Cisco TelePresence Server

Product Overview

Cisco TelePresence® Server brings multiparty video to unified communications deployments. Its flexible video, audio, and content-sharing capabilities allow you to video conference with multiple parties. You can easily create, launch, and join meetings using standards-based video endpoints. Or your mobile devices or WebEx® clients. Or even third-party video endpoints. The server provides high-quality, standards-based video conferencing for your mobile, desktop, or room systems.

This scalable video conferencing bridge works with Cisco Unified Communications Manager. For midmarket and larger enterprise customers, it works with Cisco TelePresence Conductor to offer cost-efficient conferencing. It also works with Cisco TelePresence Management Suite for conference booking and scheduling and for resource management.

Its benefits include:

- A consistent user experience across mobile, desktop, or room-based video conferencing solutions.
- Flexible layouts, and views optimized for the capabilities of each device
- Enhanced user experience with features including Cisco ActivePresence® layouts, ActiveControl in-meeting controls, and individual participant identifiers; and Cisco ClearPath for optimal video quality
- The ability to elastically scale meetings beyond the capacity of a single TelePresence™ Server
- Broader reach, by extending meetings to Cisco WebEx® Meeting Center users
- Highly cost-efficient and scalable conferencing

Cisco TelePresence Server is available as a virtualized application compatible with standard Cisco Unified Computing System™ (Cisco UCS®) servers, or you can deploy it on dedicated hardware platforms.

Flexible licensing options enable you to deploy Cisco TelePresence Server capabilities in the way that best suits your needs. You can license the server on a per-host basis with Cisco Multiparty licenses. These licenses are available in the form of Personal Multiparty (named host) and Shared Multiparty (shared host) licenses (visit Cisco.com/go/personalmultiparty). Alternatively, you can purchase screen licenses for a concurrent call-based model (traditional TelePresence Server license model). Cisco Multiparty licenses are recommended. Held centrally on TelePresence Conductor, they offer increased efficiency and redundancy. For further information about ordering, please refer to Table 7 later in this document.

Figure 1 shows examples of supported modes of Cisco TelePresence Server.

Figure 1.   Examples of Cisco TelePresence Server Supported Modes

A critical requirement for all customers is ensuring a high return on investment (ROI). TelePresence Server has a software upgrade path that enables you to deploy new features as required, and with a cost-effective licensing model you can closely manage your investment while reaping the rewards of enhanced business agility, faster decision making, lower travel expenses, and increased employee productivity.

Designed to meet the needs of organizations from small businesses to global multinationals, TelePresence Server has a scalable architecture, enabling you to start small and increase the scale of your solutions as your business grows.

Cisco TelePresence Server is compatible with a range of hardware platforms, enabling you to select the solution most suited to your needs:

- The Cisco TelePresence Server on Virtual Machine has been optimized to run on the Cisco TelePresence Server on Multiparty Media 410v and also runs on Cisco Business Edition 6000 and 7000 as well as Cisco UCS or third-party specification-based server platforms.

- The Cisco TelePresence Server on Multiparty Media 310 and Multiparty Media 320 entry-level appliance solutions can be stacked to grow with your business video usage over the long term.

- The Cisco TelePresence Server on Multiparty Media 820 is a chassis-based platform that is ideal for large enterprises and service providers requiring a high-availability and highly scalable solution. Scalability is achieved through clustering up to two Media 820 blades as a single unit.

- The Cisco TelePresence Server can also run on the Cisco TelePresence MCU MSE 8510 (MSE 8510) and Cisco TelePresence MCU 5300 Series (MCU 5300) platforms.

Benefits of Cisco TelePresence Server

- A consistent, intuitive meeting experience for users with standards-based mobile, desktop, and immersive video systems

- The ability to extend meetings beyond the capacity of one server by cascading server-to-server or to include Cisco WebEx Meeting Center users, extending the scale of meetings and enabling more people to join meetings

- Improved productivity: All users enjoy a high-quality experience, accessible from mobile devices running the Jabber® application through to desktop or immersive systems. Thus remote and home workers can collaborate more effectively and decrease travel costs.

Features

Table 1 lists the features of Cisco TelePresence Server.

Table 1. Cisco TelePresence Server Features

Feature	Description
Design features	• The server is standards-based and compatible with major vendors' video conferencing endpoints. • It is highly scalable to meet current and future organizational needs. • It provides participants with the best possible view for their endpoint. • The server provides an easy-to-use and versatile management interface. • It is designed to carrier-class levels of reliability and availability. • The server is compatible with a range of dedicated hardware platforms or Cisco UCS servers.
Application features	• Cisco TelePresence ActivePresence capability supports a full-screen immersive view of the primary speakers with an overlay of others in the call; designed to maximize the large-scale immersive experience, it is available on all ports. • Cisco TelePresence ActiveControl allows you to see the participant lists and control conferences and layouts. • It supports single and multiscreen standards-based telepresence systems. • The server interworks with Polycom RPX and TPX telepresence systems while preserving the full Cisco ActivePresence view. • It integrates with Cisco TelePresence Management Suite (Cisco TMS) and Cisco TelePresence Conductor. • The Cisco TelePresence Server on Cisco MSE 8710 can be locally or remotely managed (by Cisco TelePresence Conductor). All other versions can be run only in remotely managed mode. • Four layout families are provided for single-screen endpoints including panel-switched Cisco ActivePresence capability. • Participants can dial in or can be called from the web interface.
Performance features	• Automatic Gain Control (AGC) is supported to adjust audio controls to help ensure a consistent experience. • Support for Cisco ClearPath provides improved media resilience with lossy networks. • Up to FullHD transcoding for both video and content is supported for every participant. • Cisco TelePresence Universal Port technology is supported. • Video resolutions of 360p to FullHD are supported (up to 1080p30 or 720p60 frames per second [fps] at up to 6 Mbps per screen including content with H.264). • Comprehensive high-definition (HD) audio is supported. • Advanced Encryption Standard (AES) encryption is supported. • Integrated Cisco TelePresence ClearVision technology provides resolution enhancement. • OneTable and Room-Switched configurations are supported.

Product Specifications

Tables 2 through 4 list the technical; video, network, and audio; and network, management, and security specifications, respectively, of Cisco TelePresence Server.

Table 2. Technical Specifications

Feature	Description
Product compatibility	• The server is standards-based and compatible with major vendors' endpoints.
Universal transcoding and transrating	• The server can combine immersive, HD, standard-definition (SD), and 360p endpoints within the same virtual meeting. • The server provides automatic audio and video transcoding along with transrating on all calls. • Each endpoint has its own decode and encode.
Content features	• Automatic content handover is supported. • The Cisco TelePresence Server supports standard (4:3) and widescreen (16:9) content. • Dual video is supported with H.239, Binary Floor Control Protocol (BFCP), or Auto Collaborate. • Picture in Picture: Video and content are composed into the video stream. • Participants can have their own content transcoded at up to 1080p30 or WUXGA (1920 x 1200) @ 27 fps.
Language support	• English is the standard language.

Table 3.   Video, Network, and Audio Specifications

Bandwidth	• Up to 6 Mbps with both H.263 and H.264, for each screen in all conference modes
Video standards	• H.261 • H.263 • H.263+ • H.263++ • H.264
Video resolution	• From QCIF up to 1080p (1920 x 1080) including interlaced iCIF and iSIF • Aspect ratios: 4:3 and 16:9
Frame rates	• Up to 60 fps
Audio standards	• G.711 • G.722 • G.722.1 • G.723.1[*] (Supported only on Cisco MSE 8710) • G.728 • G.729 • MPEG-4 AAC-LC • MPEG-4 AAC-LD • Polycom Siren14/G.722.1 Annex C
Audio features	• Wideband audio mixing • Ability to adjust endpoint audio gain through web interface

Table 4.   Network, Management, and Security Specifications

Protocols	• H.323[1] • BFCP • Network Time Protocol (NTP) • Session Initiation Protocol (SIP) • Telepresence Interoperability Protocol Version 8 (TIPv8) • H.235 (AES) [1] • H.239 (dual video) [1] • FTP[1] • Real-Time Transfer Protocol (RTP) • HTTP • Secure HTTP (HTTPS) • Dynamic Host Configuration Protocol (DHCP) (supported only on Cisco MSE 8710 and Multiparty Media 310 and 320 models)
Security features	• Personal Identification Number (PIN)-protected conferences • Conference locking • Secure non-PC hardware and operating system • Transport Layer Security (TLS) • Secure Real-Time Transport Protocol (SRTP) • AES encryption, 128-bit key, and H.235 (H.235 only on Cisco MSE 8710)
System management	• An XML management application programming interface (API) is available. • Cisco TelePresence Server 8710 models can be managed through an embedded web server or remotely using Cisco TelePresence Conductor. All other platforms can be managed only remotely, using Cisco TelePresence Conductor.[2] • The server offers full H.323[1] (supported directly on Cisco MSE 8710; other Cisco TelePresence Server platforms require Cisco TelePresence Video Communication Server [Cisco VCS] to interwork H.323) and SIP decoding, which is supported on all platforms. • The server offers configurable event logs. • The server offers configuration backup to network. • The server offers the ability to perform secure upgrades through Ethernet.

Quality of service (QoS)	• The server provides configurable differentiated-services-code-point (DSCP) or type-of-service (ToS)/IP Precedence.
Network resilience	• Cisco TelePresence PacketSafe technology provides intelligent downspeeding, packet pacing, and packet-loss concealment to help ensure optimum video and audio quality. • The server supports dynamic jitter buffering.

[1] Supported only on Cisco MSE 8710.

[2] Cisco TelePresence Server on the Media 820, Media 310, or Media 320, and Cisco TelePresence Server on Virtual Machine supports only remotely managed mode, which requires an additional external application such as the Cisco TelePresence Conductor.

Table 5 gives physical specifications of Cisco TelePresence Server platforms.

Table 5. Physical Specifications of Cisco TelePresence Server Platforms

Cisco Multiparty Media 820	
Physical dimensions	• (H x W x D): 33.25 x 17.2 x 20.5 in. (842 x 437 x 520 mm) (19 rack units [19RU]) • 19-inch rack-mountable (kit supplied)
Weight	• 15 lb (6.8 kg)
Power	• Power: -48 VDC • 100-240 VAC, 50-60 Hz
Environmental data	• Ambient operating temperature: 32 to 95°F (0 to 35°C) • Relative humidity: Below 95% (noncondensing)
Approvals and compliance	• European safety: EN 60950-1 • USA/Canada Safety: UL 60950-1 • CB Scheme Safety, IEC 60950-1 • 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 CISPR 22, EN55024: EN61000-4-2,-3,-4,-5,-6,-11 • RoHS compliant, WEEE: http://cisco-returns.com
Cisco TelePresence MSE 8710	
Physical dimensions	• (H x W x D): 33.25 x 17.2 x 20.5 in. (842 x 437 x 520 mm) (19RU) • 19-inch rack-mountable (kit supplied)
Weight	• 14.6 lb (6.6 kg)
Power	• Power: -48 VDC • 100-240 VAC, 50-60 Hz
Environmental data	• Ambient operating temperature: 32 to 95°F (0 to 35°C) • Relative humidity: Below 95% (noncondensing)
Approvals and compliance	• European safety: EN 60950-1 • USA/Canada Safety: UL 60950-1 • CB Scheme Safety, IEC 60950-1 • 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 CISPR 22, CCC: GB4943, GB9254, YD/T993EN61000-3-3, EN55024: EN61000-4-2,-3,-4,-5,-6,-11 • RoHS compliant, WEEE: http://cisco-returns.com
Cisco Multiparty Media 310 and Cisco Multiparty Media 320	
Physical dimensions	• (H x W x D): 1.75 x 17.4 x 16.7 in. (44.5 x 442 x 423 mm) (1RU) • 19-in. rack-mountable (kit supplied) or standalone
Weight	• 17.6 lb (8 kg)
Power	• 100-40 VAC, 50-60 Hz • 1177 BTU/hr (345W) maximum heat dissipation
Environmental data	• Ambient operating temperature: 32 to 95°F (0 to 35°C) ambient • Relative humidity below 95% (noncondensing)

Approvals and compliance	• European Safety: EN 60950-1
	• USA/Canada Safety: UL 60950-1
	• CB Scheme Safety: IEC 60950-1
	• 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 CISPR 22, CCC: GB4943, GB9254, YD/T993
	• RoHS compliant, WEEE: http://cisco-returns.com
	• Regulatory Approval Certification completed under Compliance Model Number: AD1A

Cisco Multiparty Media 410v	
The Cisco Mutiparty Media 410v Blade Server and Server are preconfigured versions of the Cisco UCS B200 M4 Blade Server and the Cisco UCS C220 M4 Rack Server. Full specifications for these can be found at:	
• C220: http://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c220-m4-rack-server/datasheet-c78-732386.html	
• B200: http://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-b200-m4-blade-server/datasheet-c78-732434.html	

Figure 2 shows a graphic of the Cisco TelePresence Server interoperability solution.

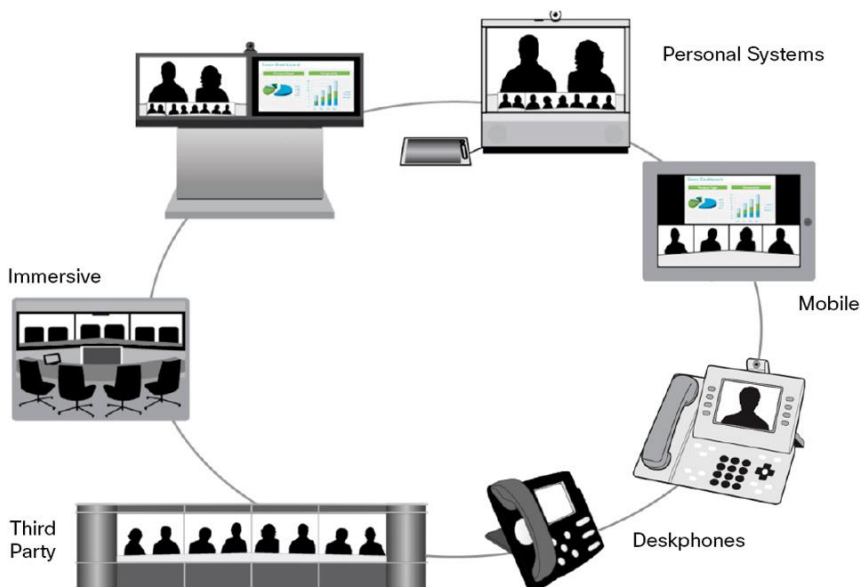**Figure 2.**   Cisco TelePresence Server Interoperability

Table 6 gives the scale parameters of Cisco TelePresence Server.

Table 6.   Cisco TelePresence Server Platform Scale

Platform	Scale Parameters
Cisco Multiparty Media 820	• The Cisco TelePresence Server on the Media 820 supports up to 60 FullHD (1080p30) or 120 HD (720p30) screens when two blades are clustered.
	• In remotely managed mode the maximum capacity per blade is achieved with 30 screen licenses giving 30 x FullHD,60 x HD, 120 x SD (w448p/480p30), or 200 x 360p resources, although the resources can be used more flexibly; please refer to Tables 8 and 9 for further details.
	• Up to 200 calls are supported in one cluster of blades with up to 104 in each conference. More than 2000 participants in each conference are supported in cascaded scenarios.
Cisco TelePresence Server MSE 8710	• The Cisco TelePresence Server on the Cisco MSE 8710 supports up to 48 FullHD (1080p30) or 96 HD (720p30) screens when four blades are clustered.
	• In locally managed mode the maximum capacity is achieved with 12 screen licenses per blade, giving 12 x FullHD (1080p30) or 24 x HD (720p30) screens.
	• In remotely managed mode the maximum capacity per blade is still achieved with 12 screen licenses giving 12 x FullHD or 24 x HD, 48 x SD (w448p/480p30), or 97 x 360p resources, although the resources can be used more flexibly; please refer to Tables 8 and 9 for further details.
	• Up to 200 calls are supported in one cluster of blades with up to 104 in each conference. More than 2000 participants in each conference are supported in cascaded scenarios.

Platform	Scale Parameters
Cisco Multiparty Media 310	• The Cisco TelePresence Server on the Media 310 supports up to 6 x FullHD (1080p30), 12 x HD (720p30), 24 x SD, or 49 x 360p screens per unit, although the resources can be used more flexibly; please refer to Tables 8 and 9 for further details. • Maximum capacity is achieved with 6 screen licenses per unit. • Up to two units of the Media 310 and 320 models can be stacked together to increase capacity (optional stacking cable is required). • Up to 200 calls are supported in a stack of two appliances with up to 104 in each conference. Up to 500 participants in each conference are supported in cascaded scenarios.
Cisco Multiparty Media 320	• The Cisco TelePresence Server on the Media 320 supports up to 12 x Full HD (1080p30), 24 x HD (720p30), 48 x SD, or 97 x 360p screens per unit, although the resources can be used more flexibly; please refer to Tables 8 and 9 for further details. • Maximum capacity is achieved with 12 screen licenses per unit. • Up to two units of the Media 310 and 320 models can be stacked together to increase capacity (optional stacking cable is required). Maximum capacity of two Media 320 platforms is 20 x FullHD screen licenses. • Up to 200 calls are supported in a stack of two appliances with up to 104 in each conference. Up to 500 participants in each conference are supported in cascaded scenarios.
Cisco UCS Platform	• The Cisco TelePresence Server on Virtual Machine can run on a Cisco UCS Server or on other specifications-based hardware. • The Cisco Multiparty Media 410v is a dedicated Cisco UCS server that supports up to 27 x FullHD, 54 x HD, 108 x SD, or 145 x 360p screens, although the resources can be used more flexibly; please refer to Table 9 for further details. Maximum capacity is achieved with 27 screen licenses per virtual machine. • A 16-core virtual machine supports up to 10 x FullHD, 20 x HD, 40 x SD, or 81 x 360p screens, although the resources can be used more flexibly; please refer to Table 8 for further details. Maximum capacity is achieved with 10 screen licenses per virtual machine. • An 8-core virtual machine supports up to 5 x FullHD, 10 x HD, 20 x SD, or 41 x 360p screens, although the resources can be used more flexibly; please refer to Table 9 for further details. Maximum capacity is achieved with 5 screen licenses per virtual machine. • Up to 200 calls are supported on each instance of Cisco TelePresence Server on Virtual Machine with up to 104 in each conference. More than 2000 participants in each conference are supported in cascaded scenarios.

Note: Capacity figures represent capabilities of Cisco TelePresence Server Version 4.1 when used with Cisco TelePresence Conductor Version 3.0.

Ordering Information

To order Cisco TelePresence Server, choose a platform and then select one of the three methods of licensing the platform, as shown in Table 7. Please visit the [Cisco Ordering Home Page](#) for additional information.

Table 7.   Ordering Information

Platform		Licensing	
Name	Part Number	Personal Multiparty & Shared Multiparty	Screen Licenses
Cisco Multiparty Media 410v	CTI-410v-vTS-K9 CTI-410vB-vTS-K9	CUWL-PRO-K9 (includes Personal Multiparty) TP-SMP-K9 (Shared Multiparty)	R-VTS-K9 R-SCMR-K9 R-LCMR-K9
Premise CMR Media 410v bundle	CTI-410v-LCMR-K9 CTI-410v-SCMR-K9	NA	NA (screen licenses included in bundle)
Cisco TelePresence on Multiparty Media 820	CTI-8000-MSECH-K9 CTI-820-MEDIA-K9= CTI-820-MED-K9++=	CUWL-PRO-K9 (includes Personal Multiparty) TP-SMP-K9 (Shared Multiparty)	L-8000-CHLIC-PAK
Cisco TelePresence Server running on MSE 8710	CTI-8000-MSECH-K9 CTI-8710-TS-K9=	CUWL-PRO-K9 (includes Personal Multiparty) TP-SMP-K9 (Shared Multiparty)	L-8000-CHLIC-PAK
MSE 8710 8 blade and chassis bundle	CTI-8710-8BFLIC-K9	NA	NA, bundle includes screen licenses

Platform		Licensing	
Name	**Part Number**	**Personal Multiparty & Shared Multiparty**	**Screen Licenses**
MSE 8710 4 blade and chassis bundle	CTI-8710-4BFLIC-K9	NA	NA, bundle includes screen licenses
MSE 8710 4 blade upgrade bundle	CTI-8710-4BUPFL-K9	NA	NA, bundle includes screen licenses
Cisco TelePresence Server running on Cisco Multiparty Media 310/320	CTI-310-TS-K9 CTI-320-TS-K9	CUWL-PRO-K9 (includes Personal Multiparty) TP-SMP-K9 (Shared Multiparty)	L-TS300-UPG-PAK

Table 8.   Cisco TelePresence Server Screen Licenses per Call for Each Call Type

Call Type Description			Screen Licenses Required per Call
Main Video	**Audio**	**Content**	
-	Mono	-	1/52
360p30[1]	Mono	In main video	1/8
360p30[1]	Stereo	720p5	1/4
480p30	Stereo	In main video	1/4
480p30	Stereo	720p5	1/3
720p30	Stereo	720p5	1/2
720p30	Stereo	720p30	1
1080p30	Stereo	720p15	1
720p60	Stereo	720p15	1
1080p30	Stereo	720p30	1 and 1/2
Three-screen 720p30	Multichannel	720p5	1 and 1/2
Three-screen 720p30	Multichannel	720p30	2
1080p30	Stereo	1080p30	2
Dual-screen 1080p30	Stereo	720p30	2
Three-screen 1080p	Multichannel	720p30	3
Three-screen 1080p	Multichannel	1080p30	4
Four-screen 1080p	Stereo	1080p30	4

[1] Requires Cisco TelePresence Conductor Version XC2.2 or later.

Table 9.   Cisco TelePresence Server Conferencing Capacity on Various Platforms

Screen Licenses Required per Call	Maximum Calls by Hardware Type (with Licenses to Provide 100% of Capacity)									
	8-Core Virtual Machine	**Media 310 or MCU 5310**	**30 vCPU/High-Density Virtual Machines [1]**	**Media 320 or MCU 5320**	**Cisco TelePresence Server 7010, MSE 8710, or MCU MSE 8510**	**Two - Appliance Cluster with Media 320s**	**Media 410v[1] (46 vCPU)[2]**	**Media 820**	**Four-Blade Cluster with 8710**	**Two-Blade Cluster with Media 820**
	5 screen licenses	**6 screen licenses**	**10 screen licenses**	**12 screen licenses**	**12 screen licenses**	**24 screen licenses**	**27 screen licenses**	**30 screen licenses**	**48 screen licenses**	**60 screen licenses**
1/52	200[3]	200[3]	200[3]	200[3]	200[3]	200[3]	200[3]	200[3]	200[3]	200[3]
1/8	41	49	81	97	97	195	145	200[3]	200[3]	200[3]
1/4	20	24	40	48	48	97	108	120	195	200[3]
1/3	15	18	30	36	36	73	81	90	146	180

Screen Licenses Required per Call	Maximum Calls by Hardware Type (with Licenses to Provide 100% of Capacity)									
	8-Core Virtual Machine	Media 310 or MCU 5310	30 vCPU/High-Density Virtual Machines [1]	Media 320 or MCU 5320	Cisco TelePresence Server 7010, MSE 8710, or MCU MSE 8510	Two -Appliance Cluster with Media 320s	Media 410v[1] (46 vCPU)[2]	Media 820	Four-Blade Cluster with 8710	Two-Blade Cluster with Media 820
	5 screen licenses	6 screen licenses	10 screen licenses	12 screen licenses	12 screen licenses	24 screen licenses	27 screen licenses	30 screen licenses	48 screen licenses	60 screen licenses
1/2	10	12	20	24	24	48	54	60	97	120
1	5	6	10	12	12	24	27	30	48	60
1 and 1/2	3	4	6	8	8	16	18	20	32	40
2	2	3	5	6	6	12	13	15	24	30
3	1	2	3	4	4	8	9	10	16	20
4	1	1	2	3	3	6	6	7	12	15

[1] To achieve the maximum number of calls, Cisco TelePresence Server on Virtual Machine must be the only virtual machine hosted on the Multiparty Media 410v or 30 vCPU/high-density virtual machines. It cannot be co-resident with any other unified communications application (unlike the 8-core option that runs at 2.4 GHz minimum and can be co-resident).

[2] Media 410v is configured with 46v CPUs as per the high-density configuration, but is has a higher capacity.

[3] 200 is the maximum number of calls possible on a Cisco TelePresence Server. It requires Cisco TelePresence Conductor Version XC2.3.

Note: Table 9 assumes that calls of one type are used to reach these maximum values. To calculate the total number of licenses required for a variety of concurrent calls, add the screen licenses required for each concurrent call.

Service and Support

Cisco offers a wide range of services programs to accelerate customer success. These innovative services programs are delivered through a unique combination of people, processes, tools, and partners, resulting in high levels of customer satisfaction. Cisco Services help you protect your network investment, optimize network operations, and prepare your network for new applications to extend network intelligence and the power of your business. For more information about Cisco Services, visit Cisco Technical Support Services or Cisco TelePresence Services online.

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For More Information

For more information about the Cisco TelePresence Server, please visit the Cisco TelePresence Server product page 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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