and reports line state, and services client database requests.

Administrative tasks such as adding users, configuring pilot points and hunt groups for call routing, and starting and stopping the TCD service are performed using Cisco CallManager Administration.

The following table provides an overview of the steps you will need to complete to set up Cisco WebAttendants.

	Task	Reference
Cisco CallManager Administration		
Step 1	Add Cisco WebAttendant users.	Adding Cisco WebAttendant Users, page 8-3
Step 2	Make sure that each Cisco WebAttendant user's Cisco IP Phone is set up correctly for use with Cisco WebAttendant.	Setting Up Cisco IP Phones for Use with Cisco WebAttendant, page 8-4
Step 3	Set up pilot points and hunt groups.	Setting up Pilot Points and Hunt Groups, page 8-5
Step 4	Make sure the Telephony Call Dispatcher service is running on the Cisco CallManager.	Cisco Telephony Call Dispatcher, page 8-8
Cisco WebAttendant Client PCs		
Step 5	Install and configure the Cisco WebAttendant client on each Cisco WebAttendant user's PC.	Cisco WebAttendant Client Requirements, page 8-9 Client Installation, page 8-10 Client Configuration, page 8-10
Additional Configuration Steps		
Step 6	Ensure that Cisco WebAttendant clients can access directory database information.	Sharing Default Directory Database Information, page 8-10

Related Topics

- Configuring Cisco WebAttendants, page 32-1
- Cisco WebAttendant Redundancy, page 8-12
- Tips and Troubleshooting, page 8-12

Configuring Cisco CallManager for Cisco WebAttendant

The topics in this section provide an overview of the Cisco CallManager server components that must be configured within Cisco CallManager Administration to set up Cisco WebAttendants.

- Adding Cisco WebAttendant Users, page 8-3
- Setting Up Cisco IP Phones for Use with Cisco WebAttendant, page 8-4
- Setting up Pilot Points and Hunt Groups, page 8-5
- Cisco Telephony Call Dispatcher, page 8-8

Adding Cisco WebAttendant Users

Before a user can log in to a Cisco WebAttendant client to answer and direct calls, they must first be added as a Cisco WebAttendant user and assigned a password. Cisco WebAttendant users are special user accounts that are created in the Cisco WebAttendant User Configuration page in Cisco CallManager Administration.



Note

Cisco WebAttendant user IDs and passwords are *not* the same as Directory users and passwords entered in the User area of Cisco CallManager.

The Cisco WebAttendant user and password database is completely separate from the Cisco CallManager Directory user database.

The Cisco WebAttendant User Configuration pages also enable administrators to delete Cisco WebAttendant users or to modify user IDs and password information.

Related Topics

- Configuring Cisco WebAttendant Users, page 32-10

Setting Up Cisco IP Phones for Use with Cisco WebAttendant

Cisco WebAttendant works in conjunction with a Cisco IP Phone. The Cisco CallManager, Cisco WebAttendant client, and the Cisco IP Phone are linked by the MAC address that is defined in the Settings dialog box of the Cisco WebAttendant application.

The Cisco WebAttendant client should be configured to connect to the same Cisco CallManager server as its associated Cisco IP Phone. This means that the IP Address or Host Name field in the Cisco Telephony Call Dispatcher Settings section of the client Settings dialog box should be the address of the Cisco CallManager server that the Cisco IP Phone is normally registered to.

Cisco IP Phones used with Cisco WebAttendant must meet the following guidelines:

- Cisco WebAttendant can be used with any Cisco IP Phone 7960/7940 models, Cisco IP Phone 12-Series model, or Cisco IP Phone 30VIP.
- The Cisco IP Phone must be added as a device in Cisco CallManager before it can be used with Cisco WebAttendant.
- Do not use a shared line appearance on any phone that will be used with Cisco WebAttendant. Directory numbers assigned to a Cisco IP Phone that is used with Cisco WebAttendant must not appear on any other device in the system.
- The Cisco IP Phone must have buttons for Hold and Transfer for Cisco WebAttendant to work properly. If a headset will be used, a button for Answer/Release must also be assigned. A maximum of eight lines can be configured for use with Cisco WebAttendant.
- The number of Smart Lines (SLs) available on Cisco WebAttendant is the same as the number of lines configured on the phone button template for the Cisco IP Phone, up to eight.
- Disable call waiting and call forwarding for lines and directory numbers on Cisco IP Phones used as Cisco WebAttendant consoles.
- If a Cisco WebAttendant user will be logging in to Cisco WebAttendant at more than one phone, you must make sure that each phone is set up according to these guideline and that each phone is registered with its own Cisco WebAttendant client.

Related Topics

- Configuring Cisco WebAttendant Client Settings, page 32-14
- Understanding Default Phone Button Templates, page 47-1
- Configuring Cisco IP Phones, page 46-5

Setting up Pilot Points and Hunt Groups

Pilot points and hunt groups must be established for call routing by the Cisco Telephony Call Dispatcher:

- A pilot point is a virtual directory number for which the Telephony Call Dispatcher receives and directs calls based on a list of hunt group members. The pilot point number must be unique throughout the system (it cannot be a shared line appearance).
- A hunt group is a list of destinations that determine the call redirection order.

When a call comes in to a pilot point, the Telephony Call Dispatcher uses the hunt group list for that pilot point to determine the call destination. TCD goes through the members in the hunt group in order until it finds the first available destination for routing the call.

A hunt group member can be specified as a directory number (device member) or as a Cisco WebAttendant user plus a line number (user member):

- If a directory number is specified, TCD checks to see whether the line is available (not busy) and if it is, routes the call.
- If a user and a line number is specified, TCD checks to see whether the user is logged in to a Cisco WebAttendant and online before checking to see whether the line is available. If the user is logged in and online, and the line is available, TCD routes the call.

The advantage of specifying a user and line number instead of a directory number is that the Cisco WebAttendant user can be logged in and online at any Cisco IP Phone controlled by Cisco WebAttendant software in the cluster and receive calls.

**Caution**

When creating pilot point and hunt groups, be sure to consider overflow conditions. For example, if you have a single pilot point called Support, with three directory numbers, it is possible that all three directory numbers are busy when a fourth call comes in. In that case, there are no additional directory numbers to which the call can be routed.

To handle overflow conditions, configure one or more hunt groups that route calls to multiple Cisco WebAttendants with the final directory number being voice mail.

Make sure that “Always Route Member” is enabled for this voice mail number if TCD can see its line state. Otherwise, this voice mail number will not receive more than one call at a time.

**Caution**

Disable call waiting and call forwarding for lines and directory numbers on Cisco IP Phones used with Cisco WebAttendant consoles.

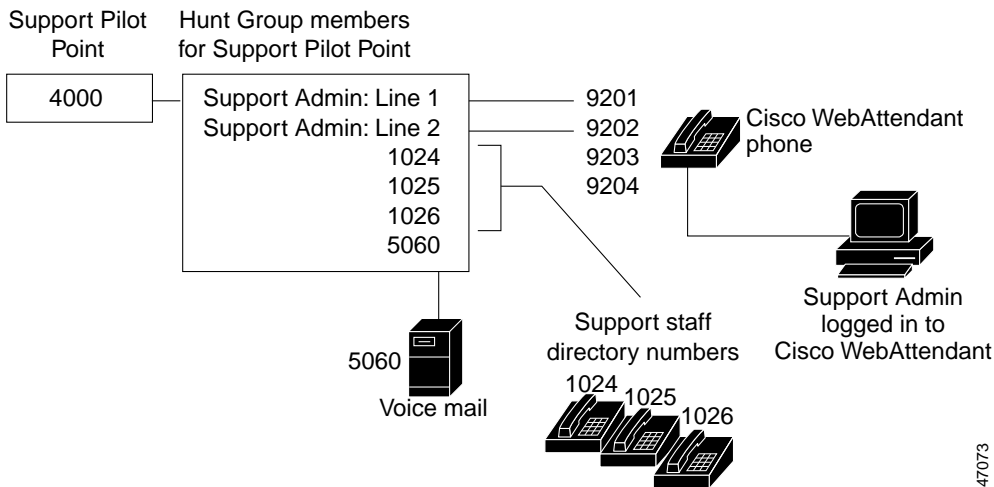
Do not use shared line appearances for any phone used with Cisco WebAttendant.

Example

Assume there is a pilot point named Support, at directory number 4000. The hunt group for the Support pilot point contains the following members:

- Support Admin, Line 1 and Support Admin, Line 2 (Support Admin is the Cisco WebAttendant login for the administrative assistant for Support).
- Three directory numbers for support staff, 1024, 1025, and 1026, listed in the hunt group that order.
- A voice mail number, 5060, which is the final member of the hunt group

Figure 8-1 shows this example configuration.

Figure 8-1 Example Pilot Point and Hunt Group

The following example describes a simple call routing scenario for the configuration shown in Figure 8-1.

1. A call is received and directed to the Support Pilot Point, directory number 4000.
2. Because 4000 is a pilot point, the Telephony Call Dispatcher (TCD) associated with that pilot point checks the members in the hunt group in order, beginning with Support Admin, Line 1. TCD determines that the Support Admin user is not online, directory number 1024 is busy, directory number 1025 is busy, and directory number 1026 is available.
3. TCD routes the call to the first available directory number, which is 4444. Because 1026 is available, the 5060 number is never checked.

Related Topics

- Configuring Pilot Points, page 32-2
- Configuring Hunt Groups, page 32-5

Cisco Telephony Call Dispatcher

The Cisco Telephony Call Dispatcher (TCD) is a Cisco CallManager service that provides communication between Cisco CallManager servers, Cisco WebAttendant clients, and the IP Phones used with Cisco WebAttendant clients.

**Note**

If you are using Cisco WebAttendant in a cluster environment, all Cisco CallManagers within a cluster must have the TCD service installed and running. This is required for Cisco WebAttendant redundancy to work properly. However, not all TCDs are required to have a route point.

TCD handles Cisco WebAttendant client requests for:

- Call control (making calls, answering calls, redirecting calls, putting calls on and taking calls off hold, and disconnecting calls)
- Call dispatching from pilot point directory numbers to the appropriate destination based on hunt groups
- Line status (unknown, available, on-hook, or off-hook)
- User directory information (TCD caches and periodically updates directory information for fast look-up by the Cisco WebAttendant client)

TCD also provides the mechanism for automated recovery for Cisco WebAttendant if a Cisco CallManager fails.

**Note**

When you add a new Cisco WebAttendant user or modify user ID and password information for an existing user, it will take approximately 6 minutes before the changes will take effect and the user can log in to Cisco Webattendant.

**Note**

There is no automated recovery for a TCD failure. If TCD stops running, all Cisco WebAttendant clients connected to that TCD will not work. Restart TCD to correct the problem.

Related Topics

- Cisco WebAttendant Redundancy, page 8-12
- Starting the Telephony Call Dispatcher, page 32-20

Client Installation and Configuration

The Cisco WebAttendant client is a plug-in application that is installed on a PC that has IP connectivity to the Cisco CallManager server. It is accessed through the Microsoft Internet Explorer browser (version 4.0 or later). The Cisco WebAttendant provides a web-based GUI for using a Cisco IP Phone as an attendant console.

The Cisco WebAttendant client application registers with and receives call dispatching services from the Telephony Call Dispatcher (TCD) services on the Cisco CallManager. Multiple Cisco WebAttendant clients can simultaneously be registered with a Cisco CallManager to use these services.

The rest of this section discusses the following topics:

- Cisco WebAttendant Client Requirements, page 8-9
- Client Installation, page 8-10
- Client Configuration, page 8-10

Cisco WebAttendant Client Requirements

Cisco WebAttendant PC client requirements:

- Operating system—Microsoft Windows 98, Windows 2000, or Windows NT 4.0 (Service Pack 3 or greater) workstation or server
- Microsoft Internet Explorer 4.0 or later web browser with Active X enabled
- Display adapter color palette setting — minimum of 256 colors; select 16-bit color or greater for optimal display.
- Network connectivity to the Cisco CallManager

Client Installation

The Cisco WebAttendant client is accessed and installed from the Cisco CallManager Application Plug-In Installation page.

Related Topics

- Installing the Cisco WebAttendant Client, page 32-13

Client Configuration

Each Cisco WebAttendant client must be configured to:

- Provide the Cisco WebAttendant user and password
- Connect to the correct Cisco CallManager TCD server and directory database
- Associate the MAC address of the Cisco IP Phone being used with the Cisco WebAttendant client with the Cisco CallManager server



Note

The Cisco WebAttendant client's TCD IP Address or Host Name setting should point to the Cisco CallManager server where its associated Cisco IP Phone is normally registered.

Related Topics

- Configuring Cisco WebAttendant Client Settings, page 32-14
- Sharing Default Directory Database Information, page 8-10

Sharing Default Directory Database Information

The Cisco WebAttendant client displays user and line information in the Directory section of its user interface. The Cisco TCD Database Path field in the Cisco WebAttendant client Settings dialog box controls where the Cisco WebAttendant client looks for its directory information.

By default, the client is set up to use cached directory information from the Cisco CallManager Directory user database. It can also be set up to point to an alternate database.

Default Setting for TCD Database Path

The default setting is to leave this field blank so that the client uses the default database from the TCD associated with the Cisco WebAttendant client. This ensures that the client's directory information is automatically updated within 24 hours as changes are made to the Cisco CallManager directory database. This is the recommended setting.

To ensure that this default setting works properly, the Cisco CallManager administrator must share the C:\Program Files\Cisco\Users folder as "wausers" and set permissions so that all Cisco WebAttendant users have read access. This must be done on all Cisco CallManagers in the cluster. For more information on how to do this, refer to the section "Making Directory Information Available to Cisco WebAttendant" section on page 32-19.

Specifying a Location for the TCD Database Path

The alternative to using the default setting (leaving the field blank) is to copy the file on the Cisco CallManager server named C:\Program Files\Cisco\Users\UsersDB1.mdb or C:\Program Files\Cisco\Users\UsersDB2.mdb to a different location. This could be a file in a different shared directory on the network or a file on the Cisco WebAttendant user's PC). You must then point the Cisco WebAttendant client to this file by entering the path to the file in the Cisco TCD Database Path field in the client Settings dialog box.

If you choose to do this, any database changes made through Cisco CallManager will not be automatically be made available to the Cisco WebAttendant client:

- You must manually copy a new version of the database file to the new location when you need to update Cisco WebAttendant client users with database changes.
- Also, if you manually specific a TCD Database Path in the Settings dialog for the client, the client will use that setting until you change it.

If you change the TCD Database Path setting for a Cisco WebAttendant client, the you must restart the client for the change to take effect.

Related Topics

- Making Directory Information Available to Cisco WebAttendant, page 32-19
- Configuring Cisco WebAttendant Client Settings, page 32-14

Cisco WebAttendant Redundancy

The TCD service provides the mechanism for Cisco WebAttendant redundancy. If a Cisco CallManager fails:

- Another TCD service running on a Cisco CallManager within the cluster will take over servicing of the route points associated with the failed Cisco CallManager.
- The Cisco WebAttendant clients that were attached to the failed TCD service will attempt to locate and connect to the TCD service on the Cisco CallManager server where their associated Cisco IP Phone registered after failover.

When the Cisco CallManager comes back up, its TCD will resume servicing its route points and Cisco WebAttendant clients.

**Note**

To ensure that Cisco WebAttendant redundancy works correctly, all Cisco CallManagers in the cluster must have TCD installed and running. You do not need to have route points configured for TCD services running on backup (standby) Cisco CallManagers in the cluster.

**Note**

There is no automated recovery for a TCD failure. If only TCD fails (and Cisco CallManager is still running), all Cisco WebAttendant clients connected to that TCD will stop working. Restart TCD to correct the problem.

Tips and Troubleshooting

This section provides information about the following topics:

- Viewing Cisco WebAttendant Performance Monitors, page 8-13
- Troubleshooting, page 8-15

Viewing Cisco WebAttendant Performance Monitors

The ScmLineLinkState performance monitor for Cisco WebAttendant provides a quick way to check whether Cisco WebAttendant is functioning correctly.

- If the ScmLineLinkState counter is 11, that means that TCD is functioning normally.
- The leftmost digit of ScmLineLinkState indicates whether TCD is connected to and registered with the Cisco CallManager CTI. If this digit is 0, there could be a problem with the CTI or the directory.
- The rightmost digit of ScmLineLinkState indicates whether TCD can see line state information through Cisco CallManager. If this digit is 0, there is a probably a problem with Cisco CallManager.

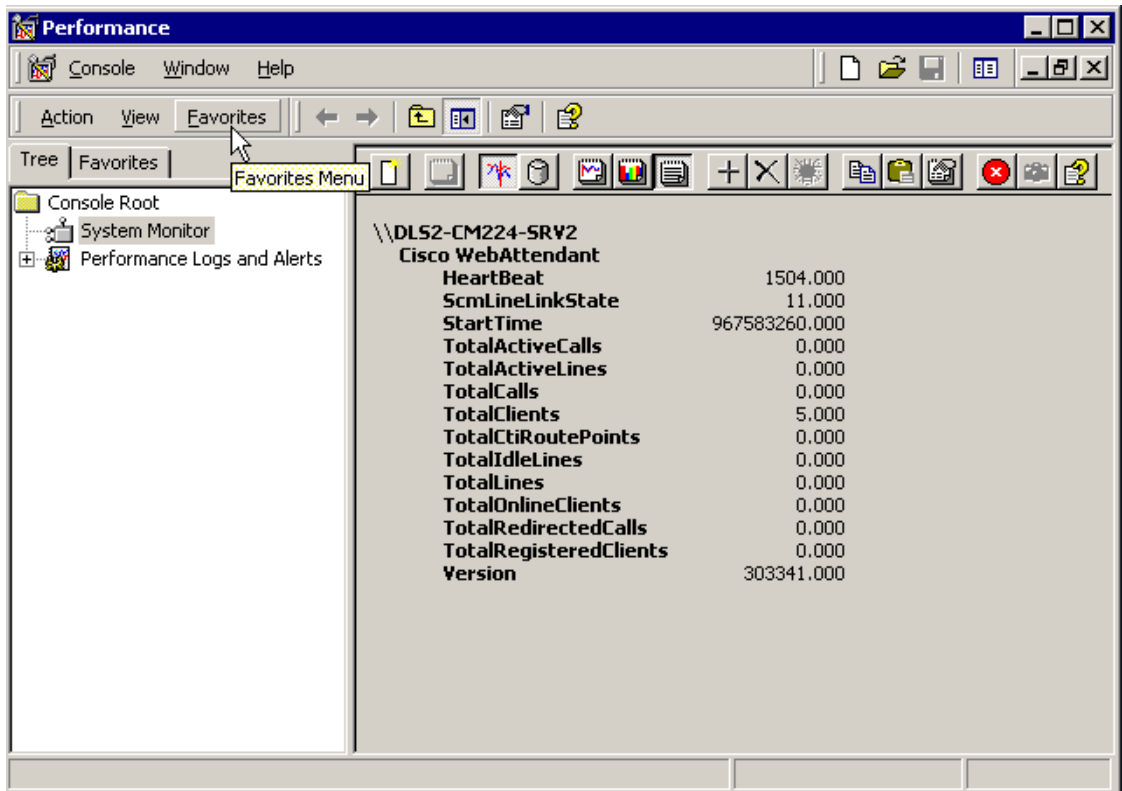
To view ScmLineLinkState and other performance monitoring information for Cisco WebAttendant and TCD, perform the following procedure.

Procedure

- Step 1** Log in to the Cisco CallManager server.
 - Step 2** Select **Start > Programs > Administrative Tools > Performance**.
 - Step 3** Click the View report data icon.
 - Step 4** Click on the + (Add counter) icon.
 - Step 5** Select **System Monitor**, enable **All Counters**, and select **Cisco WebAttendant** from the Object drop-down list box.
 - Step 6** Click **Add**.
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Figure 8-2 shows a sample performance report for Cisco WebAttendant and TCD.

Figure 8-2 Sample Performance Counter Report for Cisco WebAttendant



Other performance monitoring information provided for Cisco WebAttendant includes:

- Heartbeat—Number of seconds TCD has been running.
- StartTime—Platform-based start time for this TCD.
- TotalActiveCalls—Total number of active calls for this TCD.
- TotalActiveLines—Total number of active lines for this TCD.
- TotalCalls—Total of all calls handled by this TCD.
- TotalClients — Number of Cisco WebAttendant clients associated with this TCD.
- TotalCtiRoutePoints—Number of pilot points (route points) for this TCD.

- TotalOnlineClients—Number of Cisco WebAttendant clients currently logged in and online.
- TotalRedirectedCalls—Total number of calls redirected by pilot points (route points) for this TCD.
- TotalRegisteredClients—Number of Cisco WebAttendant clients registered with this TCD.
- Version—TCD version.

Troubleshooting

This section addresses questions you may have or situations you may encounter when administering Cisco WebAttendant.

Common configuration mistakes to avoid

Make sure that phones and pilot points are set up correctly for use with Cisco WebAttendant:

- Do not enable call waiting or call forwarding for any phone used as a Cisco WebAttendant console.
- Do not use shared line appearance for any lines on any phones that are used with Cisco WebAttendant.
- Do not place pilot points in a partition. Always select “None” as the partition for a pilot point.
- The final member of a hunt group must be able to handle overflow conditions. The final member of a hunt group should be a number for voice mail, auto attendant, or other device that can handle multiple, simultaneous calls.

If TCD can see the line state of the voice mail number, enable the “Always Route Calls” option for the number. Otherwise, the voice mail number will not receive more than one call at a time.

A user can not log in to Cisco WebAttendant client.

Make sure that Cisco CallManager and TCD are both running.

Check to see that the user has been added in the Cisco WebAttendant User Configuration area of Cisco CallManager Administration and that the correct user name and password are specified in the client Settings dialog box.

Cisco WebAttendant users and passwords configured in the Cisco WebAttendant User Configuration area in Cisco CallManager Administration are *not* the same as directory users and passwords entered in the User area of Cisco CallManager. The Cisco WebAttendant user and password database is completely separate from the Cisco CallManager directory user database.

Directory information is available, but no user can log in to Cisco WebAttendant

This problem can occur due to a missing CTI Framework user. The CTI Framework user is a hidden DC Directory user that is normally added automatically during Cisco CallManager installation.

To verify whether the CTI Framework user exists, check to see whether ctifw-CCNProfile exists in CCN > Profiles in DC Directory. If it does not, then you must manually add the CTI Framework user in Cisco CallManager Administration with the following configuration settings:

- First Name: CTI
- Last Name: Framework
- UserID: ctifw
- User Password: ciscocisco
- Confirm Password: ciscocisco

The rest of the fields are left blank.

Verify that the user has been added by going to DC Directory Administration and checking CCN > Profiles to make sure there is a profile called ctifw-CCNProfile. Right click on this profile to check its properties and verify that the All Devices field is set to True.

No Cisco WebAttendant users can log in to Cisco WebAttendant; no line state information is available.

Make sure that Cisco CallManager and TCD are both running. Check ScmLineLinkState to see whether Cisco CallManager and TCD are functioning normally. Refer to “Viewing Cisco WebAttendant Performance Monitors” section on page 8-13.

Cisco WebAttendant user can not see line state for a phone that is connected to a gateway.

TCD can only monitor the status of internal devices and phone lines. A phone that is connected to a gateway and gets its connection to the Cisco CallManager through the gateway is considered outside the system.

No directory information for a Cisco WebAttendant client.

Check to make sure that the Cisco Webattendant client setting for the TCD Database Path is correct and that there are no permissions problems for the directory shared as wausers or network issues that prevent connection.

If you have modified the Shared As properties for the wausers folder, have the Cisco WebAttendant users log out of the Cisco WebAttendant client, log out of Windows, then log back in to Windows to make sure that the new sharing and permission settings are in effect.

Refer to “Sharing Default Directory Database Information” section on page 8-10.

