Cisco TelePresence Multipoint Switch

Product Overview

The Cisco TelePresence® Multipoint Switch solution allows geographically dispersed organizations to hold Cisco TelePresence meetings across multiple locations reliably and easily. With support for up to 48 screens in a single meeting across a mix of endpoints, the switch allows all participants to be seen in life-like, high-definition video and heard in CD-quality, spatial audio combined with the industry's lowest latency.

The industry-leading design of the Cisco TelePresence Multipoint Switch delivers voice-activated switching either site-by-site (site switching) or by individual table segment (segment switching). It is an affordable appliance that is also easy to install and manage.

True to the user-friendly Cisco TelePresence design, multipoint meetings are scheduled using enterprise groupware (such as Microsoft Outlook or Lotus Notes), and they start with just a push of a button on the meeting-room phone. It is simple - there is no need for support personnel to set up meetings for you. Organizations can connect participants quickly and easily with multiple locations in the same meeting, empowering you to communicate and collaborate like never before (Figure 1).

Figure 1. Cisco TelePresence Meeting

Features and Benefits

The Cisco TelePresence Multipoint Switch offers the following important features and benefits:

- Support for 48 video screens: The system supports conferences up to 48 total screens. Any combination of the following endpoints are supported:
  - Cisco TelePresence 500 series (count as single screen)

- Cisco TelePresence Systems 3010 and 3210 (these count as 3 screens)
- Cisco TelePresence System 1300 series (count as single screen)
- Cisco TelePresence Profile Series (count as single screen)
- Cisco TelePresence EX Series (count as single screen)
- Cisco TelePresence 500 series (count as single screen)

- Video conferencing interoperability: When linked with the Cisco 5600 Media Experience Engine (MXE), the Cisco TelePresence Multipoint Switch provides full interoperability with the installed base of H.323 and Session Initiation Protocol (SIP) video conferencing endpoints.

- Spatial, interactive audio: Multichannel, discrete audio means sound comes from the direction of the speaker, allowing voice tracking as audio is switched between locations. Sub-10 ms latency brings transparent switching between sites or segments during a multipoint call.

- Cisco WebEx™ OneTouch: When combined with Cisco TelePresence Manager, audio and data collaboration can be shared with the Cisco WebEx application, also allowing sharing of participant lists and viewing of Cisco TelePresence video for the current speaker.

- Affordable and easy to install and manage: Web-based administration with role-based profiles is easy for administrators at both group and department levels. Three roles are available: System administrator for access to all functions, conference management for control over meetings, and diagnostics-only for technical access to system processes.

- Supported by Cisco Prime™ Collaboration Manager: As an end-to-end monitoring and troubleshooting system for Cisco TelePresence, Collaboration Manager monitors the status of all Cisco TelePresence Multipoint Switches discovered within the network. For more information about Collaboration Manager, visit http://www.cisco.com/go/cpcm.

Table 1 summarizes the features and benefits of the Cisco TelePresence Multipoint Switch.

Table 1.   Features and Benefits of Cisco TelePresence Multipoint Switch

Feature	Benefit
Scalability	The Cisco TelePresence Multipoint Switch is designed for any sized workgroup to deliver multipoint meetings among Cisco TelePresence endpoints with support for up to 48 screens in a single meeting. Additionally, CTMS cascading is supported to enable meetings with up to 90 screens. Only static meetings are supported when cascading.
Impromptu calling	During an active meeting, the conference manager can add another party from the web interface and the participant is automatically added to the meeting. Additionally, Auto attendant capabilities on the CTMS allow any Cisco TelePresence endpoint to dial into a scheduled meeting. The auto attendant capability requests the user to enter the conference ID and then the user is joined into the appropriate meeting.
High performance and low latency	The high-performance Cisco TelePresence Multipoint Switch server provides very low latency, allowing natural conversation and quick multipoint switching between Cisco TelePresence meeting rooms.
Audio add-on	Remote, audio-only participants can join a meeting by using conferencing features on the meeting-room phone or by integrating an audio conferencing bridge into the meeting in both point-to-point and multipoint calls.
Director Controls	For special events, custom video switching and audio mixing are often required. It is now possible using the web-based controls in the Cisco TelePresence Multipoint Switch Administration
Encryption	The Cisco TelePresence solution supports full media and signaling encryption with no discernable latency to the Cisco TelePresence call for up to 48 screens. In addition, Cisco TelePresence meetings can be designated as nonsecure, secure best effort, and always secure. Meeting encryption status is indicated on-screen at the start of a call or when it changes, and on the phone at all times.
Video announce	This configurable option allows new participants joining a meeting to briefly be shown on the displays of all participants already in the meeting so they know a new party has joined.

Feature	Benefit
Bandwidth management	Automatic camera transmission control significantly reduces network traffic by eliminating the data feeds of nonspeaking meeting participants. Each meeting can be assigned a maximum quality (rate). If a Cisco TelePresence endpoint that has been assigned a lower bandwidth rate joins, the bandwidth rate of the conference automatically decreases.
Comprehensive diagnostics	Diagnostics features include system status information, alarms, downloadable logs (syslog messages), and Simple Network Management Protocol (SNMP) support.
Call detail records (CDRs)	Call records provide meeting start and stop data and participant details. You can export records to a third-party application for manipulation and data sorting.
Meeting Controls	Provides the following meeting control features: 1. Participant list - View a list of all the endpoints in the meeting 2. View Control - Display the active speaker or the active room 3. Meeting Access - Enables or disables other endpoints from joining the current meeting

Table 2 lists the specifications of the Cisco TelePresence Multipoint Switch (Version 1.8).

Table 2.   Product Specifications

Cisco TelePresence Attribute	Specification
Call signaling	SIP trunk with Cisco Unified Communications Manager Version 6.1.3 or later and IP Version 4 (IPv4)
Media protocol	Real-Time Control Protocol (RTCP) and Real-Time Transport Protocol (RTP), User Datagram Protocol (UDP), and IP Unicast
Video protocol	H.264 baseline high-definition (HDTV) 16:9 aspect ratio
Video resolution	Progressive 1080p (1920 x 1080 pixels at 30 frames per second [fps]) and 720p (1280 x 720 pixels at 30 fps)
Auto-collaboration video	1024 x 768 pixels presentation video at 1, 5, or 30 fps
Audio	Advanced audio coding with low delay (AAC-LD/HBR) 22-MHz (CD-quality) audio; 4-channel audio stream
Additional hardware	No additional hardware required
Cisco TelePresence Attribute	**Specification**
Maximum meeting size	A single multipoint meeting on a single CTMS can accommodate up to the total capacity of the CTMS, which supports 48 video streams Cascading two CTMSs together to support a meeting up to 90 screens is also supported. Additionally there is no limit on the number of simultaneous meetings on the CTMSs that are cascaded. However, each cascade link requires 3 ports on each CTMS (4 ports if 1080p 30 presentation is deployed). Additionally, only static meetings can be cascaded.
Concurrent meetings	The CTMS capacity can be divided into any number of meetings. For example, with three Cisco TelePresence 1000 systems per meeting, the switch supports 16 concurrent meetings. The maximum number of concurrent meetings (with at least two Cisco TelePresence 500 or Cisco TelePresence 1000 Systems) is 24.
Latency (added by Cisco TelePresence Multipoint Switch)	Less then 10 milliseconds (ms)
Jitter (added by Cisco TelePresence Multipoint Switch)	Less then 0.05%
Availability	99.99% (estimated)
SNMP MIBs	RFC 1213, ENTITY, IF, ENTITY-FRU-CONTROL, HOSTRESOURCES, UMSEVENT, and UMSLMSSENSOR
CDR data	CDR ASCII format
Administrative interface	HTTP and HTTPS, Secure Shell (SSH) Protocol, role-based access control (RBAC), and password protection
Application programming interface (API)	Simple Object Access Protocol (SOAP) or XML for real-time (active meeting) conference and participant management
QoS	Support for Differentiated Services (DiffServ) markings

Table 3 lists the products and releases compatible with Cisco TelePresence Multipoint Switch (Version 1.8).

Table 3.   Product Compatibility

Product	Release	Backward Compatible With
Cisco TelePresence 500	CTS 1.8	CTS 1.6 and CTS 1.7
Cisco TelePresence Systems 3010 and 3210	CTS 1.8	CTS 1.6 and CTS 1.7
Cisco TelePresence System 1300 series	CTS 1.8	CTS 1.6 and CTS 1.7
Cisco TelePresence Profile	TC 5.0 (Also must have CUCM 8.6)	
Cisco TelePresence EX Series	TC 5.0 (Also must have CUCM 8.6)	
Cisco TelePresence 500 Series	CTS 1.8	CTS 1.6 and CTS 1.7
Cisco TelePresence Manager	1.8	
Cisco Unified Communications Manager	8.6	8.5, 8.3, 8.0
WebEx	FR 26	SP 22
MXE		

System Hardware Specifications

Two Hardware platforms are supported:

Cisco MCS 7845 Media Convergence Server
(http://www.cisco.com/en/US/prod/collateral/voicesw/ps6790/ps5748/ps378/data_sheet_c78-564635.html)

Cisco UCS C210 M2
(http://www.cisco.com/en/US/prod/collateral/ps10265/ps10493/data_sheet_c78-587522.html)

The Cisco MCS 7845 Media Convergence Server provides an appliance model where the software is provided on a DVD. The appliance comes with a single firmware image that includes the underlying operating system as well as the Cisco TelePresence Multipoint Switch application.

CTMS running on VMWare vshere 4.0 (ESXi 4.0) is also supported. This will allow CTMS to run on Cisco Unified Computing platforms. Initial support will be on the Cisco UCS C210 M2 server. Note, that CTMS must be the only application on the server.

Ordering Information

To place an order, visit the Cisco Ordering Home Page and refer to Table 4.

Please note that top level Part Number for this product has recently changed where the server is chosen first.

Table 4.   Ordering Information

Product Name	Part Number
Order as an Appliance	
MCS-7845-I3 for Cisco TelePresence Manager or Multipoint Switch (Choose First)	MCS7845-I3-CTS1-K9
Choose Power Cord Type	
AC Power Cord (North America), C13, NEMA 5-15P, 2.1m	CAB-AC
AC Power Cord (China/Australia), C13, AS 3112, 2.5m	CAB-ACA
AC Power Cord (Europe), C13, CEE 7, 1.5M	CAB-ACE
AC Power Cord (Italy), C13, CEI 23-16, 2.5m	CAB-ACI
AC Power Cord (Argentina), C13, EL 219 (IRAM 2073), 2.5m	CAB-ACR

Product Name	Part Number
AC Power Cord (Switzerland), C13, IEC 60884-1, 2.5m	CAB-ACS
AC Power Cord (UK), C13, BS 1363, 2.5m	CAB-ACU
AC Power Cord (Japan), C13, JIS C 8303, 2.5m	CAB-JPN
Choose Cisco TelePresence Multipoint Switch Software and License	LIC-CTS-CTMS-1.8

Service and Support

Critical to delivering the innovative Cisco TelePresence experience in your organization are integrated lifecycle services. Designed specifically for multisite organizations, these services deliver the Cisco TelePresence experience and accelerate the successful deployment of a high-quality, reliable "in-person" meeting experience. Initial prepare, planning, and design services prepare your network and organization to deliver the expected consistent quality level of the Cisco TelePresence meeting solution. Operate services provide peace of mind for your IT staff and reduce risk of downtime by providing critical day-2 maintenance support. These services use the proven Cisco Lifecycle Services approach to deliver a Cisco TelePresence experience. For more information, please visit http://www.cisco.com/go/services.

For More Information

For more information about the Cisco TelePresence Multipoint Switch, please visit http://www.cisco.com/go/telepresencemultipoint or contact your local Cisco account representative or authorized Cisco partner. To locate an authorized partner, please visit http://tools.cisco.com/WWChannels/LOCATR/jsp/partner_locator.jsp.