Cisco HealthPresence 2.5

Telehealth Collaboration Software

Cisco HealthPresence® 2.5 is a software platform that enables integration of multiple healthcare technology components through a common user interface to provide secure and scalable delivery of care-at-a-distance.

Healthcare organizations are focused on improving the quality of care for their patients, managing healthcare professional resources, reducing costs, and improving the efficiency of health services. They are challenged to provide equitable access to health services, reduce patient wait times, manage inpatient growth, and match healthcare professionals' skills with patient needs.

Cisco HealthPresence 2.5 is a telehealth collaboration software platform that addresses healthcare organization needs by providing a mechanism for delivering healthcare to a greater number of patients. Cisco HealthPresence 2.5 facilitates the aggregation and transfer of information between healthcare professionals through remote sharing of output from interoperable third-party medical devices. The medical devices are integrated with the software at the patient endpoint in a different physical location. The remote healthcare professional can direct the healthcare professional with the patient to use medical devices with the patient; the information obtained from the medical devices is then displayed on the remote healthcare professional's screen. The remote healthcare professional can view the patient's vital signs, stream video from an exam camera or medical scope, and listen to the patient's heart and lungs using a digital stethoscope.

Cisco HealthPresence 2.5 has a flexible design that allows healthcare organizations to take advantage of compatible third-party applications and services including electronic medical record (EMR) systems, directory services, and practice management applications. Using a combination of connectors, iFrame portlets, and add-on APIs, the solution provides a means to integrate compatible applications and services into the Cisco HealthPresence 2.5 workflow.

Use Cases

There are a number of use cases for Cisco HealthPresence 2.5.

- **Reach underserved populations:** Provide care to areas that are underserved, such as rural areas and those that pose challenges, such as prisons, ships, and military outposts.
- **Extend the reach of specialists:** Make specialty-based care available to a larger population through the use of compatible medical devices and video consultations.
- **Provide triage care:** Examine patients remotely to evaluate the severity of illness or injury and determine the best care facility, thus reducing the number of patients in emergency rooms with minor injuries or illnesses.
- **Coordinate post-operative care:** Potentially save readmission costs of post-operative patients by providing follow-up care remotely.
- **Educate patients and caregivers:** Provide education and counseling services to patients and their caregivers.

- **Educate and train healthcare professionals:** Use video streaming capabilities to share knowledge and train healthcare professionals as well as medical students, nursing students, and others studying healthcare-related subjects.
- **Manage inpatient revenue growth:** Allow providers to create a network of HealthPresence sites.
- **Serve corporate clinics:** Assist employers to improve their employees' health and wellness as well as manage healthcare expenses. Telehealth services can achieve these objectives by bringing specialty care to campus clinics and extending services to smaller campuses. Telehealth services can help lower healthcare costs while reducing the amount of time that employees take off from work to visit doctors' offices.

Benefits

Cisco HealthPresence 2.5 provides the following benefits.

- Comprehensive software platform for care-at-a-distance:
  - A comprehensive software solution with audio and video collaboration, integration with third-party medical devices, management, and reporting.
  - Unmodified medical data captured at the patient endpoint is transmitted or shared with the healthcare provider.
  - Basic integration with a third-party ePen application allows doctors to write a prescription immediately. The prescription is also available at the patient endpoint for printing.
- Improved access to healthcare delivery:
  - Easy-to-use interface to train users, with simple deployment and management.
  - Streamlined patient care consultations with distributed care teams.
- Scaling across Cisco HealthPresence networks:
  - Scalable deployment, with the ability to include thousands of endpoints with high reliability and security, to create a regional, countrywide, or global telehealth network.
  - Consultations between remote experts and licensed healthcare professionals in separate networks for efficient, timely, and comprehensive patient care.
  - Multitenant features to support multiple regions or hospitals in the same data center.
- Enhanced productivity and clinical workflow:
  - Instant remote access to specialist care and collaboration, which could potentially improve the productivity of healthcare practitioners and provide enhanced patient care. Extended access, with the ability to connect while outside the firewall, allows caregivers to use the system when traveling or at home.
  - Patient appointment queuing capability for expedited consultations, reduced wait times, and patient satisfaction.
  - Application integration for data transmission and faster access to patient information in the clinical workflow.
    - OnePlace access to workplace telehealth solutions through integration with the cloud-based Emerge. MD application
    - Easy viewing of patient's medical images through integration with RADSpa, a third-party web-based RIS PACS system for teleradiology

- Tools for administrators that provide statistics, reports, and logs:
  - Run-time statistics give administrators information about sessions.
  - Reports can be generated detailing endpoint utilization, appointments, and sessions.
  - Serviceability logs give administrators information about the system.
- Security features:
  - 128-bit encryption protects patient information.
  - Patient data is not stored on a permanent basis within the solution's domain.
  - Role-based security helps to ensure that modules are only accessible by appropriate personnel.
  - Audio and video streams are transmitted using Real-Time Transport Protocol (RTP), based on User Datagram Protocol (UDP) and encrypted using AES-128.
  - User authentication is accomplished using an external Lightweight Directory Access Protocol (LDAP) server and either a third-party application, such as OnePlace, or Cisco HealthPresence.

Cisco HealthPresence 2.5 Components

Prior releases of Cisco HealthPresence (1.0, 2.0, and 2.1) were bundled hardware and software solutions that included ancillary components such as videoconferencing codecs, servers, monitors, medical devices, and furniture. Cisco HealthPresence 2.5 is designed as a software-only platform to improve flexibility and adapt to the needs of healthcare organizations, giving them the opportunity to use their own computing platforms.

Cisco HealthPresence 2.5 includes the following:

- Cisco® HealthPresence Connect Server software manages all of the connectivity among the videoconferencing components and the telemetry sessions across Cisco HealthPresence endpoints and provides the user interface to the providers and attendants.
- Cisco HealthPresence Connect Endpoint software provides access to the Cisco HealthPresence portal and enables the device aggregation software to communicate with the Cisco HealthPresence Connect Server.
- Medical Device Aggregation software, which ships as part of the Cisco HealthPresence Connect Endpoint software, is the interface to the medical devices.

Cisco has listed Cisco HealthPresence 2.5 software as a Class I, 510k exempt medical device with the U.S. Food and Drug Administration pursuant to the Medical Device Data Systems rule (see CFR 880.6310).

For a complete explanation of how a Cisco HealthPresence 2.5 solution can be designed to enterprise and product specifications, refer to the Cisco HealthPresence 2.5 Solution Design Guide.

Product Features

Cisco HealthPresence 2.5 gives healthcare organizations the opportunity and flexibility to use the software with their own Windows 7 PCs and any SIP/H.232-based video endpoints, along with the option of adding the Cisco Appliance and Cisco TelePresence® video endpoints. This release also supports medical devices that meet minimum Cisco specifications, thus offering organizations more options to meet budget and use-case needs.

Key features of Release 2.5 are:

- **Simplified connectivity to third-party audio and video devices:** Connections are made using driverless USB video class (UVC), S-Video or RCA connectors[1].
- **Standards-based videoconferencing:** Gives customers the flexibility to use any endpoint that supports standard video protocols (SIP/H.323).
- **Bring-your-own endpoint and server hardware:** Allows customers to use the hardware of their choice for endpoint PCs based on Windows 7 and data center servers compatible with Red Hat Enterprise Linux (RHEL) 5.7*.
- **Flexible deployment:** For lower implementation costs, customers have the option to use their own IT staff or a certified partner to install the basic CHP components and then work with Cisco's Remote Validation Service to complete the installation process to help ensure a compliant and validated installation.

Other core features include:

- **Best available provider:** Attendants can use the availability and specialty information to make an informed decision about which provider to select for an appointment.
- **Provider presence:** This feature shows the availability of healthcare professionals, allowing organizations to know when a doctor is free, in an appointment, or offline.
- **Provider groups:** Delivering the same features as provider presence, this feature goes a step further by providing the ability to group medical practitioners by customer-defined categories (for example, by specialty or by native language capabilities). Provider groups can potentially minimize the wait time for the patient as the first available provider can take the appointment from within a group.
- **Provider triage:** Providers can maximize their consultation time by accepting appointments at remote sites with a simple click of a button; these can be regularly scheduled or unscheduled appointments. Providers can also triage the list of waiting patients and select a patient based on the reason for visit or time in the queue. They also can tell at a glance if the patient has been queued to a group of providers or a single provider, providing an additional metric by which to prioritize patients.
- **Integration to use existing investments and simplify workflow:** Cisco HealthPresence 2.5 provides open interfaces designed to facilitate the integration of compatible third-party applications and services, and thereby simplifies the workflow of medical professionals. Rather than accessing separate disparate systems, each with a unique username and password, providers and attendants can access third-party applications and systems seamlessly from the Cisco HealthPresence appointment window. This allows enterprises to take advantage of compatible software or to customize the Cisco HealthPresence 2.5 solution to their needs in the following ways:
  - Provide access to third-party healthcare applications through a portlet that appears as a tab on the Cisco HealthPresence appointment window
  - Support user authentication against an external directory service
  - Provide access to EMR systems

[1] Third-party medical devices using S-Video or RCA connections may have other hardware requirements such as a GrabBee dongle. Endpoint PC and datacenter server must meet minimum hardware requirements. See the Cisco HealthPresence v. 2.5 Installation Guide for more information.

- Allow third-party medical devices that support the Open Device Aggregator (ODA) interface to transmit vital signs data to Cisco HealthPresence

Specifications

The following tables are a sampling of the solution's specifications. Refer to the **Cisco HealthPresence 2.5 Solution Design Guide** for additional specifications.

Table 1 gives minimum specifications for the server on which the Cisco HealthPresence 2.5 Server software will run.

Table 1. Server Specifications for Enterprise Deployments

Component	Specifications
Processors	Two (2) multi-threaded four (4) core 2.4 GHz CPUs with 12 MB cache
Minimum hard drive	100 GB SATA/SSD/SAS
Minimum memory	16 GB DDR3, 1333 MHz
Network interface card (NIC)	Quad-port 10/100/1 Gb
Optical drive	DVD ±R
RAID support	Optional
Operating system	Red Hat Enterprise Linux 5.7 or later compatible

Table 2 provides minimum specifications for PCs on which the Cisco HealthPresence 2.5 Connect software will run.

Table 2. Endpoint PC Specifications

Component	Specifications
Processor	Minimum 2.6 GHz dual-core processor
Graphics	Minimum 1 GB RAM with DVI/HDMI output and display of at least 1280 x 1024
Memory	Minimum 4 GB RAM
Hard disk drive	Minimum 500 GB HDD
Audio card	Onboard high-definition audio codec with line/Microphone in
Operating system	Windows 7 Professional 64-bit (Service Pack 1)
USB ports	Sufficient number of USB ports for connecting medical devices
NIC	Onboard Gigabit Ethernet

Table 3 lists specifications for compatible peripherals.

Table 3. Compatible Peripheral Specifications

Peripheral	Specifications
Video endpoints	Session Initiation Protocol (SIP) or H.323 Protocols
Medical devices	Driverless USB-UVC, S-video, Composite (RCA)[2]

[2] Third-party medical devices using S-Video or RCA connections may have other hardware requirements such as a GrabBee dongle. See the Cisco HealthPresence v. 2.5 Installation Guide for more information.

Table 4 provides the part numbers for Cisco HealthPresence 2.5 hardware, software, and licenses.

Table 4. Ordering Information

Product Name	Part Number
Top Level SKU for Enterprise Connect Server	CHP-ENTPRSVR2.5-K9
Single Endpoint License, any supported video endpoint	CHP-ALLVEP-2.5-K9
10-license bundle, any supported video endpoint	CHP-BNDL10-2.5-K9
Furniture (optional)	API-POD1
Endpoint PC Attendant (optional)	ATTNDAPPL-W7
Endpoint PC Provider (optional)	PROVAPPL-W7
Ready-made connector for third-party applications	CHP-CONNECTOR-K9
API License for third-party application integration	CHP-API-K9

Cisco has validated certain third-party medical devices as interoperable with Cisco HealthPresence 2.5. Interoperable medical devices should be used according to the instructions for use prepared by the manufacturers of those Interoperable medical devices. Refer to the **Cisco HealthPresence 2.5 Solution Design Guide** for more information.

Note: Interoperable medical devices are available only from the manufacturer of such devices or their authorized resellers and distributors. Cisco is not a reseller or distributor of such devices. Interoperable medical devices are not available in all countries. To find out if an interoperable medical device is available in your country, contact the manufacturer or a seller of the device.

Cisco Furniture for Telehealth Consultations

The Cisco Furniture Pod is optional furniture for Cisco HealthPresence 2.5. The Cisco Furniture Pod is designed to maximize workspace while minimizing the footprint of furniture in the provider's or attendant's space. The pod has compartments tailored for Cisco HealthPresence components, a Cisco TelePresence System CTS-500 or the Cisco TelePresence Codec C20/C40 unit, a desktop computer, a monitor, a keyboard, a device aggregator, and cabling. The Cisco Furniture Pod allows healthcare professionals to keep the workspace clear yet provides convenient access to all necessary equipment.

Services

Cisco offers a full lifecycle of professional services from planning and installation to optimization and support.

To realize the full potential of the solution, the organization's network, Cisco HealthPresence endpoints, and the Cisco HealthPresence solution itself must be optimally designed and implemented. The Cisco HealthPresence Plan, Design, and Implement (PDI) Services team assesses the existing network and physical environments, develops an implementation-ready design based on the organization's unique requirements, and works with internal IT staff throughout implementation, testing, and end-user training.

The PDI Services team performs for the following tasks:

- Project management: When an enterprise is ready to begin the plan phase of deployment, the team or an authorized Cisco partner delivers a comprehensive project schedule for the implementation and provides a single point of contact for all issues relating to the solution.
- Requirements validation: The team performs a detailed requirements validation to assess the customer's business and technical requirements and verify that the deployment will meet expectations.

- Room remediation requirements: The team validates that all Cisco HealthPresence rooms meet dimension, lighting, HVAC, power, network connectivity, and noise-level requirements.
- Network path assessment: The team examines the customer's network and the links between sites to identify the optimal path and network requirements for the solution.
- Detailed design development: The team creates a detailed design for the entire solution, including recommendations for network components (for example, switches and routers), network configuration recommendations (for example, security and quality of service [QoS]), call control and collaboration network infrastructure components, link speeds, and other related components that affect the efficiency and effectiveness of the Cisco HealthPresence solution.
- Network implementation plan: The team prepares an implementation plan with all configuration details including IP addresses, call control and collaboration network infrastructure components, configuration parameters, user IDs, and passwords. The implementation plan is then used to configure the Cisco HealthPresence components.
- Solution acceptance testing: Once the solution is installed and configured, the team performs a Solution Acceptance Test that includes test cases for all sites to validate readiness of the solution for live production.
- Administrative knowledge transfer: The team trains the system administrators, support staff, and end users on how to use the Cisco HealthPresence technology.

Even when Cisco HealthPresence 2.5 is deployed by trained professionals, enterprises still need ongoing support and maintenance to safeguard all of the essential products included in the solution. These services are designed to provide continuous support of Cisco HealthPresence so that enterprise IT departments can focus on their core business.

In addition to the PDI Services described above, the following service offerings are available to customers of Cisco HealthPresence 2.5.

- **Cisco HealthPresence Workshop:** This workshop identifies the cost savings, productivity enhancement, and business transformation opportunities offered by the solution. The workshop is a collaborative exercise between Cisco and the customer. The solutions as well as related quantifications are developed and validated with the customer before being finalized. Using a systematic process, a detailed quantification of the business benefits is produced including the impact on productivity, impact on business transformation, and the savings potential of telehealth.
- **Cisco HealthPresence Remote Validation Service:** This service validates Cisco HealthPresence deployment where the health care organization or their authorized partner has installed the solution. The Cisco Validation Service team will complete the activation of the Cisco HealthPresence license keys and validate that the HealthPresence installation is working as intended and is safe for patient use. This lightweight service allows customers the flexibility to use their preferred method of installation while promoting the safety and usability of the system for the customers. Cisco HealthPresence Remote Validation Service is a service offering that should be ordered for every Cisco HealthPresence endpoint.

- **Cisco HealthPresence Custom Application Support (CAS):** CAS is a support service for the Cisco HealthPresence software. CAS is a Cisco Advanced Service offering that should be ordered for every Cisco HealthPresence Endpoint and renewed annually as long as the endpoints are in use. CAS includes the following support services:
  - Application and telemetry support: Provides timely fixes to issues found in the Cisco HealthPresence code and ongoing software upgrades for minor releases of Cisco HealthPresence. It also allows the customer to use a single point of contact to address any issues with any of the solution's components.
  - Configuration management: Maintains an inventory of the Cisco HealthPresence solution components and updates the solution configuration as needed with a qualified support team. Configuration management helps to identify any issues that may impede adherence to regulatory requirements.
  - Change management: Manages network resiliency by assuring changes are made in a manner that maximizes availability and performance while minimizing the impact on normal business processes.
  - Incident management: Manages Tier-2 escalated incidents and problems to resolution and closure on Cisco HealthPresence components. Incident management reviews all complaints with clinical implications and takes action required of a device manufacturer.
- **Cisco SMARTnet®:** SMARTnet is a support service for components of the Cisco HealthPresence 2.5 and other Cisco solutions and products. This service complements Cisco HealthPresence Custom Application Support. Cisco SMARTnet provides dedicated, system-level support and maintenance and global 24-hours-a-day, 365-days-a-year access to highly skilled engineers. SMARTnet includes advance hardware replacement options including onsite installation or providing enterprises with parts delivery and replacement by the next business day or within four hours on the same business day. The service also includes ongoing operating system and application software updates, which strengthen the reliability, functionality, and stability of Cisco HealthPresence 2.5. In addition, companies gain registered access to a range of online support and information systems. These include interactive consulting tools, a comprehensive database, and knowledge transfer resources available through Cisco.com. This set of Cisco technical tools and product information increases the self-sufficiency and unified communications expertise of internal IT staff. Cisco SMARTnet should be ordered and renewed annually to help ensure high availability of the solution.
- **Cisco HealthCare Remote Management Services (RMS):** RMS provides continuous proactive remote monitoring and management support for the solution. RMS offers real-time administrative support during Cisco HealthPresence sessions. The service includes a redundant remote network operations center (NOC) infrastructure that monitors the solution at all times. Cisco engineers with in-depth expertise in managing converged infrastructures provide ongoing management, monitoring, reporting, and issue diagnosis and remediation to solve incidents in real time. These engineers can diagnose an issue and, if necessary, facilitate collaboration across multiple Cisco Unified Communications technology experts, third-party medical device experts, or Cisco HealthPresence 2.5 software experts to accelerate the resolution of any problem with the Cisco HealthPresence deployment. The enterprise retains ultimate control while Cisco monitors the availability and performance of Cisco HealthPresence around the clock, proactively identifying and resolving issues and collaborating with the IT team as needed.

In addition to the support service offerings discussed above, customers have the option of two Day 2 support models:

- **Partner Delivered Day 2 Support Model:** Day 2 Support for the Cisco HealthPresence solution is offered by authorized Cisco partners to their customers. These authorized Cisco partners provide support for the Cisco HealthPresence solution, track issues, perform Level 1 Initial Triage and Level 2 Video Support, and escalate customer complaints directly to Cisco.
- **Customer Managed Day 2 Support Model:** Day 2 support can be managed by Cisco customers if they wish. The customer provides Tier 1 (initial triage and troubleshooting) support and escalates issues to Cisco using SMARTnet and CAS contracts for entitlement. In this model, Cisco provides Tier 2 support for customer-escalated Cisco HealthPresence solution issues and Cisco product issues.

For more information about Cisco Services for Cisco HealthPresence or for other Cisco products and solutions, contact your Cisco service account manager or send an email to ask_healthpresence@cisco.com.

Important Safety Information

Cisco HealthPresence is intended to allow healthcare providers to evaluate patients remotely or patients and healthcare providers to collaborate with specialists remotely.

Cisco HealthPresence is NOT intended for use in emergency situations. In the event of an emergency, call 911 or your local emergency response system.

Cisco HealthPresence is NOT intended for use in situations involving real-time patient monitoring or alarming.

For further important safety information, refer to the Cisco HealthPresence 2.5 Instructions For Use.

For More Information

For more information about Cisco HealthPresence 2.5, contact your local Cisco account representative or visit http://www.cisco.com/web/strategy/healthcare/cisco_healthpresence_solution.html.

Americas Headquarters
Cisco Systems, Inc.
San Jose, CA

Asia Pacific Headquarters
Cisco Systems (USA) Pte. Ltd.
Singapore

Europe Headquarters
Cisco Systems International BV Amsterdam,
The Netherlands

Cisco has more than 200 offices worldwide. Addresses, phone numbers, and fax numbers are listed on the Cisco Website at www.cisco.com/go/offices.

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