Cisco TelePresence WebEx OneTouch 1.0 Configuration Guide for Cisco TelePresence Manager

March, 2011
For CTS Software Release 1.7 and Later Releases

C O N T E N T S

Preface

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This preface describes the purpose, audience, organization, and conventions of the Cisco TelePresence WebEx OneTouch 1.0 Configuration Guide for Cisco TelePresence Manager and provides information about new features and how to obtain related documentation.

This preface describes the following topics:

- General Description, page i
- Audience and Scope, page i
- Cisco WebEx Features and Important Notes, page ii
- Prerequisites, page iv
- Document Organization, page v
- Related Documents, page vi
- Obtaining Documentation and Submitting a Service Request, page viii

General Description

This document describes how to configure Cisco TelePresence applications for Cisco WebEx-to-Cisco Telepresence interoperability. The Cisco TelePresence WebEx OneTouch 1.0 Configuration Guide for Cisco TelePresence Manager describes how to manage and monitor scheduled meeting interoperability between Cisco TelePresence System (CTS), Cisco TelePresence MultiPoint Switch (CTMS) multipoint meetings, CTS-Manager, Cisco Unified Communications Manager (Cisco Unified CM), and the Cisco WebEx meeting server.

Audience and Scope

The *Cisco TelePresence WebEx OneTouch 1.0 Configuration Guide for Cisco TelePresence Manager* is directed to administrators who will be configuring the CTMS, CTS-Manager, and the Cisco Unified CM to use Cisco WebEx features in Cisco TelePresence meetings.

Cisco WebEx Features and Important Notes

This section contains the following feature information:

- Supported Features, page ii
- Feature Limitations, page iii
- Field Notes, page v

Supported Features

Table 1 lists Cisco WebEx features.

Table 1 Cisco WebEx with the Cisco TelePresence System Features

Supported Feature	Description
Audio	Cisco TelePresence WebEx OneTouch enabled Audio Conferencing Service. CTS participants have two-way audio with the Cisco WebEx meeting participants using G.711. **Note** No presentation audio is sent from the Cisco WebEx side.
Host	All Cisco TelePresence rooms and the meeting scheduler are default hosts. Designate other presenters by clicking the **Make Presenter** button in the Cisco WebEx Meeting Center.
MXE	Audio and video sharing between Cisco WebEx and MXE or CUVC interop will be supported in CTS-Manager and CTMS soon; videoconferencing endpoints will be able to use the Cisco WebEx client or MXE. CTMS will support Cisco WebEx meetings with CIF video and g711 audio, which enables Cisco WebEx clients be able to see and hear videoconferences joined thru MXE. Presentation video will not be shown on the MXE but presentation audio will be heard. When Cisco WebEx is sharing a multimedia presentation, MXE will only receive audio from Cisco WebEx. Videoconferencing participants will not be able to see what Cisco WebEx clients are sharing in the presentation video. See the Adding an MXE Device section of the Cisco TelePresence Manager Administration Guide for information about adding MXE to CTS-Manager. See also Cisco TelePresence Firewall and Access List Considerations for support information for Cisco TelePresence.
Scheduling	You can set up a Cisco TelePresence meeting to be Cisco WebEx-enabled by scheduling a regular Cisco TelePresence meeting in CTS-Manager and adding Cisco WebEx through CTS-Manager. Start your scheduled Cisco WebEx-enabled meeting using One-Button-to-Push (OBTP) from the Cisco Telepresence endpoint. Each CTMS can support up to 24 simultaneous Cisco WebEx- enabled meetings. CTS-Manager ensures that this limitation is not exceeded for any server at scheduling time. You can start a Cisco WebEx meeting earlier than the scheduled time (up to 30 minutes). **Note** Only scheduled meetings are supported for Cisco TelePresence WebEx OneTouch Interoperability; non- Cisco TelePresence WebEx OneTouch users need to manually conference in Cisco WebEx. CTS-Manager supports simultaneous Cisco WebEx and Interop meetings. See the *Cisco TelePresence Manager Administration and Installation Guide* for meeting scheduling information.

Table 1   Cisco WebEx with the Cisco TelePresence System Features

Supported Feature	Description
Security	To provide an extra level of security, the CTS-Manager and CTMS administration interfaces allow you to change settings to require that communication between CTS-Manager and the Cisco WebEx scheduling server, and CTMS and the WebEx TelePresence Gateway go through a proxy server. See the following chapters for more information: • The Enabling Cisco WebEx Security via Proxy Server (CTS-Manager) section of Chapter 5, "Configuring Cisco TelePresence WebEx OneTouch on Cisco TelePresence Manager." • The Enabling Cisco WebEx Security via Proxy Server (CTMS) section of Chapter 3, "Configuring Cisco TelePresence WebEx OneTouch on the Cisco TelePresence Multipoint Switch."
Sharing	Cisco TelePresence users can share presentations by connecting the Video Graphics Array (VGA) cable to participants' laptops. **Note** The Cisco TelePresence user that is sharing with the VGA cable needs to exit the Cisco WebEx Meeting Center client before connecting the VGA cable. See Managing the Cisco WebEx Video View Window. Cisco WebEx Meeting Center clients can only share the desktop and the selected application. CTS endpoints can view and share Cisco WebEx presentation video in 1024 x 768 resolution.
Status Messages	The status of your Cisco WebEx-enabled meeting shows as text on the CTS Cisco Unified IP Phone and account notifications are sent via email.
Support	The Cisco TelePresence WebEx OneTouch feature is supported within an enterprise.
Video	Video quality is sent best effort one way from the Cisco TelePresence room to Cisco WebEx. The video from the most active CTS speaker in the meeting is forwarded to the Cisco WebEx network, where it will be seen by Cisco WebEx callers (one way video only, from the CTS endpoint to Cisco WebEx). Live video is sent in Common Intermediate Format (CIF) format at 30 frames per second, at approximately 300-450 kpbs. Presentations from the Cisco WebEx client are displayed on the local CTS projector or with Presentation-in-Picture (PiP), depending on the capabilities of your CTS. **Note** Cisco WebEx point-to-point collaboration is not supported. All Cisco WebEx collaboration meetings are multipoint calls and require a Cisco TelePresence Multipoint Switch (CTMS). CTMS is always included as a bridge to Cisco WebEx.

Feature Limitations

Table 2 lists Cisco WebEx feature limitations.

Table 2   Cisco WebEx with the Cisco TelePresence System Features

Feature Limitation
• Cisco WebEx does not support streaming or broadcast capability.
• Cisco WebEx meetings do not support recording. (The Cisco WebEx client recording option is turned off).
• Only Cisco Webex Meeting Center clients for Windows and Mac are supported with CTS Release 1.7.0. There is no support at this time for Apple iPhone, Apple iPad, or other mobile clients.

Table 2   *Cisco WebEx with the Cisco TelePresence System Features*

Feature Limitation
• There is no support at this time for point-to-point ad hoc meetings, third-party MCUs, or Cisco WebEx non-Meeting Center clients.
• Support only for single enterprise customers, there is no support at this time for inter-company use.

Prerequisites

Table 3 lists Cisco TelePresence WebEx OneTouch feature prerequisites.

Table 3   *Cisco WebEx with the Cisco TelePresence System Prerequisites*

Requirement	Description
CTS Software Release	The CTS endpoints, the CTMS, and CTS-Manager must be configured and running Software Release 1.7.0 or a later release. **Note** Any CTS endpoint on the system that has not been upgraded to Release 1.7.0 will show an error in the CTS and CTS-Manager administration interfaces.
Cisco Unified CM Firmware and MIDlets.	The Cisco TelePresence WebEx OneTouch feature requires MIDlets. **Note** All Cisco WebEx connections that are dialed into the meeting must be using MIDlets with Cisco Unified CM version 7.x or a later release.
Configuring CTMS and Cisco Unified CM—the Called Party Transform Mask number is the base number that all meeting participants will call for scheduled meetings.	The CTMS Dial In Number must exactly match the number that is configured in the Cisco Unified Communications Manager Called Party Transform Mask field. See the following chapters for more information: • Chapter 3, "Configuring Cisco TelePresence WebEx OneTouch on the Cisco TelePresence Multipoint Switch." • Chapter 4, "Configuring Cisco TelePresence WebEx OneTouch on Cisco Unified Communications Manager." **Tip** The Cisco WebEx number for CTMS is not the same as the CTMS base number, the main access number of the CTMS, or the Cisco WebEx audio dial-in number that external users use to dial into the Cisco WebEx meeting. It is an entirely separate number, used only for the Cisco WebEx-to-CTMS audio connection.
Provisioning—Cisco TelePresence with Cisco WebEx.	1. The Cisco WebEx Meeting Center site must be running WBS 27 (FR20) or higher with the latest service pack. 2. The Cisco WebEx site must be configured with the Cisco TelePresence System (CTS). See Chapter 6, "Integrating Cisco TelePresence with Your Cisco WebEx Site Administration Account" for more information. 3. WebEx Audio is required. Enter your WebEx audio number in the **Pattern Definition** field during initial setup in Cisco Unified CM. See Defining a Route Pattern for Cisco WebEx. 4. CTMS callback must be enabled. See Configuring Cisco WebEx Details in CTMS.

Table 3   *Cisco WebEx with the Cisco TelePresence System Prerequisites*

Requirement	Description
Account Validation—Meeting scheduler's Cisco WebEx account.	The scheduling user is validated in CTS-Manager using the user's Lightweight Directory Access Protocol (LDAP) login. 1. The scheduler provides a Cisco WebEx username and password in the CTS-Manager Web interface at first login. 2. CTS-Manager validates authorized Cisco WebEx account holders. **Note** Cisco WebEx account information is not stored in CTS-Manager.
Bandwidth and CPU power—Recommendation for good video quality and integrating the Cisco TelePresence network with Cisco WebEx.	Network bandwidth should be at least 1 Mbps upstream between the infrastructure and WebEx TelePresence Gateway per call. For example, if you are anticipating 5 simultaneous Cisco WebEx calls, you will need to have five 1 Mbps bandwidth instances. Suggested CPU power (depends on running applications) is dual core CPU, 2.5 GHz memory running at least 2G.
Cisco WebEx Client Resource Requirements—Expected resource allocation per meeting.	Users must have at least 850k of available resources per meeting to uplink to Cisco WebEx: • CIF video—300k down only. • Presentation video—450k up and down (depending on whether the client is performing or receiving a presentation). • Cisco WebEx video—400k up; 400k x N down, where N is how many streams the user chooses to view. • Cisco WebEx VOIP—Up and down (20~70k) bps. • Signaling—100k.

Field Notes

For field deployment of the Cisco TelePresence OneTouch feature, some configurations might use non-Cisco VoIP gateways (GW) to connect to the PSTN. These devices use different defaults for digit timing during Cisco WebEx digit detection during the handshake sequence.

So that the non-Cisco GWs or PBXs can be similarly configured to Cisco IOS GWs, Cisco supports the following default values for Cisco T1 interfaces:

• 100 ms for digit duration

• 100 ms for interdigit timing

Document Organization

Information about using the Cisco TelePresence System Release 1.6 Administration application is provided in the following chapters:

• Chapter 1, "Information About the Cisco TelePresence WebEx OneTouch Feature"

• Chapter 2, "Cisco TelePresence WebEx OneTouch First-Time Configuration Checklist"

• Chapter 3, "Configuring Cisco TelePresence WebEx OneTouch on the Cisco TelePresence Multipoint Switch"

Related Documents

Related Topic	Document Title
Cisco TelePresence Documentation	
Cisco TelePresence Multipoint Switch home page on Cisco.com.	- Cisco TelePresence Multipoint Switch
Cisco Unified CM configuration with the Cisco TelePresence System.	- *Cisco Unified Communications Manager Configuration Guide for the Cisco TelePresence System*
Cisco TelePresence Manager documentation home page.	- Cisco TelePresence Manager
For specific details about the Cisco TelePresence WebEx OneTouch user interface, see the Using Cisco WebEx Conferencing chapter.	- *Cisco TelePresence System User Guide*
Cisco TelePresence Administration Software documentation and software download page.	- Cisco TelePresence Administration Software
Cisco Validated Design Program. Systems and solutions designed, tested, and documented to facilitate faster, more reliable, and more predictable customer deployments.	- *Cisco TelePresence Network Systems 2.0 Design Guide*
Cisco TelePresence System system message information.	- Cisco TelePresence System Message Guide
Cisco command-line interface (CLI) information for configuring the Cisco TelePresence System.	- *Cisco TelePresence System Command-Line Interface Reference Guide*.
Cisco WebEx Documentation	
Information about how to use Cisco WebEx meeting features.	- Cisco WebEx home page. - Log into your Cisco WebEx Meeting Center account and click on **Support** > **User Guides** in the left navigation pane.
Options for integrating Cisco Unified Communications with Cisco WebEx Connect	- Cisco UC Integration (TM) for Cisco WebEx Connect
How to manage Cisco WebEx Connect.	- "Welcome to Cisco WebEx Connect" site.

Specifying Cisco TelePresence Integration options.	• Cisco WebEx Administration Site Help pages.
How to manage your Cisco WebEx Site Administration account.	• *Cisco WebEx Site Administration User's Guide*

Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, submitting a service request, and gathering additional information, see the monthly *What's New in Cisco Product Documentation*, which also lists all new and revised Cisco technical documentation, at the following URL:

http://www.cisco.com/en/US/docs/general/whatsnew/whatsnew.html

Subscribe to the *What's New in Cisco Product Documentation* as a Really Simple Syndication (RSS) feed and set content to be delivered directly to your desktop using a reader application. The RSS feeds are a free service and Cisco currently supports RSS version 2.0.

Information About the Cisco TelePresence WebEx OneTouch Feature

Contents

This chapter contains the following sections:

Overview

This section contains the following information about Cisco TelePresence with Cisco WebEx:

Cisco TelePresence Meeting Experience

The Cisco WebEx bridging feature integrates the Cisco WebEx conferencing server with multipoint meetings on the Cisco TelePresence Multipoint Switch (CTMS). Cisco Telepresence callers connect to meetings using One-Button-to-Push (OBTP) technology. When the first Cisco TelePresence System (CTS) endpoint connects, the CTMS automatically connects with the Cisco WebEx conference and joins the two meetings. Upon connecting with Cisco WebEx, the Cisco Telepresence Auto Collaborate presentation screen shows a Welcome page. CTS-Manager is used to configure and manage the Cisco WebEx bridging feature in Cisco TelePresence meetings.

For data sharing, the last laptop that connects to the Video Graphics Array (VGA) connector in the Cisco TelePresence room is the active user who will share data. Video of the active speaker in the Cisco TelePresence system is streamed to the Cisco WebEx Web client. To see Cisco WebEx data sharing on a Cisco TelePresence endpoint, participants must do the following:

1. Log into the Cisco WebEx Web client on their laptops.

2. Be designated as presenter.

3. Start application or desktop sharing.

Cisco WebEx Meeting Experience

Remote participants join the Cisco WebEx meeting by logging in to the Cisco WebEx Meeting Center Web client and audio bridge. Data shared from the Cisco TelePresence endpoint is displayed automatically in the Cisco WebEx Meeting Center web client and Cisco WebEx participants can share their desktop or application with Cisco Telepresence endpoints. Cisco WebEx users see the live video of the actively speaking Cisco TelePresence participants in the Cisco WebEx Web client. Cisco WebEx users also see an integrated list of Cisco WebEx meeting participants and the participating Cisco TelePresence rooms.

Note   It is currently not possible to "pass the ball" directly from the presenter in the Cisco TelePresence room to the Cisco WebEx participant. In order to give presenter rights to a remote Cisco WebEx participant, the meeting host needs to pass the presenter rights by logging into Cisco WebEx Meeting Center and clicking the **Make Presenter** button. Alternately, a host can send a host key to the remote attendee to allow that person to present during the meeting. For more information about using Cisco WebEx meeting functions, log into your Cisco WebEx Meeting Center account and click on **Support** > **User Guides** in the left navigation pane.

Understanding How Cisco WebEx Works with the Cisco TelePresence Applications

Figure 1-1 shows how the Cisco TelePresence WebEx OneTouch feature works with Cisco TelePresence applications. Go to the following sections for detailed information:

- Cisco TelePresence Multipoint Switch Administration Role, page 1-3
- Cisco Unified Communications Manager Administration Role, page 1-8
- CTS-Manager Administration Role, page 1-8
- Cisco TelePresence System Endpoint Role, page 1-12

Figure 1-1   *Cisco TelePresence with Cisco WebEx Network Topology*
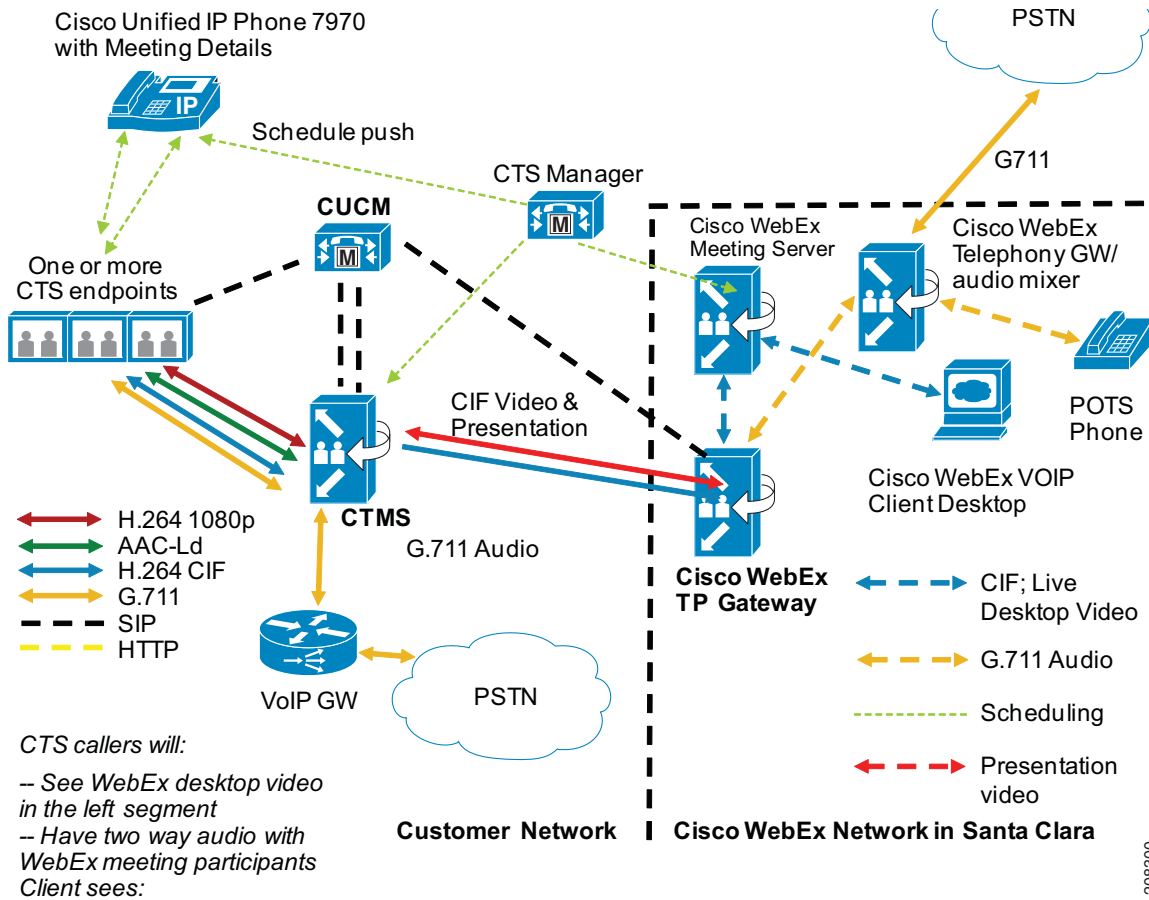
Cisco TelePresence Multipoint Switch Administration Role

Auxiliary and Common Intermediate Format (CIF) video media is tunneled over HTTPS between the CTMS and the Cisco WebEx conferencing servers. The connections are initiated and managed by the CTMS. The Cisco WebEx interface allows the CTMS to create meeting connections, add or remove Auxiliary and CIF video channels, and control which side (Cisco WebEx or Cisco Telepresence) is actively sharing.

The Cisco WebEx interface also contains a request function that causes the Cisco WebEx Telephony server to dial into the CTMS for the audio portion of the call. The request function provides all the details needed for the Cisco WebEx Telephony server to dial and connect to the correct meeting.

Cisco WebEx collaboration meetings start at 5 frames per second (FPS) so that the Cisco WebEx endpoints can successfully receive Auxiliary video transmissions.

Each meeting creates its own TCP connection and SSL tunnel to avoid Transmission Control Protocol (TCP) congestion and potential TCP windowing issues.

See the following sections for more information about the CTMS role in the Cisco TelePresence WebEx OneTouch meeting solution:

Communications Channels for Cisco WebEx Calls

There are two paths for communications (Audio + Control & video):

1. HTTPS Tunnel from CTMS to Cisco WebEx:
   – Uses the URL from the configuration page.
   – The HTTPS Tunnel carries control messages, presentation, and CIF video.
   – The TCP connection is initiated from the CTMS to the Cisco WebEx site for firewall traversal. The Cisco Webex service will never try to open a TCP connection in the reverse direction.

2. Audio call back channel from PSTN:
   – One call per meeting. The call limit is the number of Cisco WebEx meetings that have been scheduled on the system. You can schedule a maximum of 24 meetings.
   – The CTMS sends the PSTN callback number to Cisco WebEx Telephony Server. This number must be routable through the Public Switched Telephone Network (PSTN). The callback number looks like an outside line to the enterprise, and is used for incoming calls from Cisco Webex to the CTMS.
   – Cisco WebEx dials back to the CTMS. The CTMS and Cisco WebEx negotiate the connection to the required meeting.

CTMS-to-Cisco WebEx Signaling

The following is expected behavior in CTMS signaling with Cisco WebEx during active meetings:

1. When the first CTS caller dials in, CTMS opens the HTTPS control tunnel and sends meeting details to Cisco WebEx, including the CTMS audio callback number.

2. Cisco WebEx validates the authentication key and meeting details.

3. Video is enabled:
   a. The CTMS opens the CIF and presentation video channels over HTTPS.
   b. CIF video is sent to the Cisco TelePresence Gateway for distribution to clients (if any).
   c. The Cisco WebEx Welcome screen contains the meeting ID, host key, access number, and participant list.
   d. During the meeting, the CTMS sends ongoing notifications to the Cisco TelePresence Gateway to update the roster list, and the active speaker list on the Cisco Webex clients and Cisco WebEx Welcome screen.

Note   The expected Bandwidth Utilization over the Tunnel per meeting is 300 Kpbs for CIF and up to 450 Kbps for presentation video.

CTMS-to-Cisco WebEx PSTN Handshake for Audio

The following is expected behavior in the CTMS audio handshake with Cisco WebEx and the PSTN:

1. The meeting starts with the first caller. CTMS opens a control channel to the Cisco TelePresence Gateway, which sends authentication information, the meeting ID, and the callback number.

2. Cisco WebEx dials the CTMS callback number that was configured on the Cisco WebEx configuration page in the CTMS.

   Note   The called number field in the INVITE must exactly match the number as it is configured on the CTMS configuration page.

3. The CTMS answers, validates the incoming number, and sends three pound signs ("###") as greeting.

4. Cisco WebEx detects the "###" then sends the meeting ID and a "#" terminator.

5. The CTMS checks the meeting ID, then sends "***" (ACK).

6. The CTMS adds the call to the audio mixer for that meeting instance. The CTS caller then hears the incoming Cisco Webex audio.

7. Cisco WebEx adds its end of the call to the meeting and plays the Welcome audio prompt.

8. Audio connection is now established.

Cisco WebEx CTMS Features

Table 1-1 lists features that are supported on the CTMS.

Table 1-1   Cisco Cisco WebEx Features Supported on the CTMS

Feature	Description
Meeting ID CTMS passes the Meeting ID to Cisco WebEx to link the meeting to CTS-Manager.	The conference is initiated to Cisco WebEx using the meeting ID as one of the parameters when the meeting launches.
G.711 and H.264 Video Support Video RTP media stream information is tunneled over HTTPS.	CTMS communicates G.711 audio and H.264 video to Cisco WebEx, and Cisco WebEx communicates in the same format. **Note** The audio connection to Cisco WebEx is established over the VoIP gateway. Audio media is not sent over the HTTPS tunnel.
CIF Video Support Common Intermediate Format (CIF) video information is sent to Cisco WebEx for the most active speaker in the meeting.	The CTMS sends CIF video from the most active speaker to Cisco WebEx at 30 FPS.
Connectivity to Cisco WebEx The CTMS uses VoIP for the Auxiliary video stream and the PSTN for the audio to ensure high quality for the voice portion of the conference.	To reduce latency for the audio portion of the call, audio is exchanged via the Cisco Unified CM PSTN trunk: • Audio uses PSTN • Video uses the HTTPS tunnel
Presentation Signaling Start/Stop The CTMS provides presentation start and quit functionality for Cisco WebEx.	The CTMS software communicates with the Cisco WebEx service to enable and control the sending and receiving of presentation video.
Statistics The CTMS maintains all Cisco WebEx connection statistics.	The CTMS maintains statistics on the conference state and send/receive data for the tunnel and audio traffic.
Error Indications The CTMS logs clear and concise errors at the administration level if issues arise with Cisco WebEx operations.	CTMS provides error messaging when it is not able to connect to the Cisco WebEx server. Error events are sent to the CTMS system log, and any audio call state issues are sent to the CTS phone meeting details page.
Roster Reporting - Join/Leave Function The CTMS signals a roster change for each CTS caller joining or departing a Cisco WebEx meeting.	The CTMS reports to Cisco WebEx when Cisco TelePresence rooms join and leave a Cisco WebEx meeting. The Cisco WebEx Web page contains a roster list of meeting participants, including the room identification of each CTS caller. This information is taken from the SIP header Remote Party ID field of the calling CTS endpoint. The origin of the room name field comes from the contents of the Cisco Unified CM "Alerting Name" field. If left blank by the Cisco Unified CM administrator, the name will not be available. Names are deleted and displayed as "unknown" as callers disconnect. As the active presenter changes, the Cisco WebEx service is notified which room is sending the presentation, so that it can be included on the Cisco WebEx roster.

Table 1-1   *Cisco Cisco WebEx Features Supported on the CTMS*

Feature	Description
Cisco WebEx Welcome Screen The CTMS displays the Cisco WebEx default screen when no presentation is active.	The CTMS defaults to Cisco WebEx "share active" and forwards any Cisco WebEx Welcome screen generated by the Cisco WebEx servers. The Cisco WebEx Welcome screen is displayed through Auto Collaborate in the Cisco TelePresence room.
Meeting Termination The CTMS passes notification to Cisco WebEx at the termination of call.	The CTMS notifies Cisco WebEx when any meeting is terminated, which causes the Cisco WebEx Tel. server to disconnect the audio call. The CTMS sends a BYE message with normal call clearing for the PSTN call leg.
Secure Meetings Support for encrypted and fully secure meetings.	CTS meetings are non-secure, but the SSL Auxiliary video connection is encrypted over the Internet. **Note** CTMS does not support secure meetings on the Cisco TelePresence side, because the system would require all Cisco TelePresence media to be decrypted and re-encrypted.

Configuring CTMS

To configure Cisco WebEx on the CTMS, see Chapter 3, "Configuring Cisco TelePresence WebEx OneTouch on the Cisco TelePresence Multipoint Switch."

Cisco Unified Communications Manager Administration Role

Note   Cisco Unified CM must be running firmware 7.x or a later release with the MIDlets application configured. MIDlets allows Cisco WebEx meeting details, including the Cisco WebEx access number, to be shown on the CTS Cisco Unified IP phone when a Cisco WebEx-enabled call is launched.

Cisco Unified CM controls the following functions in Cisco WebEx-enabled meetings:

1. Configuring the PSTN trunk to route audio calls from the PSTN to the CTMS.

2. Adding a route pattern to point to the PSTN trunk that was created.

3. Configuring the meeting room name so that the room name appears on the Cisco WebEx Participant list. See Configuring the Room Name for the Cisco WebEx Participant List in Chapter 4, "Configuring Cisco TelePresence WebEx OneTouch on Cisco Unified Communications Manager."

Note   The phone number that is entered in the Cisco Unified CM Administration interface must be configured in full, including the country code, and must exactly match the phone number that is entered in the CTMS administration Dial In Number field. See the Defining a Route Pattern for Cisco WebEx section in Chapter 3, "Configuring Cisco TelePresence WebEx OneTouch on the Cisco TelePresence Multipoint Switch."

Configuring Cisco Unified CM

To configure the Cisco Unified CM for Cisco WebEx, see Chapter 4, "Configuring Cisco TelePresence WebEx OneTouch on Cisco Unified Communications Manager."

CTS-Manager Administration Role

CTS-Manager supports Cisco TelePresence meeting scheduling with a single Cisco WebEx server. Both single and recurring meetings are supported. You also have the option to add Cisco Unified Video Conferencing (CUVC) to a Cisco WebEx meeting.

CTS-Manager manages the required Cisco WebEx resources for scheduled Cisco TelePresence meetings and integrates key enterprise calendaring applications like Microsoft Exchange and IBM Domino to coordinate Cisco TelePresence room schedule information. Figure 1-2 shows the CTS-Manager Cisco WebEx scheduling topology.

Figure 1-2   CTS-Manager Cisco WebEx Scheduling Topology
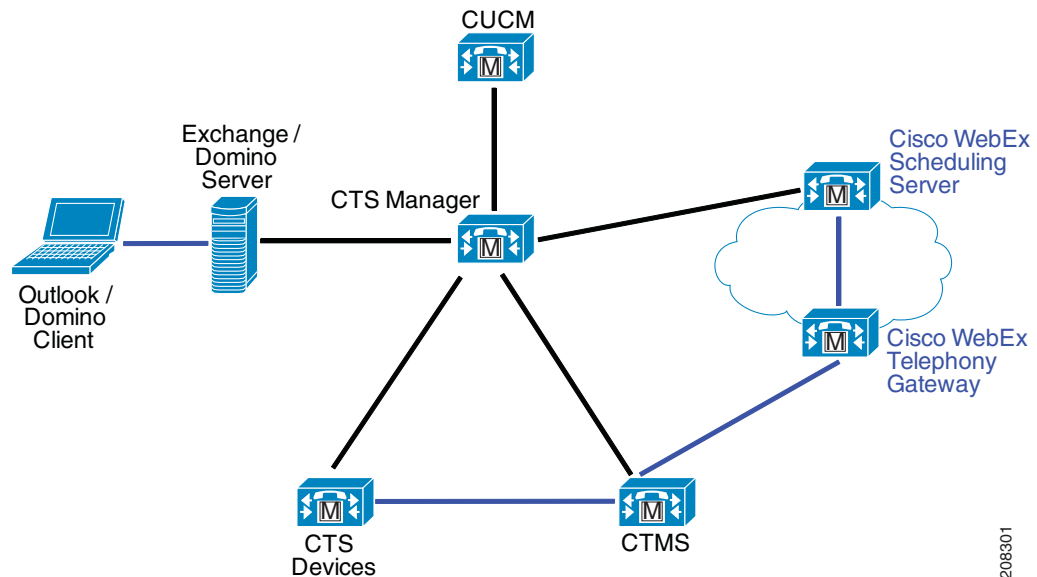
CTS-Manager controls the following functions in Cisco WebEx-enabled meetings:

- During initialization (or after loss of connectivity), CTS-Manager sends a registration request to Cisco WebEx to retrieve the following configuration information:

  - Cisco WebEx host URL—The host URL provides access information for CTS-Manager to reach Cisco WebEx.

  - Cisco WebEx host name and password—A unique host name and password for your Cisco WebEx account.

  - Usable conference ID block.

  - Access numbers to be used for Cisco WebEx meeting participants in a Cisco Telepresence meeting.

> **Note** Any updates to scheduled Cisco Telepresence meetings are automatically updated on the Cisco WebEx server.

See the following sections for more information about CTS-Manager roles:

- Initializing Cisco WebEx on the CTS-Manager, page 1-10
- Registering CTS-Manager to Cisco WebEx, page 1-10
- Initiating the Conference Push, page 1-11
- CTS-Manager Scheduling and Call Launch, page 1-11
- Configuring CTS-Manager, page 1-11

Initializing Cisco WebEx on the CTS-Manager

During initialization, the Cisco WebEx server is configured on CTS-Manager and CTS-Manager registers with the Cisco WebEx server. CTS-Manager initiates the request. You need the following to authenticate each device:

- Hostname or IP address
- Username
- Password

The username and password combination are the same for both applications during initialization. Every request that is passed between CTS-Manager and the Cisco WebEx server are authenticated using these credentials. CTS-Manager supports secure communication (SSL) and Cisco WebEx sends and receives Simple Object Access Protocol (SOAP) messages over SSL.

Registering CTS-Manager to Cisco WebEx

CTS-Manager sends a register request to Cisco WebEx. In response to the registration request, the Cisco WebEx server sends its configuration information, which is saved in the CTS-Manager database. This heartbeat mechanism is maintained between CTS-Manager and Cisco WebEx to ensure that scheduled conferences are communicated to the Cisco WebEx server on a periodic basis.

Table 1-2 contains a list of configuration parameters that are expected to be received by CTS-Manager in response to the registration request.

Table 1-2   Registration Request Configuration Parameters

Parameter	Description
SiteID	Identifies a prefix number which is exclusively assigned to Cisco Telepresence deployments that are integrated with the Cisco WebEx meeting solution. This is required to avoid meeting identifier conflicts with non-Cisco TelePresence meetings. The meeting ID for each scheduled meeting is generated by CTS-Manager randomly and each unique meeting ID is maintained in a given time slot. CTS-Manager follows the bounds of the ConferenceID range that was received during registration.
ConferenceID List	A meeting identifier used to uniquely identify a Cisco WebEx meeting; used in combination with the SiteID.
Access Number List	Leave the default value.
Web Service URL for the Cisco WebEx server	Used to track access points to the Cisco WebEx server. If there is a change in the URL, the Cisco WebEx server is required to trigger registration with CTS-Manager to retrieve updated information via the registration request. A trigger registration request has to be sent by the Cisco WebEx server if any of the following changes: • SiteID, ConferenceID, or access number list. • When the system is restarted. • While regaining connection with CTS-Manager if connection is lost.
Location information	Leave default value.
Description	Optional.
Capability information	Measures support for future compatibility.
Software Version	All Cisco applications must be using software release 1.7.0.

Initiating the Conference Push

CTS-Manager sends a list of conferences up to 14 days in advance to the Cisco WebEx server if the conference is scheduled to include Cisco WebEx participants. Conferences can be single occurrences or repeat meeting instances, and each meeting is uniquely identified by a MeetingIdentifier. Table 1-3 lists key conference attributes.

Table 1-3   Conference Push Details

Conference Detail	Description
MeetingIdentifier	Unique identifier consisting of the SiteID and the ConferenceID
Start Time End Time	Calculated in Coordinated Universal Time (UTC).
Subject	Optional.
Conference list	A conference list is sent to Cisco WebEx in the following circumstances: • Newly created meetings or meeting updates which fall within the "N" day window. In all cases, a full list worth "N" days is sent. Incremental meeting information is not sent to the Cisco WebEx server to avoid synchronization issues. • Daily updates. This operation is used to synchronize information from external network devices, specifically addressing loss of network connectivity and software upgrades on external devices. **Note** The Cisco WebEx server stores the conference list to handle system restart and software upgrades independently.

CTS-Manager Scheduling and Call Launch

CTS-Manager provides a control link with the Cisco WebEx meeting scheduler. This interface allows CTS-Manager to place new meetings on the Cisco WebEx calendar, and to obtain Cisco WebEx meeting information that is distributed to meeting participants. CTS-Manager then pushes Cisco WebEx meeting details to the CTMS Conference Manager.

Configuring CTS-Manager

To configure CTS-Manager for Cisco WebEx, see Chapter 5, "Configuring Cisco TelePresence WebEx OneTouch on Cisco TelePresence Manager."

Cisco TelePresence System Endpoint Role

The following sections contain information about how the CTS endpoint functions in the Cisco WebEx meeting solution:

- How the Cisco TelePresence System Enables Cisco WebEx, page 1-12
- CTS Endpoint Meeting Participation, page 1-13
- Cisco WebEx User Options on the Cisco TelePresence System and CTS Cisco Unified IP Phone, page 1-13

How the Cisco TelePresence System Enables Cisco WebEx

This section contains information about the major CTS configuration components that enable the Cisco TelePresence WebEx OneTouch feature to function on the CTS endpoint:

- CIF Video Encoder, page 1-12
- Auxiliary Video Decoder, page 1-12
- Audio Encoder/Decoder, page 1-12
- Presentation Display Details for Multiple CTS Presenters, page 1-12

CIF Video Encoder

For Cisco WebEx meetings, the CTS endpoints encode and transmit CIF video at 300 Kpbs. The video of the most active CTS caller appears on the Cisco WebEx client.

Auxiliary Video Decoder

The CTS Auxiliary Video Decoder in CTS displays presentation video from Cisco WebEx. Shared presentation video from a Cisco WebEx client application is displayed at a frame rate of 1-2 frames per second.

Audio Encoder/Decoder

The Cisco WebEx solution uses the CTS G.711 interoperability stream to allow presentation audio in the G.711 mixer input. This enables Cisco Webex callers to see a CTS presentation and hear the Cisco Telepresence audio simultaneously. Cisco WebEx callers can hear the live audio when other CTS participants are speaking, including presentation audio.

> **Note** The output mix from the CTS to the CTMS includes all microphone sources and the Auxiliary audio input. CTMS receives Auxiliary audio automatically.

Presentation Display Details for Multiple CTS Presenters

Presentation streams come from the active presenter's CTS endpoint; the last Auxiliary cable that plugged into the meeting becomes the presenter. As cables are unplugged, replacement presenter selection follows the sequence of cable connections.

> **Tip** For best results, close the Cisco WebEx application before connecting your presentation cable to your laptop to present.

CTS Endpoint Meeting Participation

CTS endpoints can initiate a presentation at any point by plugging the VGA Auxiliary cable into the CTS endpoint presenter's laptop, which automatically switches from the Cisco WebEx presenter to the CTS endpoint presenter.

The Participant list, a roster of conference room names, is pushed down to the CTMS from CTS-Manager at scheduling time. As CTS endpoints join the Cisco WebEx-enabled meeting, the associated conference room name(s) appear on the Cisco WebEx roster.

Note   The room name text is obtained from the **Room Name** field that is configured in the Cisco Unified CM administration Product Specific Configuration Layout field. See the *Cisco Unified Communications Manager Configuration Guide for the Cisco TelePresence System* for more information.

A Participant list also appears on the CTS Cisco Unified IP phone, which shows the Cisco WebEx connection as a single gateway entry rather than showing every Cisco WebEx participant.

Se the *Cisco TelePresence System User Guide* for more information about the CTS Cisco Unified IP phone interface.

Cisco WebEx User Options on the Cisco TelePresence System and CTS Cisco Unified IP Phone

Table 1-4 lists features that are supported on the CTS and the CTS Cisco Unified IP phone.

Table 1-4   Cisco WebEx Features Supported on the CTS

Feature	Description
Cisco WebEx Welcome screen The Cisco WebEx Welcome screen provides meeting details and the participant list, which is also visible through the Cisco WebEx interface.	The Cisco WebEx Welcome screen appears on the CTS main display when no one in the meeting is presenting and meeting participant laptops are not connected to the auxiliary video cable.
Data Sharing CTS supports well-formed presentation video sent to and from the CTMS for Cisco WebEx data sharing. You can use Cisco TelePresence Auto Collaborate share function through the Cisco WebEx application; data displays simultaneously in the Cisco TelePresence room and on the Cisco WebEx session.	CTS enables data share between Cisco TelePresence Auto Collaborate and Cisco WebEx when a Cisco TelePresence meeting is Cisco WebEx enabled: • When you plug your laptop into a CTS system's auxiliary video cable, the content is shared on the Auto Collaborate screen. • When you share content using Cisco WebEx (with presenter privileges), that content is also visible via Auto Collaborate in all the Cisco TelePresence rooms in that call. • A CTS user can share content between Auto Collaborate and Cisco WebEx without having to join or log into a Cisco WebEx session. • The Cisco TelePresence Auto Collaborate feature continues to work with the "last one wins" paradigm, which determines which data content is displayed in all Cisco TelePresence rooms and shared with Cisco WebEx. If a CTS presenter unplugs their Auxiliary cable, the presentation will revert to the previous CTS presenter, if any. **Note** Presentations never automatically revert to Cisco WebEx clients. **Note** Make sure that the PC that is used to share the presentation is not using a browser to log into the Cisco WebEx meeting. • If no users in any of the Cisco TelePresence rooms are currently plugged in to the Auto Collaborate channel, the system shows the default Cisco WebEx screen for that meeting. • Data sharing between Cisco TelePresence and Cisco WebEx is supported at 5 FPS.
One-Button-to-Push (OBTP) Audio The CTS supports G.711 compression for sending and receiving audio from Cisco WebEx.	The CTS supports Cisco WebEx audio for each scheduled CTS meeting that is Cisco WebEx enabled. The system automatically joins the Cisco WebEx audio bridge when the call is launched using One-Button-to-Push.
Audio Addin Audio add-in calls and Presentation Audio are supported simultaneously while in a Cisco WebEx meeting.	The CTS supports Auxiliary audio via your PC port when the CTS endpoint is plugged into the Auto Collaborate data channel. The Auxiliary Audio supports sending presentation audio to Cisco WebEx. The audio media is carried over the PSTN connection between the Cisco WebEx or TSP audio bridge, and the CTMS. Auxiliary Audio is heard by Cisco WebEx callers.

Table 1-4   ***Cisco WebEx Features Supported on the CTS***

Feature	Description
Cisco WebEx Ball Icon The Cisco WebEx "ball" icon is present on the CTS Cisco Unified IP Phone schedule page of the phone user interface for each meeting event that is Cisco WebEx enabled.	CTS-Manager marks meetings as Cisco Webex enabled and provides additional details of the active call. The phone UI also contains a meeting details page with other access information.
Meeting Details Meeting details are shown on the CTS Cisco Unified IP Phone, including the Cisco WebEx access number.	The CTS shows Cisco WebEx meeting details on the CTS phone when a call is launched. The runtime display includes the Cisco WebEx audio call status as reported by CTMS using the Conference Control Channel Protocol (CCCP).

Key Call Connection Functionality

Call connection functionality includes the following:

- Both live video and presentation video is carried over a secure HTTPS tunnel using port 443. This port number is added to the Cisco TelePresence Gateway URL while configuring the CTMS in the "Configuring Cisco WebEx Details in CTMS" section on page 2.

- The HTTPS tunnel is created on the CTMS, and the CTMS initiates the outbound TCP connection to the Cisco WebEx service.

- Once the connection is established, the CTMS exchanges handshake and meeting details with the Cisco WebEx service.

- Audio is carried separately and uses a connection from the PSTN that terminates on the CTMS. Each meeting uses a separate call, but uses the same inbound number.

- When the PSTN call arrives at the CTMS, the CTMS and the Cisco WebEx service negotiate the local CTMS meeting ID to which the call is to be connected. The handshake information that is sent to Cisco WebEx includes the number that the Cisco WebEx service should call (which is defined on the CTMS) and the meeting instance identifier.

- If errors occur, the CTMS automatically initiates recovery of the connection via the HTTPS tunnel signaling.

See the following sections for more information about Cisco TelePresence with Cisco WebEx call components:

- The Audio Component of a Call, page 1-15
- The Video Component of a Call, page 1-16
- Call Security and Licensing, page 1-16

The Audio Component of a Call

The system uses the traditional Cisco WebEx services for sharing audio. The Cisco WebEx user dials into a conference bridge located in the Cisco WebEx network. Users may also optionally use the VoIP client, running on a local PC as part of the Cisco WebEx client package.

Audio from the CTS endpoints is forwarded as a G.711 stream to the CTMS. The CTMS performs the stream selection and mixing function, then forwards the mixed output to the Cisco WebEx audio bridge over the PSTN connection.

Audio streams from Cisco WebEx callers are mixed on the Cisco WebEx Telephony server and sent over the PSTN connection to the local PSTN Gateway. The Gateway then encodes the media as G.711 and forwards it to the CTMS. The CTMS then forwards that audio stream to each endpoint in the call using DTMF to negotiate.

The Video Component of a Call

Cisco TelePresence video is automatically streamed into the Cisco WebEx session, so remote users can view video of the active Cisco TelePresence participants. On the Cisco WebEx side, the system uses the standard Cisco WebEx services for sharing and viewing presentation video, and for displaying the live CIF video from the Cisco TelePresence endpoint. Cisco Telepresence participants in the meeting continue to see each other with normal high definition 1080p or 720p video. Cisco Presentation video from Cisco WebEx is displayed on the local projector or Presentation-in-Picture (PiP) display area with a frame rate of up to 5 FPS.

Note   Cisco WebEx video always appears on the Auxiliary output channel and is only seen on the main display screen when PiP is used.

You can relocate the PiP display on the main display screen or hide PiP altogether using the **PiP** softkey on your CTS Cisco Unified IP phone.

The video stream of the most active Cisco Telepresence speaker is sent to the Cisco WebEx network where it can be seen on the participants' Cisco WebEx client program. Video is sent using CIF resolution set at 352 x 288 pixels, with a lower bitrate than is used for standard Cisco Interoperability meetings.

Auxiliary video presentations from Cisco WebEx participants are encoded (using H.264 format by the participant's local PC client) and sent to the Cisco WebEx conferencing system. The conferencing system then packetizes the Auxiliary video into RTP format at 5 frames per second, and forwards it to the CTMS via the CTMS Cisco WebEx interface.

Note   Actual frame arrival rates may be much lower, depending on network conditions and the capabilities of the client software, so variable arrival rates for auxiliary video is supported.

Call Security and Licensing

Because Cisco WebEx does not support Datagram Transport Layer Security (DTLS) or Encrypted Key Transport (EKT) media encryption, Cisco Telepresence multipoint meetings are not encrypted. Only the SSL tunnel from the CTMS to Cisco WebEx over the public Internet will use a secure link.

Cisco WebEx bundles a long-term (10 year) SSL certificate with the Cisco WebEx interface. This certificate is already loaded into the system, so you do not need to load the certificate yourself.

⚠️

Caution   The only circumstances under which you must upload a new certificate are if the currently loaded certificate exceeds its 10-year term or changes are made to the Cisco WebEx service, which requires that you to use a different certificate. Uploading a new certificate without the currently loaded certificate expiring could potentially disable the Cisco WebEx function.

If one of the expiration circumstances applies, you can load a new certificate through the WebEx page in the CTMS Administration interface or by updating to the most current CTMS release. To request a new license, contact Cisco TAC.

Understanding the CTS Meeting Experience

This section contains the following Cisco WebEx user interface information:

- The CTS Cisco Unified IP Phone, page 1-17
- The Meeting Details Page, page 1-18
- The Cisco WebEx Collaboration Conference Experience, page 1-18
- Initiating a Scheduled Cisco Telepresence Meeting, page 1-20
- Hosting a Presentation, page 1-20

The CTS Cisco Unified IP Phone

CTS-Manager indicates to the CTS that the meeting is Cisco WebEx-enabled when the meeting schedule is downloaded to the CTS phone. Each meeting that is Cisco WebEx-enabled shows the blue-green ball icon next to the meeting entry, as shown in Figure 1-3.

Figure 1-3   *Cisco WebEx Enabled on the CTS Phone*

The Meeting Details Page

The CTS phone interface includes a meeting details page, which contains static information (including the meeting access number, the status of the CTMS audio connection with Cisco WebEx, and meeting ID) that is downloaded from CTS-Manager as part of the meeting schedule. The Cisco WebEx caller uses this information to join the Cisco WebEx meeting.

Additionally the CTS phone accepts dynamic status updates that detail the Cisco WebEx PSTN call state on the CTMS. When the call connects, the meeting details page indicates the current state of the audio call to the CTS user via the Conference Control Protocol (CCP) messages that are exchanged between the CTMS and the CTS endpoints in the meeting. Each CTS that is connected to the meeting is updated with this status.

For more information, see the Using Cisco WebEx Conferencing section of the *Cisco TelePresence System User Guide* on Cisco.com.

The Cisco WebEx Collaboration Conference Experience

This section contains the following information about the Cisco TelePresence with Cisco WebEx caller experience:

- Scheduling a Call, page 1-19
- Mapping Enterprise to a Cisco WebEx account, page 1-19
- Re-Validating Cisco WebEx User IDs, page 1-20

Scheduling a Call

Schedule a Cisco TelePresence room by using standard calendaring software such as Microsoft Exchange or IBM Lotus Domino. You can schedule meetings in two different modes with setting options defined in Cisco TelePresence Manager based upon one of three possible end user configurations controlled by CTS-Manager:

- **Premium User—Cisco WebEx Always-On**. Use this option if you want to use Cisco WebEx Meeting Center for every Cisco TelePresence meeting. "Always-On" users select the Cisco TelePresence rooms in the calendaring application and the Cisco WebEx session is automatically set up. A meeting confirmation e-mail is sent from Cisco TelePresence Manager with Cisco WebEx session details that the scheduler can forward to the Cisco WebEx attendees.

- **Permitted User—Enable Cisco WebEx Per Meeting**. This option requires you to enable a Cisco WebEx session with each Cisco TelePresence meeting by doing the following:

  a. Select Cisco TelePresence rooms in the Microsoft Outlook or Lotus Notes client.

  b. Follow the link provided in the Cisco TelePresence Manager confirmation e-mail message.

  c. Enable the Cisco WebEx meeting option in the Cisco TelePresence Manager Meeting View page.

  d. Receive a confirmation e-mail message from Cisco TelePresence Manager with the Cisco WebEx session details. The Cisco TelePresence scheduler forwards the e-mail to the Cisco WebEx attendees.

When the meeting is scheduled, CTS-Manager pushes the schedule information, along with the Cisco WebEx meeting details, to the CTMS Conference Manager. This information is maintained in the Conference Manager until the meeting starts.

- **Non-Permitted User—Disallow Cisco WebEx**. You can configure CTS-Manager to disallow Cisco WebEx support entirely. Users configured in this mode may not use the Cisco WebEx feature, and may only schedule standard multipoint CTMS meetings.

Note   Each CTMS can support up to 24 simultaneous Cisco WebEx- enabled meetings. CTS-Manager ensures that this limitation is not exceeded for any server at scheduling time.

You can start a Cisco WebEx meeting earlier than the scheduled time (up to 30 minutes).

Mapping Enterprise to a Cisco WebEx account

Cisco WebEx requires a Cisco WebEx-specific user ID for scheduling meetings. This ID is used for authentication, authorization, and billing purposes. Users scheduling Cisco TelePresence meetings also need to have an account set up on the Cisco WebEx server so that they can log in to Cisco WebEx.

When you enable Cisco WebEx through CTS-Manager for the first time, the system redirects your browser to the Cisco WebEx server. The Cisco WebEx server determines whether the site is single sign-on (SSO)-enabled, which affects how you create your Cisco WebEx account:

- If the site is SSO enabled, the user browser is redirected to the customer SSO login page where you enter your SSO credentials. Once authentication is passed, the SSO server redirects the user browser back to the Cisco WebEx server with a token that the Cisco WebEx server decodes and passes back to CTS-Manager.

- If the site is not SSO-enabled, the Cisco WebEx-hosted login page appears. The Cisco WebEx server prompts for the Cisco WebEx username and password, authenticates the user, and generates an authentication token. Once authentication is passed, Cisco WebEx redirects the browser back to CTS-Manager.

Once you have successfully created your account and are logged in to the Cisco WebEx server, essential Cisco WebEx parameters are logged (Cisco WebEx username and Telephony Service Provider (TSP) telephony pass-codes for TSP users, for example) and encoded for better security. Your Cisco WebEx ID is kept in the database for future validation the next time the user schedules a Cisco WebEx meeting.

Re-Validating Cisco WebEx User IDs

In some cases a user may schedule a Cisco WebEx-enabled Cisco TelePresence meeting, but the user account becomes disabled or expires before the scheduled meeting date. If Cisco WebEx discovers an invalid user ID, all future meetings scheduled by that user are marked as "Error" and a notification e-mail is sent asking the user to re-validate their scheduling credentials.

To regain scheduling privileges, simply log in to the CTS-Manager Administration interface and re-validate with the correct Cisco WebEx ID.

Initiating a Scheduled Cisco Telepresence Meeting

The Cisco Telepresence user initiates the Cisco WebEx meeting dial-in by pressing the designated One-Button-to-Push on the CTS Cisco Unified IP phone. The call progresses to the connected state and the CTS endpoint immediately joins the meeting. Any Cisco WebEx callers that are in the waiting room will be announced by the Cisco WebEx server and placed into the meeting. Subsequent CTS callers may come and go from the meeting, and the meeting will persist as long as one CTS endpoint is still connected. Once the last CTS endpoint departs and there is no alternate host assigned, the meeting terminates and any remaining Cisco WebEx users are disconnected. If there is an alternate Cisco WebEx host assigned and they have joined the meeting, the Cisco WebEx meeting will not terminate when the CTMS disconnects.

Note   Because Cisco WebEx sends only Auxiliary video, the main display screen remains black until another CTS caller joins the meeting. An on-screen message appears to inform the CTS participant that no video is available.

Hosting a Presentation

In Cisco Telepresence-enabled meetings the CTMS is always the host, and as such is automatically granted presenter status and may present at any time.

Note   Alternate hosts are also possible. These hosts would log into Cisco WebEx with a Web browser.

CTS presentations are initiated by plugging in the Auxiliary cable on the CTS endpoint. When there is no active presentation, Cisco WebEx transmits a Welcome page, which is visible on the CTS Auxiliary output display. This page contains meeting details and roster information.

If a Cisco WebEx caller wishes to present, a meeting host must be logged into the Cisco WebEx Web client to grant permission before the new presentation will be allowed.

> **Note**   Any updates to the presentation causes a refresh on the Cisco WebEx client application at a rate of 5 FPS.

> **Tip**   When transitioning from a Cisco WebEx presenter to a Cisco TelePresence presenter, the Cisco TelePresence presenter must perform these steps to initiate the transition:
>
> —If logged into the Cisco WebEx Meeting Center client, exit from the client.
> —If the VGA cable is already plugged into a laptop, unplug the cable
> —Plug the cable into the presenter's laptop.

Where to Go Next

To implement Cisco WebEx interoperability for your Cisco TelePresence meeting, configure the following:

1. CTMS—See Chapter 3, "Configuring Cisco TelePresence WebEx OneTouch on the Cisco TelePresence Multipoint Switch."

2. Cisco Unified CM—See Chapter 4, "Configuring Cisco TelePresence WebEx OneTouch on Cisco Unified Communications Manager."

3. CTS-Manager—See Chapter 5, "Configuring Cisco TelePresence WebEx OneTouch on Cisco TelePresence Manager."

C H A P T E R 2

Cisco TelePresence WebEx OneTouch First-Time Configuration Checklist

Revised: August, 2011, OL-21352-01

Contents

- Server and Site Access Checklist, page 2-1
- Configuration Task Checklist, page 2-3

Server and Site Access Checklist

Table 2-1 describes information you must have before you can configure Cisco TelePresence WebEx OneTouch for the first time.

Table 2-1   Make Sure You Have the Following

What You Need	Description and Source	✔
Cisco TelePresence Gateway URL	Cisco TelePresence Gateway that dials back into the CTMS audio session. **Source**—Provided by the Cisco WebEx Account Team. **Detailed Instructions**—Configuring Cisco WebEx Details in CTMS.	
Cisco WebEx Scheduling Server URL	URL for the Cisco WebEx Scheduling Server. **Source**—Provided by the Cisco WebEx Account Team. **Example**—https://example.webex.com/example **Detailed Instructions**—Configuring Cisco TelePresence WebEx OneTouch on Cisco TelePresence Manager.	

Table 2-1   Make Sure You Have the Following

What You Need	Description and Source	✔
Cisco WebEx Scheduling Server hostname	Hostname of WebEx Scheduling Server used by the customer. **Source**—Provided by the Cisco WebEx Account Team. **Example**—"example.webex.com" **Detailed Instructions**—Configuring Cisco TelePresence WebEx OneTouch on Cisco TelePresence Manager.	
Cisco WebEx Hostname Certificate	SSL Security certificate of Cisco WebEx Scheduling Server. **Source**—You download the certificate. **Detailed Instructions**—Obtaining the Cisco WebEx Site Security Server Certificate.	
Cisco WebEx Site Administration URL	Your unique address for accessing the Cisco WebEx Site Administration interface where you complete your initial Cisco WebEx setup configuration and manage and maintain your account after initial setup. This URL takes you directly to the WebEx Administration site. **Source**—Provided by the Cisco WebEx Account Team. **Example**—"https://example.webex.com/admin" **Detailed Instructions**— Integrating Cisco TelePresence with Your Cisco WebEx Site Administration Account.	
Cisco WebEx Administrator username	Cisco WebEx Site Administrator account username. **Source**—Provided by the Cisco WebEx Account Team. **Example**—"webexAdmin" **Detailed Instructions**— Integrating Cisco TelePresence with Your Cisco WebEx Site Administration Account.	
CTSMAN Access Code	Enables Cisco TelePresence integration in the Cisco WebEx Site Administration **Site Settings** > **TelePresence Integration Options** fields. You can enter up to 10 characters in the CTSMAN Access Code field, including special characters. No spaces are allowed. **Source**—You create this code. **Example**—"123456" **Detailed Instructions**— Integrating Cisco TelePresence with Your Cisco WebEx Site Administration Account.	

Configuration Task Checklist

Tip   You can choose the order in which you wish to configure Cisco TelePresence components for Cisco TelePresence WebEx OneTouch; the following order is only a suggestion, though you must complete all of the configuration steps in this checklist to enable the feature and Cisco TelePresence must be enabled before you can configure Cisco WebEx Site Administration.

1. Cisco TelePresence MultiPoint Switch, page 2-3
2. Cisco Unified Communications Manager, page 2-4
3. Cisco TelePresence Manager, page 2-5
4. Cisco WebEx Site Administration, page 2-5

Cisco TelePresence MultiPoint Switch

Table 2-2   Checklist — Configuring Cisco TelePresence WebEx OneTouch on the CTMS for the First Time

Go to: **Configuring Cisco TelePresence WebEx OneTouch on the Cisco TelePresence Multipoint Switch**		
Task	**Detailed Instructions**	✔
Step 1 Configure the **Control Link**. **Tip** Remember to use the " :443 " port extension. See Example 3-1 on page 3-4.	Configuring Cisco WebEx Details in CTMS	
Step 2 Configure **WebEx Dial In**: • CTMS Country Code • CTMS Dial In Number. **Tip** You will also be entering this number into the Cisco Unified CM Called Party Transform Mask field. See Defining a Route Pattern for Cisco WebEx. • Audio Retry Count • Audio Retry Interval	Configuring Cisco WebEx Details in CTMS	
Step 3 Configure the **Audio Handshake**: • Greeting Tones • Greeting Timeout • Audio Connection Successful Tones • Audio Connection Successful Timeout	Configuring Cisco WebEx Details in CTMS	

	Task	Detailed Instructions	✔
Go to: Configuring Cisco TelePresence WebEx OneTouch on the Cisco TelePresence Multipoint Switch			
Step 4	Configure **Port Management**: • WebEx Port Start • WebEx Port End	Configuring Cisco WebEx Details in CTMS	
Note	**Certificate** field—Cisco WebEx bundles a long-term (10 year) SSL certificate with the Cisco WebEx interface. This certificate is already loaded into the system, so you do not need to load the certificate yourself. The only circumstances under which you might need to upload a new certificate are if the currently loaded certificate exceeds its 10-year term or changes are made to the Cisco WebEx service, which requires you to use a different certificate. See Uploading a New Cisco WebEx SSL Certificate.		

Cisco Unified Communications Manager

Table 2-3   Checklist — Configuring Cisco TelePresence WebEx OneTouch on Cisco Unified CM for the First Time

	Task	Detailed Instructions	✔
Go to: Configuring Cisco TelePresence WebEx OneTouch on Cisco Unified Communications Manager			
Step 1	Define a new Cisco Unified Communications Manager **Route Pattern for Cisco WebEx**: • Enter your WebEx audio number in the **Pattern Definition** field. • Select the CTMS SIP trunk definition from the **Gateway/Route List**. Tip Remember that in the Called Party Transform Mask field, you will enter the Dial In Number that you configured in the CTMS Administration interface (see Configuring Cisco WebEx Details in CTMS.	Defining a Route Pattern for Cisco WebEx	
Step 2	Enter your room name in the **Display (Internal Caller ID)** fields so that the room name appears on the Cisco WebEx Participant List.	Configuring the Room Name for the Cisco WebEx Participant List	

Cisco TelePresence Manager

Table 2-4   Checklist — Configuring Cisco TelePresence WebEx OneTouch on CTS-Manager for the First Time

Go to: **Configuring Cisco TelePresence WebEx OneTouch on Cisco TelePresence Manager**		
	Task	**Detailed Instructions**	✔
Step 1	Enable the Cisco TelePresence WebEx OneTouch feature on CTS-Manager.	Enabling the Cisco WebEx Feature on CTS-Manager	
Step 2	Create a new account for Cisco WebEx in CTS-Manager.	Creating a Cisco WebEx Account in CTS-Manager	
Step 3	Configure a new Cisco WebEx server.	Configuring a Cisco WebEx Server	
Step 4	Obtain and download your Cisco WebEx site SSL security server certificate.	Obtaining the Cisco WebEx Site Security Server Certificate	
Step 5	Add your new SSL security server certificate to CTS-Manager.	Adding Your Certificate to CTS-Manager	

Cisco WebEx Site Administration

Table 2-5   Checklist — Setting up Cisco WebEx Site Administration for the First Time

Go to: **Integrating Cisco TelePresence with Your Cisco WebEx Site Administration Account**		
	Required Task	**Detailed Instructions**	✔
Step 1	Enable Cisco TelePresence Integration (MC only).	Integrating Cisco TelePresence with Your Cisco WebEx Site Administration Account	
Step 2	Enter the CTSMAN Access Code.		
Step 3	Enable video settings.		
Step 4	Set the Cisco TelePresence VOIP and video gateway connection.		
Step 5	Select the Cisco TelePresence **PRO: Meeting Center TelePresence** Session Type.	Setting the Meeting Center Cisco TelePresence Privilege	

	Recommended Task	**Detailed Instructions**	
•	List TelePresence meetings on calendar.	Integrating Cisco TelePresence with Your Cisco WebEx Site Administration Account	
•	Send invitation email to meeting host.		
•	Display toll-free number to attendees.		

C H A P T E R **3**

Configuring Cisco TelePresence WebEx OneTouch on the Cisco TelePresence Multipoint Switch

Revised: March, 2011, OL-21352-01

Note You must be running Cisco TelePresence Multipoint Switch software release 1.7.0 or a later release to use Cisco TelePresence WebEx OneTouch features.

Contents

This chapter contains the following sections:

Cisco WebEx CTMS Settings

Communications between CTMS and the Cisco WebEx Cisco TelePresence Gateway occur in these two channels:

Control Link

The control link is an HTTPS tunnel for control messages, presentation video, and CIF video. This tunnel is a TCP connection that the CTMS initiates to traverse the CTMS enterprise firewall to communicate with Cisco WebEx.

When the first CTS endpoint dials in to the meeting, CTMS opens the HTTPS control tunnel and sends meeting details to the Cisco WebEx Cisco TelePresence Gateway. Cisco WebEx validates the Cisco WebEx authentication key and meeting details, which the CTMS received from CTS-Manager.

After validation is successful, CTMS opens CIF video and presentation video channels through the HTTPS control tunnel. CTMS waits for an IDR frame for the Cisco WebEx Welcome screen and forwards the frame to the auxiliary display for CTS endpoints. CIF video is sent to the Cisco TelePresence host for distribution to any Cisco WebEx clients.

The Cisco WebEx Welcome screen comes from the Cisco WebEx Cisco TelePresence Gateway. The Cisco WebEx Cisco TelePresence Gateway generates H.264 video for sending to CTMS over the HTTPS tunnel. The control link carries the meeting ID, host key, access number, and participant list. During the meeting, CTMS sends ongoing notifications to Cisco WebEx Cisco TelePresence Gateway to update the active speaker and presenter list. The Control Link section of the CTMS Administration interface is where you will enter the WebEx TelePresence Gateway URL. This URL points to the Cisco WebEx server for video and creates the socket connection.

Bandwidth utilization over the control link and data tunnel for each meeting is 300 Kbps for CIF video and 450 Kbps for presentation video.

Cisco WebEx Dial In

The HTTPS control channel is used by CTMS to send its PSTN number to Cisco WebEx. Through this channel, the CTMS sends the Cisco WebEx telephone server the CTMS dial-in number. Cisco WebEx calls the CTMS with this number. Then CTMS and Cisco WebEx negotiate connection to the meeting through this audio callback channel.

The meeting starts when the first participant dials in to the meeting. CTMS opens the control link to the Cisco WebEx Cisco TelePresence Gateway (see Control Link for more information). Through the control link, CTMS sends authentication information and meeting details, which include the meeting ID and the CTMS Dial In Number. The Cisco WebEx Cisco TelePresence Gateway uses this number to call back to the CTMS.

After Cisco WebEx dials the CTMS callback number, CTMS sends "###" DTMF tones, and then a DTMF handshake occurs between CTMS and Cisco WebEx that enables CTMS to bridge the two conferences.

CTMS adds the call to its audio mixer. Cisco WebEx adds the call to the Cisco WebEx TelePresence Gateway audio mixer and plays the Cisco WebEx audio welcome prompt.

Proceed to Configuring Cisco WebEx Details in CTMS to begin your CTMS configuration.

Configuring Cisco WebEx Details in CTMS

Use the steps in this section to configure the following Cisco WebEx details in CTMS:

- WebEx TelePresence Gateway URL—The Cisco TelePresence gateway that dials back into the CTMS audio session. Your Cisco WebEx Account Team assigns you an appropriate TP gateway site. See Example 3-1.

- Control Link—The control link between the CTMS and the Cisco WebEx Cisco TelePresence Gateway

- Cisco WebEx Dial-In Number

- Cisco WebEx-to-CTMS Audio Handshake
- Cisco WebEx Port Management

Before You Begin

Obtain the following:

- CTMS dial-in number
- PSTN country code

Procedure

To configure Cisco WebEx details in CTMS:

Step 1 Log in to the Cisco TelePresence Multipoint Switch Administration interface.

Step 2 Choose **Configure** > **WebEx**. The Cisco WebEx settings page appears, as shown in Figure 3-1.

Figure 3-1 *CTMS Cisco WebEx Settings Page*

Step 3 In the **Control Link** section, enter the WebEx TelePresence Gateway URL. This URL points to the Cisco WebEx server for video and creates the socket connection.

Note   You must use a specific URL format and add the " **:443** " port extension to the WebEx TelePresence Gateway URL, as described in Table 3-1 and shown in Example 3-1.

Table 3-1 lists supported WebEx TelePresence Gateway URLs for the locations specified.

Tip   The CTMS does not have to be in the same location as the WebEx TelePresence Gateway URL; simply choose the nearest WebEx TelePresence Gateway URL to your location from the supported URLs below.

Table 3-1   Supported WebEx TelePresence Gateway URLs

Supported WebEx TelePresence Gateway URL Format	Location	With :443 Extension
vsj1tpg.webex.com	San Jose, CA	**https://vsj1tpg.webex.com:443**
vva1tpg.webex.com	Virginia	**https://vva1tpg.webex.com:443**
vdv1tpg.webex.com	Denver, CO	**https://vdv1tpg.webex.com:443**
vtx1tpg.webex.com	Texas	**https://vtx1tpg.webex.com:443**
vln1tpg.webex.com	London	**https://vln1tpg.webex.com:443**
vid1tpg.webex.com	India	**https://vid1tpg.webex.com:443**
vjp1tpg.webex.com	Japan	**https://vjp1tpg.webex.com:443**
vcn1tpg.webex.com.cn	China	**https://vcn1tpg.webex.com.cn:443**

Example 3-1   WebEx TelePresence Gateway URL Configured for Cisco WebEx OneTouch

If you were in Denver, Colorado, your WebEx TelePresence Gateway URL would look like this:

https://vdv1tpg.webex.com:443

Step 4   Enter the following information in the **WebEx Dial In** section:

a.   **PSTN Country Code**—Enter your country code. For example, "1."

b.   **CTMS Dial In Number**—Enter your unique Cisco WebEx dial-in number. For example, "4085551234." This number is used when the Cisco WebEx audio conference server dials into the CTMS from the PSTN. Make a note of this number.

To ensure that the number in the SIP "To:" field exactly matches the number that the CTMS is expecting, you will also be entering this Dial In Number into the Called Party Transform Mask field in Cisco Unified Communications Manager. The Called Party Transform Mask field allows a Cisco Unified CM administrator to restore this number to the full dialed number string.

Calls from outside PSTN trunks often present the incoming call with a truncated destination number. For example, a PSTN call to 1-408-555-1212 might be truncated by the telephony service provider to 5-1212. The CTMS will attempt to match the number found in the incoming SIP Invite, with the number that was configured to be used by Cisco WebEx when it calls the CTMS at meeting start time. The two numbers must match exactly, as CTMS does not understand any sort of number truncation or expansion.

The CTMS will then be able to determine that this call is for the Cisco WebEx audio connection. See Defining a Route Pattern for Cisco WebEx and Configuring the Room Name for the Cisco WebEx Participant List in Chapter 4, "Configuring Cisco TelePresence WebEx OneTouch on Cisco Unified Communications Manager."

    c. **Audio Retry Count**—Enter the number of times within a specified time frame that the Cisco WebEx Cisco TelePresence Gateway should attempt to call the CTMS to establish the audio callback channel. Default is 30 times.

    d. **Audio Retry Interval (seconds)**—Enter the number of seconds between retries. Default is 30 seconds.

Step 5 In the Audio Handshake section, configure the CTMS-to-Cisco WebEx PSTN handshake for audio by entering information in the following fields:

    a. **Greeting Tones**—The CTMS sends these tones to the WebEx TelePresence Gateway URL to initiate the audio connection. "###" is the default (recommended).

    b. **Greeting Timeout (seconds)**—Sets the amount of time for responding to the greeting tones. Default is 50 seconds (recommended).

    c. **Audio Connection Successful Tones**—Tones that the CTMS sends to the WebEx TelePresence Gateway URL to acknowledge that Cisco WebEx has received the correct CTMS meeting ID from the gateway. "***" is the default (recommended).

    d. **Audio Connection Successful Timeout (seconds)**—Enter the timeout limit. Default is 50 seconds (recommended). If the audio portion is not established within the configured timeout limit, a retry call is sent.

Step 6 In the Port Management section, configure the following:

    a. **WebEx Port Start**—Leave the default port value.

    b. **WebEx Port End**—Leave the default port value.

Note The Cisco WebEx tunnel should not interfere with the CTMS audio/video port selection algorithm, so the Cisco WebEx port range must be below 16384. Ports at 16384 and higher are for audio traffic for CTS-to-CTMS calls, and so should not be used for Cisco WebEx audio calls.

Step 7 After you have finished making your selections, click **Apply**. Audio connection is now established and CTMS configuration is complete.

Tip Cisco TelePresence WebEx OneTouch configuration is not complete until you configure Cisco Unified CM, Cisco TelePresence Manager, and the Cisco WebEx Site Administration account.

Step 8 Proceed to Configuring Cisco TelePresence WebEx OneTouch on Cisco Unified Communications Manager.

Enabling Cisco WebEx Security via Proxy Server (CTMS)

Note You must be running Cisco TelePresence Multipoint Switch software release 1.7.2 or a later release to use the proxy server security feature.

This task is not required to configure the Cisco TelePresence WebEx OneTouch feature.

To provide an extra level of security, you can choose to require communication between the CTMS and the Cisco TelePresence Gateway server to go through a proxy server.

To configure Cisco WebEx proxy server settings:

Step 1 Choose **Configure** > **WebEx**. The WebEx configuration window appears, as shown in Figure 3-2

Step 2 Select the WebEx Proxy Server **Yes** radio button to designate the connection type as secure using a proxy server.

Figure 3-2   Edit...Bridge or Server to Configure the Proxy Server

Step 3 Enter the proxy server URL (IP address), username (hostname) using the following format guidelines:

- https://*IP_Address*:*portnumber*

- https://*host_name*:*portnumber*

Tip   Make sure that the IP address, hostname, and port numbers are entered carefully to avoid typos; CTMS does not provide an error check.

Step 4   Click **Yes** to Require Authentication. The User Name and Password fields are activated to allow you to set up your username and password.

Step 5   Enter your username and password and click **Apply**.

Your Cisco WebEx Proxy Server configuration for the CTMS is complete. See also Enabling Cisco WebEx Security via Proxy Server (CTS-Manager).

Uploading a New Cisco WebEx SSL Certificate

Cisco WebEx bundles a long-term (10 year) SSL certificate with the Cisco WebEx interface. This certificate is already loaded into the system, so you do not need to load the certificate yourself. The only circumstances under which you might need to upload a new certificate are if the currently loaded certificate exceeds its 10-year term or changes are made to the Cisco WebEx service, which requires you to use a different certificate.

Caution   Uploading a new certificate before the current certificate expires could permanently disable the Cisco WebEx function.

If the Cisco WebEx SSL certificate has expired, you can upload a new one and download it onto your system by following these steps:

Tip   Your export procedure will vary depending on the web browser that you use (Internet Explorer or Firefox).

Step 1   Open your browser and enter the WebEx TelePresence Gateway URL (for example if you were in San Jose, you would enter **https://vsj1tpg.webex.com:443**).

Step 2   Double-click on the lock icon at bottom of screen. The Certificate window pops up.

Step 3   Select the Certificate Path tab and choose the top-level **VeriSign** certificate.

Step 4   Click **View Certificate**.

Step 5   Select the **Details** tab.

Step 6   Click **Copy to File** then click **OK**. The Certificate Export Wizard pops up:

- For Internet Explorer (IE), export the certificate as Base-64 CER format.
- For firefox, export the certificate in PEM format.

Step 7   Rename your certificate file to CAfile.pem (CTMS does not accept other file names).

Step 8   Upload your new certificate file:

   a.   Log in to the Cisco TelePresence Multipoint Switch Administration interface.

b. Choose **Configure** > **WebEx**. The CTMS Cisco WebEx configuration screen appears, as shown in Figure 3-3.

Figure 3-3   Cisco WebEx Configuration - Uploading a New SSL Certificate

c. Scroll down to the Certificate section and click **Browse** to locate your newly downloaded certificate in the Upload New field.

Step 9   Click **Upload**.

Where to Go Next

Proceed to Chapter 4, "Configuring Cisco TelePresence WebEx OneTouch on Cisco Unified Communications Manager."

Configuring Cisco TelePresence WebEx OneTouch on Cisco Unified Communications Manager

Revised: March, 2011, OL-21352-01

Note Cisco Unified CM must be running firmware 7.x or a later release with MIDlets software configured to use Cisco WebEx features.

You must also be running CTS software release 1.7.0 or a later release on the CTS, CTS-Manager, and CTMS.

Contents

To begin using Cisco TelePresence WebEx OneTouch on your Cisco TelePresence System (CTS), you must configure the Cisco Unified Communications Manager (Cisco Unified CM).

This chapter describes the following tasks:

Defining a Route Pattern for Cisco WebEx

As part of your Cisco WebEx configuration, you must add a route pattern for the Cisco WebEx audio number and point it to the Cisco TelePresence Multipoint Switch (CTMS) SIP trunk.

For Cisco WebEx meetings, the Cisco WebEx system automatically dials into the CTMS in order to bridge the audio between Cisco TelePresence and Cisco WebEx participants. The number that the Cisco WebEx system dials is defined in the CTMS configuration (see Configuring Cisco WebEx Details in CTMS). This number must be reachable from the PSTN, and requires that a route pattern be defined for it in the Cisco Unified Communications Manager route pattern list, which you will do in this chapter.

Note   The route pattern MUST have the "Called Party Transform Mask" configured to expand the 5 digit [PSTN] number back to its full format.

The Called Party Transform Mask field enables the Cisco Unified CM system to modify the called number that is sent in the SIP Invite message. Calls from outside PSTN trunks often present the incoming call with a truncated destination number. For example, a PSTN call to 1-408-555-1212 might be truncated by the telephony service provider to 5-1212. The Called Party Transform Mask allows a Cisco Unified CM administrator to restore this number to the full dialed number string.

The CTMS will attempt to match the number found in the incoming SIP Invite, with the number that was configured to be used by Cisco WebEx when it calls the CTMS at meeting start time. The two numbers must match exactly, as CTMS does not understand any sort of number truncation or expansion.

To ensure that these numbers match exactly, the number configured in CTMS to be used when Cisco WebEx dials to CTMS should also be configured in the transform mask. This will ensure the number in the SIP "To:" field exactly matches the number that the CTMS is expecting. The CTMS will then be able to determine whether this call is for the Cisco WebEx audio connection.

Procedure

To define a route pattern for Cisco WebEx that points to your SIP trunk:

Step 1   Log in to the Cisco Unified Communications Manager Administration interface.

Step 2   Choose **Call Routing** > **Route/Hunt** > **Route Pattern**. The Find and List Route Patterns window appears.

Step 3   Click **Add New**. The Route Pattern Configuration window appears.

Step 4   In the **Pattern Definition** field, enter your Cisco WebEx audio dial-in number.

Step 5   Select the CTMS SIP trunk definition from the **Gateway/Route List** drop-down menu.

Step 6   In the **Called Party Transform Mask** field, enter the **CTMS Dial In Number** that you configured in Configuring the Cisco WebEx Dial In Number field in the CTMS Administration interface (see Configuring Cisco WebEx Details in CTMS). Observe the following requirements:

    a.   Enter your country code. For example, "1."

    b.   Enter the 10-digit callback number that was configured in the CTMS WebEx settings with the area code first. For example, "4085551234."

Note   This number must exactly match the number that was entered into the CTMS Dial In Number field.

Step 7   Leave the default values in all other fields on the Route Pattern Configuration page.

Step 8   Click **Save**.

Step 9   Proceed to Configuring the Room Name for the Cisco WebEx Participant List.

Configuring the Room Name for the Cisco WebEx Participant List

Manage the TFTP profile for the Cisco TelePresence endpoint by configuring the TFTP profile meeting room name so that the room name appears on the Cisco WebEx Participant List.

To configure the room name:

Step 1   If you have not already done so, log in to the Cisco Unified CM Administration interface.

Step 2   From the Device drop-down menu, select **Phone**. The Find and List Phones Page appears containing a list of configured phones.

> **Tip**   If a list of configured phones is not displayed, click the plus sign (+) under **Find and List Phones**. Enter your search text in the **Find** field.

Step 3   On the Find and List Phones Page, click to select the associated codec for your phone. The codec Device Profile page for that device appears.

Step 4   In the Association Information box on the left side of the codec Device Profile page, click the associated directory number. For example, **Line [1] - 23456 (no partition)**.

> **Tip**   Use the device MAC address to help you determine which line to select. The MAC address is also used as a device number for the settings in the Directory Number Configuration window.

The Directory Number Information page appears.

Step 5   Scroll down to **Line 1 on Device SEP*XXXXXXXXXXXX***.

Step 6   Enter your room name in the **Display (Internal Caller ID)** fields, as shown in Figure 4-1.

Figure 4-1   *Display (Internal Caller ID) Fields*

Step 7   Leave the default value in all remaining fields.

Step 8   Click **Save** to save your settings.

> **Tip**   Cisco TelePresence WebEx OneTouch configuration is not complete until you configure Cisco TelePresence Manager and the Cisco WebEx Site Administration account.

Where to Go Next

Proceed to Chapter 5, "Configuring Cisco TelePresence WebEx OneTouch on Cisco TelePresence Manager."

For more information about Cisco Unified CM administration tasks, see *Cisco Unified Communications Manager Configuration Guide for the Cisco TelePresence System*.

C H A P T E R 5

Configuring Cisco TelePresence WebEx OneTouch on Cisco TelePresence Manager

Revised: August, 2011, OL-21352-01

Note You must be running CTS-Manager software release 1.7.0 or a later release to use Cisco TelePresence WebEx OneTouch features.

Contents

This chapter contains the following sections:

Before You Begin

In order to enable Cisco TelePresence WebEx OneTouch in CTS-Manager globally, make sure the following conditions are met:

- All CTS endpoints are running at least CTS 1.7.X software.
- At least 1 CTMS is configured for Scheduled Meetings.

Once WebEx OneTouch is enabled globally, you will be able to add a Cisco WebEx Server in CTS-Manager under Bridges and Servers.

Enabling the Cisco WebEx Feature on CTS-Manager

✎

Note   All Cisco TelePresence applications that are registered with CTS-Manager must be running Release 1.7.0 or later. Some fields on the Application Settings page will not be available if any Cisco TelePresence application that is configured on CTS-Manager is running software prior to Release 1.7.0.

To quickly check your CTS software version, navigate to the System Information screen on your CTS Cisco Unified IP Phone (**Info** softkey).

To enable the Cisco WebEx feature on CTS-Manager:

Step 1   Navigate to **Configure** > **Application Settings**.

Step 2   Select the **Bridges & Servers** tab.

Step 3   In the WebEx section, select the **Yes** radio button, as shown in Figure 5-1.

Figure 5-1   **Enabling the Cisco WebEx Feature**

Step 4   Click **Apply**. A dialog asks you to confirm your settings. Click **OK** to apply your changes.

Cisco WebEx First Time Setup in CTS-Manager

To begin using Cisco WebEx on your Cisco TelePresence System (CTS), you must perform a one-time initial registration so that information from the CTS-Manager can be pushed to the Cisco TelePresence Multipoint Switch (CTMS) to enable the audio portion of the Cisco WebEx meeting. The meeting scheduler is validated in Cisco TelePresence Manager using the user's Lightweight Directory Access Protocol (LDAP) login.

Note   Cisco WebEx account information is not stored in Cisco TelePresence Manager.

Before You Begin

1. You will need at least one CTMS running software version 1.7.0 or later, and it must be configured in CTS-Manager before you can configure CTS-Manager for Cisco WebEx. The CTMS talks to the Cisco WebEx Telephony Gateway to establish the audio portion of a Cisco WebEx meeting. Complete the steps in Chapter 3, "Configuring Cisco TelePresence WebEx OneTouch on the Cisco TelePresence Multipoint Switch" before starting the tasks in this section.

2. Obtain the following from your Cisco WebEx Account Team:

    – Cisco WebEx Scheduling Server (host) URL—Provides access information for CTS-Manager to reach the Cisco WebEx scheduling server.

    – Cisco WebEx Scheduling Server hostname and password—A unique host name and password for your Cisco WebEx scheduling server account.

3. Verify that your CTS-Manager DNS server is enabled so that your Cisco WebEx hostname entry can be authenticated. For more information about configuring DNS, see *Cisco TelePresence Manager 1.7 Administration and Installation Guide* on Cisco.com.

Proceed to Creating a Cisco WebEx Account in CTS-Manager.

Creating a Cisco WebEx Account in CTS-Manager

This section describes how to perform the one-time initial registration in CTS-Manager that specifies the Cisco WebEx account information so that you can add Cisco WebEx functionality to Cisco TelePresence meetings.

- Configuring a Cisco WebEx Server, page 5-3
- Obtaining the Cisco WebEx Site Security Server Certificate, page 5-4
- Adding Your Certificate to CTS-Manager, page 5-6

Configuring a Cisco WebEx Server

To configure a new server for Cisco WebEx:

Step 1   Log in to the CTS-Manager Administration interface.

Step 2   Choose **Configure** > **Bridges and Servers**. The Bridges and Servers page appears.

Step 3   Click **New**. The New...Bridge or Server page appears in a new window.

Step 4   From the Type drop-down menu, select **WebEx**.

Step 5   In the Hostname field, enter the unique hostname of the Cisco WebEx scheduling server that you obtained from your Cisco WebEx Account Team (Cisco WebEx Scheduling Server hostname). For example, "example.webex.com."

Step 6   In the URL field, enter your unique Cisco WebEx Scheduling Server URL. For example, "https://example.webex.com/example."

Step 7   In the Username field, enter your username.

Step 8   In the Password field, enter your Cisco WebEx Site Administration account password. For example, "123456."

> ✎
> **Note**   See Chapter 6, "Cisco TelePresence Cisco WebEx Integration Options" for more information.

Step 9   In the Control State field, verify that the **Scheduled** radio button is checked.

Step 10   Click **Save** to save your settings and to close the New---Bridge or Server page.

Step 11   Verify your settings by checking that the Service Status reads "OK" on the Bridges and Server page.

Step 12   Proceed to Obtaining the Cisco WebEx Site Security Server Certificate.

Obtaining the Cisco WebEx Site Security Server Certificate

Use the information in this section to obtain and download your Cisco WebEx site security server certificate:
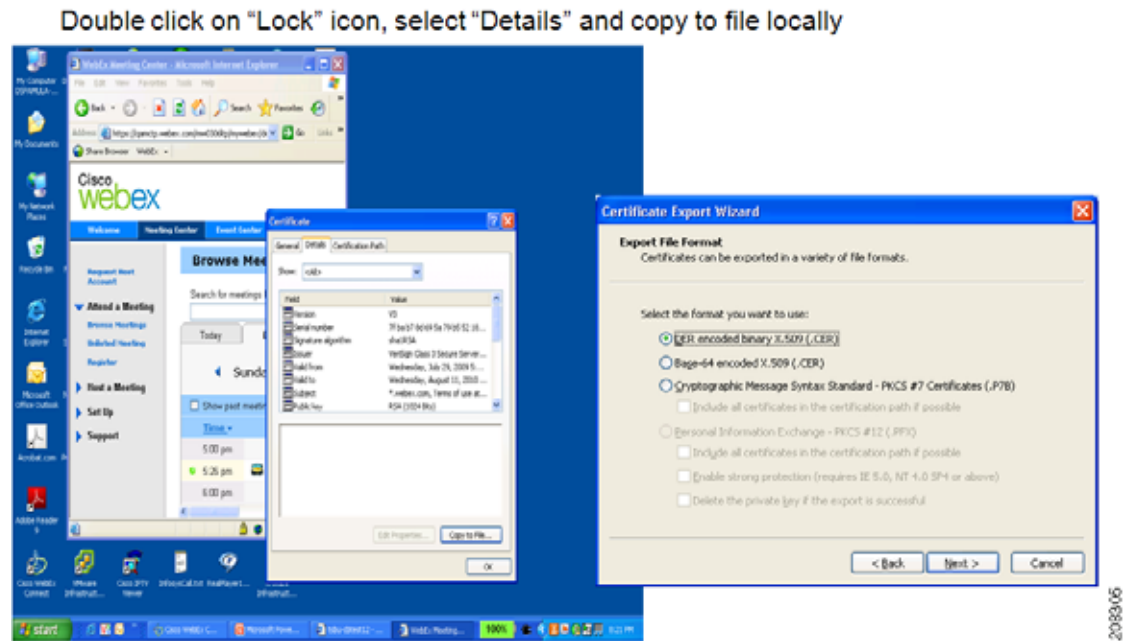
- Obtaining Your Certificate Using Internet Explorer, page 5-4
- Obtaining Your Certificate Using Firefox, page 5-5
- Adding Your Certificate to CTS-Manager, page 5-6

Obtaining Your Certificate Using Internet Explorer

To obtain your Cisco WebEx site security certificate using Internet Explorer (IE):

Step 1   Open a new browser window.

Step 2   Enter the unique Cisco WebEx Scheduling Server hostname from CTS-Manager Host field in Step 5 of Configuring a Cisco WebEx Server. (For example, https://example.webex.com/example)

Step 3   In the bottom right corner of the browser window, double-click the lock icon. The Certificate window appears.

Step 4   Click the **Certification Path** tab.

Step 5   Select the top-level CA root certificate (for example, Verisign). The Certificate window appears.

Step 6   Click the **Details** tab.

Step 7   Click **Copy to File**. The Certificate Export Wizard pops up, as shown in Figure 5-2.

Figure 5-2   Certificate Export Wizard

Double click on "Lock" icon, select "Details" and copy to file locally

Step 8   Click **Next**.

Step 9   Select the **DER encoded binary** option and click **Next**.

Step 10   Click **Browse**. The Save As window appears.

Step 11   Create a file name for the certificate.

Step 12   Navigate to the location where you want to save the certificate and click **Save**.

Step 13   Click **Next** and then click **Finish**. When the export is complete, the message "The export was successful" appears.

Step 14   Proceed to Adding Your Certificate to CTS-Manager.

Obtaining Your Certificate Using Firefox

To obtain your Cisco WebEx site security certificate using Firefox:

Step 1   Open a new browser window.

Step 2   Enter the Cisco WebEx scheduling server hostname from CTS-Manager Host field in Step 5 of Configuring a Cisco WebEx Server. (For example, https://example.webex.com/example)

Step 3   In the bottom right corner of the browser window, double-click the lock icon. The Page Info window appears with the Security tab selected.

Step 4   Click **View Certificate**. The Certificate Viewer window appears with information about your certificate.

Step 5   Click the **Details** tab.

Step 6   Select the top level of the Certificate Hierarchy (for example, Builtin Object Token: Verisign Class 3 Public Primary Certification Authority - G2).

Step 7   Click **Export**. The Save Certificate to File window appears.

Step 8   (Optional) Modify the file name.

Step 9   Navigate to the location where you want to save the certificate and click **Save**.

Step 10   Proceed to Adding Your Certificate to CTS-Manager.

Adding Your Certificate to CTS-Manager

To add your certificate to CTS-Manager:

Step 1   Choose **Configure** > **Bridges and Servers**. The Bridges and Servers page appears.

Step 2   Select your Cisco WebEx entry and click **Edit**. The Edit Bridge or Server page appears showing your Cisco WebEx configuration settings, as shown in Figure 5-3.

Figure 5-3   Edit...Bridges or Servers Dialog

Step 3   Click **Browse** to find and add the certificate you just obtained in Completing Your Cisco WebEx Setup on CTS-Manager.

Step 4   Click **Test**. The system checks for the certificate and responds with confirmation or an error message.

Step 5   Click **OK** to dismiss the message.

Tip   If the certificate is not found and an error message appears, double check that you browsed to the correct certificate in your local directory and try again.
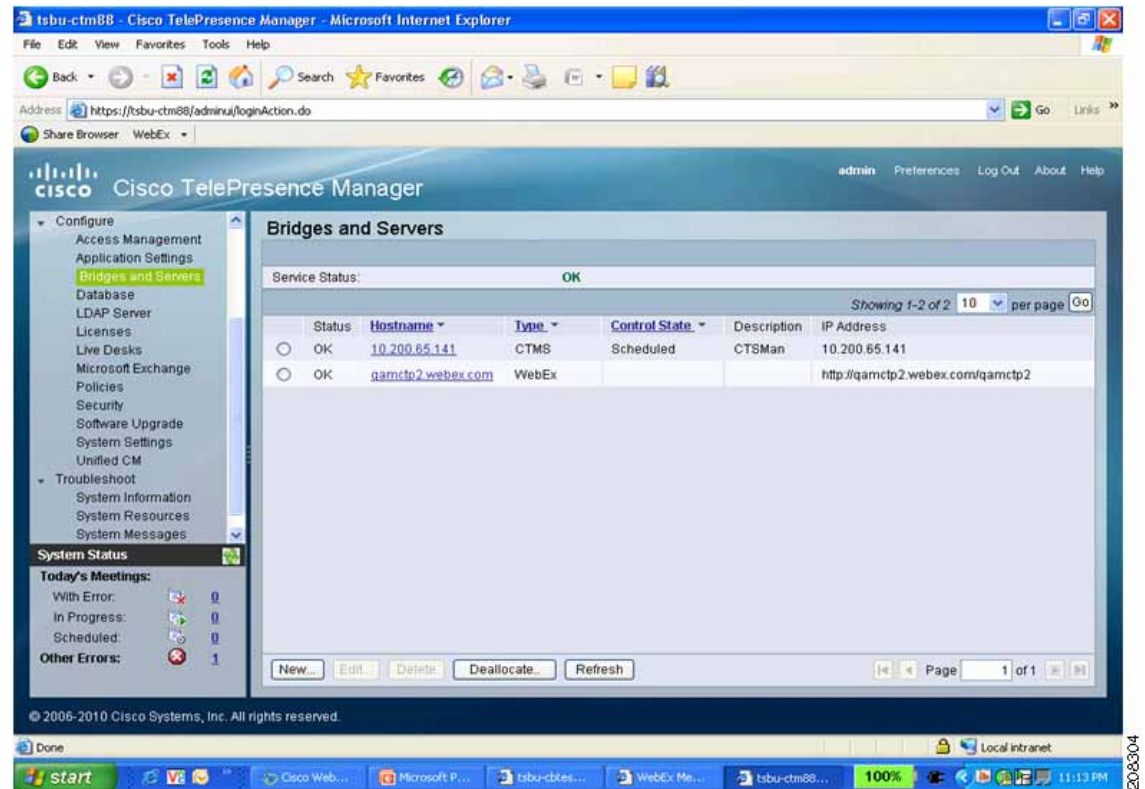
Step 6   Click **Save** to save your settings and to dismiss the Edit Bridge or Server window.

Step 7   The Bridges and Servers screen should show OK in the Servers Status pane, as shown in Figure 5-4.

Tip   If you do not see the expected green OK, click **Refresh** to update the system and see your changes.

Figure 5-4   *Service Status OK*

Step 8   Proceed to Completing Your Cisco WebEx Setup on CTS-Manager.

Enabling Cisco WebEx Security via Proxy Server (CTS-Manager)

Note   You must be running Cisco TelePresence Manager software release 1.7.2 or a later release to use the proxy server security feature.

This task is not required to configure the Cisco TelePresence WebEx OneTouch feature.

To provide an extra level of security, you can choose to require communication between the CTS-Manager and the Cisco WebEx scheduling server to go through a proxy server.

To configure Cisco WebEx proxy server settings in **Configure** > **Bridges and Servers**, complete the fields in WebEx Proxy Server Settings. You can enable the proxy server while creating a new bridge or server or by editing an existing bridge or server.

Step 1   Choose **Configure** > **Bridges and Servers**. The Bridges and Servers page appears.

Step 2   Select your Cisco WebEx entry and click **Edit**. The Edit Bridge or Server page appears showing your Cisco WebEx configuration settings, as shown in Figure 5-5.

Step 3   Click the **Via Proxy Server** radio button to designate the connection type as secure using a proxy server. The Requires Authentication fields in the WebEx Proxy Server Settings section are activated.

Step 4   Enter the **Host Name** and **Port** in the fields provided.

Step 5   Click the **Yes** or **No** radio button to **Require Authentication**. If you click **Yes**, the User Name and Password fields are activated. Enter your information in the fields.

Step 6   Click **Test** to verify your settings. Your Cisco WebEx Proxy Server configuration for CTS-Manager is complete. See also Enabling Cisco WebEx Security via Proxy Server (CTMS).

Figure 5-5   Adding Cisco WebEx Proxy Server Security

Step 7   Proceed to Completing Your Cisco WebEx Setup on CTS-Manager.

Completing Your Cisco WebEx Setup on CTS-Manager

Your Cisco WebEx first-time setup on CTS-Manager is not complete until you integrate and provision your Cisco WebEx account in the Cisco WebEx Site Administration interface. Go to Integrating Cisco TelePresence with Your Cisco WebEx Site Administration Account.

Where to Go Next

See the *CTS-Manager Administration and Installation Guide* for information about administering and managing Cisco WebEx meetings with CTS-Manager.

Information about administering and maintaining your completed Cisco TelePresence WebEx OneTouch initial configuration is maintained in the *CTS-Manager Installation and Administration Guide* on Cisco.com.

C H A P T E R 6

Integrating Cisco TelePresence with Your Cisco WebEx Site Administration Account

Revised: March, 2011, OL-21352-01

Note Your Cisco WebEx first-time setup is not complete until you integrate and provision your Cisco WebEx account in the Cisco WebEx Site Administration interface using the steps in this chapter. Cisco TelePresence must already be enabled.

Contents

Integrating Cisco TelePresence with Your Cisco WebEx Site Administration Account

You have access to the Cisco WebEx Administration Site interface through your Cisco WebEx Account Team using a unique Cisco WebEx Site Administration URL and password. As a site administrator, you must log in to integrate and provision your account during first time setup. After you have completed the first-time setup, you can manage your account and access Cisco WebEx user and administration guides for the services and features that have been configured on your Cisco TelePresence system.

Proceed to the following sections to complete first-time setup:

Cisco TelePresence Cisco WebEx Integration Options

To integrate Cisco TelePresence to Cisco WebEx:

Step 1 Log in to the Cisco WebEx Administration Site interface using your Cisco WebEx Site Administration URL and scheduling server password.

Step 2 On the left navigation bar under **Manage Site**, choose **Site Settings**. The Site Settings screen appears.

Step 3   Scroll down to TelePresence Integration Options, as shown in Figure 6-1.

Figure 6-1   Configuring Cisco WebEx Connection Settings
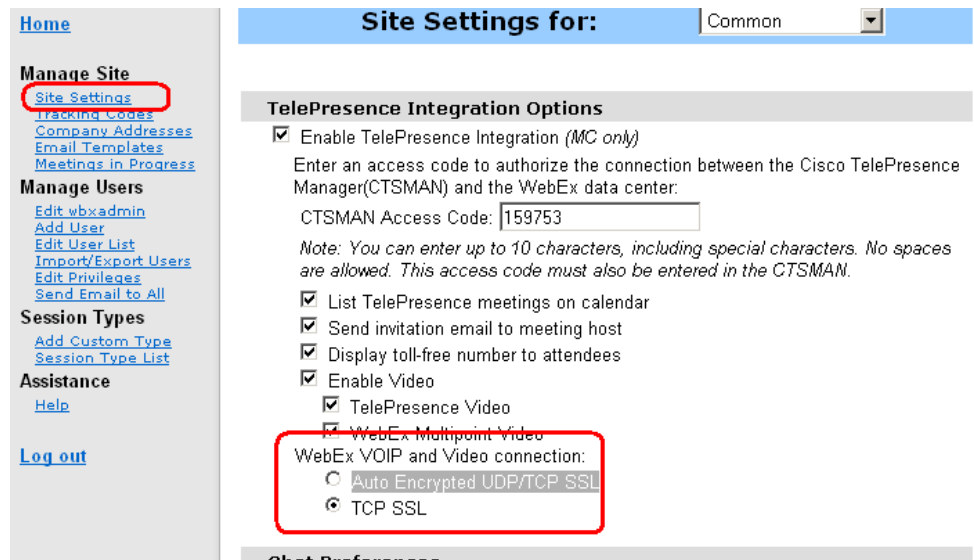
Step 4   Click to select **Enable Cisco TelePresence Integration (MC only)**. If not checked, Cisco WebEx will be disabled on this site and the rest of the Cisco TelePresence integration options will be grayed out.

Step 5   Enter your CTSMAN Access Code (SiteID and ConferenceID). This combined access code identifies a prefix number which is exclusively assigned to Cisco Telepresence deployments that are integrated with the Cisco WebEx meeting solution. This code allows the CTMS to connect to the Cisco TelePresence Gateway to initiate your meeting.

Step 6   Click to select **List Cisco TelePresence meetings on calendar** so that scheduled meetings appear on the Cisco WebEx calendar.

Step 7   Click to select **Send invitation email to meeting host**. This allows the meeting information email to be sent to the Cisco WebEx host after the meeting is scheduled.

Step 8   Click to select **Display toll-free number to attendees**. This enables the system to show the toll-free number that attendees can call to join the meeting.

Step 9   Select **Enable Video** to enable video during the Cisco TelePresence meeting. You can select either or both of the following options for enabling video:

- **TelePresence Video**—Enables video for a Cisco TelePresence meeting.
- **WebEx Multipoint Video**—Enables video for a Cisco WebEx site in a Cisco TelePresence meeting.

Step 10   In the Cisco WebEx VOIP and Video Connection field, click one of the following:

- **Auto Encrypted UDP/TCP SSL**—Allows the Cisco TelePresence Multipoint Server (CTMS) to connect over UDP with the Cisco TelePresence Gateway. If the UDP connection is not allowed, CTMS will fall back to TCP.
- **TCP SSL**—(Recommended) Connects over TCP over a SSL connection.

This selects the connection method between the Cisco WebEx client and the multimedia server (VOIP and video).

Step 11   Click **Save** to save your settings.

Step 12   Proceed to Setting the Meeting Center Cisco TelePresence Privilege to complete your setup.

# Setting the Meeting Center Cisco TelePresence Privilege

You must set the meeting center Cisco TelePresence privilege in the Cisco WebEx Site Administration interface to complete your setup by selecting the "PRO" Session Type. Check for or configure this privilege using the steps in the following sections:

Checking for the Cisco TelePresence Privilege Session Type

Step 1   In the left navigation bar under **Manage Users**, choose **Edit User List**. The Edit User List screen appears, as shown in Figure 6-2.

Figure 6-2   Cisco WebEx Site Administration - Edit User List
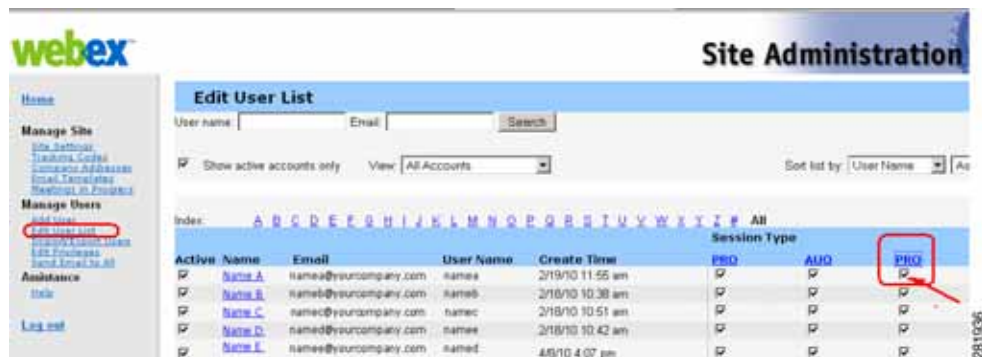
Each Cisco WebEx user account has a corresponding set of Session Type check boxes that indicate which Cisco WebEx session types have been enabled for that user; "TelePresence" is one of them, as indicated by the "PRO" headline (circled in red) in Figure 6-2. However, "PRO" can represent different types of features. For instance:

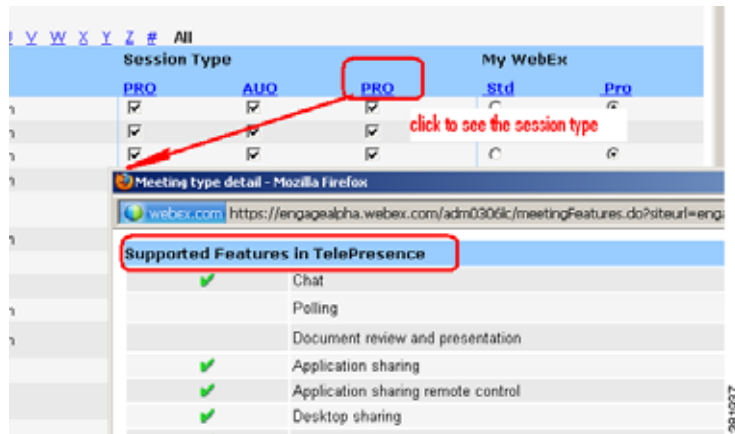- PRO—Pro Meeting
- PRO—TelePresence
- PRO—MC-US

Click on any of the "PRO" Session Types for a specific user entry to see the feature list for that headline. A separate window opens that lists the features that have been enabled for that particular Cisco WebEx user, as shown in Figure 6-3.

Note   The number of columns there are for an individual Cisco WebEx user account under the Session Type heading depends on how many session types that a particular Cisco WebEx user site supports.

Step 2 To verify that a user has meeting center Cisco TelePresence privileges, locate the user entry on the Edit User List and click on all of the "PRO" Session Types until you find the "Supported Features in TelePresence" feature list window, as shown in Figure 6-3. If the corresponding checkbox beneath this headline is checked, meeting center Cisco TelePresence privileges are enabled.

Step 3 If you do not find the "PRO" Meeting Center TelePresence Session Type, or if there is no "Supported Features in TelePresence" window present after you have clicked on all "PRO" Session Types, proceed to Adding the Cisco TelePresence Privilege Session Type.

Figure 6-3   *Supported Features in TelePresence*

Adding the Cisco TelePresence Privilege Session Type

If you find that a user entry does not have meeting center Cisco TelePresence privilege (PRO: Meeting Center TelePresence Session Type) and you need to enable it, do the following while still on the **Manage Users** > **Edit User List** page:

Step 1 Locate the user entry and click on it to open the Edit User window for that account.

Step 2 Scroll down to the Privileges section. Your account Session Types are shown in the Session Type Allowed box, as shown in Figure 6-4.

Figure 6-4   *Session Types Allowed*
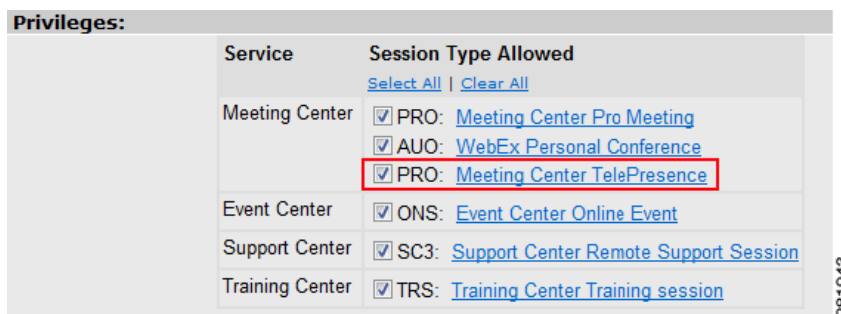
Step 3 Required. Check the box for **PRO: Meeting Center TelePresence**, as shown circled in red in Figure 6-4.

Step 4   Click the **Update** button at the bottom of the window to save your PRO: Meeting Center TelePresence Session Type setting.

This completes setting meeting center Cisco TelePresence Session Type privileges in the Cisco WebEx Site Administration. Your Cisco WebEx account is now fully integrated and provisioned.

Tip   To upgrade any features, notify your Cisco WebEx business contact.

Step 5   Proceed to Verifying, Testing, and Troubleshooting Cisco TelePresence WebEx OneTouch on the Cisco TelePresence System to verify and maintain your configuration.

Where to Go Next

For complete information about managing your Cisco WebEx Administration Site account, go to the Cisco WebEx Administration Site Help pages at the following URL and search on **TelePresence** or click the **Index** or **Contents** tabs to see a full list of administration tasks:

https://go.webex.com/docs/T27LB/common_docs/en_US/siteadmin/help/wwhelp/wwhimpl/js/html/wwhelp.htm

See also the *Cisco WebEx Site Administration User's Guide*:

http://www.cisco.com/en/US/docs/voice_ip_comm/meetingplace/8x/english/webex_siteadmin/wx_siteadmin_WBS27_FR14_.pdf

C H A P T E R 7

Verifying, Testing, and Troubleshooting Cisco TelePresence WebEx OneTouch on the Cisco TelePresence System

Contents

Verifying and Testing

Cisco WebEx Site Administration Online Help

For complete information about managing your Cisco WebEx Administration Site account, go to the Cisco WebEx Administration Site Help pages at the following URL and search on TelePesence:

https://go.webex.com/docs/T27LB/common_docs/en_US/siteadmin/help/wwhelp/wwhimpl/js/html/wwhelp.htm

Testing the Audio Dialback Number

To validate the Cisco WebEx audio number, call it from the PSTN (from a cell phone, for instance). Making a test call from outside the VoIP network ensures the following:

- The PSTN trunk/GW is active and the DID number is correct.
- The route pattern and trunk are correct.

- The called party transform mask is correct.

- The CTMS recognizes the called number as "the WebEx callback number" and is ready to accept calls.

- The DTMF relay works (KPML or RFC-2833)

If all of this is correct, the caller on the cell phone will hear three DTMF tones " ### "

Tip   This test call can be made at any time, there does not need to be a meeting scheduled.

Troubleshooting Tips

Table 7-1 contains specific troubleshooting scenarios found in Cisco WebEx-enabled Cisco TelePresence meetings.

Table 7-1   *Tips for Troubleshooting Cisco TelePresence WebEx OneTouch*

Problem	Conditions	Solution
Unable to Schedule Cisco WebEx Sessions with Cisco TelePresence.	• Have a Cisco or WebEx support representative check with the Site Verification Tool. • Make sure configurations are correct. • Make sure the API responses show "SUCCESS." • Ensure the CTSMAN Access Code matches the Cisco WebEx Site Administration entry. • Ensure that you are scheduling two or more meeting rooms if you are using TelePresence for the meeting. Non-TelePresence meetings can be scheduled with only one meeting room but you will receive an error email from CTS-Manager instructing you to log into CTS-Manager to verify that you do not require the meeting to be TelePresence-enabled. • Make sure that you are connected to the Exchange Server. • Verify that you receive the CTS-Manager Confirmation Email. If you do receive the email, does the "Add WebEx" button display?	
The following error code appears: `501229,SCH,WEBEX_KEY_RESERVE_ERROR, Unable to get WebEx meeting key to reserve WebEx for meeting.`	Unable to obtain Cisco WebEx meeting key to reserve Cisco WebEx for meeting. The Cisco WebEx account was not provisioned correctly during initial Cisco WebEx setup.	"Meeting Center Telepresence Privilege" must be set during the one-time authentication process. See Setting the Meeting Center Cisco TelePresence Privilege.

Table 7-1   *Tips for Troubleshooting Cisco TelePresence WebEx OneTouch*

Problem	Conditions	Solution
Cisco WebEx Welcome screen does not appear; no "welcome to WebEx" audio greeting.	When a user starts a Cisco TelePresence WebEx OneTouch meeting, the Cisco WebEx Welcome screen should appear and a "Welcome to WebEx" audio prompt is heard. If these are not present, the Cisco WebEx password might need to be reset. This could be due to a company policy or an administrator setting the system to require periodic password reset.	1. Log into the Cisco WebEx administration site using your Cisco WebEx account information. If your account requires a password reset, you will be prompted to do so upon logging into the site. 2. Follow the prompts to reset your password. 3. After resetting the password, you should be able to join the Cisco TelePresence WebEx OneTouch meeting. **Note** If you cannot successfully log into the Cisco WebEx site, contact your Cisco WebEx Account Team.
Cisco TelePresence room participants hear only "...has joined the conference" rather than the person's name in the audio announcement.	When a Cisco TelePresence WebEx OneTouch meeting is initiated from the Cisco TelePresence room, the meeting participants in the room hear the audio announcement: "[*yourname*] ...has joined the conference." For meetings initiated from the Cisco WebEx Client rather than the Cisco TelePresence room, participants in the room may hear this abbreviated announcement.	This is an expected condition that does not affect functionality.
Cisco WebEx video view window cascades in a video loop when presenting.	An undesirable window cascading effect can occur if you plug in the presentation cable while you have your Cisco WebEx video view panel open.	Close the Cisco WebEx application before connecting your presentation cable to your laptop to present. See the Managing System Behavior for more information.
Poor video quality for some Cisco WebEx participants but not others.	If a particular Cisco WebEx client does not have enough bandwidth to send the CIF video, the accumulated packets on the server side will be dropped until next I-frame. The CIF/video/VOIP/desktop sharing quality depends on the client PC's network bandwidth and CPU power. When a network/CPU is not performing at an optimum level, you may experience blurred/temporary stuck/jumping effects because the server is discarding unsent packets.	Network bandwidth should be at least 1 Mbps. Suggested CPU power (depends on running applications) is dual core CPU, 2.5 GHz memory running at least 2G.

Table 7-1   *Tips for Troubleshooting Cisco TelePresence WebEx OneTouch*

Problem	Conditions	Solution
Cancelled meeting still shows active in Microsoft Exchange scheduler.	CTS Manager does not detect the meeting modification.	Log into Microsoft Web Access (OWA) using the room user ID and delete the meeting from the room calendar.
Conference bridge may show the wrong caller as the active speaker.	When a Cisco Telepresence endpoint has an active add-in caller that dials into a conferencing bridge, the conference bridge may show the CTS caller as the active speaker when the add-in caller is talking. When the add-in speaker speaks, the audio from that endpoint is forwarded by the CTS endpoint to the conference bridge. The conference bridge has as roster list entry only for the CTS caller. When the add-in caller speaks, the conference bridge will show an active speaker indication on the roster for the CTS caller, even though it is really the add-in caller that is speaking.	This scenario happens with Cisco Telepresence callers that are connected to conference bridges, and have previously added another caller using the **Conf** softkey on the phone. No action is required.
Unable to see data sharing in the Cisco WebEx Meeting (from Auto-Collaborate)	Find out if there are other participants having the same issue.	• Ensure there is a CTS system listed in the participant list on the CTS Cisco Unified IP Phone and that the WebEx ball icon is next to it. • Check the meeting information on the site. • Have presenter unplug and re-plug in the VGA cable. • Have presenter re-join the TelePresence session.
Unable to see Cisco TelePresence Video in Cisco WebEx	Find out if there are other participants having the same issue.	• Ensure there is a CTS system listed in the participant list on the CTS Cisco Unified IP Phone and that the WebEx ball icon is next to it. • Check the meeting information on the site. • Have the TelePresence room leave and re-join the meeting.

Table 7-1   Tips for Troubleshooting Cisco TelePresence WebEx OneTouch

| Problem	Conditions	Solution
Unable to hear Cisco TelePresence participants in the Cisco WebEx audio.		• Ensure there is a CTS system listed in the participant list on the CTS Cisco Unified IP Phone and that the WebEx ball icon is next to it. • Check the audio type for the meeting and ensure that it is supported for Cisco TelePresence WebEx OneTouch. • Check to see if you can dial into the CTS system directly. See Testing the Audio Dialback Number.
Meeting does not start, connection fails after 30 seconds.	At meeting start time, CTM sends the callback number to WebEx. WebEx dials out to the CTMS then uses DTMF to signal the meeting instance to be bridged. The CTMS waits 30 seconds for the audio to arrive. The number must be a DID number on the PSTN with support for 24 calls. The Dial Number in the SIP INIVITE arriving at the CTMS must match the specified number exactly. The 30-second timer can be adjusted as necessary.	Verify that you have entered the WexEx Dial In Number correctly (for example, "4085551234"). This number should match exactly in the CTMS **WebEx Dial In > CTMS Dial In Number** field and in the **Called Party Transform Mask** field of the Cisco Unified CM administration interface. See the following sections to verify: • Configuring Cisco WebEx Details in CTMS • Defining a Route Pattern for Cisco WebEx
Issues with Cisco WebEx digit detection during the handshake sequence.	For field deployment of the Cisco TelePresence OneTouch feature, some customers are using non-Cisco VoIP GWs to connect to the PSTN. These devices are using different defaults for digit timing than are used by Cisco IOS GWs.	Use the following default settings for non-Cisco GWs or PBXs: • 100 ms for digit duration • 100 ms for interdigit timing
Cisco TelePresence presentation does not automatically display.	This occurs after transitioning from a Cisco WebEx presenter to a Cisco TelePresence presenter.	The Cisco TelePresence presenter must do the following to initiate the transition: 1. If logged into the Cisco WebEx Meeting Center client, exit from the client. 2. If the VGA cable is already plugged into a laptop, unplug the cable. 3. Plug the cable into the presenter's laptop.

Managing System Behavior

- Managing the Cisco WebEx Video View Window, page 7-6

Managing the Cisco WebEx Video View Window

A window cascading effect can occur if you plug in the presentation (VGA) cable while you have your Cisco WebEx video view panel open. To prevent this issue, close the Cisco WebEx video view application before connecting your presentation cable to your laptop to present. If you receive a cascading screen, simply close the video view window, as shown in Figure 7-1.

Figure 7-1   **Cascading Cisco WebEx Video View Window**
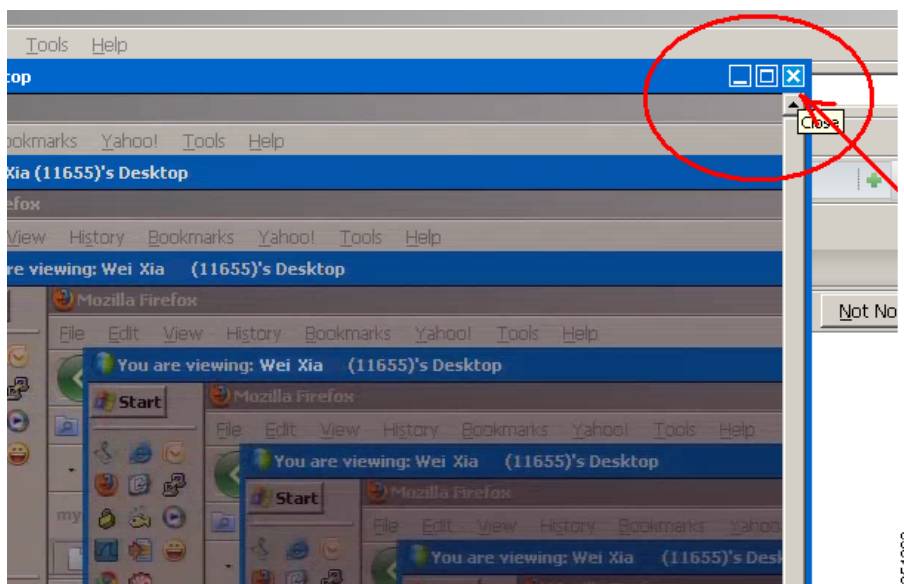
GLOSSARY

A

ACU
Auxiliary Control Unit. Provides the ability to conserve energy by powering the lights, projector, and optional peripherals for Cisco TelePresence systems on and off.

ad hoc meeting
Non-scheduled, administrator-initiated, dial-out meeting. A meeting scheduler or administrator initiates the meeting through the Cisco TelePresence Multipoint Switch (CTMS) administration interface by listing the telephone number of the rooms which will participate in the multipoint meeting. See static meeting.

alternate host
The host appoints an alternate host. The alternate host can start a scheduled Cisco WebEx meeting in lieu of the host. The alternate host has the same privileges as the host and can control the meeting if the host is unavailable. See host.

attendee
An attendee has minimal responsibilities and typically views session content.

Auto Answer
A phone set to automatically answer an inbound call. Use the Auto Answer feature in Cisco Unified Communications Manager. Activating this option or button causes the speaker phone to go off hook automatically when an incoming call is received.

Auto Collaborate
Cisco TelePresence supports simple information sharing using a powerful "Auto Collaborate" feature that allows any object, document, or PC application to be displayed in a plug-and-play fashion. Auto Collaborate enables you to share images instantly in multiple locations by plugging in a laptop computer or high-definition ceiling document camera. The Cisco TelePresence 3000 Series built-in projector automatically displays images from the most recently activated device.

Ceiling cameras are perfect for capturing images of objects that are too valuable to ship, or cannot easily be copied or sent electronically. Cisco recommends and supports document cameras made by WolfVision, specifically the WolfVision Visualizer. This is a special live-camera system designed for picking up any object on a working surface with perfect illumination and depth of focus. All types of objects (e.g., photos, books, brochures, transparencies, slides, or three-dimensional objects) can be picked up quickly and easily, and meeting participants can use a wireless remote to control light, zoom, or focus.

Cisco TelePresence 3000 and 1000 systems support the Auto Collaborate capability, and meeting organizers can project content in multiple locations, including above or below displays, or on the side of a room.

B

best effort	Best effort is a single service model in which an application sends data whenever it must, in any quantity, and without requesting permission or first informing the network. For best-effort service, the network delivers data if it can, without any assurance of reliability, delay bounds, or throughput.
	Best-effort service is suitable for a wide range of networked applications such as general file transfers or e-mail.
bit rate	Speed at which bits are transmitted, usually expressed in bits per second.
black screen codes	System status information messages that appear on the main display screen before your meeting starts and while the screen is still black. For example, "Please wait, you are the first meeting participant."
	For more information, see the *Cisco TelePresence System User Guide*.

C

Called Party Transform Mask field	The Called Party Transform Mask field enables the Cisco Unified CM system to modify the called number that is sent in the SIP Invite message. Calls from outside PSTN trunks often present the incoming call with a truncated destination. For example, a PSTN call to 1-408-555-1212 might be truncated by the telephony service provider to 5-1212. The called party transform mask allows a Cisco Unified CM administrator to restore this number to the full dialed number string string.
CCP	The Conference Control Protocol (CCP) is an interface between the CTS and the CTMS that controls the elements of a Cisco TelePresence meeting.
CIF	Common Intermediate Format. A video standard that provides 352x288 pixels, or picture elements, of video resolution.
Cisco TelePresence Gateway URL	See WebEx TelePresence Gateway URL.
Cisco Unified Communications Manager	Cisco Unified CM. Application that extends enterprise telephony features and capabilities to packet telephony network devices such as IP phones and multimedia applications. Open telephony application interfaces make possible services such as multimedia conferencing and interactive multimedia response systems. Cisco TelePresence phone features are configured using the Cisco Unified CM administration interface. See also CUCM.
Cisco WebEx Administrator username	Cisco WebEx Site Administrator account username that is provided by the Cisco WebEx Account Team to access your Cisco WebEx account management. For example, "webexAdmin."
Cisco WebEx Hostname Certificate	SSL Security certificate of Cisco WebEx Scheduling Server that you download using the CTS-Manager Administration interface. See Obtaining the Cisco WebEx Site Security Server Certificate.
Cisco WebEx Scheduling Server hostname	The unique hostname of the Cisco WebEx scheduling server that you obtained from your Cisco WebEx Account Team. For example, "example.webex.com."

Cisco WebEx Scheduling Server URL	The unique URL for the Cisco WebEx scheduling server that was provided by the Cisco WebEx Account Team.
Cisco WebEx Site Administration URL	Cisco WebEx site administrator's URL, which is provided to you by the Cisco WebEx team. You will need this URL when you integrate and provision your Cisco WebEx account in the Cisco WebEx Site Administration interface. See Integrating Cisco TelePresence with Your Cisco WebEx Site Administration Account.
Cisco WebEx Site Administration account username	The unique user account that was created by your Cisco WebEx Account Team that grants you Cisco WebEx Administration Site privileges. For example, "wbxAdmin."
Cisco WebEx User Type	You can schedule meetings based upon one of three possible end user configurations controlled by CTS-Manager: Non-Permitted User, Permitted User, and Premium User. You will need to obtain the CTS-Manager LDAP/AD user group name for premium users, which you can get from your IP group LDAP Administrator.
	For more information about configuring Cisco WebEx User Types, see the Configuring Cisco TelePresence WebEx OneTouch for Cisco TelePresence Manager chapter of the *Cisco TelePresence Manager 1.7 Administration and Installation Guide* on Cisco.com.
codec	The "brain" of the CTS. The primary codec connects with the network and Cisco Unified Communications Manager (Cisco Unified CM) to perform call management functions for the system. The secondary codec performs processing for the system elements that are attached to them. The optional presentation codec supports the document camera (if present), auxiliary displays, and works with an auxiliary control unit and audio extension unit for additional audio/video applications. The number and type of codecs your system uses depends on which CTS device you are using.
codec Device Profile	The codec Device Information page for a selected CTS device in the Find and List Phones page of the Cisco Unified CM Administration interface. The codec Device entry is identified by the CTS Device icon and MAC address proceeded by "SEP." For example, **SEP***XXXXXXXXXXXX*.

	Enter the CTS room name in the Display (Internal Caller ID) and the ASCII Display (Internal Caller ID) fields to configure the TFTP profile meeting room name so that it appears on the Cisco WebEx Participant List. See Configuring the Room Name for the Cisco WebEx Participant List.
CTS device	Cisco TelePresence System (CTS) device: CTS 500, CTS 1000, CTS 1100, CTS 1300, CTS 3x00 Series.
CTS-Manager	Cisco TelePresence Manager. Software application that schedules and manages Cisco TelePresence calls using common enterprise groupware such as Microsoft Exchange and Lotus Notes.

CTSMAN Access Code	Used to enable Cisco TelePresence integration in the Cisco WebEx Site Administration **Site Settings > TelePresence Integration Options** fields. This code contains your Site and Conference IDs). This combined access code identifies a prefix number which is exclusively assigned to Cisco Telepresence deployments that are integrated with the Cisco WebEx meeting solution. This code allows the CTMS to connect to the Cisco TelePresence Gateway to initiate your meeting. This code is created by you. You can enter up to 10 characters, including special characters. No spaces are allowed.
CUCM	Cisco Unified Communications Manager.

D

default gateway	A router on a computer network that serves as an access point to another network.
DHCP	Dynamic Host Configuration Protocol is a network application protocol used by devices (DHCP clients) to obtain configuration information for operation in an Internet Protocol network. This protocol reduces system administration workload, allowing devices to be added to the network with little or no manual intervention.
Dial In Number	A unique Cisco WebEx dial-in number. For example, "4085551234." This number is used when the Cisco WebEx audio conference server dials into the CTMS from the PSTN. Enter this number in the CTMS **WebEx Dial In > CTMS Dial In Number** field and in the **Called Party Transform Mask** field of the Cisco Unified CM administration interface. The number that is entered in the Cisco Unified CM Administration interface must be configured in full, including the country code, and must exactly match the phone number that is entered in the CTMS administration Dial In Number field. This number is used only for the Cisco WebEx-to-CTMS audio connection and is separate from the WebEx audio dial-in number. See the Defining a Route Pattern for Cisco WebEx section in Configuring Cisco TelePresence WebEx OneTouch on the Cisco TelePresence Multipoint Switch and the Defining a Route Pattern for Cisco WebEx section in Configuring Cisco TelePresence WebEx OneTouch on Cisco Unified Communications Manager.
display screen animation	System information icons that may be displayed on the Cisco TelePresence System (CTS) main display screen. System information includes call connection status alerts, meeting alerts, and maintenance alerts. These alerts fade from one state to another to show the status of the system.
display screen icon	System information icons that may be displayed on the Cisco TelePresence System (CTS) display screen. System information includes call connection status alerts, meeting alerts, and maintenance alerts.
DID	Direct Inward Dial. Also known as DDI, Direct Dial In. It is when a phone on a private telephone switch can be dialed directly from any phone in the world. The last few digits of the number dialed are known as the DID number. For example, a telephone extension number 4400 might be dialable from anywhere as +55518784400.
DN	Directory number. This should already be configured on your Cisco Unified CM when you configure the meeting room name so that the room name appears on the Cisco WebEx Participant List.

DNS   Domain Name System. CTS-Manager uses a DNS server to resolve hostnames into a IP addresses or IP addresses into hostnames. If you have a DNS server on your system, Cisco requires that you enable DNS. Disabling DNS limits the system's ability to resolve some domain names.

For more information about configuring the DNS, see the Installing or Upgrading Cisco TelePresence Manager chapter of the *Cisco TelePresence Manager 1.7 Administration and Installation Guide* on Cisco.com.

DVI   DVI cables are used for direct digital connections between source video (namely, video cards) and LCD monitors.

E

endpoint   Cisco TelePresence System (CTS) endpoint. The combination of hardware and software that comprise a Cisco TelePresence System. The hardware for an endpoint includes a Cisco Unified IP 7900 Series telephone, one or more large-screen meeting displays, plus presentation devices, cameras, microphones, speakers, and in some models, lighting systems.

F

full dialed number string   Full dial-string: Country code, area code, 8-digit calling number. For example, 14085551212.

H

host   The host schedules and starts Cisco WebEx meetings. The host controls the in-meeting experience and—as the initial presenter—can grant presenter privileges to attendees. The host can start a session's audio conferencing portion, as well as lock the meeting and expel attendees. See alternate host.

I

IP address   A device identifier on a TCP/IP network.

L

LDAP A working Lightweight Directory Access Protocol (LDAP) authenticates users so that they can log into the URL that is sent with the CTS-Manager meeting confirmation email. The meeting scheduler is validated in Cisco TelePresence Manager using the user's LDAP login. Used also for setting the Cisco WebEx User Type.

Live Desk The Live Desk is a person who has been assigned to a Cisco TelePresence endpoint to assist you with problems that may occur during a meeting. To connect to Live Desk, press the **Live Desk** softkey on your CTS Cisco Unified IP Phone. If a Live Desk has not been assigned to your Cisco TelePresence endpoint, the following message is displayed on your phone screen: "There is no Live Desk number configured."

Live Desk is configured in the **Configure** > **Live Desks** Window of the CTS-Manager Administration interface. See the Cisco TelePresence Manager Installation and Configuration Guide on Cisco.com.

M

MAC address Media Access Control. A hardware address that uniquely identifies each node of a network.

MIDlets Mobile Information Device Profile (MIDP). A Java application designed to run on resource-constrained devices such as phones, PDAs, intelligent appliances, and the like. A MIDlet (in J2ME) is similar to a Java Applet (in J2SE), but more specialized, efficient, and optimized for limited devices. MIDlets supports graphics and animation, multimedia, touchscreen, networking, persistent data storage, and provides excellent Look And Feel (LAF) integration with the host platform.

The Cisco Unified IP Phone uses MIDlets as part of the Cisco TelePresence System Enhanced Phone User Interface: MIDlets support CTS Cisco Unified IP phone features. Configure MIDlets in the Cisco Unified CM Administration interface for Cisco TelePresence.

See the *Cisco Unified Communications Manager Configuration Guide for the Cisco TelePresence System* for more information.

multipoint meeting Multipoint is where you are able to connect more than two sites in one video conference. This normally requires a bridge, although some video conference units are also able to connect multiple sites.

MXE Media eXperience Engine. The Cisco Media Experience Engine is a modular media processing system that provides interoperability between Cisco TelePresence and video conferencing devices, extending the reach of collaboration and communication within organizations. MXE provides 720p interoperability with video conferencing.

N

Non-Permitted User Cisco WebEx user role configured in the CTS-Manager Administration interface. You can configure CTS-Manager to disallow Cisco WebEx support entirely. Users configured in this mode may not use the Cisco WebEx feature, and may only schedule standard multipoint CTMS meetings.

User roles are configured in CTS-Manager Administration **Configure** > **Access Management**. See the Cisco TelePresence Manager Installation and Configuration Guide on Cisco.com.

See also Permitted User and Premium User.

O

One-Button-to-Push Cisco technology that allows you to simply press the meeting that is listed on the in-room IP phone to start a Cisco TelePresence meeting.

OWA Microsoft Outlook Web Access (OWA) is a webmail service of Microsoft Exchange Server 5.0 and later releases. The web interface of Outlook Web Access resembles the interface in Microsoft Outlook. Outlook Web Access comes as a part of Microsoft Exchange Server. OWA is used to access email (including support for S/MIME), calendars, contacts, tasks, and other mailbox content when access to the Microsoft Outlook desktop application is unavailable.

P

Participant List A list of Cisco WebEx meeting participants displayed on the phone that are visible when you touch the **Participant List** softkey or the phone screen touch button on the fully configured CTS Cisco Unified Phone. This list is configured in Cisco Unified CM.

See Configuring the Room Name for the Cisco WebEx Participant List in Configuring Cisco TelePresence WebEx OneTouch on Cisco Unified Communications Manager.

pass the ball Process whereby the meeting host enables another caller to become presenter, so that they may share their desktop or application with others in a Cisco WebEx meeting.

Permitted User Cisco WebEx user role configured in the CTS-Manager Administration interface. You can configure CTS-Manager to enable a Cisco WebEx session with each Cisco TelePresence meeting; these users are permitted to request Cisco WebEx for specific meetings using CTS-Manager.

User roles are configured in CTS-Manager Administration **Configure** > **Access Management**. See the Cisco TelePresence Manager Installation and Configuration Guide on Cisco.com.

See Non-Permitted User and Premium User.

point-to-point meeting The direct connection of two sites in a video conference. This only works if both sites use the same type of connection (either IP or ISDN).

Premium User Cisco WebEx user role configured in the CTS-Manager Administration interface. Use this option if you want to use Cisco WebEx Meeting Center for every Cisco TelePresence meeting. "Always-On" users select the Cisco TelePresence rooms in the calendaring application and the Cisco WebEx session is automatically set up. A meeting confirmation e-mail is sent from Cisco TelePresence Manager with Cisco WebEx session details that the scheduler can forward to the Cisco WebEx attendees.

User roles are configured in CTS-Manager Administration **Configure** > **Access Management**. See the Cisco TelePresence Manager Installation and Configuration Guide on Cisco.com.

See also Non-Permitted User and Permitted User.

PiP

Presentation-in-Picture Presentation-in-Picture. Data or graphics content sharing through an external monitor known as presentation-in-picture (PIP) format for space-constrained offices. You can toggle the position of the PiP between center, left, or right locations on the screen. PiP is not present on the CTS 3000 or CTS 3200 series.

presentation codec   The presentation codec provides 30 frames per second to support full-motion video presentations between Cisco TelePresence endpoints.

Presenter   Cisco WebEx user role configured in the CTS-Manager Administration interface. A presenter shares presentations, specific applications, or the entire desktop. The presenter controls the annotation tools and can grant and revoke remote control over the shared applications and desktop to individual attendees.

primary codec   The primary codec is the primary unit; it communicates with secondary units, sends and receives packets on the uplink network. It contains an onboard Gigabit Ethernet switch. For example, in a CTS 3000 or CTS 3200 system, the primary codec controls two secondary codecs as well as many system components and the graphical user interfaces. In a Cisco TelePresence 1000, it controls all system functions.

PRO: Meeting Center TelePresence   Cisco WebEx Site Administration Session Type required to provision your Cisco WebEx account with Cisco TelePresence. You must select the **PRO—TelePresence** Session Type by checking the box for **PRO: Meeting Center TelePresence** in the WebEx Site Administration **Manage Users** > **Edit User List > Privileges** page to complete Cisco WebEx first-time setup.

For more information about Session Types, see the Cisco WebEx Administration Site Help pages.

S

scheduled meeting   Cisco TelePresence multipoint meetings are scheduled by end users using Microsoft Exchange or IBM Domino clients in the same manner that a point-to-point meeting is scheduled. Scheduled meetings require no CTMS administrator interaction. CTS Manager is a required component for scheduled meetings. It provides the interface between Microsoft Exchange or Lotus Domino and the CTMS, allowing the appropriate resources on the CTMS to be reserved for the multipoint meeting.

secondary codec   Codecs that assist the primary codec in the large Cisco TelePresence 3000/3200 systems. Secondary codecs process audio and video signals and send them to the primary codec, which multiplexes the signals into separate, single RTP streams.

Session Type	A pre-defined bundle of features and options that are managed in the Cisco WebEx Site Administration interface **Manage Users** > **Edit User List** configuration.
	The primary session types for your WebEx service are listed on the Home page in Site Administration, under Session Types:

- PRO—Pro Meeting
- AUO—Personal Conference
- PRO—TelePresence
- FRE—Free Meeting
- PRO—MC-US (Meeting Center, US)
- STD—Standard Meeting
- ONS—Online Event

You must select **PRO—TelePresence** by checking the box for **PRO: Meeting Center TelePresence** in the WebEx Site Administration **Manage Users** > **Edit User List > Privileges** page to complete Cisco WebEx first-time setup.

For more information about Session Types, see the Cisco WebEx Administration Site Help pages.

single system	A Cisco TelePresence system featuring a single main display screen. A CTS 500 or CTS 1300 for instance.
SIP	Session Initiation Protocol. Protocol designed to signal the setup of voice and multimedia calls over IP networks.
SNMP	Simple Network Management Protocol. Network management protocol used almost exclusively in TCP/IP networks as a means to monitor and control network devices, and to manage configurations, statistics collection, performance, and security.
Standard User	Cisco WebEx user role configured in the CTS-Manager Administration interface: Cisco WebEx is enabled per meeting.
static meeting	Non-scheduled meetings configured on the Cisco TelePresence Multipoint Switch (CTMS) through the administration interface. A meeting scheduler or administrator, who sets up the static meeting, manually assigns a meeting access number that is used to access the meeting. See ad hoc meeting.

T

triple system   A Cisco TelePresence (CTS) 3000 or CTS 3200 system featuring three main display screens.

TFTP   Trivial File Transfer Protocol. Simplified version of FTP that allows files to be transferred from one computer to another over a network, usually without the use of client authentication (for example, username and password).

V

VGA   Video Graphics Array port and cable for Cisco TelePresence. A CTS endpoint initiates a presentation at any point by plugging the VGA Auxiliary cable into the CTS endpoint presenter's laptop, which automatically shares from the presenter's laptop. The last participant in the meeting to plug in their laptop with the VGA cable shares their presentation using PiP. See the Cisco TelePresence System User Guide for more information about sharing presentations.

W

WebEx audio dial-in number   The audio dial-in number that external users use to dial into the Cisco WebEx meeting. The Cisco WebEx audio number is a separate number from the CTMS Dial In Number or the CTMS base number, the main access number of the CTMS.

WebEx TelePresence Gateway URL   The TelePresence gateway that dials back into the CTMS audio session. The meeting starts when the first participant dials in to the meeting. CTMS opens the control link to the Cisco WebEx Cisco TelePresence Gateway. Through the control link, CTMS sends authentication information and meeting details, which include the meeting ID and the CTMS Dial In Number. The Cisco WebEx Cisco TelePresence Gateway uses this number to call back to the CTMS.

Configure the WebEx configuration field under CTMS administration **Configure** > **WebEx** > **Control Link**. This URL points to the Cisco WebEx server for video and creates the socket connection. You must use a specific URL format and add the " **:443** " port extension to the WebEx TelePresence Gateway URL. See Configuring Cisco WebEx Details in CTMS.

Your Cisco WebEx Account Team assigns you an appropriate TP gateway site.

I N D E X