



Service Description: Connected Health Optimization Service

This document describes Connected Health Optimization Service.

Related Documents: This document should be read in conjunction with the following documents also posted at www.cisco.com/go/servicedescriptions: (1) Glossary of Terms; (2) List of Services Not Covered; (3) Severity and Escalation Guidelines. All capitalized terms in this description have the meaning ascribed to them in the Glossary of Terms.

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This Connected Health Optimization Service is intended to supplement a current support agreement for Cisco products and is only available where all Product(s) in Customer's Network is supported through a minimum of core services such as Cisco's Smart Net Total Care and Software Application Services, as applicable. Where available, Cisco shall provide the Connected Health Optimization Service described below as selected and detailed on the Purchase Order for which Cisco has been paid the appropriate fee. Cisco shall provide a Quote for Services ("Quote") setting out the extent of the Services and duration that Cisco shall provide such Services. Cisco shall receive a Purchase Order that references the Quote agreed between the parties and that, additionally, acknowledges and agrees to the terms contained therein.

Connected Health Optimization Service

Service Overview

Connected Health Optimization Service is intended to provide ongoing evaluation, guidance, advice, assessments and expert support to the IT staff in a Healthcare company through proactive assessments and optimization of healthcare IT infrastructure, clinical applications, change management and consulting/general advice.

An initial site visit is conducted to introduce Customer to an engineer ("Connected Health Services Engineer") to act as the primary interface with Customer for engagement of activities described below for its Network. The Connected Health Services Engineer, part of Cisco Advanced Services will conduct interviews and administer a questionnaire, if required to get information on Customer's network as well as what technologies are deployed.

The service provides a recurring forum for collaboration, allowing the achievement of clinical goals through expanded use of technology. Cisco will provide a quarterly assessment of the tactical and strategic progress achieved on a quarterly basis. Cisco will summarize the progress toward all business and technical goals, and provide opportunity to refocus efforts toward emerging priorities.

Deliverables covered by this optimization service includes:

Healthcare Strategy:

- Connected Health Strategy & Planning
- Healthcare Mergers and Acquisition Support
- Healthcare Access/Experience Business Strategy
- Healthcare Business Value Justification

- Healthcare Process and Workflow Development

Design Strategy:

- Connected Health Design Review and Documentation Support
- Healthcare Intelligent Contact Center Design and Workflow support
- Connected Health Architecture and Design Development
- Validation and Test Cycle and Review Standard

Change Management Strategy:

- Connected Health Infrastructure Maturity Assessment
- Connected Health Technology Assessment - Mobility
- Connected Health Technology Assessment – Patient Experience
- Connected Health Technology Assessment – Virtual Healthcare
- Connected Health Technology Assessment – Cloud Readiness
- Connected Health Technology Assessment – HC Communications
- Connected Health Technology Assessment – Security and Compliance
- Connected Health Technology Assessment – Clinical Network
- Connected Health Technology Assessment – Quality of Service
- Ongoing Technical Remediation, Design Support
- Ongoing Design and Optimization support for Smart mobile devices in Healthcare
- Ongoing Design and Optimization support for Extension Engage
- Connected Healthcare Compliance Management Service for 2500 Network Elements

Program Management Strategy

- Ongoing Conference Calls
- Project Management
- Prepare and Present QBR

Cisco Responsibilities:

The Connected Health Optimization Service consists of the provision of Services described below, where available, Cisco shall provide the services during Standard Business Hours (unless stated otherwise). Services provided by Cisco are remotely delivered unless otherwise noted.

Healthcare Strategy:

Connected Health Strategy and Planning Service

Explore high value technology use cases that are relevant to the business strategy of the organization

Methodology:

- Onsite workshop to understand the current business challenges and requirements
- Understand clinical, business and IT stakeholder requirements in the organization
- Prioritize the use cases on the basis of their business impact and implementation complexity (Strategy, Structure, Process, Systems and People)
- Identify ways in which technology could help address the business challenges (use cases)
- Sustainability strategies for the use case (reimbursement, revenue generation, cost saving)

Deliverables:

- Use cases relevant to the organization's strategy
- Prioritization of the use cases – Identify top 2-3 high value opportunities

Healthcare Mergers and Acquisitions (M&A) Support

Provide consulting on technology impact and roadmap resulting from mergers and acquisition for healthcare organizations

- Cisco will assign specialists to understand the challenges and provide recommendations based on best practices in healthcare for managing M&A, from a technology perspective.
- Document current state architecture of entities which are being merged, discuss benefits and deficiencies in the architecture as compared to Cisco's Digital Healthcare Architecture (DHA) requirements and Customer's strategic goals.
- Identify optimal approach for future state architecture for the combined technology entity. Recommend migration plan to achieve the future state architecture in according to Customer's strategic technology goals and Cisco's Digital Healthcare Architecture principles.

Healthcare Access/Experience Business Strategy

Explore how technology can help enhance patient experience and engagement throughout the patient's journey in and outside the hospital system

Methodology:

- Understand the business challenges and requirements
- Assess the current state of patient experience at various patient touch-points, pre-hospitalization, during hospitalization and post-hospitalization
- Gap assessment between the current and desired state of patient experience

Deliverables:

- As-Is state of patient experience
- Technology recommendations and prioritization to bridge the gap between current and desired state
- High level use case assessment for the identified technology

Healthcare Business Value Justification

Provide comprehensive cost-benefit analysis to justify investment in technology to meet business goals for one (1) use case

Methodology:

- Assess the impact of technology on the clinical (re-admissions, HCAHPS, emergency wait time) and business (marketing impact) metrics
- Financial impact (Increase in revenue vs cost savings)

- Cost of implementation: Capital expenditure and operational expenditure
- Cost-Benefit and ROI Analysis

Deliverables:

- Comprehensive business case for the investment in technology
- Automated what-if decision making tool to dynamically change the assumptions and assess the impact on outcomes

Healthcare Process and Workflow Development

Provides technology recommendations to enhance Customer experience by shadowing the hospital staff in-action and analyzing their communication processes

Methodology:

- Onsite shadowing of healthcare staff
- Gather data around collaboration and communication processes
- Identify opportunities to optimize communication processes with the use of technology
- Assess communication and collaboration pathways, process decomposition, failure modes, experience, access, flows
- Redesign optimized process for solutions, system integration needs

Deliverables:

- Technology recommendations to enhance collaboration
- Optimized workflows
- Lean process design

Design Strategy:

Connected Health Design Review and Documentation Support

Cisco will consult with Customer via a series of meetings to develop a thorough understanding of Customer's healthcare IT infrastructure design requirements and review Customer's existing design based on Digital Healthcare Architecture (DHA) design principles.

Support may include;

- Review of Customer's healthcare IT infrastructure design requirements, priorities, and goals.
- Analysis of impact of new requirements on care delivery and existing network.
- Review of network architecture and topology against Cisco DHA recommendations.
- Address DHA design related questions.
- Review of security and compliance considerations.
- Cisco will assign a Digital Healthcare architect, to review Customer network design and provide recommendations based on best practices for deploying network technology in the healthcare industry.
- Helping Customer resolve minor design-related issues.

Healthcare Intelligent Contact Center Design and Workflow Support

The service assists Customer with aligning their unified contact center technology requirements to address their healthcare use cases, business goals and objectives. This consultative offering defines a roadmap for a Customer's short and long term contact center technology strategies through workshops, interviews and documenting the gathered information. Cisco Connected Health Architects and Strategy Consultants can help define the healthcare use cases which can be addressed using the contact center technology.

Methodology:

- Conduct technology strategy workshop
- Schedule interview sessions with IT and Clinical stake holders
- Develop technology strategy and technology workflow to support healthcare use cases

Deliverables:

- Healthcare Contact Center Design Document
- Optimized technical workflows to match identified use cases

Connected Health Architecture and Design Development

Service enables adoption of Cisco Digital Healthcare Architecture (DHA) by helping Customer to:

- Translate healthcare IT strategy and conceptual architectures into technology solutions
- Establish a comprehensive security architecture and extend the secure network perimeter
- Design a highly available converged architecture based on DHA
- Optimize Customer's architecture to scale to future growth requirement

Methodology:

- Analysis and documentation of client's business profile, requirements, and network success metrics relative to Cisco leading practices
- Assessment of client's current routing and switching architecture against identified requirements to determine if the current architecture can absorb required network services
- Map Customer's business objectives and technical requirements to a proposed high-level network architecture design
- Create an adoption schedule (transition plan) that identifies the high level sequence of activities necessary to implement the proposed design
- Translate Customer's high-level design into a detailed design
- Develop design validation test plans
- Provide consultative support and knowledge transfer sessions to facilitate implementing activities

Deliverables:

- Customer Requirements Document
- High Level Design Document
- Detailed Design Document

Validation and Test Cycle and Review Standard

- Cisco will consult with Customer via a series of meetings to develop a thorough understanding of Customer's solution-oriented testing goals and requirements. Cisco will execute networking tests and report findings to Customer.
- Validation and Testing Support may include, among other information, the following:
 - Review of Customer's testing goals and business objectives;
 - Test Plan development or review/refine existing test plan;
 - Schedule facilities, equipment and resources;
 - Test Set Up – Perform the Physical Lab Setup;
 - Test Execution – Execute the Test Plan; and,
 - Test Results Analysis – Document the results in a Test Report.
- Validation and Testing Support is only available to certain geographic locations and will be specified in the Quote for Services.

Connected Health Infrastructure Maturity Assessment (IMA)

The service assesses the maturity of the healthcare IT infrastructure against Cisco Digital Healthcare Architecture requirements. The IMA is the first step in an incremental approach in the prioritization and delivery of vital network infrastructure in order to attain successful digital hospital evolution over a determined period of time.

Methodology:

- Determine workflow relating to the identified service.
- Determine healthcare solution and components that would enhance value in healthcare delivery.
- Detail the technical requirements for the components.

Deliverables:

- Infrastructure Maturity Scoring
- Assessment Report
- Final Presentation

Connected Health Technology Assessment – Mobility

Assess the maturity of mobility infrastructure to deliver context aware, location aware use cases for physician, clinician and patient use cases.

Methodology:

- Assess the mobility architecture
- Interview clinical staff to understand how they would like to use the environment
- Gather mobility use cases for physicians, clinicians and patients
- Identify current state maturity of mobility infrastructure to address the use cases
- Prepare future state architecture requirements and recommendations

Deliverables:

- Assessment Report
- Final Presentation

Connected Health Technology Assessment – Patient Experience

Assess maturity of IT infrastructure to deliver interactive information, education and entertainment to patients via hallway /lobby kiosks, in waiting rooms and/or in patient's room.

Methodology:

- Interview clinical and IT staff to understand how they would like to use the environment
- Gather patient experience use cases at different parts of the healthcare facility
- Identify current state maturity of IT infrastructure to address the use cases
- Prepare future state architecture requirements and recommendations

Deliverables:

- Assessment Report
- Final Presentation

Connected Health Technology Assessment – Virtual Healthcare

Assess maturity of IT infrastructure to provide virtual experience for clinicians and their staff to communicate with remote patient

Methodology:

- Assess the existing medium of virtual healthcare communications.

- Interview with clinicians and understand their experience and future expectations.
- Understand the overall network, security, wireless and mobile infrastructure platforms that support virtual healthcare in Customer environment.

Deliverables:

- Assessment Report
- Final Presentation

Connected Health Technology Assessment – Cloud Readiness

Assess maturity of IT infrastructure to deliver healthcare Cloud IT infrastructure from Current State to the Future State

Methodology:

- Assess the existing/future healthcare cloud usage
- Interview with clinical IT staff and understand future Cloud and Virtualization expectations.
- Understand the overall computing, storage and network infrastructure platforms that support virtual infrastructure
- Assess Cloud Automation and Orchestration need
- Interview current Compute, Storage, Network

Deliverables:

- Assessment Report
- Final Presentation

Connected Health Technology Assessment – HC Communications

Assess maturity of Clinical Communication infrastructure against best practice

Methodology:

- Interview clinical and IT staff to understand how they would like to use the environment
- Gather clinical communication use cases for different healthcare functions
- Identify current state maturity of collaboration and network infrastructure to address the use cases
- Prepare future state architecture requirements and recommendations

Deliverables:

- Assessment Report
- Final Presentation

Connected Health Technology Assessment – Security and Compliance

Assess maturity of IT infrastructure and processes against Digital Healthcare Security architecture requirements.

Methodology:

The assessment reviews the network and security infrastructure and processes against the guidelines provided by Digital Healthcare Architecture. The assessment also goes through the HIPAA security rule line by line and analyzes what an organization is doing to stay in compliance with each component of the rule. The security rule specifically focuses on safeguarding of electronic protected health information (e-PHI).

Deliverables:

- CHTA Security Compliance Assessment report which includes:
 - Security compliance gap analysis
 - Security infrastructure validation

- Future state architecture
- Security infrastructure recommendations to include improvements in policies, processes, network topology, protocols, device configurations and security controls.

Connected Health Technology Assessment – Quality of Service (QoS)

This service will assess quality of service requirements in healthcare networks and provide recommendations

Methodology:

- Onsite workshop to understand the current QoS architecture of the healthcare network
- Identify the key applications requiring prioritization
- Understand existing healthcare application performance issues
- Examine end to end quality of service configurations in the healthcare network

Deliverables:

- Quality of Service recommendations per platform to improve performance of healthcare applications
- Identify quality of service gaps in the network and provide action plan/strategy
- Implement the action plan identified to optimally use the bandwidth in the healthcare network

Ongoing Technical Remediation, Design, Implementation Support

- Designate a Connected Health Services Engineer to act as the primary interface with Customer for its Network.
- Schedule with Customer up to four (4) quarterly visits per year (not to exceed eight (8) days in aggregate) to Customer's site to review Deliverables and Activities and plan for the next quarter. Additional visits will be mutually agreed upon at Cisco's then-current travel and labor rates.
- Schedule periodic (typically weekly) conference calls to review Customer's Network status, performance of clinical applications and provide any support, consulting or change management advise as needed planning, and the Services being provided.
- Provide the Quarterly Reports and schedule a quarterly review with identified Customer contacts and key stakeholder
- Make collaboration tools available for hosting meetings, managing documentation, instant messaging, desktop sharing, and collaborative spaces.
- Establish a Customer-specific Cisco email alias to facilitate communication with Connected Health Services Engineer.
- Provide certain Data Collection Tools that Cisco has identified as appropriate for Network data collection during the Term of the Services, provided that all fees due and owing to Cisco under this Service Description have been paid. Data Collection Tools may or may not include hardware or software. Customer acknowledges and agrees Cisco shall retain full right, title, and interest to the Data Collection Tools. In addition to Cisco provided tools, the Connected Health Services Engineer may utilize Customer provided data, scripts, or internal tools to assist in collecting data from Customer Network.
- The quantity of any reporting and efforts for ongoing activities described herein will vary depending on Customer requirements and what Customer and Cisco mutually agree upon when Services are purchased as identified in the Quote provided by Cisco.

Ongoing Design and Optimization support for Smart Mobile Devices in Healthcare

Starting with the validated reference architecture, Cisco will assist in Customer's planning, building and management of a highly secure Wi-Fi infrastructure to deploy and support smart devices in a healthcare environment through the provision of ongoing design and optimization support. This service leverages Cisco's deep expertise in healthcare mobility, results of best practices arrived during testing in the Cisco healthcare lab and partnership it has with industry vendors supporting smart devices in healthcare.

Methodology:

- Complete Wi-Fi Readiness Review to evaluate Customer's environment, report findings, and document recommendations
- Design and remediation recommendations for optimal wireless infrastructure for smartphones
- Ongoing support for smartphones in healthcare organizations, including smartphone specific consultation, if applicable

Deliverables:

- Wi-Fi Readiness Report including:
 - RF Assessment (active site survey if needed)
 - Action plan resulting from the Readiness Report
- Ongoing support for smart devices as well as the wired, Wi-Fi network, security, and unified communications architectures

Ongoing Design and Optimization support for Extension Engage

Cisco and Extension Healthcare will conduct in-depth clinical and technical assessments at Customer facility to validate the readiness and optimization of the network and its ability to transparently support clinicians running Extension Engage on their Cisco® VoIP or smartphone devices. Cisco and Extension Healthcare will provide ongoing support for Extension Engage as well as the wired, Wi-Fi network, security, and unified communications architectures.

Methodology:

- Assess current wireless, security and unified communications architectures
- Evaluate against validated reference architecture for healthcare environments
- Identify gaps and provide action plan
- Assess clinical workflows and make recommendations
- Implement the action plan that was identified as a result of the technology and/or workflow assessments
- Test Extension Engage onsite with Extension and Cisco
- Single point of contact for all management services
- Ongoing support for Extension Engage optimization related to wired, wireless, collaboration and security
- Baseline workflow assessment, including nurse shadowing and time studies (Optional)

Deliverables:

- Engage Mobile Readiness Assessment Report including:
 - Cisco Unified Communications readiness
 - Cisco and Extension Healthcare security readiness
 - Cisco and Extension Healthcare mobility readiness
 - Extension Healthcare smart device evaluation, validation, and readiness
- Ongoing support for smart devices as well as the wired, Wi-Fi network, security, and unified communications architectures
- Baseline workflow assessment report (optional)

Connected Health Compliance Management Service

- Cisco will monitor and manage up to 2500 network elements for compliance with both regulatory (HIPAA/PCI etc.) and Customer-defined policies, helping to provide best practices, and policy adherence. Increasing the quantity of the service can support additional network devices.
- Cisco will work with Customer stakeholders to identify the compliance requirements, gaps in existing compliance implementation, identify gaps and recommend changes in configurations. Security Design and Compliance Assessment service to be included to address this requirement.

Further details on the service are described in the Compliance Management Configuration Service specific service description at www.cisco.com/go/servicedescriptions/, incorporated herein by reference.

Project Management

- Development of a clear Delivery Plan: Provide for a schedule of project activities and tasks mapped to services being delivered to the Customer
- On-time service delivery: Work closely with the Customer and Delivery Teams; meet project milestones and target completion dates
- Cost containment and margin protection: Assurance and reporting to help maintain and improve project profitability
- Effective communications: Implementation of a cross-functional communication plan to mitigate risk and problems
- Customer SAT: Meet or exceeding Customer expectations
- Seamless collaboration and team building: Successful alignment and integration of relevant resources

Prepare and Present QBR

On a quarterly basis, Cisco Connected Health Services team will provide a status report to Customer as part of the Cisco optimization services quarterly review separately or along with the broader optimization team.

Customer Responsibilities:

Customer shall comply with the following obligations:

- Designate at least two (2) but not more than six (6) technical representatives, who must be Customer's employees in a Network security engineer or administrator role, to act as the primary technical interface to the Cisco designated engineer(s). Customer will designate as contacts senior engineers with the authority to make any necessary changes to the Network configuration. One individual, who is a senior member of management or technical staff, will be designated as Customer's primary point of contact to manage the implementation of services under this Service Description (e.g., chair the weekly conference calls, assist with prioritization of projects and activities).
- Facilitate and engage third party vendors of clinical applications for answering technical questions as and if needed.
- Ensure key engineering, networking and operational personnel are available to participate in interview sessions and review reports as required by Cisco in support of Service.
- Customer's technical assistance center shall maintain centralized Network management for its Network supported under this Service Description, capable of providing Level 1 and Level 2 support.
- Provide reasonable electronic access to Customer's Network to allow the Cisco designated engineer to provide support.
- Customer agrees to make its production, and if applicable, test Network environment available for installation of Data Collection Tools. Customer shall ensure that Cisco has all relevant Product information needed for an assessment.
- If Cisco provides Data Collection Tools or scripts located at Customer's site, Customer shall ensure that such Data Collection Tools or scripts are located in a secure area, within a Network environment protected within a firewall and on a secure LAN, under lock and key and with access restricted to those Customer employee(s) or contractor(s) who have a need to access the Data Collection Tools and/or a need to know the contents of the output of Data Collection Tools. In the event Data Collection Tool provided by Cisco is Software, Customer agrees to make appropriate computers available and download Software as needed. Customer shall remain responsible for any damage to or loss or theft of the Data Collection Tools while in Customer's custody.
- Provide a Network topology map, configuration information, and information of new features being implemented as needed.

- Provide requirements documentation, low-level and high-level designs, implementations plans, and test plans as required for specific services.
- Notify Cisco immediately of any major Network changes (e.g.; topology; configuration; new IOS releases; moves, adds, changes and deletes of devices.).
- In the event the Network composition is altered, after this Service Description is in effect, Customer is responsible to notify Cisco in writing within ten days (10) of the change. Cisco may require modifications to the fee if the Network composition has increased beyond the original pricing quote for Services.
- Create and manage an internal email alias for communication with Cisco.
- Retain overall responsibility for any business process impact and any process change implementations.
- Services described in this document are delivered onsite or remotely as defined in each service execution methodology
- Supply the workplace policies, conditions and environment in effect at Customer's facility.
- Provide proper security clearances and/or escorts as required to access Customer's facility.
- Customer agrees that it will not hire a current or former employee of Cisco, who is involved in the Services under this Service Description, during the term of the Service and for a period of one (1) year after the termination of the Service. As liquidated damages, and not as a penalty, should Customer hire a current or former Cisco employee who is involved in the Services under this Service Description, Customer shall pay to Cisco three (3) times the annual compensation of such employee on the date the employee is hired. If payment is not made on such date, the liquidated damage payment shall be six (6) times the annual compensation of such employee.

Exclusions for Extension Engage Service

This contract shall not apply to any purchase, functionality, support, maintenance or warranty of Products, the terms of which will be agreed upon under a separate agreement, including, but not limited to the Extension Engage software.

Customer acknowledges that the Extension Engage software does not make final clinical, medical or other decisions and is not a substitute for competent, properly trained and knowledgeable staff who bring professional judgment and analysis to the information present by the Extension Engage software, and that Customer is solely responsible for verifying the accuracy of all patient/schedule information and determining the data necessary to make medical and diagnostic decisions, as well as for complying with all laws, regulations, and licensing requirements applicable to the delivery of healthcare services.

Customer is solely responsible for determining the custom configuration of the Extension Engage solution and to confirm that appropriate connections are being made and information is flowing correctly to end devices once configuration is complete.

If a Cisco Product or Extension Engage software fails during Cisco's performance of Services hereunder, Customer is responsible for and will submit such Cisco Product to Cisco or Extension Engage software to Extension Healthcare for replacement (to be handled under warranty or maintenance contract as applicable).

Customer acknowledges that the Engage Mobile Readiness Assessment (EMRA) process is a not designed to be a thorough audit of the wireless infrastructure within the hospital organization. The EMRA assessment is designed to be an interactive set of tasks that will allow Cisco and the Customer to know exactly how the Extension Engage solution will perform upon deployment to go-live.

Customer acknowledges that the Extension Engage solution is a closed loop communications system that interfaces with health care information systems and medical devices to provide a secondary means of annunciating and displaying patient alarm text and other information to mobile health care workers. The Extension Engage solution is not intended to replace any part of the patient monitoring system or patient monitoring procedures already existing for the medical

devices interfaced with the Extension Engage solution, and Cisco has no liability with respect to the functionality or performance of the Extension Engage solution.

Exclusions for Jabber Solution

The services offered under this contract do not guarantee performance of any specific product in healthcare environment, including Cisco Jabber. Customer acknowledges that, it is the sole responsibility of the Customer to assess the suitability of Jabber for the specific use cases being considered for its deployment. Customer is advised to review the release notes of the products published in Cisco.com for any known issues or caveats associated with the product specific to healthcare environments.