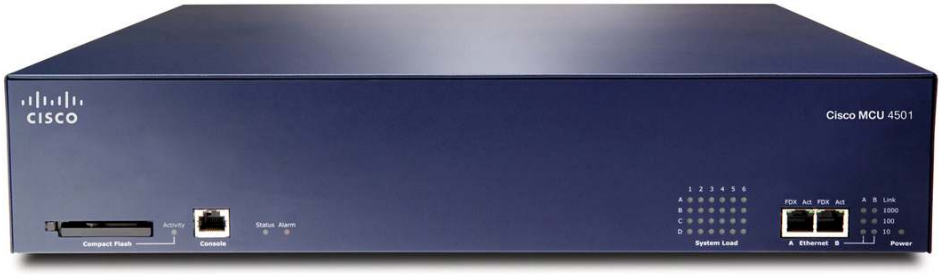
Cisco TelePresence MCU 4501

Figure 1. Cisco TelePresence MCU 4501

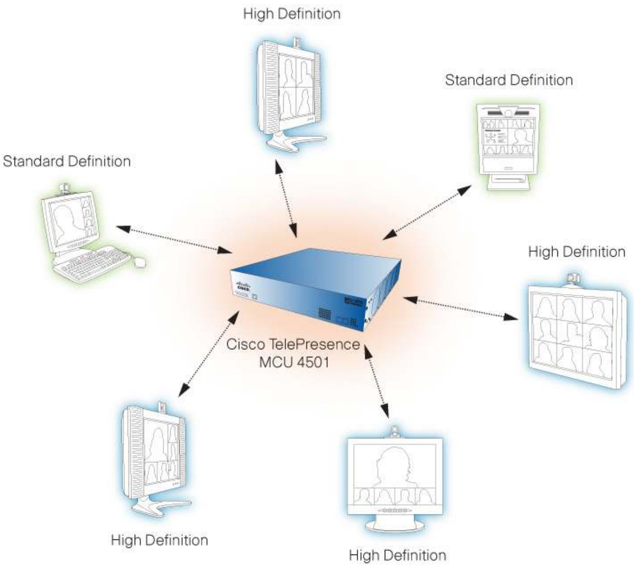

Cisco MCU 4501
Compact Flash
Console
Status Alarm
System Load
A Ethernet B
Power

Product Overview

The Cisco TelePresence® MCU 4501 is the industry’s leading entry-sized, full high-definition (HD) conferencing bridge (Figures 1 and 2). It offers organizations a low-risk, cost-effective solution for HD multipoint video conferencing. For those organizations with an existing standard-definition (SD) video environment, it provides a seamless transition path to HD with an option to upgrade the capacity when required. Compatible with all major vendors’ SD and HD endpoints, it delivers the best experience for each participant, every time.

Cisco TelePresence MCU is WebEx enabled, allowing customers to enjoy fully integrated, scalable conference involving callers from WebEx clients and telepresence endpoints.

Figure 2. Cisco TelePresence MCU 4501 Is Standards-Based and Compatible with All Major Vendors’ Endpoints


High Definition
Standard Definition
Standard Definition
High Definition
Cisco TelePresence
MCU 4501
High Definition
High Definition

Features and Benefits

Table 1 summarizes the key features of the Cisco TelePresence MCU 4501, and Table 2 gives information about the models in the Cisco TelePresence MCU 4501.

Table 1. Cisco TelePresence MCU 4501 Feature Summary

Feature	Benefit
Design Features	• Standards-based and compatible with all major vendors' endpoints • Selectable between 6 HD or 12 SD video ports • Upgradable to 12 HD or 24 SD video ports • Easy-to-use, versatile management interface • More than 50 custom layouts • Comprehensive wideband audio support • Support for both Session Initiation Protocol (SIP) and H.323 endpoints • Cisco TelePresence PacketSafe technology, which minimizes effects of network packet loss • Compact size: Two rack units (2RU) tall and 19-in. rack-mountable
Application Features	• Supports Cisco TelePresence ConferenceMe technology for multipoint desktop video • Provides upscale SD resolution using Cisco TelePresence ClearVision technology • Integrated with Cisco TelePresence Management Suite • Integrated with Cisco Unified Communications Manager (v8.6 or later) for ad-hoc conferencing • Integrated with Cisco TelePresence Conductor • Offers full interoperability with ISDN networks using standalone Cisco TelePresence ISDN gateways • Compatible with Microsoft Office Communications Server • Fully integrated, with built-in gatekeeper and streaming server • Supports Cisco® Multiway technology
Performance Features	• Continuous presence on every port • Cisco TelePresence Universal Port technology, which helps ensure each participant receives the best possible experience • Predictable port capacity • Bandwidth per site up to 4 Mbps • Video resolutions up to 1080p 30 fps • SD support at up to 448p 30 fps

Table 2. Cisco TelePresence MCU 4501 Models

Model	Continuous Presence Video Participants (Symmetric)	With 1080p30 HD+ Capacity Option (Asymmetric)	Additional Voice Participants	Video Streaming Unicast*/Multicast
CTI-4501-MCU-K9	6 x 720p30 ports 3 x 1080p30 or 720p60 ports 12 x 448p30 ports	-	6 6 12	6/unlimited
CTI-4501-MCU-K9 + **LIC-4501-PL6**	12 x 720p30 ports 6 x 1080p30 or 720p60 ports 24 x 448p30 ports	12 x 1080p30	12 12 24	12/unlimited

*Maximum number of unicast streams depends on network topology.

Product Specifications

Table 3 lists the product specifications; Table 4 gives video and audio specifications; Table 5 gives network, security, and management specifications; and Table 6 lists the product physical specifications for the Cisco TelePresence MCU 4501.

Table 3. Product Specifications

Product Compatibility	• Standards-based and compatible with all major vendors' endpoints
Universal Transcoding and Transrating	• HD and SD can be combined within the same conference. • All calls are automatically transcoded and transrated for audio and video. • Any bandwidth, any resolution, any video, or audio codec can be used on any video call within the same conference. • All participants have their own personal encodes.
Streaming Video	• Built-in streaming server • Ability to view using Windows Media Player, RealPlayer, or QuickTime • Streaming of slides (H.239 and Virtual Network Computing [VNC]) • Text chat • Unicast and multicast • User Datagram Protocol (UDP), TCP, or HTTP • Independent choice of bandwidth and codec
Localization and Customization	• Custom interactive voice response (IVR))/auto attendant audio prompts and graphics • Uploadable multilanguage support • Unicode conference and site names
Built-In Gatekeeper	• Resolution of E.164 numbers • Registration of conferences, endpoints, and gateways • Ability to register up to 25 devices
Built-In Web Server	• Complete configuration, control, and monitoring of the system and conferences
Multipoint-Control-Unit (MCU) Features	• Dial in or dial out through web server • Standalone or with gatekeeper/registrar/proxy • Configurable audio and video auto attendant • Advanced continuous presence as standard on all ports • Automatic selection of best layout • Individual layout selection using remote control or webpages • More than 50 custom layouts • Active speaker selection using remote control or voice activated • Floor assignment using remote control or management application • Far-end camera control tunneling using remote control or web • Text identification of sites • On-screen text messaging to individual or all sites • Built-in conference scheduling and reservation • On-demand and ad-hoc conferences • Automatic lecture mode • Preview of conference and individual camera on webpages • On-screen list of participants • Web conferencing option - those without endpoints can still interact • Uploadable bitmaps for voice participants • Video association for IP and traditional private branch exchanges (PBXs) • Automatic connection to audio conferences • Integration with Cisco Unified Communications Manager v8.6 or later ad-hoc conferencing features allows Cisco video IP phones to initiate impromptu multiparty calls with other Cisco TelePresence endpoints. • Cisco TelePresence Multiway technology, which enables Cisco video endpoints to initiate ad hoc multiparty calls • Linked voice and video calls • Automatic redialing

Content Features	• Dual video using H.239 and BFCP content sharing • Presentation mode: You can add slides from your PC using VNC • Automatic content handover • Widescreen (16:9) support • Passthrough content option to maximise capacity • Content transcoding for interoperability • Participants with no content support can receive transcoded content in main video • Up to 1080p in H.264 • Up to 720p in H.263
Cisco Telepresence ConferenceMe	• Video, audio, and content sharing ◦ Multiple layouts ◦ Firewall friendly • Independent transcode per participant • Up to 12 simultaneous connections
High-Definition Performance	• Main video up to 1080p 30 fps and 720p 60 fps H.264 4-Mbps continuous presence • Comprehensive HD audio codecs • Content video up to 1080p
Language	• English as standard, with option to load alternative language packs

Table 4. Video and Audio Specifications

Bandwidth	• Up to 4 Mbps with both H.263 and H.264, for each site in all conference modes, including advanced continuous presence
Video Standards	• H.261, H.263, H.263+, H.263++, and H.264
Video Resolution	• From QCIF up to 1080p (1920 x 1080), including interlaced iCIF and iSIF • 4:3 and 16:9 aspect ratios
Frame Rates	• Up to 60 frames per second
Audio Standards	• G.711, G.722, G.722.1, G.723.1, G.728, G.729, MPEG-4 AAC-LC, MPEG-4 AAC-LD, and Polycom Siren14/G.722.1 Annex C
Audio Features	• Wideband audio mixing • Built-in and uploadable auto attendant voice prompts • Adjustable gain and individual audio mute using remote control or web pages • Power indication and automatic gain control using webpages

Table 5. Network, Security, and Management Specifications

Protocols	• H.323, SIP, H.235 (Advanced Encryption Standard [AES]), Secure Real-Time Transport Protocol (SRTP), Transport Layer Security (TLS), H.239 (dual video), VNC, Binary Floor Control Protocol (BFCP), H.243 (chair control), FTP, Real-Time Transport Protocol (RTP), (Real-Time Streaming Protocol (RTSP), HTTP, Secure HTTP (HTTPS), Dynamic Host Configuration Protocol (DHCP), Simple Network Management Protocol (SNMP), Network Time Protocol (NTP), IPv4, and IPv6
Quality Of Service (QoS)	• Configurable differentiated services code point (DSCP) or type of service (ToS)/IP Precedence
Security Features	• Seven levels of access rights and privileges for users • Strong password policy • Personal identification number (PIN)-protected conferences • Conference locking through remote control or web interface or management application • Secure non-PC hardware and operating system • AES encryption, 128-bit key, H.235 • SIP encryption • TLS certificate verification • Video firewall option - second Ethernet port • Audit log • Static ARP • Certificate-based login with OCSP certificate checking

Interfaces	• RJ-45 Ethernet, 10-/100-/1000-Mbps full/half duplex, manual or autosensing • RJ-45 serial port • CompactFlash socket • Thirty-nine status LEDs
System Management	• XML-RPC management application programming interface (API) • Management through embedded web server • RS-232 for local control and diagnostics • Syslog for diagnostics • Configurable event logs and full H.323 and SIP decoding • Configuration backup to network • Secure upgrades through Ethernet or CompactFlash • Call detail records (CDRs) • SNMP
Network Resilience	• Cisco TelePresence PacketSafe technology, which provides intelligent down-speeding, packet pacing, and packet-loss concealment to ensure optimum video and audio quality • Dynamic jitter buffering • Alternate gatekeepers • DNS SRV failover for SIP

Table 6. Physical Specifications

Physical Dimensions (H x W x D)	• Physical dimensions: 3.43 x 17.4 x 19.25 in. (87 x 442 x 489 mm) (2RU) • 19-in. rack-mountable (kit supplied) or standalone
Weight	• 24 lb (11 kg)
Power	• 100-240 VAC, 50/60 Hz • 2684 BTU/h (787W) maximum heat dissipation
Environmental Data	• Operating temperature: (0 to 35℃) ambient • Relative humidity below 95% (noncondensing)
Approvals and Compliance	• European safety: EN 60950-1 • USA/Canada safety: UL 60950-1 • CB, CE • EMC: EN55022 class A, EN61000-3-2, EN61000-3-3, EN55024: EN61000-4-2,-3,-4,-5,-6,-11, FCC Part 15 class A, VCCI class A, AS/NZS 3548, CCC: GB4943, GB9254, YD/T993 • NAL Certificate (China) • RoHS compliant

Warranty Information

Find warranty information on Cisco.com at the Product Warranties page.

Ordering Information

To place an order, visit the Cisco Ordering Home Page and refer to Table 7 or contact your local Cisco representative. To download software, visit the Cisco Software Center.

Table 7. Ordering Information

Product Name	Part Number
Cisco TelePresence MCU 4501	**CTI-4501-MCU-K9**
Comes with: MCU 4501 - 6 Port HD MCU, Web Conferencing software license feature option and cables	
Software License Feature Options for Cisco TelePresence MCU 4501	
6 to 12 HD Port option (12 to 24 SD Ports) for MCU 4501	LIC-4501-PL6
1080p HD+ Capacity Option for MCU 4501	LIC-4501-MHD
Video Firewall Option for enabling second Ethernet port on MCU 4501	LIC-4500-VFO

Product Name	Part Number
Conference Director Option for MCU 4501	LIC-4501-CCD
AES and HTTPS Enable Option for MCU 4501	LIC-AESCDN-K9
Cisco TelePresence MCU 4501 license PAK (Product Authorization Key) for post sale upgrades	**L-MCU4500-UPG-PAK**
Start with L-MCU4500-UPG-PAK in order to obtain post sales upgrades for the options above apart from LIC-AESCDN-K9	
AES and HTTPS Encryption Option for MCU 4501 post sales upgrade	**L-AESCDN-K9=**

Cisco Services

Cisco and our partners provide a broad portfolio of intelligent, personalized services and support that can help you realize the full value of your Cisco TelePresence investment by increasing business agility and network availability. This portfolio of services accelerates business innovation through a network-based collaboration platform that enables businesses to collaborate anywhere, anytime. For more information about these services, please visit: http://www.cisco.com/go/telepresenceservices.

For More Information

For more information about the Cisco TelePresence MCU 4501, please visit http://www.cisco.com/go/telepresence or contact your local Cisco account representative or authorized Cisco partner. Product specifications are estimates and subject to change without notice.

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