

Cisco TelePresence Interoperability: Any-to-Any Collaboration

As a breakthrough collaboration technology, the Cisco™ TelePresence solution integrates rich audio, high-definition video, and interactive elements to deliver an immersive in-person experience -- over an IP network. The solution creates the impression that local and remote participants are in the same room. The use of innovative audio and video technology makes it possible for Cisco TelePresence users to communicate as naturally as they would in person. Every expression, gesture, and nuance is clearly visible, across town or across time zones.

Although Cisco TelePresence provides tremendous value by both speeding the pace of business and bolstering productivity, customers are just beginning rollouts of this solution. To provide a bridging strategy during rollouts, Cisco is providing the ability to bring existing video conferencing sessions into a Cisco TelePresence meeting at standard definition (SD) -- the format used by the vast majority of deployed video conferencing systems, and all desktop conferencing solutions.

Cisco is expanding the interoperability capabilities available for Cisco TelePresence with new support for high-definition (HD) video conferencing sessions into a Cisco TelePresence meeting.

Q. What is Cisco TelePresence Interoperability -- or “interop” for short?

A. Interoperability is the ability to allow Cisco TelePresence endpoints (Cisco TelePresence System 500, 1000, 1300, 3000, and 3200 models) to be in the same meeting -- to interoperate with -- video conferencing endpoints.

Q. What does Cisco offer for interoperability capabilities?

A. Cisco has built into the existing product line support for interoperability through Cisco TelePresence endpoints, the Cisco TelePresence Multipoint Switch, and Cisco TelePresence Manager to enable full interoperability through Cisco® Unified Video Conferencing with video conferencing.

Q. How does Cisco TelePresence interoperability work?

A. Cisco TelePresence interoperability allows the Cisco TelePresence endpoints to deliver a video stream that can be displayed by a existing H.323, Session Initiation Protocol (SIP), H.320 (ISDN), Microsoft Office Communicator (MOC), or Skinny Client Control Protocol (SCCP) video conferencing endpoint, and conversely. Cisco TelePresence interoperability uses Cisco Unified Video Conferencing, Cisco Unified Communications Manager, and the Cisco TelePresence products to deliver a full network-based solution to connect Cisco TelePresence and video conferencing endpoints.

Q. Why is interoperability important to Cisco TelePresence customers?

- A.** Cisco TelePresence interoperability gives you a bridging strategy to allow you to grow your Cisco TelePresence rollouts while maximizing existing resources. Although video conferencing cannot provide a true “in-person” experience for end users, interoperability allows you to expand collaboration to the widest possible audience.

We expect that Cisco TelePresence interoperability will actually accelerate the adoption of the Cisco TelePresence solution, because more end users will gain experience with the application and will want the rich, immersive, in-person experience that only Cisco TelePresence can provide.

Q. Why is Cisco providing this interoperability? Won't it diminish the Cisco TelePresence experience?

- A.** Although video conferencing cannot create a true, in-person experience, and is typically frustrating for end users to operate, many enterprises have installed it. Therefore, many Cisco TelePresence customers can maintain their video conferencing equipment while migrating to a Cisco TelePresence platform. In addition, many Requests for Proposals (RFPs) now have interoperability listed as a requirement. Customers are rapidly adopting Cisco TelePresence, but as global rollouts are in progress, customers will want as many end users as possible to access Cisco TelePresence. Cisco Any-to-Any Interoperability provides this access.

Q. Don't existing standards already allow interoperability?

- A.** Cisco TelePresence systems are 100-percent standards-based, using protocols such as SIP, H.264, G.711 and G.722, and Real-Time Transport Protocol (RTP). In addition, Cisco is active in all related ITU standards committees, and is the chair on some. However, standards do **not** guarantee interoperability; standards are only an agreed-upon (well-documented) method of communicating. A product can be 100-percent compliant with a standard, and still not interoperate with other products because standards are built by consensus, and they contain many options and settings. Full interoperability requires extensive testing, and possibly transcoding to manage the huge variety of “standards”-based endpoints deployed.

Note: It took the video conferencing manufacturers almost 6 years to agree on H.264 standard definition (CIF) interoperability.

Q. How do we expect video conferencing vendors to respond?

- A.** Video conferencing vendors will likely say that Cisco TelePresence interoperability validates the video conferencing market, and in particular, “HD” products. It does not. Cisco TelePresence interoperability does not change the fundamental concerns that have hampered the video conferencing market: End users find the video conferencing experience frustrating, and operations limiting. Merely improving resolution, that is, upgrading cameras and displays to “HD-capable” (720p), does not significantly change the video conferencing experience.

It is important to remember that as people gain experience with Cisco TelePresence, they will recognize the superior experience that comes with a combination of audio and video technology, simplicity of use, room environmentals, and the power and reliability of operating over the existing network. Just look at the Cisco on Cisco TelePresence metrics to date: 5+ hours per day per room, compared to an industry average of about 1 hour per room for video conferencing rooms. Additionally, when end users move from standard- to high-definition systems, the usage does not increase. Refer to the Cisco TelePresence website for research from the industry analyst firm Wainhouse that supports both of these assertions.

Q. When and how can I bring my customers to see Cisco TelePresence interoperability?

A. We can provide full demonstrations of (SD) interoperability between any Cisco TelePresence room to any videoconferencing room on the Cisco network. To schedule a (SD) demonstration, contact Ron Inouye in the Cisco Executive Briefing Center (EBC) at roinouye@cisco.com. Demonstration of high-definition interoperability will be available later this year.

Q. When will high-definition interoperability be available?

A. The addition of HD interoperability is expected to be available in calendar Q4 2009.

Q. What video conferencing equipment can interoperate with Cisco TelePresence systems?

A. Essentially, any standards-based H.323, SIP, or SCCP video conferencing endpoint will interoperate with Cisco TelePresence systems, including most endpoints from Polycom, Tandberg, Sony, Aethra, VCON, PictureTel, VTel, Huawei, and Microsoft. It also includes video endpoints from Cisco: Cisco Unified Video Advantage, Cisco Unified Personal Communicator, and the Cisco Unified IP Phone 7985G. It also includes nonstandard solutions such as Microsoft Office Communicator.

Q. What about Cisco TelePresence multipoint interoperability?

A. Multipoint is a standard capability available with all meetings using interoperability; it allows for conferences that are a mix of Cisco TelePresence endpoints and video conferencing endpoints. The full Cisco TelePresence experience is maintained for Cisco TelePresence to Cisco TelePresence endpoints in a standard-definition meeting. In a Cisco TelePresence meeting that includes high-definition video conferencing, all video is dropped to the lowest common 720p format.

Q. Do I need to overhaul my existing video conferencing deployment?

A. No. Cisco TelePresence interoperability was designed to have no significant effect on the existing deployment of video conferencing -- no change to endpoints, no change to procedures, no change to gatekeepers, no change to multipoint, and no retraining of users. The only requirement is installation of Cisco Unified Videoconferencing to act as a gateway. Most video conferencing procedures remain the same. The only change is that the video conferencing user must dial a phone number to join the Cisco TelePresence meeting. This change also allows you to deploy Cisco TelePresence without a complete equipment upgrade of your installed base of products.

Q. What equipment do I need for interoperability?

A. All you need for an interoperability "any-to-any" meeting is a Cisco TelePresence Multipoint Switch and Cisco Unified Videoconferencing, using the latest software and hardware.

Q. What is the Cisco TelePresence interoperability price, and when is it orderable?

A. The standard-definition interoperability hardware components (Cisco TelePresence Multipoint Switch and Cisco Unified Videoconferencing) are available today on the price list. Details and pricing for high-definition interoperability will be available in calendar Q3 2009.

Q. Is the Cisco TelePresence Multipoint Switch a multipoint control unit (MCU)?

A. No. The Cisco TelePresence Multipoint Switch is a next-generation Cisco TelePresence multipoint (media) switch, designed for high performance and ultralow latency. A video conferencing MCU is designed for video conferencing with a wide range of traditional (low-speed, standard-definition, and possibly high-definition) endpoints. Cisco TelePresence interoperability exploits the best of both platforms and transparently integrates using active segment cascading.

Q. How do participants visually experience interoperability?

A. From the Cisco TelePresence participant's perspective, the video conferencing video (SD) is expanded and centered on the Cisco TelePresence endpoint display, with black borders on all sides. From the video conferencing participant's perspective, the Cisco TelePresence high-definition video is reduced in size and displayed in letterbox format, with black borders above and below. For HD interoperability, participants using HD (720p) endpoints will see and be seen in full screen (no black borders) at 720p quality.

Q. Can the Cisco TelePresence Multipoint Switch interoperate with other MCUs?

A. The Cisco TelePresence Multipoint Switch is a standards-based platform, using SIP signaling, H.264 HD (720p) and SD (CIF) video, and G.711 and G.722 audio. It has been specifically developed and tested to work with the Cisco Unified Videoconferencing (Cisco IP/VC 3510 Multipoint Control Unit) platforms. Interoperability with other MCUs is not currently supported.

Q. What are the network bandwidth requirements between the Cisco TelePresence Multipoint Switch and Cisco Unified Videoconferencing?

A. For standard-definition interoperability, there is a single cascade link (per meeting) to Cisco Unified Videoconferencing, which is a full-duplex 768-kbps IP connection -- 704 kbps for video and 64 kbps for audio. The service-level agreement (SLA) for this link needs to meet the same requirements as for other Cisco TelePresence products. For high-definition interoperability, there is a cascade link per meeting, running at HD 720p and G.722. Bandwidth details depend on the specific configuration and preferred settings.

Q. What are the call and conference capacities for interoperability?

A. The Cisco TelePresence Multipoint Switch will support 48 segments (or "ports"). The segments can be divided up into any combination or number of concurrent conferences. Each Cisco TelePresence System 1000 or Cisco TelePresence System 500 endpoint is one segment, each Cisco TelePresence System 3000 or Cisco TelePresence System 3200 has three segments, and each interoperability cascade link is one segment. Conferences on the Cisco TelePresence Multipoint Switch can have only one interoperability cascade link per conference. In a temporary environment, each Cisco TelePresence Multipoint Switch conference could link to the same or different Cisco Unified Videoconferencing systems. In a scheduled environment with Cisco TelePresence Manager, a Cisco TelePresence Multipoint Switch can link to only a single Cisco Unified Videoconferencing system. On the Cisco Unified Videoconferencing application, capacity depends on the specific model and configuration.

Q. Are advanced Cisco TelePresence features supported?

A. This second release of Cisco TelePresence interoperability technology focuses on supporting HD 720p-capable video conferencing endpoints. Industry analysts (and some major competitors) confirm that more than 95 percent of today's video conferencing still uses H.323 signaling, CIF resolution ("TV quality" or standard-definition) video, and toll-quality audio. However, many new video conferencing endpoints being sold today are likely capable of HD

720p quality. Advanced features such as collaboration and encryption have neither been well supported nor implemented in multivendor environments. Based on customer requirements and the evolution of standards, these and other capabilities may be ported to support interoperability.

Q. Will Cisco be supporting interoperability with 1080p HD systems?

A. Cisco is now providing interoperability between Cisco TelePresence endpoints and virtually all video conferencing endpoints installed. It is important to note that the number of HD video conferencing systems on the market today is still quite small. Although the number of 720p-capable endpoints is starting to grow, there are virtually no deployed 1080p video conferencing endpoints. However, because customers have asked for this capacity, Cisco TelePresence interoperability with HD 1080 video conferencing systems is on the roadmap, and all products are “1080p-ready”.

Q. Why is Cisco providing interoperability, when it might sell more video conferencing?

A. Although many customers have purchased video conferencing systems, usage rates remain well below an hour a day on average. Existing video conferencing fails to provide the in-person experience that Cisco TelePresence offers, and it decreases usability by presenting difficult interfaces and configurations for users. We have increasing evidence that although customers ask for interoperability today (prior to a Cisco TelePresence deployment), they typically find the experience of Cisco TelePresence meetings so superior that there is little interest in significant continued use of video conferencing.

Q. How is a video conferencing meeting with a Cisco TelePresence system scheduled?

A. Cisco TelePresence schedulers get the same consistent way of scheduling a meeting whether with only other Cisco TelePresence units or with video conferencing endpoints -- through Microsoft Outlook or Lotus Notes. The scheduler follows a simple three-step process.

- Select the Cisco TelePresence rooms in the calendaring application and schedule a TelePresence meeting.
- Update the reservation to add video conferencing interoperability.
- Forward a confirmation email message with the video conferencing dial-in number to participants joining from video conferencing endpoints.

Q. Do participants get “one-button-to-push” capacity in Cisco TelePresence rooms?

A. Yes, all the participants joining from Cisco TelePresence rooms can launch interoperable calls by just pushing a button. Participants joining from video conferencing endpoints use existing procedures for their equipment to dial the number provided by scheduler.

For More Information

For more information and updates, visit: <http://www.cisco.com/go/telepresence>.



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