



## Service Description: Cisco Wireless Optimization Service (CON-AS-WLAN)

This document describes Cisco Wireless Optimization Service (WOS).

Related Documents: This document should be read in conjunction with the following documents also posted at [www.cisco.com/go/servicedescriptions/](http://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.

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## Service Summary

The Cisco Wireless Optimization Service is intended to supplement a current support agreement for Cisco products. Cisco shall provide the Wireless 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 upon between the parties and that, additionally, acknowledges and agrees to the terms contained therein.

## 1. Architecture and Design

### 1.1 Design Consulting

#### Cisco Responsibilities

Provide design consulting and guidance which may include the following:

- Assist Customer with WLAN design related activities
- Analyze impact of adding new features or making configuration changes to the existing network.
- Consult on Wireless LAN related projects.

#### Customer Responsibilities

Provide Cisco with direction of activities and projects on which the Customer needs to Cisco engineer to provide design guidance for.

### 1.2 Design Review

#### Cisco Responsibilities

Consult with Customer to develop a thorough understanding of Customer's wireless design requirements and provide support for incremental changes to the wireless architecture. The Design Review may include:

- Review of the Customer's Wireless LAN and Network design.
- Analysis of documented feature and functionality requirements as well as business direction compared against current design and needs.
- Review of existing and planned Wireless LAN platform.
- Provide comments and recommendations on proposed design changes.

#### Customer Responsibilities

Provide the design document describing the specific set of technical requirements and design goals and specifying the resulting Customer Network architecture and build-out plans to meet those requirements.

### 1.3 WLAN Network Assessment

#### Cisco Responsibilities

- Work with Customer to understand their Wireless LAN network environment and to qualify Cisco's understanding of their requirements for this project.
- Conduct one (1) project kickoff conference call with the Customer to discuss the Wireless Local Area Network (WLAN) Network Assessment goals, process, and requirements.
- Provide the Wireless LAN Network Assessment questionnaire to be completed by Customer, and/or conduct interviews with Customer to collect the information, as mutually agreed.
- Collect information from the existing wireless LAN infrastructure using Cisco Wireless LAN Network Assessment tools and techniques.
- Perform a remote Wireless LAN Network Assessment to include assessment of the architecture, operational status, and security of the existing wireless infrastructure focusing on the following areas:
  - Review wireless infrastructure device configurations based on Cisco leading practice recommendations;
  - Analyze the security vulnerabilities of the Wireless LAN infrastructure,
  - Identify potential radio frequency (RF) coverage, interference or contention issues based on information collected from the Cisco WLAN Controllers;
  - Assess the Cisco Wireless LAN Controller deployment for redundancy.
- Develop and provide a Wireless LAN Network Assessment Report to include an executive summary; assessment of findings, comparison of the Customer's wireless network design and configuration against industry and Cisco leading practices and recommendations for network design and configuration changes, as applicable.
- Review with Customer the Wireless LAN Network Assessment Report.
- Remotely present the executive summary of the Wireless LAN Network Assessment Report (including the analysis and recommendations) to the Customer key stakeholders and project sponsor.

## Customer Responsibilities

- Complete the Wireless LAN Network Assessment questionnaire provided by Cisco, and/or participate in interviews with Cisco to provide the information, as mutually agreed.
- Provide technical documentation, network diagrams topologies, and network device configurations.

## 1.4 Design Development

### Cisco Responsibilities

Collaborate with Customer to perform design development activities which may include:

- Customer Requirements Analysis:
  - Collect and re-validate Customers business, technical and operational requirements
  - Review Customer requirements for WLAN technology and mobility applications
- High Level Design
  - Review with the Customer, relevant technical documentation, including any existing high level design, network infrastructure design, existing WLAN infrastructure design, planned designs if exist, network topology diagrams, network device configurations, software releases, floor maps, provisioning policies, future growth requirements, strategy, and any relevant documents, as required.
  - Create and provide High Level Design document, which may include technical objectives, high level design requirements, key risks in the Customer's proposed high level design, if applicable, design recommendations, proposed network and wireless topology and architecture
- Wireless LAN Detailed Design
  - Review Customer network documentation, and existing network designs.
  - Verify that the chosen platforms, features, and functionality will meet the Customer communicated design objectives.
  - Create WLAN detailed design to meet Customer's business and technical requirements, which may include network logical and physical topology, wireless design, configurations templates for Cisco infrastructure devices, software release recommendations based on features and/or functionality, and hardware platform recommendations.

### Customer Responsibilities

- Customer Requirements Analysis:
  - Provide business, technical and operational requirements
  - Provide requirements for WLAN technology and mobility applications
- High Level Design
  - Review relevant technical documentation, including any existing high level design, network infrastructure design, existing WLAN infrastructure design, planned designs if exist, network topology diagrams, network device configurations, software releases, floor maps, provisioning policies, future growth requirements, strategy, and any relevant documents, as required.
  - Review High Level Design Document
- Wireless LAN Detailed Design
  - Review WLAN detailed design

## 1.5 RF Design and Site Survey

### Cisco Responsibilities

Collaborate with the Customer to coordinate and perform an onsite site survey that captures the site details including physical, environmental considerations, electrical – AC/DC supplies, cabling, Network synchronization, peripheral equipment and remote access.

- Perform critical radio frequency survey to determine the optimal access point placement.
- Analyze the information obtained from the site survey and develop recommendations for site modification and improvements.
- Provide a site survey report detailing the results of the site survey, radio frequency assessment, environmental requirements and optimized placement of wireless access point.

### Customer Responsibilities

Coordinate physical access to the site to allow Cisco to conduct an onsite site survey, which may include collecting coverage interference and performance data.

## 1.6 RF Verification Assessment

## Cisco Responsibilities

Validate the performance and coverage of the WLAN against the documented WLAN design.

- Perform a survey of the RF environment for coverage, interference and general performance and network configuration using appropriate WLAN data collection and analysis tools to determine;
  - RF Coverage Analysis (review site survey results, AP locations, antenna types, frequency plan, power levels versus the documented design)
  - Interference Analysis (measure internal/external interference at one moment in time)
  - Evaluation/review of overall WLAN network performance and capacity
- Provide a RF Verification document which includes analysis and recommendations to align the current state of the network including RF coverage

## Customer Responsibilities

Coordinate physical access to the site to allow Cisco to conduct an onsite site survey, which may include collecting coverage interference and performance data.

## 1.6 Mobility Services Readiness Assessment

### Cisco Responsibilities

Collaborate with Customer to assess gaps between the Customer's current wireless network infrastructure design and its business requirements in support of Mobility Services; Voice over WLAN, or Context Aware or Adaptive Wireless IPS. Cisco may assist Customer to address the following as part of the collaboration:

- Provide the Cisco WLAN customer requirements questionnaire to Customer contacts prior to project kick off.
- Conduct project kick-off conference call with the Customer to discuss the Wireless Network architecture, Mobility Services goals, processes and requirements
- Conduct interviews with key members of Customer's organization involved with the wireless network infrastructure.
- Review and verify Customer wireless network information and business requirements.
- Provide On Site and/or Remote review of the Customer provided wireless RF site survey report including the wireless RF infrastructure assessment, for an area of up to 50,000 square feet, that may include:
  - RF coverage analysis, including the review of site survey results, AP locations, antenna types, frequency plan, and power levels
  - Interference analysis, including the measurement of internal and external interference sources present at the time of the analysis.
  - Evaluation of overall wireless RF network performance, including review of readiness to support Mobility Services.
- Analyze the Customer existing wireless network infrastructure, architecture, and configurations for readiness to support wireless network Mobility services.
- Provide Cisco Wireless LAN Mobility Services Readiness Assessment results and findings presentation with up to two (2) hours of remote or onsite knowledge transfer.

### Customer Responsibilities

Complete the Cisco WLAN customer requirements questionnaire prior to project kick-off.

## 2. Compliance Reporting and Remediation

### 2.1 Performance Tuning Support

#### Cisco Responsibilities

- Provide periodic, ongoing system analysis to maintain, tune and optimize a high-performance wireless LAN network. Analyze WLAN configurations and align them with corporate policies and procedures, and Cisco best practices,
  - Recommend tuning changes to optimize system performance and fully leverage wireless LAN features of Cisco devices,
  - Conduct one (1) interactive tuning session with Customer to implement recommendations.
  - Assist with testing and validating changes.

#### Customer Responsibilities

- Identify the devices to be included.

### 2.2 WLAN Configuration Change Support

#### Cisco Responsibilities

Cisco engineer ("Advanced Services Engineer") will:

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- Assist with configuration changes related to WLAN Hardware or Software changes
- Assist with the TAC resolution of any specific Cisco Wireless LAN problem that has been entered as a Severity 1 or Severity 2 TAC case or a Severity 3 TAC case based on Customer prioritization.
- Assist with testing and validating changes.

### Customer Responsibilities

- Designate person(s) from within its technical support organization to serve as a liaison to the Cisco designated engineer.
- Provide its designated person(s) with instructions on process and procedure to engage the Cisco designated engineer.
- Provide the following information:
  - Network architecture.
  - Customer Implementation plan and implementation schedule
  - Customer change control process.
  - Contact information and the Customer escalation process.
  - Maintenance window information and any other constraints.
  - All necessary information to enable Cisco to perform root cause analysis.
- Review details of planned changes with the Cisco designated engineer.

## 2.3 Proactive Software Recommendations

### Cisco Responsibilities

Provide proactive software recommendations that evaluate and identify the current wireless LAN Software's ability to meet current and future requirements. Each report covers a single Software Track and may include, among other information, the following:

- Obtaining the Customer Software/IOS inventory,
- Gathering Customer provided Software information, feature/functionality and capability requirements;
- Descriptions of new Software features;
- Overall Software recommendation Customer should test and consider;
- Unresolved Software bugs to which Customer may be exposed and if possible, appropriate workarounds;
- Determine and communicate a Software strategy identifying the appropriate Software/IOS releases for the Customer.
- Determine the upgrade strategy for the Wireless LAN solution based on the Customer's operational requirements.
- Evaluate the installed Software releases and new versions for interoperability issues and the ability to support current and future business and technical requirements; and,
- Provide critical defect analysis for identified Software versions relative to the Customer's current and future requirements.

### Customer Responsibilities

- Provide Cisco with a list of required features that need supported by the software or the specific software version to be reviewed.
- Review the recommendations.

## 2.4 Software Security Alert

### Cisco Responsibilities

Provide proactive analysis of the security advisories (PSIRTs) that Cisco generates when security issues are uncovered that may impact networks in which Cisco products operate and the necessary action to repair and/or protect the network from these issues. After Cisco publicly releases the security advisory, the assessment is delivered to the Customer via the Software Security Alert (SSA). Cisco will provide an analysis of the vulnerability and its resolution with regard to its possible impact on the Customer's wireless LAN solution.

- Analysis of how a Cisco Security Advisory may or may not affect Customer's Network,
- Recommendations to mitigate risk, and,
- List of affected or potentially affected Networking devices.

### Customer Responsibilities

- Provide designated contact to handle all Security related announcements.

## 2.5 WLAN Performance and Security Analysis

### Cisco Responsibilities

- Perform an in-depth performance troubleshooting and analysis on a specific portion of Wireless LAN network.
- Contact the Customer to discuss the Wireless LAN Performance Analysis goals, process, and requirements.

- Perform an onsite Performance Analysis of the Customer's Wireless LAN environment limited to a maximum of ten (10) Access Points (APs) or 25,000 sq. ft. The analysis may include a detailed performance analysis of the wireless network infrastructure using Cisco Wireless LAN Performance Analysis tools and techniques. The Wireless LAN Performance and Security Analysis may include, among other information:
  - Measuring the actual signal coverage of the wireless network;
  - Identifying the overall level of interference and specific sources which may adversely impact wireless network performance;
  - Analyzing the network utilization, network radio frequency (RF) signal tracking accuracy and efficiency metrics of the wireless network;
  - Performing wireless LAN troubleshooting or packet capture and analysis for specific wireless LAN issues as needed.
  - Analyzing the wireless network security design and configuration.
  - Review with Customer the summary of the findings of the Wireless LAN Performance Analysis

### **Customer Responsibilities**

- Review with Cisco the Wireless LAN Performance Analysis goals, process, and requirements.
- Provide physical access to site, if required.
- Provide configurations, performance information, client devices, and other information necessary to effectively troubleshoot or analyze the wireless network.

## **2.6 Ongoing Flexible Support**

### **Cisco Responsibilities**

Provide informal, Ongoing Flexible Support for incremental changes to the WLAN architecture. This may be applied to other work items within Wireless Optimization Service. Advanced Services Engineers will be assigned as work items are selected throughout the contract.

### **Customer Responsibilities**

Provide Cisco with details around what type of support is needed when a request is made

## **3. Knowledge and Training**

### **3.1 Remote Knowledge Transfer Session**

#### **Cisco Responsibilities**

Consult with Customer to identify requirements and topics for informal training sessions. Remote Knowledge Transfer Sessions are:

- Delivered in English (other languages subject to availability),
- Delivered remotely for up to four (4) hours in length, with no labs and no printed course materials. Cisco will determine an appropriate format and delivery method that may include but shall not be limited to using a shared medium via the Internet, teleconference, and/or onsite in conjunction with Quarterly Business Reviews (QBR)
- Relevant to the Cisco products and technologies deployed in Customer's production Network.

#### **Customer Responsibilities**

- Provide details on desired/requested topics Customer wants to see covered during the knowledge transfer and mentoring sessions.
- Provide background information on the Customer participant skill sets for the knowledge transfer or mentoring sessions.

### **3.2 Technical Knowledge Library**

#### **Cisco Responsibilities**

Provide access to a technical knowledge library, through a secure web-based portal ("Portal"), which includes the following:

- Customer user account creation for the portal:
  - Initial assistance in getting the Wireless Knowledge Service operational with appropriate authentication and authorizations for user community,
  - Wireless content available to the registered number of authorized viewers, and,
  - Multimedia clips in the form of video on demand or audio on demand wireless content.
- Wireless content such as white papers, case studies, design guides, configuration guides, troubleshooting guides, training documents, deployment guides, or online books and/or manuals:
  - Access to Cisco's IntelliShield security alert database,
  - Customer-specific deliverables archive when delivered as part of an Advanced Services subscription engagement, and,
  - Updated wireless content as Cisco may revise, update, and/or remove previously-released multimedia clips and/or

content.

### **Customer Responsibilities**

- Designate person(s) to be responsible for management of portal accounts within user community.
- Provide list of initial set of users to be authorized on the portal.

## **3.3 Onsite Educational Workshop**

### **Cisco Responsibilites**

Provide knowledge transfer and education on wireless technology topics via a workshop based on a Customer selected wireless topic.

### **Customer Responsibilities**

- Establish and inform Cisco of dates at least sixty (60) days in advance of workshop.
- Provide Customer facilities and equipment (such as conference rooms, white boards, projectors) and make them available to host the informal technical update sessions.
- Provide technology topics and requirements for workshop.

## **4. Operational**

### **4.1 WLAN Operational Process & Procedures Best Practice Assessment**

#### **Cisco Responsibilites**

Consult with Customer via a series of meetings to understand Customer's Wireless LAN operational practices. A Wireless LAN Operations Risk Management Assessment may include, among other information, the following:

- Review Customer's operational processes regarding problem management, wireless network configuration management, change management, release management, capacity and performance management, and Wireless LAN event (fault) management.
- Review Customer's operational processes of Wireless Network management systems tools and instrumentation.
- Identify and prioritize gaps in operations processes and wireless network management.
- Create a resolution recommendation plan to address operational gaps based on industry leading practices.

#### **Customer Responsibilities**

- Educate Cisco on Wireless LAN operational practices
- Review with Cisco the operational gaps in processes and wireless network management and resolution recommendation plan.

### **General Service Responsibilities of Cisco**

Provide the following General Service provisions for any Wireless Optimization Service specified in the Quote:

- Under this Service, Cisco shall provide the Wireless Optimization Service during Standard Business Hours, unless stated otherwise.
- Provide a single point of contact ("Cisco Project Manager") for all issues relating to the Services.
- Participate in regularly scheduled meetings with the Customer to discuss the status of the Services.
- Ensure Cisco employees (including Cisco subcontractors) conform to Customer's reasonable workplace policies, conditions and safety regulations that are consistent with Cisco's obligations herein and that are provided to Cisco in writing prior to commencement of the Services; provided, however, that Cisco's personnel or subcontractors shall not be required to sign individual agreements with Customer or waive any personal rights.
- Supply Cisco project team personnel with a displayable form of identification to be worn at all times during services activities at Customer's facility.
- Cisco reserves the right to determine which of its personnel shall be assigned to a particular project, to replace or reassign such personnel and/or subcontract to qualified third persons part or all of the performance of any Wireless Optimization Service hereunder. Should Customer request the removal or reassignment of any Cisco personnel at any time; however Customer shall be responsible for extra costs relating to such removal or reassignment of Cisco personnel. Cisco shall not have any liability for any costs, which may occur due to project delays due to such removal or reassignment of Cisco personnel.

### **General Service Responsibilities of Customer**

Customer shall comply with the following obligations for General Services for any Wireless Optimization Service specified in the Quote:

- 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).
- 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.
- Supply the workplace policies, conditions and environment in effect at the Customer's facility.
- Provide proper security clearances and/or escorts as required to access the Customer's facility.
- Provide any required safety and security training, if applicable.
- 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.