

Cisco TelePresence Video Communication Server

Cisco TelePresence Video Communication Server: Advanced Applications and Session Management

Product Overview

Figure 1. Cisco TelePresence Video Communication Server



The Cisco TelePresence[®] Video Communication Server (Cisco VCS) simplifies session management and control of telepresence conferences. It provides flexible and extensible conferencing applications, enabling organizations to benefit from increased employee productivity and enhanced communication with partners and customers (Figure 1).

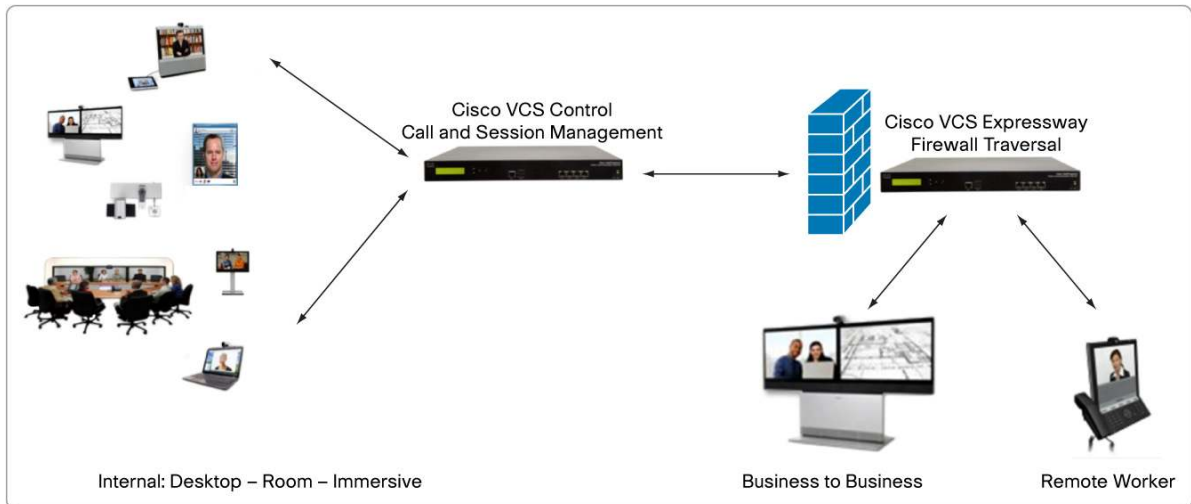
The Cisco VCS delivers exceptional scalability and resiliency, secure communications, and simplified large-scale provisioning and network administration by taking advantage of Cisco TelePresence Provisioning 2.0 capabilities.

The Cisco VCS interworks seamlessly with Cisco[®] Unified Communications Manager (Cisco UCM), bringing rich telepresence services to organizations with Cisco UCM. It also offers interoperability with third-party unified communications, IP telephony networks, and voice over IP (VoIP) systems.

The Cisco VCS is available as an appliance or as a virtualized application on VMware, with additional support for Cisco Unified Computing System[™] (Cisco UCS[™]) platforms.

You can deploy the Cisco VCS as the Cisco TelePresence Video Communication Server Control (Cisco VCS Control) for use within an enterprise and as the Cisco TelePresence Video Communication Server Expressway (Cisco VCS Expressway) for external communication (Figure 2). The Cisco VCS Expressway includes the features of the Cisco VCS Control, augmented with highly secure firewall-traversal capability. An alternative solution, suited to small to medium-sized businesses (SMBs), is the Cisco VCS Starter Pack Express. Optional packages that you can deploy include Cisco TelePresence FindMe (FindMe), Device Provisioning, and Dual Network Interfaces (Cisco VCS Expressway only).

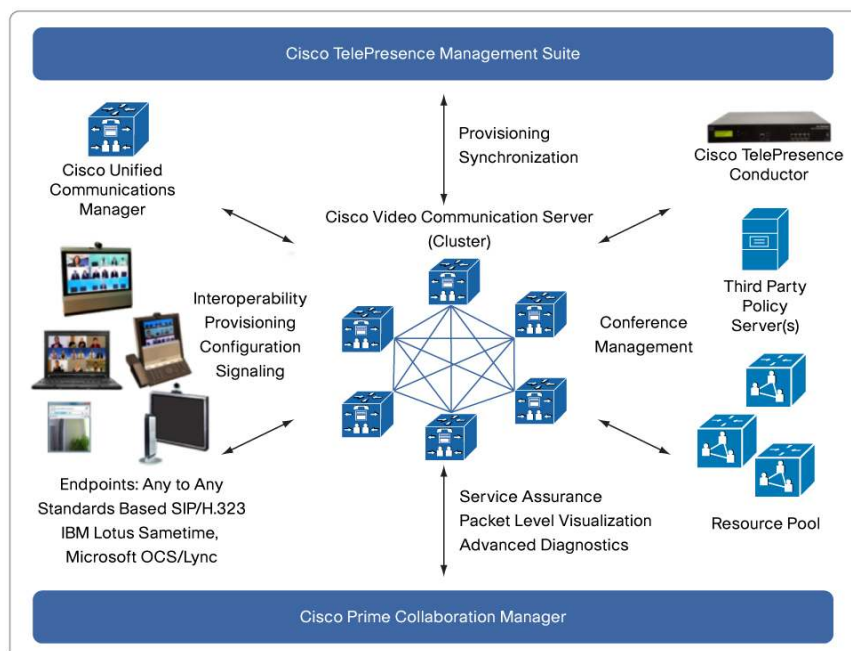
Figure 2. Cisco VCS Control and Cisco VCS Expressway



Cisco VCS Control

Cisco VCS Control delivers any-to-any enterprise wide conference and session management and interworking capabilities. It extends the reach of telepresence conferences by enabling interworking between Session Initiation Protocol (SIP)- and H.323-compliant endpoints, interworking with third-party endpoints; it integrates with the Cisco UCM and supports third-party IP private branch exchange (IP PBX) solutions. Cisco VCS Control implements the tools required for creative session management, including definition of aspects such as routing, dial plans, and bandwidth usage, while allowing organizations to define call-management applications, customized to their requirements (Figure 3).

Figure 3. Cisco VCS Control in the Network



Features and Benefits

Benefits of Cisco VCS follow:

- Greater reach: Any-to-any interoperability facilitates smooth video communications between standards-based and third-party client users.
- Efficient conference management: Administrators can proactively monitor and configure conferences through intuitive web user interfaces to optimize bandwidth usage in real time, helping to deliver a flawless video experience.
- Highly scalable: With features such as clustering and policy services integration, the Cisco VCS is architected to support enterprise growth, with smooth expansion as usage increases, protecting investment in video infrastructure.
- Contact location: Use FindMe to ensure that people can always be contacted.
- Extended telepresence capability: Integration with Cisco UCM helps reduce complexity for users and facilitates interworking between SIP- and H.323-compliant endpoints within an enterprise, regardless of individual endpoint capabilities.
- Reduced footprint: This solution incorporates presence server, H.323 gatekeeper, SIP proxy, and SIP registrar capabilities.
- Secure: The industrially recognized secure performance of Cisco VCS provides administrators with complete confidence in their network security.
- Differentiation: Through policy services integration and dial plan configuration, you can create flexible telepresence solutions that you can customize to deliver value and meet ever-increasing customer requirements.
- Flexibility: Administrators can implement the Cisco VCS as either an appliance or a virtualized application to meet the needs of their organizations.

Features of Cisco VCS follow:

- SIP registrar, SIP proxy server, presence server, and presence user agent: The Cisco VCS supports the SIP protocol, acting as a SIP registrar, storing the Address of Record of registered endpoints, and forwarding SIP requests as a SIP proxy server. The Cisco VCS supports the SIP for Instant Messaging and Presence Leveraging Extensions (SIMPLE) protocol, and can act as a presence server and presence user agent.
- H.323 Gatekeeper: The Cisco VCS provides H.323 Gatekeeper functions. It accepts registrations from H.323 endpoints and provides call-control functions such as address translation and admission control.
- Interoperability and Interworking: The Cisco VCS provides interoperability between SIP and H.323 standards-compliant endpoints, and also supports communication with IBM Lotus Sametime and Microsoft Office Communicator Server (OCS) and Microsoft Lync endpoints.
- IPv4 and IPv6: The Cisco VCS supports IPv4 and IPv6, with IPv4 and IPv6 Interworking.
- Zone and bandwidth management: The Cisco VCS supports management of the allocation of bandwidth between sites, endpoints, and groups of endpoints. You can specify the amount of bandwidth available for intra- and inter- zone calls, allowing you to control the way in which bandwidth is used and calls are prioritized. Features of the Cisco VCS bandwidth management capability include the following:
 - Flexible, customizable zone configuration with named zone and default zone

- Bandwidth management on both a per-call and a total-usage basis, configurable separately for calls within local subzones and to neighboring systems and zones
- Automatic down-speeding option for calls that exceed the available bandwidth
- Preconfigured defaults for:
 - Cisco UCM neighbor zones
 - Cisco TelePresence Advanced Media Gateway
 - Microsoft OCS 2007 and Microsoft Lync neighbor zones
 - Nortel Communication Server neighbor zones
- Dial plan and call-routing control: The Cisco VCS allows administrators to create dial plans to define the way in which calls are handled within the network. Transforms can be applied to source and destination address information to define general routing rules. Dial plans can be based on call aspects such as:
 - Source or destination address, zone, or subzone configuration
 - Call policy for authenticated or nonauthenticated endpoints
 - FindMe™ configuration
- Authentication: You can configure the Cisco VCS to allow both authenticated and unauthenticated endpoints to register to the same VCS, and to subsequently control the operation of those endpoints based upon their authentication status. The Cisco VCS supports:
 - H.325 authentication
 - SIP digest authentication
 - Windows NT LAN Manager (NTLM) authentication
 - Control over which endpoints are allowed to register through allow and deny lists
 - Microsoft Active Directory (AD) integration for Cisco TelePresence Movi
 - Administrator authentication through Active Directory
 - Integration with Lightweight Directory Access Protocol (LDAP)-accessible H.350 directories
- Policy services: A policy services interface is available to allow you to define call policies to be applied within your organization. For example, you can handle calls differently according to time of day, source or destination address, or more complex algorithms. The policy services interface supports Call Processing Language (CPL).
- Clustering: The Cisco VCS can function as a standalone system or in a cluster configuration for increased capacity and redundancy. Cisco VCS clustering supports:
 - Clustering of up to six Cisco VCS peers
 - Sharing of call licenses within a cluster
- Administration: The Cisco VCS provides administrative interfaces to allow setup, administration, and monitoring of the network configuration. Administrative features of the Cisco VCS follow:
 - Embedded setup wizard for initial configuration
 - System and status overview
 - Advanced diagnostics support
 - System administration through a web interface, Telnet, Secure Shell (SSH) Protocol, and Secure HTTP (HTTPS)

- Integration with the Cisco TelePresence Management Suite (TMS) for scalable provisioning and configuration

Optional features follow:

- Cisco TelePresence FindMe™
- Cisco TelePresence Multiway
- Device provisioning
- Microsoft Office Communications Server 2007 Enhanced Interoperability option
- Advanced Account Security Joint Interoperability Test Command (JITC)

Capacity of one Cisco VCS follows:

- Up to 2500 registrations
- Up to 500 nontraversal calls
- Up to 100 traversal calls
- Up to 1000 subzones




Capacity of a cluster of six Cisco VCSs follows:

- Up to 10,000 registrations
- Up to 2,000 nontraversal calls
- Up to 400 traversal calls

Table 1 lists general specifications and Table 2 lists network, management, and security specifications of the Cisco VCS.

Table 1. Specifications of Cisco VCS

Product Feature	Product Specification
User interface	<ul style="list-style-type: none"> • Web interface support for Internet Explorer 7, 8, and 9; Firefox 3 and later; and Chrome
Supported Cisco TelePresence endpoints	<ul style="list-style-type: none"> • Compatible with any standards-compliant H.323 or SIP videoconferencing or telepresence device; provisioning and configuration supported only for Cisco TelePresence endpoints
Management interfaces	<ul style="list-style-type: none"> • Support for industry standards such as HTTP(S), XML, Simple Network Management Protocol (SNMP v2 and v3), secure copy protocol (SCP) and SSH • Embedded setup wizard for initial configuration • Integration with Cisco TMS Version 12.5 or later • Call logging and diagnostics
Architecture (Cisco VCS Appliance)	<ul style="list-style-type: none"> • Secure appliance-based architecture • Flash memory and hard drive
Resilience and reliability	<ul style="list-style-type: none"> • Ability to deploy in six-redundant cluster • Ability to share licenses across a cluster • Ability for registrations to survive system restart • Ability to replicate configuration for clusters
Session control and registrations	<ul style="list-style-type: none"> • Support for manual registration of H.323 and SIP endpoints • Support for H.225/Q.931 and H.245 call-control routed mode and non-call routed mode • Support for H.323-SIP Interworking Encryption • Support for H.323-SIP Interworking DuoVideo • Support for registration of H.323 ID and E.164 aliases and services • Support for Unicode (UTF-8) registration for global implementation • Support for Uniform Resource Identifier (URI) dialing • Support for direct call signaling among neighbored Cisco VCSs, border controllers, and gatekeepers • Support for call policy management (RFC 3880), including call policy and user policy (FindMe™)

Product Feature	Product Specification
	<ul style="list-style-type: none"> • Support for conference hunting for multipoint-control-unit (MCU) clusters • Support for call routed mode • Support for call loop detection
Zone control and bandwidth management	<ul style="list-style-type: none"> • Support for remote zone monitoring • Support for remote zone redundancy • Support for up to 200 neighbor zones (including Cisco VCSs, border controllers, gatekeepers, and SIP proxies) • Support for subzone area definition for bandwidth management • Support for flexible zone configuration with named zones and default zone • Support for forwarding of requests to neighbor zones • Support for registration control (open, specifically allow, and specifically deny) • Support for interzone bandwidth management: definable call by call <ul style="list-style-type: none"> ◦ Maximum bandwidth per call ◦ Maximum aggregate bandwidth for all neighboring zones • Support for intrazone bandwidth management: definable call by call <ul style="list-style-type: none"> ◦ Maximum bandwidth per call ◦ Maximum aggregate bandwidth • Support for auto-down-speeding if call exceeds per-call maximum • Support for gateway load balancing • Support for automatic network failover • Support for capacity warnings for users and administrators
Language	<ul style="list-style-type: none"> • English
Physical dimensions (H x W x D)	<ul style="list-style-type: none"> • 1.72 x 16.8 x 18 in. (43.5 x 426 x 457.2 mm) • 1-rack unit (1 RU) rack-mount chassis
Interfaces	<ul style="list-style-type: none"> • Four 10/100/1000BASE-TX Ethernet ports (RJ-45) (front) • One RS-232 console port (RJ-45) (front)
Weight	<ul style="list-style-type: none"> • 17.6 lb (8 kg) (unpacked)
Power	<ul style="list-style-type: none"> • Autosensing 250W (maximum) 580 BTU per hour power supply • 90-264 VAC full range at 47-63 Hz
Cooling system	<ul style="list-style-type: none"> • Five 40-millimeter fans for system cooling
System control and indications	<ul style="list-style-type: none"> • One power LED • One alarm LED • One power on/off switch (rear) • Four act/link/10/100/1000 LEDs on Ethernet ports
Environmental data	<ul style="list-style-type: none"> • Operating temperatures: 32 to 104°F (0 to 40°C) • Storage temperatures: -4 to 140°F (-20 to 60°C) • Relative humidity: 10 to 90% (noncondensing)
Servers for virtual environment	<ul style="list-style-type: none"> • Cisco UCS C200 M2, UCS C210 M2, or UCS B200 M2 servers.
Certification	<ul style="list-style-type: none"> • LVD 73/23/EC • EMC 89/366/ECC  <ul style="list-style-type: none"> • Cisco VCS Version X7 is ICSA Labs Certified
Awards	 

Product Feature	Product Specification
Approvals and compliance	<ul style="list-style-type: none"> • Directive 73/23/EEC (Low Voltage Directive) • Standard EN 60950 • Directive 89/336/EEC (EMC Directive) • Standard EN 55022, Class A • Standard EN 55024 • Standard EN 61000-3-2/-3-3 • Approved according to UL 60950 and CAN/CSA C22.2 No. 60950 • Compliance with FCC15B Class A • Joint Interoperability Test Command (JITC)

Table 2. Network, Management, and Security Specifications of Cisco VCS

Network	<ul style="list-style-type: none"> • Support for Domain Name System (DNS) addressing • Support for IPv4 and IPv6 simultaneously • Support for IPv4 and IPv6 translation services
Interfaces	<ul style="list-style-type: none"> • Four 10/100/1000BASE-TX Ethernet ports (RJ-45) (front) • One RS-232 console port (RJ-45) (front)
Supported RFCs	<ul style="list-style-type: none"> • RFCs 2543, 3261, 3264, 1889, 3265, 3325, 3515, 3891, 3892, 2327, 4566, 5626, 5627, 5389, and 5766
Security	<ul style="list-style-type: none"> • Secure management with HTTPS, SSH, and SCP • Secure file transfer • Inactivity timeout • Ability to lock down IP services • Requirement for authentication on HTTP(S), Telnet, SSH, and SCP • H.235 authentication support • Transport Layer Security (TLS) for SIP signaling • Roles-based password-protected GUI user access • Ability to enforce strict passwords • Ability to disable root access over Telnet of SSH
Management	<ul style="list-style-type: none"> • Support for industry standards such as Telnet, HTTP(S), XML, SNMP, SCP, and SSH • Embedded setup wizard for initial configuration • Advanced management support and configuration with Cisco TMS 12.6 or later • Call logging and diagnostics • Local time-zone aware • Port usage tool

Ordering Information

To order Cisco VCS, visit the [Cisco Ordering Home Page](#) and refer to Table 3.

Table 3. Ordering Information for Cisco VCS Control

Product Name	Part Number	Compliance Model Number
Cisco Video Communication Server Control (VCS Appliance) Comes with: Video Communication Server, Gateway feature, cables Note: A minimum of 10 non-traversal licenses must be selected when ordering the VCS Control Appliance	CTI-VCS-CONTRL-K9	TTC2-04
Cisco Video Communication Server Control (Virtualized Application) Comes with: Video Communication Server, Gateway feature, FindMe™ feature Note: A minimum of 10 non-traversal licenses must be selected when ordering the VCS Virtualized Application	R-VMVCS-CTRL-K9	TTC2-04
Ordering Options for the Cisco VCS Control		
10 Non-Traversal Calls for Cisco VCS Control	LIC-VCS-10	N/A
VCS Advanced Account Security (JITC) for Cisco VCS Control	LIC-VCS-JITC	N/A

Product Name	Part Number	Compliance Model Number
VCS Enhanced OCS Collaboration for Cisco VCS Control	LIC-VCS-OCS	N/A
Additional 20 Non-traversal calls for Cisco VCS Control	LIC-VCS-20	N/A
Additional 50 Non-traversal calls for Cisco VCS Control	LIC-VCS-50	N/A
Additional 200 Non-traversal calls for Cisco VCS Control	LIC-VCS-200	N/A
Additional 300 Non-traversal calls for Cisco VCS Control	LIC-VCS-300	N/A
Enable Device Provisioning for Cisco VCS	LIC-VCS-DEVPROV	N/A
VCS FindMe™ Application for Cisco VCS Control (VCS Appliance Only)	LIC-VCS-FINDME	N/A

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 can 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.

For More Information

For more information about the Cisco VCS, please visit [Cisco TelePresence Video Communication Server](#) or contact your local Cisco account manager.



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