

Cisco Unified Videoconferencing 3515 MCU 5.5

A flexible, high-performance system for video communications

The Cisco[®] Unified Videoconferencing System—an integral component of the Cisco Unified Communications System—allows face-to-face discussions among remote participants. The solution supports multiple protocols to facilitate connectivity with a wide variety of video-enabled devices from desktop video telephony to standard- and high-definition room systems and Cisco TelePresence systems. Cisco Unified Videoconferencing solutions are integrated into Cisco Unified Communications and rich-media conferencing solutions to deliver productivity that goes beyond traditional video conferencing by integrating video into a broad range of communication scenarios.

Cisco Unified Communications Solutions unify voice, video, data, and mobile applications on fixed and mobile networks, delivering a media-rich collaboration experience across business, government agency, and institutional workspaces. These applications use the network as the platform to enhance comparative advantage by accelerating decision time and reducing transaction time. The security, resilience, and scalability of the network enables collaboration every time, everywhere, everyone's included. Cisco Unified Communications is part of a comprehensive solution that includes network infrastructure, security, wireless, management applications, lifecycle services, flexible deployment and outsourced management options, and third-party applications.

Cost-Effective Video Conferencing Solution

The Cisco Unified Videoconferencing 3515 MCU is a flexible solution for any size of organizations that want to deploy high-quality, high-performance, and cost-effective multilocation video conferencing. Each system is self-contained and can support up to 48 simultaneous video endpoints in one or more conferences. These multipoint control units (MCUs) also work with the higher-capacity Cisco Unified Videoconferencing 3545 System; they are designed for deployment at remote network sites in multiple-MCU distributed environments, facilitating optimization of WAN bandwidth use for geographically dispersed organizations.

The solution allows participants to collaborate effectively and share information in real time to help organizations eliminate the barriers of time, distance, and resources and permit people around the world to function as if they were in the same room. This flexibility combined with high-performance and scalable technology gives organizations the tools they need to simplify and speed business processes and decision making and improve productivity through face-to-face interaction. Educational institutions and organizations can conduct efficient training and education programs that extend beyond the campus environment. Doctors can consult specialists from any part of the world to provide the best care for their patients. Organizations can build trust and stronger relationships with remote staff and customers through more frequent face-to-face communications while lowering expenses and enabling carbon-reduction initiatives through travel reduction.

Key Features and Benefits

The Cisco Unified Videoconferencing 3515 MCU offers important features and benefits for video conference users—and for your organization.

Multiprotocol Support: Broad Video Interoperability

Cisco Unified Videoconferencing Systems support multiple video and audio compression standards, codecs, and protocols, including H.323, Session Initiation Protocol (SIP), Skinny Client Control Protocol (SCCP), and H.320, to facilitate broad connectivity with traditional and emerging video environments. This degree of support provides flexibility that allows Cisco Unified Videoconferencing solutions to interoperate with traditional room and desktop video conferencing systems, newer high-definition (HD) video solutions, Cisco TelePresence solutions, and Cisco Unified Communications Manager video telephony environments. A single video infrastructure solution for a broad range of device types regardless of endpoint or access method simplifies access for users and management for administrators, facilitating effective video communications and a lower total cost of ownership.

High-Performance, Flexible Solution: Optimized Experience for All

Cisco's Unified Videoconferencing 3515 MCU uses a powerful hardware design with flexible processing capabilities to provide an exceptional user experience that is also scalable and cost-effective. The products are specifically designed to meet the needs of today's real-world heterogeneous video environments by maintaining true high-definition (HD) quality for HD endpoints while simultaneously providing highly scalable standard-definition (SD) and desktop video conferencing.

- **High-definition (HD) conferencing:** The Cisco Unified Videoconferencing 3515 MCU fully supports standards-based HD video conferencing endpoints, delivering exceptional quality to the video conferencing experience. Connections to HD-capable endpoints are fully processed, delivering numerous video conferencing features to HD endpoints, including full-screen voice-activated switching in HD, full interoperability with SD endpoints in the same conference, and continuous-presence features displayed at full HD quality. The HD services run simultaneously on the MCU with both the high-quality and high-capacity SD video services, automatically providing the optimal experience and capacity for the entire spectrum of video users and deployments.
- **High-quality standard-definition (SD) video conferencing:** Because every port has dedicated audio and video encoders, SD endpoints can connect to any conference, at any supported bit rate, with any supported audio or video codec, at any supported SD resolution, and with any screen layout. The Cisco Unified Videoconferencing 3515 MCU automatically implements audio and video transcoding and connection-speed transrating capabilities that allow each SD endpoint to use its preferred codec and connection speed and still connect to conferences with endpoints using different codecs and connection speeds. This approach helps ensure an optimal video and audio experience for each participant without sacrificing scalability or performance. The encoder-per-port hardware architecture also significantly reduces planning, provisioning, and scheduling requirements by eliminating the need to define or limit the bit rates, video formats, and conference features that video conferencing endpoints and conference participants can use.
- **High-capacity standard-definition video conferencing:** The Cisco Unified Videoconferencing 3515 MCU has the flexibility to distribute processing resources that are not being fully used by personal or desktop video conferencing endpoints that do not require high connection rates. If the available bandwidth is not fully used, the number of available ports automatically increases, providing a reduced cost per port. This MCU service can run concurrently with all other SD and HD services and adds powerful flexibility

that makes the Cisco Unified Videoconferencing 3515 MCU an even more cost-effective choice for desktop video and video telephony deployments.

Extensive Features for Meeting Control and Flexible Video Presentation

The Cisco Unified Videoconferencing 3515 MCU offers two modes of video display: voice-activated video selection and continuous presence. In a voice-activated conference, participants see the person who is speaking. In a continuous-presence conference, the display shows the video of 2 to 16 participants simultaneously. In either mode, a conference moderator can manually control every aspect of the conference display through an easy-to-use Web-based interface. The H.239 standard is also fully supported, allowing content to be shared among conference participants in real time.

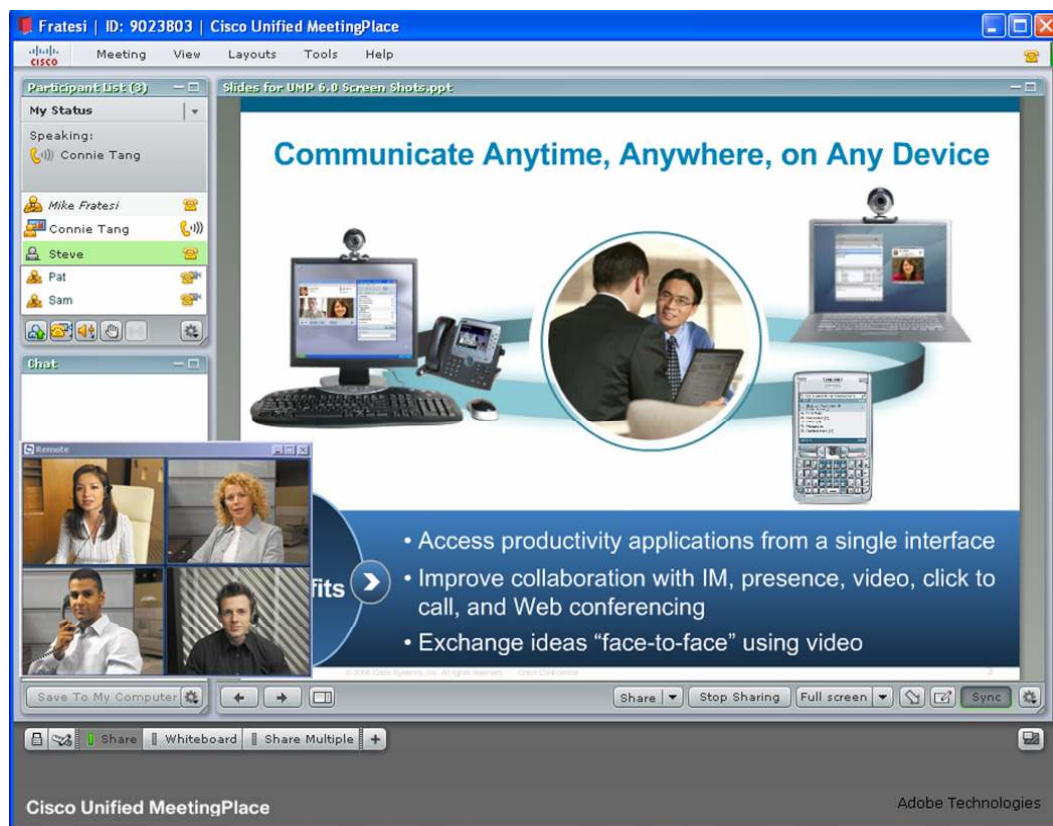
The Cisco Unified Videoconferencing 3515 System provides extensive conference-management functions. Users and conference moderators can control the meeting from a Web-based user interface, a dual tone multifrequency (DTMF) interface from video endpoints or standard phones, or video endpoint remote controls. For example, the conference moderator can lock the conference as well as add, mute, or disconnect participants. Having access to these integrated controls improves meeting effectiveness, particularly in large video conferences or educational environments.

Integrated Unified Communications and Rich-Media Conferencing

The Cisco Unified Videoconferencing 3515 MCU is integrated with the Cisco Unified Communications System to enable multiple video environments and usage scenarios, including impromptu conferences that can be initiated from desktop communications clients and phones; collaborative conferences that integrate voice, video, and Web conferencing; and traditional multilocation video conferencing. Users can easily transition across and between applications, such as presence, instant messaging (IM), IP telephony, unified messaging, and rich-media conferencing as interactions warrant, independent of where they are or what device they are using. Unified communications interoperability also delivers investment protection by helping ensure that organizations can fully use their investment in video conferencing systems. The Cisco Unified Videoconferencing 3515 MCU facilitates four types of solutions, which can be deployed and used separately or together.

- **Rich-media conferencing:** The Cisco Unified MeetingPlace[®] solution is a complete rich-media conferencing solution that integrates voice, video, and Web conferencing capabilities to make remote meetings natural and effective (Figure 1). The Cisco Unified Videoconferencing 3515 MCU, when combined with the Cisco Unified MeetingPlace Video Integration option, delivers the video conferencing capabilities for Cisco Unified MeetingPlace conferencing. The solution integrates enterprise-class voice, video, and Web conferencing with industry-leading video setup and control capabilities to meet the needs of organizations looking for a single enterprise-class solution and user environment for all their conferencing needs. Cisco Unified MeetingPlace conferencing provides multiple intuitive interfaces that make setting up, attending, and managing meetings easy. This simple-to-use model eliminates the traditional barrier to rich-media conferencing, leading to quick adoption and realization of productivity benefits.

Figure 1. Cisco Unified MeetingPlace Rich-Media Conferencing: Integrated Voice, Video, and Web Conferencing



- Cisco video telephony:** Cisco Unified Communication Manager video telephony extends video to desktop communications. Video calls are now as easy to place as telephone calls (Figure 2) and have familiar phone features such as Hold, Transfer, and Call Forward; integrated dial plans; common call detail records (CDRs); and administration capability. Cisco video telephony personalizes communications and dramatically simplifies the video communications user experience. The Cisco Unified Videoconferencing 3515 MCU provides multiparty conferencing support for video telephony environments, including both traditional room-based systems and desktop applications and devices. The solution provides a simple user experience that makes initiating or adding a user to a conference as easy as pressing the conference control on a Cisco Unified IP phone or video telephony application, such as Cisco Unified Personal Communicator.

Figure 2. Cisco Video Telephony: Video Calls Are as Easy to Make as Telephone Calls



- **Cisco TelePresence interoperability:** When used in conjunction with the Cisco TelePresence Multipoint Switch, the Cisco Unified Videoconferencing 3515 MCU provides the bridge between traditional video conferencing solutions and the Cisco TelePresence solutions, allowing businesses to protect and take full advantage of their investments in both.
- **Traditional IP videoconferencing:** In addition to video telephony and rich-media conferencing environments, the Cisco Unified Videoconferencing 3515 MCU provides flexible, scalable, and high-performance multiparty video conferencing for traditional room-based video conferencing systems across a wide variety of endpoints, including H.320, H.323, SCCP, and SIP devices.

Scalable Solution that Uses an Intelligent Network

Each Cisco Unified Videoconferencing 3515 MCU is a self-contained, preconfigured, high-performance appliance that provides audio and video processing for small to medium-sized conferences. You can deploy the solution with the Cisco Unified Videoconferencing 3522 and 3527 Gateway appliances, which allow ISDN H.320 endpoints to participate in the same conferences as IP-based H.323, SCCP, or SIP endpoints, providing investment protection for existing video conferencing deployments. Readily deployable at remote network sites, the Cisco Unified Videoconferencing 3515 MCUs also work with the Cisco Unified Videoconferencing 3545 Systems at larger sites to provide a distributed video environment that optimizes WAN bandwidth usage for geographically dispersed organizations while preserving solution performance and quality of the user experience.

Video conferencing deployments with the Cisco Unified Videoconferencing 3515 MCU require the presence of an H.323 gatekeeper in the video network to provide functions such as telephone number-to-IP address resolution and zone bandwidth management for video conferencing endpoints. Based on Cisco IOS® Software, the Cisco IOS Gatekeeper product runs on a wide variety of Cisco integrated services routers. The Cisco Unified Border Element, also a Cisco IOS Software product, can enhance a video conferencing deployment by providing session-border-control services, quality-of-service (QoS) functions, and enhanced security with firewall traversal capabilities, all of which allow customers to extend their video conferencing capabilities beyond their network to partner and customer networks, or even to video endpoints using the public Internet.

Advanced Solution Management, Desktop Video, and Streaming: Cisco Unified Videoconferencing Manager

Cisco Unified Videoconferencing products can be managed as a standalone device or with the Cisco Unified Videoconferencing Manager, which helps organizations of all sizes use their video conferencing resources more effectively and extend desktop video access to new classes of users. The Cisco Unified Videoconferencing Manager allows you to easily schedule video conferences from a Web browser or a Microsoft Outlook calendar where you can view, check availability, and reserve video resources, such as Cisco Unified Videoconferencing MCUs and gateways. The application minimizes complexity and facilitates optimal resource usage by automatically communicating with multiple MCU and gateway devices across multiple geographical locations to reserve the appropriate resources at the most efficient locations. Additional features such as custom meeting templates that identify bandwidth, layout, and terminal setting preferences; Lightweight Directory Access Protocol (LDAP) integration; e-mail notifications; and automatic dialout to video terminals help make the scheduling and attending experience flexible and efficient, thereby reducing the need for help-desk support and the total cost of ownership.

Cisco Unified Videoconferencing Manager reduces the hurdles to deploying video conferencing to large or geographically dispersed environments. Video conferencing devices are registered with Cisco Unified Videoconferencing Manager, which then combines the device information, network topology, and bandwidth information to help simplify user and administrator interactions and make intelligent resource-allocation decisions. Cisco Unified Videoconferencing Manager also helps improve meeting effectiveness by providing powerful in-meeting controls, such as the ability to invite new users, mute and unmute participants, and change the meeting video layout for any video conference on the network from a single, centralized Web user interface.

The Cisco Unified Videoconferencing Manager also includes fully interactive desktop video conferencing and one-way video streaming capabilities. Anyone with a PC, Web browser, and Webcam can join a video conference as a fully interactive video participant whether the person is inside or outside the corporate firewall. The streaming video features allow anyone with a Web browser to passively view a live video stream of a conference, which is perfectly suited for meetings such as panel discussions where there is a large audience but only a subset of the attendees actively participate. Eliminating the need to be connected to the enterprise network or have access to traditional video endpoints makes it easier for traveling or remote employees, partners, and customers to participate and realize the benefits of visual communications.

Product Information

Table 1 describes the features of the Cisco Unified Videoconferencing 3515 MCU, and Table 2 lists the product specifications.

Table 1. Cisco Unified Videoconferencing 3515 MCU Features and Benefits

Feature	Description	Cisco Unified Videoconferencing 3515 MCU 12	Cisco Unified Videoconferencing 3515 MCU 24
		Part number	
Video and audio capacities	High-capacity SD connections (384 kbps or lower)	72 audio 24 video	72 audio 48 video
	High-quality SD connections (up to 2 Mbps)	24 audio 12 video	48 audio 24 video

New in Cisco Unified Videoconferencing 5.5 →	Switched HD (up to 2 Mbps)	24 audio 12 video	48 audio 24 video
	HD (up to 2 Mbps)	24 audio 4 video *	48 audio 16 video*
	<ul style="list-style-type: none"> All SD video ports are fully processed for audio and video, allowing them to offer any supported connection speed, any supported video and audio codecs, and any supported SD video resolutions (QCIF, CIF, SIF, or 4CIF resolutions) without any decrease in port capacities or in the number of simultaneous conferences supported. There is no limit on the number of simultaneous conferences. Switched HD service provides full-screen voice-activated switching for HD-only (720p and 1080p) conferences. HD service provides interoperability between SD and HD (720p) participants and continuous presence conference views in HD (720p). The video-connection capacities listed for the HD service can be either SD or HD connections. HD participants receive 720p video resolution using H.264. All services may run concurrently on MCU to optimize the widest variety of endpoint requirements. All audio connections are fully processed and support audio-only connections from IP phones, including all Cisco Unified IP phones and clients. <p>* Enabling the HD service reduces capacity for all services on the MCU, but the high-capacity SD service (384 kbps or less) continues to support 2 connections per port.</p>		
Scalability	<ul style="list-style-type: none"> You can create larger conferences by cascading multiple Cisco Unified Videoconferencing 3515 MCU and 3545 MCU modules together. You can centralize cascaded conferences in the data center or distribute conferences geographically to more efficiently use WAN bandwidth. For desktop, telephony, or mobile video conferencing deployments that do not require more than 384-kbps connections, Cisco Unified Videoconferencing 3515 MCU port capacity is increased by 100 percent. Auto-cascading, geographical MCU selection, and other "virtual MCU" features are provided by both the Cisco Unified MeetingPlace and Cisco Unified Videoconferencing Manager products. 		
Audio transcoding	<ul style="list-style-type: none"> Conference participants can use G.711, G.722, G.722.1, G.723.1, G.728, or G.729A audio encoding. The audio capabilities of each calling endpoint are matched before the audio from all participants is mixed. 		
Conference management	<ul style="list-style-type: none"> A conference moderator can perform a variety of conference monitoring and management functions through an easy-to-use Web interface. Real-time conference management and monitoring features allow moderators to: <ul style="list-style-type: none"> View conference list and number of participants View conference type and participant information, including name, number, IP address, video and audio codecs in use, and time joined the conference Create a new conference and assign a conference password Terminate a video conference The solution offers powerful conference control for management of active conferences, allowing moderators to: <ul style="list-style-type: none"> Add or drop participants in a conference Lock the video on a location to be viewed by all participants in a conference Lock the video and specify image position during a continuous-presence conference Switch between voice-activated and continuous-presence views during a conference Mute audio from a selected participant Terminate a video conference 		
Unscheduled or scheduled conferences	<ul style="list-style-type: none"> You can easily initiate unscheduled conferences. You can schedule conferences through the Cisco Unified MeetingPlace solution or the Cisco Unified Videoconferencing Manager product. 		
Security	<ul style="list-style-type: none"> H.235 Advanced Encryption Standard (AES) and Data Encryption Standard (DES) encryption on both SD and HD connections, up to 128-bit keys, offers secure audiovisual conferencing.³ Your access is password-protected through a Web GUI with multiple levels: administrator, operator, and user. Secure password enforcement The solution offers HTTPS and Secure Sockets Layer (SSL) protection. PIN-protected conferences help ensure privacy. The solution offers a security warning page option. You can disable or enable the serial port. The solution offers session inactivity time-out and user lockout (manual and auto) capabilities. Security event logging is provided. 		

Conferencing and video display features	<ul style="list-style-type: none"> You can conduct an unlimited number of simultaneous conferences. Full-screen voice-activated HD switching service delivers the same port capacity as SD services while making good use of higher-resolution images. Continuous-presence conferences display up to 16 SD or HD participants at one time. You have more than 26 screen layout options, all of which support both SD and HD participants. Auto layout selection based on the number of participants. Continuous-presence screen layouts are displayed in full 720p resolution to HD participants. The solution offers configurable methods to convert 4:3 SD aspect ratio to 16:9 HD aspect ratio video resolutions (crop, stretch, or borders). The administrator controls layouts and conference views. The Web interface gives a conference moderator full control of participant location in the screen layout. A self-see window in the screen layout can be removed for (high-capacity and high-quality) SD conferences, providing a unique and optimized view for each SD participant (without the participant in the layout). The solution offers text overlay options.
Audio announcements on entry and exit	<ul style="list-style-type: none"> The system plays entry and exit sounds when conference participants join or leave a conference. You can record and upload custom messages using the supplied recording utility software.
Data support	<ul style="list-style-type: none"> The solution supports H.239 and Tandberg DuoVideo for presentation sharing. The solution integrates with the Cisco Unified MeetingPlace solution for rich-media conferencing and Web collaboration.
Diagnostics	<ul style="list-style-type: none"> The solution performs a power-on self-test for CPU, interfaces, and memory when the unit is turned on. The solution provides front-panel error indicators. The solution provides Telnet and serial port-monitoring capabilities.

Table 2. Cisco Unified Videoconferencing 3515 MCU Specifications

Feature	Specification
LAN interface	One 10/100 Ethernet port, IEEE 802.3, 8-pin RJ-45
Serial port	EIA-232, 9-pin D-type
Video protocols	H.323, SIP, and SCCP
Video coding	H.261, H.263, and H.264
Video resolutions	Primary participant video resolutions: Quarter Common Intermediate Format (QCIF), Common Intermediate Format (CIF), 4CIF, and 1280 x 720 HD H.239 and Tandberg DuoVideo content video resolutions: Video Graphics Array (VGA), Super Video Graphics Array (SVGA), and Extended Graphics Array (XGA)
Audio coding	G.711, G.722, G.722.1, G.723.1, G.728, and G.729A
Other protocols	H.239, H.243, and H.235 (AES and DES)
Data collaboration	<ul style="list-style-type: none"> H.239 and Tandberg DuoVideo for presentation sharing Integration with the Cisco Unified MeetingPlace solution for audio, video, and Web rich-media conferencing and collaboration
Gatekeeper support	Cisco IOS Gatekeeper or equivalent
Dimensions	1.75 x 17.25 x 10.0 in. (4.445 x 43.815 x 25.4 cm)
Weight	15.43 lb (7 kg)
Power	<ul style="list-style-type: none"> IPVC-3515-MCU12: 67W maximum IPVC-3515-MCU24: 88W maximum 100–240 VAC autosense, 50–60 Hz U.S. power cable included Other power cables available
Environment	<ul style="list-style-type: none"> Operating temperature: 32 to 104°F (0 to 40°C) Storage temperature: 13 to 158°F (25 to 70°C) Humidity: 5 to 90% noncondensing

Agency compliance	<p>Safety:</p> <ul style="list-style-type: none"> • UL 60950: 2000 • CSA CS22.2 No. 60950-00 • GS Approval (EN 60950: 2000) • EN 60950: 2000 • ACA: TS002-1997 • AS/NZS 3260: 1993, A4: 1997 • AS/NZS 60950: 2000 • IEC 60950: 1999 (CB test report) <p>EMI:</p> <ul style="list-style-type: none"> • FCC Part 15 Subpart B, Class A, • EN 55022: 1998, Class A • ICES 003 • EN 55024: 1998 • EN 61000-3-2: 1995, Amendment A14: 2000 • EN 61000-3-3 • EN 61000-4-2: 1995 • EN 61000-4-3: 1995 • EN 61000-4-4: 1995 • EN 61000-4-5: 1995 • EN 61000-4-6: 1996 • EN 61000-4-8: 1993 • EN 61000-4-11: 1994 • AS/NZS 3548: 1995 Class A, Amendment 1: 1997, Amendment 2: 1997 • VCCI: 1999
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Cisco Unified Communications Services

Cisco and its certified partners can help you deploy a secure, resilient Cisco Unified Communications solution, meeting aggressive deployment schedules and accelerating business advantage. Cisco's portfolio of services is based on proven methodologies for unifying voice, video, data, and mobile applications on fixed and mobile networks.

Cisco's unique lifecycle approach to services defines the requisite activities at each phase of the solution lifecycle. Customized planning and design services focus on creating a solution that meets your business needs. Award-winning technical support increases operational efficiency. Remote management services simplify day-to-day operations, and optimization services enhance solution performance as your business needs change.



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