Enabling Patient Engagement and Wellness

Cisco® Extended Care 1.0, as shown in Figure 1, is a browser based personal health and wellness collaboration platform that enables patient engagement and care team interactions at any time and from anywhere.

A transformation is underway in healthcare. With escalating costs of care delivery, rising patient volumes, an aging population, shortages of medical professionals, penalties for hospital readmissions, and reductions in reimbursement, the healthcare industry is looking for secure, innovative and sustainable solutions that can improve care coordination, patient engagement and collaboration in order to drive better outcomes.

Cisco Extended Care 1.0 Components

Cisco Extended Care 1.0 comprises the following key components:

- Cisco Extended Care software for managing all of the connectivity among the video conferencing components and endpoint computers while providing the user interface to the solution users.
- Provider Portal for allowing access by care providers
- Patient Portal for allowing access by patients
- HCE APIs for enabling video collaboration in third-party applications
- Connector software for interfacing with third-party applications, such as electronic medical record systems.
Product features include:

- **Anywhere, Anytime Secure Access to Care Teams**
  - Using a secure browser based model, patients can login to the portal to access the capabilities of the solution
  - The ability to access their care teams from anywhere reduces the time and cost in travelling to the physical location

- **Ease of Use Workflow for Patients**
  - With a single click, the solution enables the patients to reach their care team
  - Additional optional workflow elements such as provider provided questionnaires can be introduced in the workflow to collect additional information

- **Enhanced Real Time Video Collaboration**
  - Ability for patients and providers to communicate with each other with real time video collaboration
  - Ability to support a wide variety of video endpoints including hard endpoints, soft endpoints and mobile endpoints
  - Ability to support video quality at various resolutions to match available bandwidths
  - Ability to initiate multi-party collaboration sessions between care teams, specialists and other providers

- **Enhanced and Efficient Care coordination and Collaboration**
  - Using the capabilities of queuing, provider groups and triaging, the patients can reach the right care teams quickly and securely
  - The re-queuing capabilities allow care teams to seamlessly transition patients from one care team member to another
• **Enhanced Patient Engagement**
  - Ability for the patients to initiate an unscheduled appointment with their care team
  - Ability for the providers to exchange messages with the patients and drive awareness
  - Ability to answer questions provided by the provider
  - Ability to provide personalized content sharing
  - Ability to manually enter wellness device data

• **Enhanced Visibility using Reports and Analytics**
  - The solution provides visibility into the resource usages in the system at any given time
  - The historic reports on usage provides a view of how the system has been used and can be used to plan ahead

• **Open API**
  - Ability to embed collaboration capabilities into third party applications by leveraging APIs and Portlets so that additional applications can leverage the capabilities of the Cisco healthcare collaboration middleware
  - Ability to build various solutions using simple normalized APIs that work with various video endpoints and collaboration tools
  - Ability to choose flexible workflow using the APIs provided by the solution
  - Ability to customize the portal

• **Integrated Systems**
  - Ability to use the connector architecture to interface with backend systems, such as scheduling and EMR systems, using standard protocols such as HL7, and web services
  - Ability for patients to view information on their portal from integrated systems, such as Scheduled appointments

• **Solution Serviceability**
  - Ability to configure and manage the system from a web based UI
  - Ability to view system status and health of server and processes, and receive events when there are resource issues
  - Ability to set logging and obtain debug information

• **Workflow Enablers and Tools**
  - On call scheduling: Ability to set on call schedule for care teams to enable optimal coverage
  - The ability to create multiple teams for different groups of patients and map care teams and resources specific to those groups, such as nutrition coaching and weight loss
  - Ability to provide and customize questionnaires
  - Ability to create provider groups and assign on call schedules per group

• **Enhanced Security**
  - Role based secure access
  - Helps secure data in motion and data in rest models
  - Encrypted storage of data
  - Helps enforce enterprise security policies and rules
Specifications

The following tables are a sampling of the solution’s specifications. Table 1 gives minimum specifications for the server on which the Cisco Extended Care 1.0 Server software will run. Table 2 describes ordering information.

Table 1. Server Specification

<table>
<thead>
<tr>
<th>Deployment Model Enterprise</th>
<th>Processor</th>
<th>Minimum 2 Intel Xeon E5620 80W CPU/12MB cache processors with 2.4 GHz or equivalent</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Memory</td>
<td>Minimum 16 GB RAM</td>
</tr>
<tr>
<td></td>
<td>Hard Disk Options</td>
<td>Support for SATA, SSD, SAS. Minimum 100 GB hard disk space available</td>
</tr>
<tr>
<td></td>
<td>Optical Drive</td>
<td>DVD±R</td>
</tr>
<tr>
<td></td>
<td>Raid Support</td>
<td>Optional</td>
</tr>
<tr>
<td></td>
<td>Network Interface Card</td>
<td>Quad Port 10/100/1Gb NIC</td>
</tr>
<tr>
<td></td>
<td>OS</td>
<td>Compatible with RHEL 5.7</td>
</tr>
<tr>
<td></td>
<td>Processor</td>
<td>Minimum 2 Intel Xeon E5620 80W CPU/12MB cache processors with 2.4 GHz or equivalent</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Deployment Model Multitenant</th>
<th>Processor</th>
<th>Minimum 2 Intel Xeon X5680 130W CPU/12MB cache processors with 3.33 GHz or equivalent</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Memory</td>
<td>Minimum 16 GB RAM per VM and 96 GB total</td>
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<tr>
<td></td>
<td>Hard Disk Options</td>
<td>Support for SATA, SSD, SAS. Minimum 100 GB per VM and 2.4 TB total</td>
</tr>
<tr>
<td></td>
<td>Optical Drive</td>
<td>Support for NAS or SAN Storage</td>
</tr>
<tr>
<td></td>
<td>Raid Support</td>
<td>DVD±R/RW</td>
</tr>
<tr>
<td></td>
<td>Network Interface Card</td>
<td>Optional</td>
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<td>Processor</td>
<td>Compatible with RHEL 5.7</td>
</tr>
</tbody>
</table>
## Use Cases

The following are some use cases that show how Cisco Extended Care 1.0 can help deliver better personal health information management and wellness collaboration.

- **Coordinating Follow-up Care**—Patients discharged from the hospital require frequent follow-up visits and may face difficulties communicating with their provider between visits. Poor communication and follow up can lead to unnecessary readmissions. The pre-scheduled video consults feature enables providers to schedule follow-up visits in advance for effective follow-up care coordination and collaboration. And the expert line and personalized wellness features provide patients improved access to care.

- **Improving Patient Engagement and Care Coordination**—Entities such as Accountable Care Organizations (ACO) are accountable for total spending and quality of care. These kinds of organizations need to provide high quality care and maintain close contact with patients who need frequent face time with caregivers.

  ACO’s can benefit from Extended Care features like secure messaging, questionnaire, educational videos, and personalized content to promotewellness, and increased use of real-time collaboration for better care coordination.

  In addition, Extended Care expert line and mobility features give patients access to their care team anytime and anywhere.

- **Improving Care Team / Clinician Collaboration**—In some cases, patients require collaboration among care teams. This makes the sharing of expertise essential for healthcare professionals. Extended Care enables the development of specialized treatment networks, which rely on collaboration between specialists in multiple locations.

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Top Level SKU for Enterprise Connect Server</td>
<td>CEC-APPSVR1.0-K9</td>
</tr>
<tr>
<td>Patient endpoint licenses (bundle of 10)</td>
<td>CEC-RES1.0-10-K9</td>
</tr>
<tr>
<td>Patient endpoint licenses (bundle of 50)</td>
<td>CEC-RES1.0-50-K9</td>
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<tr>
<td>Patient endpoint licenses (bundle of 100)</td>
<td>CEC-RES1.0-100-K9</td>
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<tr>
<td>Provider endpoint licenses (bundle of 5)</td>
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<tr>
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<tr>
<td>Provider endpoint licenses (bundle of 25)</td>
<td>CEC-SP1.0-25-K9</td>
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<tr>
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<td>CEC-HCE1.0-10-K9</td>
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<tr>
<td>HCE endpoint licenses (bundle of 50)</td>
<td>CEC-HCE1.0-50-K9</td>
</tr>
<tr>
<td>HCE endpoint licenses (bundle of 100)</td>
<td>CEC-HCE1.0-100-K9</td>
</tr>
<tr>
<td>Proxy server for access outside firewall</td>
<td>CEC-PRSRV1.0-K9</td>
</tr>
<tr>
<td>Ready-made connector for third-party applications</td>
<td>CEC-CONEC1.0-K9</td>
</tr>
</tbody>
</table>
• **Enabling Virtual Visits/Extending the Reach of Specialists**—The healthcare industry faces a looming shortage of medical professionals and skilled nurses. To address this issue, healthcare organizations are looking to innovative technologies as a means of improving productivity and efficiency of nurses and specialists.

Extended Care features such as real-time collaboration and pre-scheduled video visits enable providers and Home Healthcare Agencies (HHA) to improve the productivity of visiting nurses and specialists by converting physical visits to virtual visits. This, in turn, improves their efficiency by providing more flexibility in their daily schedules.

Virtual access to specialists can also benefit healthcare organizations, clinicians, patients, and their families. For example, a specialist who works at multiple locations/facilities and is available at the clinic once a week can use Extended Care for virtual visits, which support experts on the go with mobility features that bring video to their tablets.

• **Promoting Wellness**—An increase in lifestyle-related diseases is one of several factors driving a demand for alternative, personalized care that help to promote health and wellness. New models of care that focus on personal health information management and wellness collaboration could produce significant benefits.

Cisco Extended Care expert line and mobility features provide patients on-demand access to caregivers anytime, anywhere by allowing users to select their choice of video endpoints and location.

In addition, Extended Care features like personalized content sharing and video platform provide on-demand access to educational video and content for improved patient education and self-management.

• **Enabling Video Collaboration in Third-Party Healthcare Applications and Environments**—Partners and customers who have their own applications but lack video collaboration capabilities require technologies that can enable video collaboration. Extended Care extensible platform and API/HCE feature enables video collaboration features in third-party portals and healthcare applications.

• **Reducing Healthcare Costs by Promoting Wellness and Prevention and Improved Access to Care**—Third-party payers and insurers face the financial consequences of an aging society. Promoting wellness, changing lifestyles, and improving care coordination can help reduce these costs. Extended Care video platform, expert lines, and personalized wellness content features can be used to promote wellness.

• **Improving Follow-up Care Coordination for Patients at Home and in Foreign Countries**—Healthcare providers seek technologies and applications that enable better care coordination and enhanced follow-up care (preoperative and postoperative). These care options need to facilitate self-care and patient compliance and improved coordination of care between providers in patients’ home and foreign countries.

At the same time, patients/consumers seek technologies that provide on-demand access to providers and care that is available anytime and anywhere. They also seek better patient engagement and care coordination programs that facilitate improved personal health information management.

Extended Care expert lines and pre-scheduled appointment features can be used for improved access to care, as well as better follow up and care coordination. In addition, the HD real-time video collaboration feature improves care team collaboration.

• **Serving Corporate Clinics**—Corporate clinics can assist employers to improve their employees’ health and wellness as well as manage healthcare expenses.
Services

To realize the full potential of the solution and the organization’s network, the Cisco Extended Care application must be optimally designed and implemented.

The Plan, Design, and Implement Services Team

Cisco offers a full lifecycle of professional services, from planning and installation to optimization and support, via the Cisco Extended Care Plan, Design, and Implement (PDI) Services team. The 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.

Cisco also offers on-going support and maintenance to safeguard the products included in the solution. These services are designed to provide 24x7 support for the solution, allowing enterprise IT departments to focus on their core business.

Cisco offers the following additional services to Cisco Extended Care 1.0 customers:

Cisco Extended Care Workshop

This workshop identifies the cost savings, productivity enhancements, and business transformation opportunities enabled by the solution. Using a systematic process, a detailed quantification of the business benefits is produced. This includes the impacts on productivity and business transformation, as well as the savings potential.

Cisco Extended Care Custom Application Support

Cisco Extended Care Custom Application Support (CAS) is a support service for the Cisco Extended Care software. A Cisco Advanced Service offering, it should be ordered for every Cisco Extended Care endpoint CAS includes application support, configuration management, change management, and incident management.

Cisco SMARTnet

SMARTnet® is a support service for components of Cisco Extended Care 1.0 and other Cisco solutions and products. This service complements Cisco Extended Care Custom Application Support. SMARTnet provides dedicated, system-level support and maintenance and global 24-hour-day, 365-day-a-year access to highly skilled engineers.

SMARTnet includes advance hardware replacement options with the option of onsite installation, 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 system software updates, which strengthen the reliability, functionality, and stability of the Cisco Extended Care 1.0. SMARTnet should be ordered and renewed annually to ensure high availability of the solution.

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

Partner Delivered Day 2 Support Model:

Day 2 Support for the Cisco Extended Care solution is offered by authorized Cisco partners to their customers. These authorized Cisco partners provide support for the Cisco Extended Care 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 Extended Care solution issues and Cisco product issues.

For more information about Cisco Services for Cisco Extended Care or for other Cisco products and solutions, contact your Cisco service account manager or email us at ciscoextendedcare_prdmgmt@cisco.com.
Not Intended for Use in an Emergency or for Patient Monitoring
Cisco Extended Care is not intended for use in emergency situations. In the event of an emergency, call 911 or your local emergency response system. Cisco Extended Care is not for use in situations involving real-time patient monitoring or alarming.

For More Information
For more information about Cisco Extended Care 1.0, contact your local Cisco account representative or visit www.cisco.com/go/extendedcare.

Why Cisco?
As the global market leader for Telepresence™, Web conferencing, and IP telephony, Cisco is the partner of choice for enabling and enhancing care-at-a-distance and wellness. Its standards-based videoconferencing offers the flexibility to use any endpoint that supports standard video protocols. Cisco solutions enable you to take advantage of your existing investment in Cisco infrastructure, while offering a secure, reliable, and extensible architecture that enables video collaboration in third-party healthcare applications.

By taking advantage of the power of the Internet of Everything and by bringing together people, processes, information, data and things, the Cisco Extended Care application can enable improved patient access, experience, and engagement. Cisco Extended Care facilitates collaboration, mobility, security, workflow, and integration capabilities to enable wellness through enhanced care coordination, collaboration with care teams, and providing tools for patient health information management. The Extended Care application builds on Cisco collaboration middleware, to provide an anywhere, anytime platform for healthcare customers to provide wellness services to their patients.

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.