

Cisco Unified Videoconferencing

Cisco Unified Communications Rich-Media Conferencing

Conferencing applications have become critical productivity tools for organizations. Cisco® provides multiple conferencing offerings that are part of the Cisco Unified Communications solution.

Q. What is the Cisco Unified Videoconferencing solution?

- A.** Video conferencing allows interactive video and voice communications between two or more geographically distant people or locations. Cisco Unified Videoconferencing solutions—an integral component of the Cisco Unified Communications system—provide a reliable, versatile, and easy-to-manage network infrastructure for video conferencing applications.

In addition to integrating both traditional H.320 and H.323 room systems over a single IP infrastructure, Cisco Unified Videoconferencing products provide video conferencing capabilities for Skinny Client Control Protocol (SCCP) video telephony, Session Initiation Protocol (SIP) endpoints, and multimedia conferencing applications such as Cisco Unified MeetingPlace® conferencing, making it possible for a wide variety of participants to collaborate effectively and share information in real time.

Cisco Unified Videoconferencing products provide high-performance, flexible, and scalable video conferencing for small to large organizations. The solution incorporates advanced conference setup and attendance functions, a range of dynamic layouts, numerous in-conference controls, and the ability to manage and monitor all video conferencing network elements for an optimal visual communications experience.

Cisco Unified Videoconferencing solutions offer solution flexibility and investment protection by providing:

- Standalone impromptu and prescheduled multipoint video conferencing capabilities for traditional ISDN and IP video deployments
- Impromptu multipoint conferencing for Cisco Unified CallManager video telephony environments.
- Video conferencing for the Cisco Unified MeetingPlace rich-media (audio, video, and Web) conferencing solution.

Q. What is Cisco Unified MeetingPlace conferencing?

- A.** Cisco Unified MeetingPlace conferencing is a complete rich-media conferencing solution for midsize to large organizations that integrates voice, video, and Web conferencing capabilities to make remote meetings as natural and effective as face-to-face meetings. It is deployed on-network, behind the firewall and integrated directly into an organization's private voice and data networks and collaborative applications. This deployment model helps businesses save money, improve security, and provide an enhanced user experience. With industry-leading video setup and control capabilities, this solution meets the needs of organizations looking for a single enterprise-class solution and user environment for voice, video, and Web conferencing.

Q. What is Cisco Unified MeetingPlace Express VT?

A. Cisco Unified MeetingPlace Express VT is an integrated voice, video, and Web conferencing solution for Cisco Unified CallManager video telephony environments. The solution provides impromptu conferencing capabilities that can be initiated from SCCP devices, such as Cisco Unified Video Advantage, and from Cisco Unified Personal Communicator.

Q. How can I find more information about Cisco conferencing offerings?

A. Information about each solution is available at the following links:

- [Cisco Unified Videoconferencing](#)
- [Cisco Unified MeetingPlace conferencing](#)
- [Cisco Unified MeetingPlace Express](#)

Cisco Unified MeetingPlace Conferencing**Q. Do Cisco Unified Videoconferencing solutions integrate with Cisco Unified MeetingPlace conferencing?**

A. Yes. Cisco Unified Videoconferencing provides the multipoint video conferencing functions for Cisco Unified MeetingPlace voice, video, and Web conferencing environments. The Cisco Unified Videoconferencing components have been tightly integrated for a single administrative and participant experience that provides a single point for voice, video, and Web conferencing setup and attendance, administration, in-meeting video management, and control. The solution also provides access and interoperability from an extremely broad range of endpoints and platforms. Customers can start with either conferencing solution alone and then take advantage of their investment by adding the other solution to expand it into a full rich-media conferencing solution.

Cisco Unified Videoconferencing Product Family**Q. What is the current version of Cisco Unified Videoconferencing offerings?**

A. The currently shipping version is Cisco Unified Videoconferencing 3500 Series hardware and Version 5.0 software. In May 2006 Cisco introduced all new video conferencing infrastructure offerings and changed the product family name from Cisco IP/VC to Cisco Unified Videoconferencing. The new Cisco Unified Videoconferencing 3500 Series products deliver powerful next-generation hardware as well as enhanced software. For more information about the new products, please visit the [Cisco Unified Videoconferencing](#) product family Webpage.

Q. What advantages does the new hardware architecture provide?

A. The new Cisco Unified Videoconferencing products offer a new “encoder-per-port” hardware architecture that significantly enhances product performance and ease of use and simplifies product configuration, capacity planning, and deployment. The prior generation (IP/VC) products, along with most other video conferencing vendors’ current offerings, use a shared processing resource architecture that forces customers to make feature-versus-performance and capacity trade-offs. These trade-offs must be made before deployment to ensure the products are configured for predictable behavior in a production environment, increasing complexity and inaccuracies in planning, staging, and deploying a video conferencing solution and possibly leading to less-than-expected performance or capacity—especially when used with today’s latest video conferencing endpoint technology. The result is added complexity for users, often making them reluctant to use their video conferencing solutions. The new Cisco Unified Videoconferencing hardware architecture dedicates an encoder/decoder to each “port” for a flat-capacity scaling model. If a 24-port solution is purchased, that solution will always

support 24 ports regardless of what supported bit rate, audio or video codec, or other conferencing features are used. This model simplifies capacity planning and reduces configuration and deployment complexity, making the solution easier for users and administrators.

Q. Does the flat-capacity scaling model apply to all situations?

A. The only exception to the flat-capacity scaling model described is when encryption is used on connections greater than 768 kbps, in which case two ports worth of encoders are required. Encryption on all connections up to and including 768 kbps follows the flat-capacity scaling model described and has no effect on capacity or performance.

Q. Can I still buy the previous-generation products?

A. No. The previous generation of IP/VC products—including the Cisco IPVC 3511, IPVC 3521, IPVC 3526, and IPVC 3544 Videoconferencing Systems—did not conform to new international guidelines that went into effect this year and therefore underwent an end-of-sale. The official [End of Sale bulletin](#) includes end-of-life support milestones and specific product replacement information.

Q. What are the options for customers who have deployments of the previous generation of IP/VC products?

A. Customers have two options:

1. Customers can trade in any of the IP/VC models that have reached end-of-sale using the Cisco Technology Migration Program (TMP) to obtain credit that will be applied toward the purchase of the new Cisco Unified Videoconferencing products. All TMP credits are in addition to any normal Cisco customer or partner discounts. Cisco TMP credits obtained by trading in any other Cisco products that participate in the TMP program can also be used toward the purchase of the new Cisco Unified Videoconferencing products.
2. Because the Cisco IP/VC 3500 Series products using Version 4.0 software are interoperable with the Cisco Unified Videoconferencing 3500 Series products running Version 5.0 software, deployments based on the previous generation of hardware products and running Version 4.0 software can have solution-level capacity expanded by adding the new products to the deployment. Please note the following caveats in heterogeneous deployments:
 - There will be feature, performance, and capacity differences between older and new models. If the Cisco Unified Videoconferencing Manager product is being used to manage the solution, these differences will automatically be accounted for when scheduling meetings, placing participants, and reserving resources on multipoint control units (MCUs).
 - The Cisco IPVC 3544 Videoconferencing System and new Cisco Unified Videoconferencing 3545 System do not have interoperable modules and chassis, meaning that Cisco IPVC 3544 System modules cannot be used in the new Cisco Unified Videoconferencing 3545 System chassis, nor can the new modules be used in the Cisco IPVC 3544 System chassis.
 - There are some feature limitations in cascading previous-generation MCUs to new-model MCUs. Please contact your Cisco account team for more information if you intend to run a heterogeneous environment that requires MCU cascading.

Q. Can I upgrade my previous generation of IP/VC products to the 5.0 versions of software?

A. The gateway products (Cisco IPVC 3521, IPVC 3526, and IPVC 3540 Videoconferencing Gateway modules) can be upgraded to the Version 5.0 software. The MCU products (Cisco IPVC 3511 MCU, Cisco IPVC 3511 MCU-E and the Cisco IPVC 3544 System MCU and

Enhanced Media Processor (EMP) modules) cannot be upgraded to the Version 5.0 releases because of hardware limitations.

Product Features and Solution Architecture

Q. Are there any limitations on product performance or features that result from audio or video codec choice, endpoint connection rate, or other use case scenarios?

A. The new Cisco Unified Videoconferencing hardware architecture eliminates almost all such trade-offs. For example:

- There is no drop in port capacity when connection rates are increased—up to 2 Mbps per endpoint is supported.
- H.264 has unlimited support—any continuous presence layout and any connection rate.
- There are no limits on the number of conferences supported per product.
- Encryption has no effect on port capacity for connection up to and including 768 kbps.

Q. Can I buy just an MCU module for the Cisco Unified Videoconferencing 3545 System?

A. Unlike the previous Cisco IPVC 3544 System, the Cisco Unified Videoconferencing 3545 System requires both an MCU and at least one EMP module. The new higher-performing hardware design required splitting of the audio and video processing between the MCU and EMP modules, respectively. Each MCU module supports 96 fully processed audio ports and can manage up to four EMP modules in the same or other Cisco Unified Videoconferencing 3545 System chassis. Each EMP module supports 24 fully processed video ports.

Q. What is the maximum IP port capacity of a single Cisco Unified Videoconferencing system?

A. A single Cisco Unified Videoconferencing MCU chassis can support from 12 to 72 fully processed IP (H.323, SIP, or SCCP) video ports (that is, simultaneous endpoint connections) in a single physical chassis, depending on the model purchased (refer to Table 1).

Table 1. Cisco Unified Videoconferencing MCU port capacities

MCU Product Model	Product Part Number	Video Ports	Audio Ports
Cisco Unified Videoconferencing 3515 MCU12	IPVC-3515-MCU12	12	24
Cisco Unified Videoconferencing 3515 MCU24	IPVC-3515-MCU24	24	48
Cisco Unified Videoconferencing 3545 System	(One) IPVC-3545-CHAS (One) IPVC-3545-MCU (One to three) IPVC-3545-EMP	24 - 72	96

The Cisco Unified Videoconferencing 3545 System is designed to be easily expanded beyond a single chassis. The modules use the IP network as their backplane, and the MCU modules can manage up to four EMP modules in any chassis on the network. In addition, MCUs of both systems can be cascaded together to extend the number of ports available to a single conference.

For more details, refer to the Cisco Unified Videoconferencing 3515 MCU data sheet at:

http://cisco.com/en/US/products/hw/video/ps1870/products_data_sheet0900aecd804bbfb0.html.

The Cisco Unified Videoconferencing 3545 System data sheet is located at:

http://cisco.com/en/US/products/hw/video/ps1870/products_data_sheet0900aecd804bbfc0.html.

Q. What is the maximum ISDN call capacity of a single Cisco Unified Videoconferencing Gateway system?

- A.** A single Cisco Unified Videoconferencing ISDN Gateway system can support four Basic Rate Interface (BRI) interfaces, one Primary Rate Interface (PRI) interface, two PRI interfaces, or four serial interfaces, depending on the model purchased (Table 2).

Table 2. Cisco Unified Videoconferencing ISDN Gateway interface options

Gateway Product Model	Product Part Number	Interfaces	Call Capacity
Cisco Unified Videoconferencing 3522 Gateway	IPVC-3522-GW4B	4 BRI	Refer to Table 1 of Cisco Unified Videoconferencing 3522 and 3527 Gateways data sheet
Cisco Unified Videoconferencing 3527 Gateway	IPVC-3527-GW1P	1 PRI	Refer to Table 1 of Cisco Unified Videoconferencing 3522 and 3527 Gateways data sheet
Cisco Unified Videoconferencing 3545 System PRI Gateway Module	IPVC-3545-GW2P	2 PRI	Refer to Table 2 of Cisco Unified Videoconferencing 3545 System data sheet
Cisco Unified Videoconferencing 3545 System Serial Gateway Module	IPVC-3545-GW4S	4 serial	Refer to Table 2 of Cisco Unified Videoconferencing 3545 System data sheet

The Cisco Unified Videoconferencing 3522 and 3527 Gateways data sheet is located at:

http://cisco.com/en/US/products/hw/video/ps1870/products_data_sheet0900aecd804bbfd6.html.

The Cisco Unified Videoconferencing 3545 System data sheet is located at:

http://cisco.com/en/US/products/hw/video/ps1870/products_data_sheet0900aecd804bbfc0.html.

Q. Can multiple Cisco Unified Videoconferencing systems be combined to achieve higher port capacity?

- A.** Yes. Multiple Cisco Unified Videoconferencing systems can be logically integrated or “cascaded” to scale capacity using several mechanisms:
- Cisco Unified Videoconferencing 3515 and 3545 MCU products can be manually cascaded to extend port capacity. Video conferences can span multiple MCU chassis using these cascaded systems.
 - The Cisco Unified Videoconferencing Manager product can virtualize all MCUs in the network to provide automatic and transparent MCU cascading when needed, intelligent MCU hunting and participant placement to optimize bandwidth, direct inward dialing, single-number conference dialing (regardless of which MCU the conference is located on), least-cost ISDN routing, and a single global conference view and in-conference control interface for multi-MCU deployments.

More detailed information is available in the Cisco Unified Videoconferencing Manager data sheet at: http://cisco.com/en/US/products/ps7088/products_data_sheet0900aecd8053684f.html.

- The Cisco Unified MeetingPlace Version 5.4 solution can also provide virtual MCU capabilities to transparently scale capacity in a multi-MCU environment.

More detailed information is available in the Cisco Unified MeetingPlace Version 5.4 data sheet at:

http://cisco.com/en/US/products/sw/ps5664/ps5669/products_data_sheet0900aecd804fba42.html.

- Q. What is the maximum port capacity of a cascaded Cisco Unified Videoconferencing system?**
- A.** An unlimited number of MCUs can be cascaded. The theoretical port limitation in a single conference is approximately 800 ports, which would require the cascading of 12 fully configured Cisco Unified Videoconferencing 3545 Systems.
- Q. What is the difference between the Cisco Unified Videoconferencing 3515 MCU platform and the Cisco Unified Videoconferencing 3545 System?**
- A.** The primary difference between platforms relates to the audio and video capacities. The Cisco Unified Videoconferencing 3515 MCU platform is a 1-rack-unit (RU) preconfigured and closed-chassis product that supports either 12/24 or 24/48 video/audio capacities. The Cisco Unified Videoconferencing 3545 System is a 4-slot chassis in a 2RU form factor that provides between 24/92 and 72/92 video/audio ports.

The other significant distinction is that the Cisco Unified Videoconferencing 3545 System's modular design provides a more flexible and expandable architecture. Customers have the flexibility of starting as small as 24/96 video/audio ports and expand to 72/96 video/audio ports in a single chassis by simply adding more EMP modules. In addition to the modular chassis, the Cisco Unified Videoconferencing 3545 System modules use the IP Ethernet network as their backplane, so additional chassis with additional modules can be added to the network transparently to increase audio or video capacity without concerns of which physical chassis contains which modules.

All other features are identical between the Cisco Unified Videoconferencing 3515 and 3545 platforms.

- Q. Do the Cisco Unified Videoconferencing MCU platforms support T.120 data collaboration?**
- A.** Yes. Although the Cisco recommended method of data collaboration within a video conference is to integrate the Cisco Unified Videoconferencing products with the Cisco Unified MeetingPlace solution for a complete rich-media conferencing and collaboration solution, those customers who already have T.120-based collaboration solutions in place on their network can enable this protocol on the Cisco Unified Videoconferencing MCU platforms to allow T.120 sessions within the videoconferences.
- Q. Do Cisco Unified Videoconferencing products support H.239 or Tandberg's DuoVideo protocol?**
- A.** Yes. Both the H.239 standard and Tandberg's proprietary version of it, called DuoVideo, are supported on all Cisco Unified Videoconferencing products to enable a second video channel for sharing content with other conference participants.
- Q. On the Cisco IPVC 3511 MCU, the SCCP port allocation had to be all or nothing. Is this true for the new Cisco Unified Videoconferencing 3515 MCU models?**
- A.** No. Cisco has improved the flexibility of SCCP port provisioning. All Cisco Unified Videoconferencing MCU models can now allocate 0, 6, 12, 24, or all available ports to use the SCCP protocol. For example, the 12-video-port version of the Cisco Unified Videoconferencing 3515 MCU can have 0, 6, or all 12 of its ports partitioned for SCCP endpoints, and any remaining will support H.323 and SIP. A 72-video-port configuration of the Cisco Unified Videoconferencing 3545 System will support 0, 6, 12, 24, or all 72 video ports being allocated for SCCP.

Q. How do the video conferencing capabilities differ between Cisco Unified MeetingPlace Express VT and Cisco Unified Videoconferencing?

- A.** Cisco Unified MeetingPlace Express VT is a low-cost, software-based conferencing solution for small to midsize organizations with Cisco Unified CallManager video telephony environments. It provides simple voice-activated video switching using a single codec and a single bit rate per meeting.

Cisco Unified Videoconferencing can be used to provide multipoint video conferencing in Cisco Unified CallManager video telephony environments, as part of a Cisco Unified MeetingPlace solution or as a standalone video conferencing solution. Through the use of hardware digital signal processors (DSPs), Cisco Unified Videoconferencing products provide support for multiple call protocols (H.320, H.323, SIP, and SCCP) and advanced capabilities such as transcoding, transrating, continuous presence with support for multiple layouts, etc.

Q. How does the Cisco Unified Videoconferencing solution enable a secure conferencing environment?

- A.** Because the solution is deployed on the network, security can be controlled and ensured. The Cisco Unified Videoconferencing solution allows enterprises to isolate their confidential meetings and content behind the firewall for secure data network transport while providing the flexibility to meet with external parties. It also provides extensive capabilities to ensure the most secure conferencing environment:

- Encryption—The Cisco Unified Videoconferencing solution supports encrypted audio and video sessions by using the H.235 standard, including both Digital Encryption Standard (DES) and Advanced Encryption Standard (AES) encryption with up to 128-bit key support.
- Conference lock-out controls—Users can designate that meetings be held entirely within a corporate firewall—or even include only specifically invited participants—by locking a conference.
- Attendee authentication—Meeting organizers can password protect video conferences.
- Automated account management—The Cisco Unified Videoconferencing Manager product integrates with corporate directories, so profiles of employees who leave the company are removed from the database.
- In-session meeting controls—The meeting organizer can specify whether entries and departures are announced, require passwords, lock the meeting, and eject unwanted attendees.
- Dedicated internal resources—Customers have their own dedicated Cisco Unified Videoconferencing resources that will benefit from the general network and physical security that have been implemented.

Cisco Unified Videoconferencing Manager

Q. What is the Cisco Unified Videoconferencing Manager?

- A.** The new Cisco Unified Videoconferencing Manager Version 5.0 is a single application that enables organizations to easily set up and control Cisco Unified Videoconferencing conferences. The solution also provides functions to configure, manage, and monitor video conferencing network elements for an optimal visual communications experience.

Capabilities include:

- Simple conferencing setup, scheduling, and attendance—Users can schedule future and initiate impromptu videoconferences from Web browsers and Microsoft Outlook calendars.

The application reserves MCU capacity, bandwidth, and video endpoints that are automatically connected when the meeting starts (automatic dial-out).

- Advanced conference control—Users can invite new participants, mute and unmute participants, and change the video layout in real time in any conference in the network regardless of which MCU(s) they are hosted on.
- Comprehensive administration—Administrators can monitor, control, and maintain all video endpoints and network elements, including Cisco Unified Videoconferencing MCUs and gateways.
- Simplify large deployments—The application enables access of multiple MCUs and gateways by a single number and manages MCU selection and cascading to optimize resources and enable highly scalable conferences.

For information, refer to the [Cisco Unified Videoconferencing Manager Website](#) and [data sheet](#).

Q. How is Cisco Unified Videoconferencing Manager different from the Cisco Unified MeetingPlace solution?

A. The Cisco Unified Videoconferencing Manager is a scheduling and management solution for Cisco Unified Videoconferencing deployments. It is intended for customers who are not currently using or considering a Cisco Unified MeetingPlace rich-media conferencing solution but still need the video conferencing scheduling, resource reservation, and solution scaling for a Cisco Unified Videoconferencing system. Cisco Unified MeetingPlace 5.4 provides similar video conferencing scheduling, resource reservation, and solution scaling as part of a complete integrated voice, video, and Web conferencing solution. Because they have overlapping functions, the Cisco Unified Videoconferencing Manager and Cisco Unified MeetingPlace solutions cannot be used together with the same video conferencing deployment.

Q. Does the Cisco Unified Videoconferencing Manager Version 5.0 also support the previous generation of IP/VC products?

A. Yes. The Cisco Unified Videoconferencing Manager Version 5.0 can manage the following video conferencing deployments:

- Cisco IP/VC deployments using Version 4.0 software
- Cisco Unified Videoconferencing deployments using Version 5.0 software
- Heterogeneous deployments of Cisco IP/VC Version 4.0 and Cisco Unified Videoconferencing Version 5.0 products

Q. How is the Cisco Unified Videoconferencing Manager licensed?

A. The Cisco Unified Videoconferencing Manager licenses determine the number of video conferencing endpoints on the network that the product can manage and support. It supports from 25 to 300 endpoint licenses in increments of 25. There is no limit to the number of Cisco Unified Videoconferencing MCU and Gateway products or Cisco IOS® Software H.323 Gatekeeper products that it can manage.

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