



Service Description: Network Optimization Service (Europe)

This document describes the Network Optimization Service (Europe).

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; and (3) Severity and Escalation Guidelines. All capitalized terms in this description have the meaning ascribed to them in the Glossary of Terms.

Direct Sale from Cisco. If you have purchased these Services directly from Cisco, this document is incorporated into your Master Services Agreement (MSA), Advanced Services Agreement (ASA), or equivalent services agreement executed between you and Cisco. All capitalized terms not defined in the Supplemental Glossary of Terms for Network Optimization Service at the end of this document have the meaning ascribed in the MSA or equivalent services agreement executed between you and Cisco. If not already covered in your MSA or equivalent services agreement, this document should be read in conjunction with the Related Documents identified above. In the event of a conflict between this Service Description and your MSA or equivalent services agreement, this Service Description shall govern.

Sale via Cisco Authorized Reseller. If you have purchased these Services through a Cisco Authorized Reseller, this document is for description purposes only; is not a contract between you and Cisco. The contract, if any, governing the provision of this Service will be the one between you and your Cisco Authorized Reseller. Your Cisco Authorized Reseller should provide this document to you, or you can obtain a copy of this and other Cisco service descriptions at www.cisco.com/go/servicedescriptions/. All capitalized terms not defined in the Supplemental Glossary of Terms for Network Optimization Service at the end of this document have the meaning ascribed in the Glossary of Terms at the above URL.

This Network 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 SMARTnet, Limited Lifetime Warranty, and Software Application Services, as applicable or, outside of United States and Canada, under Cisco's Shared Support Program. Where available, Cisco shall provide the Network 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.

Services Summary

Network Optimization Service includes areas of Network Support, Network Learning, and Network Assessment. Network Optimization Service provides remote delivery of Cisco support for Customer core transport, aggregation, LAN, and WAN Networks, addressing the following:

- Supported Cisco Products and technologies including devices which forward and/or process routed IP and switched Ethernet traffic such as switches, routers, wireless controllers and access points, firewalls, intrusion detection devices, and VPN Products. Supported Products exclude Nexus Product Line and any Products declared to be "End of Support."

Network Optimization Service

Cisco Responsibilities

Cisco's Network Optimization Service consists of the provision of Services described below, where available which Cisco shall provide for the Customer's Network during Normal Business Hours (unless stated otherwise). Services provided by Cisco are remotely delivered unless otherwise noted. Cisco shall provide the following General Support provisions for all Services selected by Customer:

General Support

- Designate an engineer ("Advanced 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, planning, and the Services being provided.
- 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 Advanced Services Engineer.
- Provide certain Data Collection Tools Cisco identifies 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 Advanced Services Engineer may utilize Customer provided data, scripts, or internal tools to assist in collecting data from the 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. If any exist, geographic delivery limitations are described in the "Support Limitations to Services Offered" section.

Network Assessment

- **Design Strategy**
 - Provide Data Center Architecture Virtualization Assessment. Cisco will consult with Customer via a series of meetings to identify the future architecture requirements for a data center consolidation or data center virtualization. A Data Center Architecture Virtualization Assessment may include, among other information:
 - Review of the current data center infrastructure and future Network requirements for consolidation, virtualization, or both
 - Review of the technology architecture layers such as facilities, Network, server, and application platforms
 - Analysis of technology feasibility
 - Analysis of consolidation and/or virtualization impact to application business services domains
 - Analysis of server inventory, performance data, and operating system data
 - Analysis of potential server consolidation and/or virtualization costs and savings related to server hardware and infrastructure licenses
 - Report describing the analysis comparing Customer's current practices to Cisco's recommended best practices and recommendations for server consolidation and/or virtualization
 - Report describing analysis of performance, availability, component inventory and/or inter-dependencies of domains and views, service, and data transport, and recommendations
 - Report describing opportunities and steps needed for optimization, consolidation, and /or virtualization with recommendations
 - Provide Design Review. Cisco will consult with Customer via a series of meetings to develop a thorough understanding of Customer Network design requirements, typically focusing on technical and business requirements for incremental growth such as adding or migrating new features, Hardware, topologies, or

solutions to the existing architecture or design. A Design Review may include, among other information, the following:

- Review of Customer's design requirements, priorities, and goals
 - Analysis of impact of new requirements on the existing Network
 - Review of Network architecture and topology
 - Review of protocol selection and configuration
 - Review of feature selection and configuration
 - Review of device security considerations (i.e. authentication, VLANs, subnet isolations, etc.)
 - Report describing the new or current design with recommendations
- Provide Test Cycle and Review. 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 to prove or disprove theories and report findings to Customer. A Test Cycle and Review may include, among other information, the following:
 - Review of Customer's testing goals and business objectives
 - Collaborate on a Test Plan
 - Analysis of requirements such as platforms, topology, protocols, and configurations
 - Report describing test findings and recommendations
 - Provide Testing and Lab Strategy Review. Cisco will consult with Customer via a series of meetings to develop a thorough understanding of Customer's networking device testing capabilities, lab strategy, practices, and business goals. A Testing and Lab Strategy Review will contain overall strategy recommendations and may include, among other information, the following:
 - Review of Customer's test environment, resources, concerns, and challenges
 - Analysis of Customer's current testing practices and lab strategy
 - Report describing the analysis comparing Customer's current practices to Cisco's recommended best practices and Cisco's recommendations

- **Software Strategy**

- Provide Software Management Strategy Review. Cisco will consult with Customer via a series of meetings to develop a thorough understanding of Customer's Software management requirements and practices such as standards, migration triggers, and implementation methodologies. A Software Management Strategy Review will contain overall strategy recommendations and may include, among other information:
 - Review of Customer's Software management concerns and challenges
 - Analysis of Customer's current practices related to establishing and managing Software release standards and Software migration triggers
 - Analysis of Customer's current practices related Software selection, testing, staging, deployment, and troubleshooting
 - Report describing the analysis comparing Customer's current practices to Cisco's recommended best practices and Cisco's recommendations
 - Assistance establishing Software Track methodologies
 - Assistance defining Customer-specific Software migration triggers
 - Assistance in defining feature requirements and performance/availability objectives as relates to Software strategy

- **Hardware Strategy**

- Provide Network Resiliency Assessment. Cisco will consult with Customer via a series of meetings to understand Customer's Network architecture or design, primarily focusing on resiliency and availability. A Network Resiliency Assessment will contain recommendations to improve resiliency and availability and may include, among other information:
 - Review Customer's Network architecture and design specific to resiliency requirements
 - Analysis of strategic locations within the IP infrastructure examining topology, protocols, configurations, Network services, power, and environment
 - Report describing the analysis comparing Customer's current practices to Cisco's recommended best practices and recommendations to improve Network resiliency

- **Network Management Strategy**

- Provide Network Management Architecture Roadmap Review. Cisco will consult with Customer via a series of meetings to understand Customer's Network management architecture practices, focusing on capabilities and scalability. A Network Management Architecture Roadmap Review may include, among other information, the following:
 - Review Customer's Network architecture and design
 - Review Customer's Network management instrumentation architecture and design
 - Review Customer's Network management goals and business requirements
 - Analysis of Customer's fault management, performance management, configuration management, and security management practices and capabilities
 - Report describing the analysis comparing Customer's current practices and capabilities to Cisco's recommended best practices, and recommendations to meet Customer's Network management business requirements

- **Change Management Strategy**

- Provide Application Visibility and Management Workshop. Cisco will consult with Customer to understand Customer's IT infrastructure application and / or management problems. After the Workshop, a whitepaper, high-level design document, or other document will typically be provided and may include, among other information, the following:
 - Review of Customer's application performance goals
 - Analysis of possible solutions or approaches relevant to the topics discussed in the Workshop
 - Report describing specific design and / or architectural recommendations
- Provide Curriculum Planning Review. Cisco will consult with Customer via a series of meetings to understand and assess training needs. A Curriculum Planning Review is provided in English by default, other languages subject to availability. A Curriculum Planning Review may include, among other information, the following:
 - Review up to two job roles and one technology by default
 - Analysis of findings
 - Report describing the analysis, Customer's current skills gaps, and Cisco's recommendations
- Provide Infrastructure Benchmarking Assessment. Cisco will consult with Customer via a series of meetings to assess a defined set of Network parameters that shows current operational and technical maturity levels and provide comparisons against other similar peers to help focus attention on areas of improvement. An Infrastructure Benchmarking Assessment may include, among other related information, the following:
 - Review Customer's Network End of X Hardware
 - Review Customer's Network Software version conformance
 - Review Customer's Network configuration best practices
 - Review Customer's Network architecture, network infrastructure, and technology plans
 - Analysis of Customer's Network operational maturity that measures how well peer groups manage their similar environment
 - Analysis of Customer's Network technical maturity that measure how prepared the Network is to adopt new technologies
 - Report describing the analysis comparing customer's peer groups as well as individual breakdowns into operational and technical maturity metrics
 - Report describing trending of operational and technical maturity metrics over time to track Customer's Network improvements against similar industry peers. Trending can only be performed if Cisco performed previous infrastructure benchmark assessment(s)

- Provide Medianet Readiness Assessment. Cisco will consult with Customer via a series of meetings to understand and assess Customer's Unified Medianet readiness. A Medianet Readiness Assessment is comprised of the following:
 - Review of Customer's Network design and services
 - Review of Customer's Network documentation
 - Analysis of information collected examining Network topology, protocols, configurations, and environment
 - Report describing the analysis comparing Customer's current practices to Cisco's recommended best practices and recommendations to prepare for Unified Medianet readiness
- Provide Network Device Security Assessment. Cisco will consult with Customer via a series of meetings to understand and analyze aspects of Customer's Network device security. A Network Device Security Assessment may include, among other information, the following:
 - Review of Customer's Network device security goals and requirements
 - Analysis of Network device configurations focused on security hardening of the individual devices
 - Analysis of firewall rules for common configuration issues
 - Report describing the analysis comparing Customer's current practices to Cisco's recommended best practices and Cisco's recommendations (sampled based on size and configuration of network)
 - Report describing prioritized list of discovered vulnerabilities and most critical findings
 - Interactive presentation of findings, analysis, and recommendations
- Provide Operations Risk Management Assessment. Cisco will consult with Customer via a series of meetings to understand Customer's operational practices. An Operations Risk Management Assessment may include, among other information, the following:
 - Review Customer's operational processes regarding incident management, problem management, configuration management, change management, release management, Network performance and capacity management, availability management, service level management, Network resiliency, security management, IT service continuity management, and staffing
 - Review Customer's operational processes of Network management systems tools and instrumentation
 - Report describing specific operations optimization recommendations based on industry leading practices
- Provide Security Architecture Assessment. Cisco will consult with Customer via a series of meetings to assess the effectiveness of the Cisco Security Control Framework/Technical Control Set in the security infrastructure that protects the Customer's internal and perimeter Network infrastructure including WANs, LANs for core, campus and individual sites, internet access, employee remote access, extranet, guest networks, and e-commerce sites. A Security Architecture Assessment may include, among other information, the following:
 - Review Customer's network architecture, network infrastructure, and network security standards
 - Analysis of Customer's key internal network assets, applications and services running over the network, with a focus on protocols, applications and technologies used within the perimeter of the network.
 - Analysis of Customer's key perimeter network assets, applications, and services, with a focus on services which traverse the perimeter of the network
 - Report describing the analysis comparing Customer's current practices and capabilities to Cisco's recommended best practices, topological renderings noting the location of the devices included in assessment, and Cisco's recommendations based on industry leading practices
- Provide Security Posture Assessment. Cisco will consult with Customer via a series of meetings to assess vulnerabilities in Customer's internal and perimeter network and the effectiveness of security controls. A Security Posture Assessment may include, among other information, the following:
 - Review Customer's provided list of Networking devices to assess potential vulnerability
 - Analysis of Customer's internal network including: identification of active IP addresses and potential vulnerabilities
 - Analysis of the Customer's Network perimeter including: confirmation of IP and DNS registration of customer provided external IP space, identification of potential vulnerabilities
 - Analysis of potential security vulnerabilities using validated and tested exploits and penetration testing techniques
 - Analysis of risk posed by exploitable vulnerabilities to Customer's environment
 - Report describing the analysis comparing Customer's current practices and capabilities to Cisco's recommended best practices, and Cisco's recommendations based on industry leading practices

- Provide Security Strategy Planning Workshop. Cisco will consult with Customer via a series of meetings around a Customer selected security solution. A Security Strategy Planning Workshop may include, among other information, the following:
 - Review security solution with Customer to provide base level knowledge, discuss use of solution in Customer's industry, and benefits Customer may realize through the adoption of the solution
 - Analysis of security solutions and alignment with Customer's security goals and objectives
 - Report describing recommendations for strategy and roadmap to implement the security solution
- Provide Security Technology Readiness Assessment. Cisco will consult with Customer via a series of meetings to assess the readiness of Customer's Network devices, operations, security policies, and architecture to support a new security solution. A Security Technology Readiness Assessment may include, among other information, the following:
 - Review Customer's business, technical, and operational requirements
 - Review current Network design documentation and planned security products and technologies
 - Report describing findings and recommendations regarding the network infrastructure, application performance, and availability, based on industry leading practices
- Provide Unified Communications Operations Support Planning Workshop. Cisco will consult with Customer via a series of meetings to understand Customer's Unified Communications Network readiness. A Unified Communications Operations Support Planning Workshop may include, among other information, the following:
 - Review Customer's proposed Unified Communications high-level design and solution requirements
 - Review Customer's Network documentation
 - Analysis of current Network infrastructure and the Network's readiness to support the proposed Unified Communication design
 - Analysis of current voice infrastructure and configurations to support proposed Unified Communications design
 - Report describing the analysis comparing Customer's current practices and capabilities to Cisco's recommended best practices, and Cisco's recommendations to meet Customer's Network management business requirements

Network Support

- **Design Strategy**
 - Provide informal, Ongoing Design Support for incremental changes to the Network or architecture.
 - Provide Topology Diagram Report. These reports typically analyze Customer's production configurations (per device) to graphically depict connectivity and spatial relationships.
- **Software Strategy**
 - Provide informal, Ongoing Software Support for incremental changes to the Network or architecture.
 - Provide Configuration Best Practices Report. These reports typically examine Customer's production configurations (per device) and compare them to Cisco's best practice recommendations. The focus of the best practices is typically within the following areas:
 - Technology and Software features
 - Routing or routed protocols
 - Device security management
 - Device network management
 - Provide Custom Configuration Report. These reports typically analyze Customer's production configurations (per device) to compare them to Customer's configuration standards templates or Cisco's recommended configuration templates.
 - Provide Software Deployment Audit via Network Analytics Interface.

- Interactive report provided will include analysis of Customer-specific information related to the consistency and complexity of Software release deployment. This analysis can also feature performance and deployment data including comparisons of the functional roles of devices in Network, exceptions to established policies and configurations, factors affecting Network performance, effects of changes in Network, and benchmarking
 - Interactive report provided to Customer based upon Customer infrastructure equipment data uploaded to the Cisco back-end system
 - Report format will be delivered at Cisco discretion via either Adobe Air standalone application delivered on encrypted CD/DVD or via Customer access to private Customer-specific portal interface on which the interactive report resides.
 - Cisco will contact Customer to review provided content via remote collaboration session.
- Provide Software Feature Deployment Audit via Network Analytics Interface
 - Interactive report provided will include analysis of Customer-specific information related to the consistency and complexity of Software features deployed. This analysis can also feature performance and deployment data including comparisons of the functional roles of devices in Network, exceptions to established policies and configurations, factors affecting Network performance, effects of changes in Network, and benchmarking
 - Interactive report provided to Customer based upon Customer infrastructure equipment data uploaded to the Cisco back-end system
 - Report format will be delivered at Cisco discretion via either Adobe Air standalone application delivered on encrypted CD/DVD or via Customer access to private Customer-specific portal interface on which the interactive report resides.
 - Cisco will contact Customer to review provided content via remote collaboration session.
 - Provide Software Infrastructure Analysis Report. Information in these reports typically include:
 - Customer standards and conformance to Software release recommendations
 - Software release diversity
 - Software Track related high-level analysis of Software Advisories, Software Deferrals, and Software release milestones such as End of Sale, End of Engineering, and End of Life status
 - Provide Software Recommendation Report. Each report covers a single Software Track and may include, among other information, the following:
 - Overall Software recommendation Customer should test and consider
 - Descriptions of new Software features
 - Unresolved Software bugs to which Customer may be exposed and if possible, appropriate workarounds
 - Periodically updated follow-up reports, at a rate of no more than once per month, for up to 120 days from the original Software recommendation date
 - Provide Software Security Alert. These reports provide information about Cisco's Software Advisories and typically include:
 - Analysis of how a Cisco Security Advisory may or may not affect Customer's Network
 - Recommendations to mitigate risk
 - List of affected or potentially affected Networking devices
- **Hardware Strategy**
 - Provide informal, Ongoing Hardware Support for incremental changes to the Network or architecture.
 - Provide Engineering Recommendation Report. These reports typically provide recommendations or best practices about a subset of Networking devices. These reports typically include information regarding:
 - Stability, performance, or tuning recommendations

- Engineering recommendations for platforms, topology, protocols, configurations, Network services, power, or environment
- Provide Hardware Deployment Audit via Network Analytics Interface
 - Interactive report provided will include analysis of Customer-specific information related to the consistency and complexity of deployed hardware platforms. This analysis also can feature performance and deployment data including comparisons of the functional roles of devices in Network, exceptions to established policies and configurations, factors affecting network performance, effects of changes in Network, and benchmarking,
 - Interactive report provided to Customer based upon Customer infrastructure equipment data uploaded to the Cisco back-end system
 - Report format will be delivered at Cisco discretion via either Adobe Air standalone application delivered on encrypted CD/DVD or via Customer access to private Customer-specific portal interface on which the interactive report resides.
 - Cisco will contact customer to review provided content via remote collaboration session.
- Provide Hardware End of X (milestones) Report. These reports typically provide information about Cisco's product family milestones such as:
 - End of Sale (the product is no longer sold by Cisco)
 - End of Engineering (the product is no longer receiving engineering maintenance)
 - End of Life (the product is no longer supported by Cisco)
- Provide Hardware Field Notice Report. These reports provide information about Cisco's Field Notices and typically include:
 - Analysis of how a Cisco Field Notice may or may not affect Customer's Network
 - Recommendations to mitigate risk
 - List of affected or potentially affected Networking devices
- Provide Technology or Protocol Audit. Audits are usually limited to no more than 500 devices polled from a single network collector. Audits typically include information and analysis such as the following:
 - Analysis of performance, fault, or capacity information
 - Hardware inventory information
 - Exception based reporting
 - Device, feature, or protocol recommendations
- Provide Unidentified Inventory Report. These reports typically include:
 - List of networking devices believed to be attached to Customer's network, but missing from managed inventory
 - Information about the devices such as recent status, reporting source, and trends
- **Network Management Strategy**
 - Provide informal, Ongoing Network Management Support for instrumentation. Assistance is limited to Simple Network Management Protocol (SNMP) Management Information Base (MIB) polling or Trap collection information.
 - Provide Syslog Analysis Report. These reports examine Customer Syslog messages collected from Cisco devices in Customer's production Network. These reports typically include information regarding:
 - Syslog event correlation
 - Device health information
 - Baseline metrics
- **Change Management Strategy**
 - Provide informal, Ongoing Flexible Support for incremental changes to the Network or architecture.

- Provide Availability and Operations Gap Resolution Support. Cisco will help remediate operational problems discovered via a series of meetings with Customer. Availability and Operations Gap Resolution Support may include, among other information, the following:
 - Review a gap resolution plan to address operational gaps
 - Assist with gap remediation
- Provide Disruption Trend Audit via Network Analytics Interface
 - Interactive report provided will include analysis of Customer-specific information related to Network disruption trending and comparisons to anonymous vertical industry peers within the Customer's identified vertical industry
 - Interactive report provided to Customer based upon Customer infrastructure equipment data uploaded to the Cisco back-end system
 - Report format will be delivered at Cisco discretion via either Adobe Air standalone application delivered on encrypted CD/DVD or via Customer access to private Customer-specific portal interface on which the interactive report resides.
 - Cisco will contact customer to review provided content via remote collaboration session.
- Provide Network Improvement Plan. These plans integrate recommendations from Network Optimization Service Deliverables and Activities into a single living document. The Network Improvement Plan represents the Customer-approved and agreed-upon Cisco recommendations as prioritized by a joint steering committee comprised of Cisco and Customer, and may be used by Customer to track future projects.
- Provide an Ongoing Escalation Engineering Support remote resource to join Cisco's Technical Assistance Center's (TAC) restoration of service activities for unplanned or unscheduled device or Network failures. Customer must open a Service Request the Cisco TAC prior to contacting the Advanced Services Engineer. Ongoing Escalation Engineering Support is only available to certain geographic locations and will be specified in the Quote if provided. Where available, Ongoing Escalation Engineering Support typically includes:
 - Technical evaluation of initial TAC problem diagnosis based on knowledge of Customer's Network
 - Help the Cisco TAC restore service
- Provide Onsite Network Consulting Support. In addition to conditions defined in the "General Support" section, designate an engineer ("Advanced Services Engineer") onsite at Customer's designated location to act as the primary interface with Customer, providing general advice and guidance related to Customer's Network. Customer directed tasks to be performed by Advanced Services Engineer are subject to Cisco approval, which shall not be unreasonably withheld. An Onsite Network Consulting Support is only available to certain geographic locations and will be specified in the Quote if provided. Where available, the following may include:
 - Ongoing, onsite support and technical leadership from a local Cisco Advanced Services Engineer available up for to five days per week (pending local work restrictions) during Normal Business Hours excluding Cisco holidays, locally recognized country holidays, vacation, and training days.
- Provide Onsite Network Optimization Support. In addition to conditions defined in the "General Support" section, designate an engineer ("Advanced Services Engineer") onsite at Customer's designated location to act as the primary interface with Customer for its Network, providing general advice and guidance to lead the delivery of the Network Optimization Service ordered by Customer. Customer directed tasks to be performed by Advanced Services Engineer are subject to Cisco approval, which shall not be unreasonably withheld. Onsite Network Optimization Support is only available to certain geographic locations and will be specified in the Quote if provided. Where available, the following may include:
 - Ongoing, onsite support and technical leadership from a local Cisco Advanced Services Engineer available up for to five days per week (pending local work restrictions) during Normal Business Hours excluding Cisco holidays, locally recognized country holidays, vacation, and training days.
- Provide a Scheduled Change Support remote resource for critical scheduled changes. Cisco will make available, upon receipt of not less than twenty-one (21) days prior written request by Customer to Cisco, a designated support contact person who will be available to consult with Customer in major Network service

changes (i.e. major Hardware upgrade(s), major site installation(s) or major configuration changes). Customer agrees to submit a detailed request and schedule to Cisco prior to any such activity, which may include:

- Collaboration with Customer to evaluate the potential impact of the proposed changes
- Review the implementation procedures
- Remote assistance for Customer to resolve problems with Network changes during a major activity to the production Network

Network Learning

- Provide Remote Knowledge Transfer Session(s). Cisco will consult with Customer to identify requirements and topics for informal training sessions. Remote Knowledge Transfer Sessions are:
 - Delivered in English, with other languages subject to availability
 - Delivered remotely up to four (4) hours in length, with no labs and no printed course materials
 - Relevant to the Cisco products and technologies deployed in Customer's production Network
- Provide Technical Knowledge Library. The Technical Knowledge Library is made available by Cisco either through a secure web-based portal ("Portal") or a Cisco-owned Content Engine which is placed on the Customer Network. The Technical Knowledge Library is only available to certain geographic locations and will be specified in the Quote if provided. Where available, the following is provided:
 - Installation, configuration, and testing assistance for the Content Engine; or, user account creation for the Portal
 - Initial assistance in getting the Technical Knowledge Library operational with appropriate authentication and authorizations for user community
 - Content available to the specified number of authorized viewers
 - Multimedia clips in the form of video on demand or audio on demand content
 - Customer-specific deliverables archive when delivered as part of an Advanced Services subscription engagement
 - Sidebar content such as white papers, case studies, design guides, configuration guides, troubleshooting guides, training documents, deployment guides, online textbooks and/or manuals, or bumper clips
 - Listed web based trainings provided via Technical Knowledge Library to authorized viewers
 - Preventative maintenance in accordance with Cisco's normal maintenance schedules and procedures
 - Troubleshooting assistance for issues submitted to Cisco
 - Updated content as Cisco may revise, update, and/or remove previously-released multimedia clips and/or sidebar content ("updated content") and whereby Customer should discontinue any use of superseded content
 -

Provide Virtual Training Sessions. Cisco will consult with Customer to identify requirements and topics on Advanced Technologies for virtual training sessions. Virtual Training Sessions are:

- Delivered in English, with other languages subject to availability
- Delivered to up to 12 students in each session.
- Delivered remotely and up to twelve (12) hours in length (covered in two contiguous, 6 hour day maximum). Can include lab access, lab exercises, session materials.
- Relevant to the Cisco products and technologies as agreed to between Customer and Cisco.
- For a list of current supported topics go to [_www.cisco.com/go/ase](http://www.cisco.com/go/ase) and select 'Virtual Training Services.

Customer Responsibilities

• General Responsibilities

- Designate at least two (2) but not more than six (6) technical representatives to act as the primary technical interface to the Advanced Services Engineer. Representatives must be Customer's employees in a centralized location. Customer will designate as contacts senior engineers, stakeholders, and decision-

makers to participate 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). Provide its designated person(s) with instructions on process and procedure to engage the Advanced Services Engineer.

- In the event the Network composition is altered, after the selected Services in this Service Description are 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.
- Within one (1) year from the commencement of the Services in this Service Description, Customer will have at least one (1) Cisco Certified Internetworking Expert ("CCIE") trained employee or one (1) employee that has achieved, in Cisco's sole determination, an equal standard through training and experience as designated contacts.
- Provide reasonable electronic access to Customer's Network to allow the Advanced Services Engineer to provide support.
- Provide periodic information about changes planned for the Network regarding new technology, applications, or major design changes (short term and long term).
- Provide Customer internal incident escalation process and contact information.
- Provide information about Customer device and Network lab testing and certification process(es).
- Provide Network topology map(s).
- Provide information about any service level agreements or Network performance requirements.
- Provide information about critical applications supported by the Network.
- Provide information about expected Network growth and application mix changes.
- Notify Advanced Services Engineer of any major Network changes (e.g., topology, configuration, new Software releases).
- Create and manage an internal email alias for communication with Advances Services Engineer.
- Utilize communication and collaboration tool(s) provided by Cisco. If Customer uses non-Cisco provided collaboration tools for hosting meetings, managing documentation, instant messaging, desktop sharing, and collaborative spaces, provide Cisco with access.
 - Customer will provide names of users who will have authorization to access these tools.
 - Customer will support the implementation of software required to use tools in their environment.
- Retain overall responsibility for any business process impact and any process change implementations.
- Data Collection Tools. Customer shall ensure that such Data Collection Tools or scripts are 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.
 - Initial Set-up (One Time). If Cisco provides Data Collection Tools or scripts located at Customer's site, an initial set-up is required and the following must be performed:
 - Complete the Data Collection Tools installation and system configuration questionnaire(s) (i.e. IP address, netmask, hostname, etc.) and return to the Advanced Services Engineer
 - Install the Data Collection Tools hardware in a secure area with controlled physical access
 - Connect the Data Collection Tools hardware to the Network
 - Secure the Data Collection Tools behind Customer's corporate firewall
 - Provide access to Data Collection Tools for use by Cisco to install, troubleshoot, and maintain; for remote access, SSH, Telnet, and/or dial are options, but virtual private network (VPN) access to the Graphical User Interface (GUI) is preferred and recommended

- When applicable, provide Data Collection Tools with HTTPS (SSL) access back to Cisco CCO/CCX servers located at nettools-upload.cisco.com; HTTP/FTP/PFTP may be used but Cisco strongly recommends HTTPS (SSL)
- When applicable, provide Data Collection Tools with SSH to the nettools-upload.cisco.com server to support the transfer of Data Collection Tools patches, security patches, and Rules Based Markup Language (RBML) update packages; FTP may be used but Cisco strongly recommends SSH
- Provide Data Collection Tools with SNMP and Command Line Interface (CLI) access to all Product(s) in the Network (necessary to facilitate collection of inventory and configuration information)
- Provide Data Collection Tools with the Network Product list in seedfile format containing SNMP Read Only (RO) community string and CLI (vty/enable or TACACS user-id / password) for access to all Product(s) in the Network (necessary to create the Data Collection Tools seedfile)
- Provide Syslog server and upload information
- Data Collection Tools Management (Ongoing). In the event Data Collection Tools are installed on Customer's Network, the following items must be performed on a regular or as needed basis to support the operation of Data Collection Tools in the Network:
 - Notify Cisco about changes made to the Network such as Product(s) added/deleted and changes made to Product credentials
 - Fix access problems (Access Control List's, firewall, etc.) which may periodically occur between Data Collection Tools and the Product(s) in the Network
 - When applicable, fix data communication problems which prevent Data Collection Tools from uploading data to Cisco or prevent the remote maintenance of the Data Collection Tools
 - Notify the Advanced Services Engineer when changes are made to Syslog, DNS, proxy and gateway servers IP address(es)

Network Assessment

- **Design Strategy.** In addition to the General Responsibilities, Customer shall:
 - Information about new requirements for the existing Network such as design requirements, priorities, and goals
 - Ensure key detailed design stakeholders and decision-makers are available to participate during the course of Design Reviews
- **Software Strategy.** In addition to the General Responsibilities, Customer shall:
 - Provide information about Customer business and technical requirements for new Software releases
 - Review recommended Software releases with the Advanced Services Engineer
- **Hardware Strategy.** In addition to the General Responsibilities, Customer shall:
 - Provide information about strategic locations and details about the IP infrastructure such as topology, protocols, configurations, Network services, power, and environment
 - Provide information about architecture and design resiliency requirements
- **Network Management Strategy.** In addition to the General Responsibilities, Customer shall:
 - Provide information about overall device and Network management strategy.
- **Change Management Strategy.** In addition to the General Responsibilities, Customer shall:
 - Provide information about operational and change management processes
 - Curriculum Planning Review. In addition to the General Responsibilities, Customer shall:
 - Designate primary and secondary points of contact to whom all Cisco communications may be addressed and has the authority to act on all customer responsibilities required through to delivery completion
 - Unless otherwise agreed to by parties, provide information and documentation required by Cisco within five (5) business days of Cisco's request
 - Ensure key Customer staff are available for scheduled information gathering sessions such as interviews
 - Initiate the project by conducting kickoff meetings, define project scope, project schedule and work breakdown structure

- Provide all necessary technical documentation including, but not limited to Network designs, implementation plans, and job descriptions for the target audiences being assessed
- Network Device Security Assessment. In addition to the General Responsibilities, Customer shall:
 - Provide a list of Network and security devices and the corresponding configuration files and their role in the network
 - Provide a high-level architectural drawing showing the physical and logical location of these devices in the Network
 - Ensure key Customer staff are available for scheduled information gathering sessions such as interviews
 - Unless otherwise agreed to by parties, provide information and documentation required by Cisco within two (2) business days of Cisco's request
 - Customer acknowledges that Cisco's obligation is to only provide assistance to Customer with respect to the tasks detailed and that such assistance may not result in some or all of the tasks being completed
- Onsite Network Optimization Support and Onsite Network Consulting Support. In addition to the General Responsibilities, Customer shall:
 - Provide Advanced Services Engineer with reasonable access to computer equipment, workstation, facilities, workspace and telephone
 - Provide badge to Advanced Services Engineer to enable unescorted access into Customer buildings
 - Involve Advanced Services Engineer in Network infrastructure planning and operations
 - Unless otherwise agreed to by the parties, Customer shall respond within two (2) business days of Cisco's request for documentation or information needed during performance of the Service
 - For the Project shall provide reasonable access to computer equipment, facilities, work-space and telephone for Onsite TAC engineer's use during the project

Network Support

- **Design Strategy.** In addition to the General Responsibilities, Customer shall:
 - Provide information required for any design efforts (e.g., current and planned traffic characteristics)
- **Software Strategy.** In addition to the General Responsibilities, Customer shall:
 - Provide information about current Software releases operating on the Network
 - Provide information about current configuration templates
- **Hardware Strategy.** In addition to the General Responsibilities, Customer shall:
 - During Network audits, minimize changes made to the product(s) audited through the period of audit collection (typically a one (1) day or seven (7) day period). If feasible, no configuration changes should be made in order to avoid erroneous Network audit results.
- **Network Management Strategy.** In addition to the General Responsibilities, Customer shall:
 - Provide information about Network Management Systems and instrumentation capabilities.
- **Change Management Strategy.** In addition to the General Responsibilities, Customer shall:
 - Provide information about maintenance windows and any other constraints
 - Provide information about Customer's standard operating procedures related to business practices, its internal operational nomenclature, to allow Cisco to effectively communicate and discuss changes with Customer in the context of Customer's business environment.

Network Learning

- **Virtual Training.** In addition to the General Responsibilities, Customer shall:
 - Provide appropriate computers and other dedicated facilities as required for usage by students for instructional purposes
 - Provide remote access to instructional lab facilities as required, to enable access to the Internet, including

static IP addresses when required.

- Agree to temporary use of Cisco's VPN AnyConnect client software to enable secured VPN access to lab facilities for course duration. Customer acknowledges that its personnel will be required to accept licensing terms as part of client software download and such terms can be reviewed at www.cisco.com/go/ase.
- Upon desiring to cancel a scheduled class, should do so in writing to the designated Cisco point of contact prior to 30 days from the start of scheduled session to avoid forfeiture of class delivery at Cisco discretion
- Agree that all instructional content is the sole property of Cisco and/or Cisco subcontractors and are exclusively for the benefit of the course attendee only and for his/her internal use and shall not be reproduced in any way.
- **Remote Knowledge Transfer Sessions.** In addition to the General Responsibilities, Customer shall:
 - Collaborate with Cisco Advanced Services to determine appropriate and relevant topics
 - Provide a single point of contact to be used for all communication and coordination of requested sessions
 - Provide details in advance about the background and skill sets of each Remote Knowledge Transfer session audience
- **Technical Knowledge Library.** Customer is responsible for installation of the Content Engine or testing of the Portal interface, depending on which method for delivery is selected by Cisco., If the Content Engine delivery method is selected by Cisco, the Customer is also responsible for power and surge protection, security, Network connection, IP address assignment, and any required firewall or Access Control List changes required on Customer's Network in order for the Services to be provided by Cisco and to provide Cisco with the necessary remote access to Cisco equipment. In addition to the General Responsibilities, Customer shall:
 - Provide shipment contact information such as: contact name, title, address, telephone number, e-mail address, and fax number.
 - For the Content Engine delivery method, provide Cisco physical and remote access to the Content Engines(s) and all related hardware, as reasonably requested by Cisco, to provide, support, and maintain the Content Engine. The following TCP/IP ports are required for outbound remote access initiated from Content Engine on customer premises:
 - HTTPS/SSL (TCP 443)
 - SSH (TCP 22)
 - HTTP (TCP 80); possibly required
 - DNS (UDP 53); possibly required
 - Install and removal of the Content Engine or testing of the Portal interface, depending on which method for delivery is selected by Cisco.
 - Notify Cisco of any technical support requests or troubleshooting issues related to the Services.
 - Network Trend Disruption Audit
 - Customer will provide all requested Cisco Customer Care (C3) SmartNet/SPBase contract number(s) and any related information as requested to be used as the mandatory input for this Deliverable
 - Content provided is limited in scope to the provided C3 data and cannot be provided without the mandatory C3 data as requested

Supplemental Glossary of Terms for Network Optimization Service

- **"Authorized Viewer"** means either (i) an employee of Customer or (ii) an independent contractor of Customer performing services for Customer's benefit who is authorized by Customer to use the Services.
- **"Bumper Clip"** means a short multimedia video and/or audio segment containing a branding sequence, which is intended to be viewed immediately before and/or after a Multimedia Clip.
- **"Content"** means the content hosted on Content Engines as part of the Services for which Customer shall gain

access as part of the Services, including Sidebar Content (defined below). All Content shall be considered Cisco Confidential Information.

- **“Content Engine”** means the Cisco-owned Hardware and embedded Cisco Software provided to Customer as part of the Services.
- **“Intellectual Property Rights”** means all past, present, and future rights of the following types, which may exist or be created under the laws of any jurisdiction in the world: (a) rights associated with works of authorship, including exclusive exploitation rights, copyrights, moral rights, and mask work rights; (b) trade secret rights; (c) patent and industrial property rights; (d) trademark and trade name rights and similar rights; (e) other proprietary rights in intellectual property of every kind and nature; and (f) rights in or relating to registrations, renewals, extensions, combinations, divisions, and reissues of, and applications for, any of the rights referred to in clauses (a) through (e) of this sentence.
- **“Internal Use Purposes”** means use of the Services for the sole purpose of permitting Authorized Viewers to view the Content, provided that all such viewing is solely intended to further Customer’s internal communications, training, education, or administrative objectives. Notwithstanding anything to the contrary in this Service Description, “Internal Use Purposes” expressly excludes (i) the licensing, copying, transferring, or distributing of any element of the Services; (ii) displaying of any element of the Content to any persons other than Authorized Viewers, and Customer will not permit or enable any other persons to view any element of the Content; (iii) modifying, altering, abbreviating, or editing of any element of the Services unless expressly permitted by Cisco or its suppliers or licensors; (iv) the incorporation of any element of the Services into any product or service of Customer or creating a derivative work based upon the Services; and (v) using any element of the Services in any manner other than as expressly authorized under this Service Description.
- **“Multimedia Clip”** means a discrete multimedia video or audio segment, in digital format, that is intended to be viewed from start to finish without interruption.
- **“Sidebar Content”** means supplemental meta-content or meta-data associated with each Multimedia Clip, setting forth indexing information about the pertinent Multimedia Clip, such as its title, running time, a descriptive summary of its content, and its category or classification. Sidebar Content also means any viewable, downloadable or streamed content that may be accessed in connection with a Multimedia Clip or any Cisco-provided standalone content, including but not limited to transcripts, text files, pictures, directories, guides, video and/or audio files, and any other data, provided by Cisco pursuant to this Service Description, but excluding Multimedia Clips and Bumper Clips.

Support Limitations to Service Offered

The following are limitations to Network Optimization Service:

Network Learning

- **Change Management Strategy**
 - Remote Knowledge Transfer Sessions
 - Requested session topics are subject to availability
 - Virtual Training Sessions
 - Requested session topics are subject to availability