



Service Description: Wireless LAN (“Wireless LAN”) Optimization Support Services

This document describes Wireless LAN Optimization Support Services.

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 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.

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Wireless LAN Optimization Support

Service Summary

Wireless LAN Optimization Service provides Architecture Review, Quarterly Business Review, Design Consultation, Software Recommendation, Performance & Security Assessment, Security Alerts, Remote Knowledge Transfer Session services in support of Cisco’s family of Wireless products. Cisco shall provide the Wireless LAN 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. The following products are supported under this Service Description:

Access Points & Bridges: Aironet series – 1130AG, 1240AG, 1250, 1300, 1400, 1500

Wireless LAN Controllers: series – 4400, 2100

Wireless Integrated Switches & Routers:

Cisco Catalyst 6500 Series Wireless Services Module (WiSM)

Cisco Catalyst 3750G Integrated Wireless LAN Controller

Cisco Wireless LAN Controller Module

Cisco 3200 series Wireless and Mobile Router

Wireless LAN Management:

Cisco Wireless Control System (WCS)

Cisco Wireless Control System Navigator

Cisco Wireless Location Appliance

Ciscoworks Wireless LAN Solution Engine (WLSE)

Ciscoworks Wireless LAN Solution Engine Express

Cisco Mobility Services Engine

The quantity, delivery frequency of the Deliverables, and efforts for ongoing Activities will vary depending on Customer requirements and what Customer and Cisco mutually agree upon when Services are purchased.

Cisco Responsibilities

Cisco’s Wireless LAN Optimization Service consists of the provision of, at a minimum, Wireless LAN Advanced Services Engineer described under General Support below, from the Services described below, which Cisco shall provide for the Customer’s Network during Standard Business Hours (unless stated otherwise). Cisco shall provide the following General Support provisions for all Services selected by Customer under the Wireless LAN Optimization Support Service:

General Support

- Designate an engineer (“Advanced Services Engineer”) to act as the primary interface with the Customer for its Network or pre-defined Cisco Project Manager for Customer account. The Cisco Unified Wireless Network Project Manager/Advanced Services Engineer to provide ongoing support, advice, and guidance with Cisco’s Unified Wireless Network technology and Customer’s wireless design issues.
- Schedule with Customer up to the quoted quarterly business review (“QBR”) visits per year

(not to exceed seven (7) days in aggregate) to Customer's site to kick off the engagement, review proactive deliverables and activities and to plan for next quarter. Additional visits will be mutually agreed at Cisco's then-current travel and labor rates.

- Schedule periodic conference calls (weekly, bi-weekly, or monthly) to review Customer's Wireless Network status, planning and the Services being provided.
- Establish a Customer-specific Cisco email alias to facilitate communication with Advanced Services Engineer.
- Provide certain Data Collection Tools that Cisco identifies as appropriate for Wireless LAN Network system data collection during the Term of the Services, provided that all fees due and owing to Cisco under this Appendix have been paid. Data Collection Tools may or may not include Hardware or Software. Customer acknowledges and agrees that 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 Wireless LAN Network.
- Visit Customer's nominated site in support of Unified Wireless Network services to gather information/changes to their Unified Wireless Network. (Maximum of two (2) visits per year.)

WLAN Detailed Design Review

- 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 and RF security.
 - Provide a Detailed Design Review Report or Network Architecture Review report which typically includes:
 - Customer's design requirements, priorities, and goals.
 - Design recommendations, functionality gaps, and design concerns.
 - Architecture and topology for the Network including WAN analysis, existing RF deployment and frequency use.

WLAN Design Consultation

- Provide ongoing design consultation via regular interactions (weekly, bi-weekly, or monthly calls and email) that may include, amongst other information, the following:
 - Review of Customer's design requirements, priorities, and goals.
 - Analysis of impact of new requirements on existing Network.
 - Consultation on WLAN architecture concerns.
- Provide WLAN Architecture Planning Assistance by working with Customer staff to review existing architecture and analyze readiness of existing architecture and infrastructure to support WLAN services:
 - Existing and planned security infrastructure such as VPN concentrators, RADIUS servers, external authentication databases (e.g., Active Directory, NT, LDAP)
 - Existing and planned wired network infrastructure design and implementation.
 - Existing and planned network management infrastructure
 - Existing and planned client management processes

WLAN Proactive Software Recommendation

- **Software Recommendation Report**
 - The Proactive Software Recommendation evaluates and identifies the current Wireless LAN Network Software's ability to meet current and future requirements. This activity also assesses how scheduled events such as Hardware and Software upgrades would impact the current code and establishes the process and the frequency of proactive code upgrades. Service may include:
 - Obtaining the Customer Software/IOS inventory.
 - Gathering Customer provided Software information, feature/functionality and capability requirements.
 - Evaluating the installed Software releases and new versions for interoperability issues and the ability to support current and future business and technical requirements.
 - 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.
- Provide critical defect analysis for identified Software versions relative to the Customer's current and future requirements

- Expedite solution as much as possible by assigning the right resources and finding possible workarounds when they exist.
- Where necessary, assist TAC with lab validation of any proposed fix.
- Advanced Services Engineer will assist with configuration changes related to WLAN Hardware or Software changes

WLAN Software Security Alerts

- **PSIRTs.** 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.
 - Performing analysis of how PSIRT notifications will impact the Customer's Wireless LAN network. Depending on the proposed PSIRT resolution, Cisco's Advanced Services Engineer may:
 - Provide consultation on potential mitigation strategies for the security advisories.
 - Review similar environments and correlate features and code.

WLAN Change Support

- Advanced Service Engineer will 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.
- TAC cases should be opened by the Customer. Customer will be able to rate their TAC experience with BINGO, and that the case is opened with the correct contract for RMA or Software upgrades.
- Advanced Services Engineer will assist with Customer initiated TAC cases by keeping the communication channels open between Cisco's TAC and the Customer (and, where appropriate, the other applicable points of contact).
- Advanced Services Engineer will analyze the Customer's Wireless LAN issues and how they impact the Customer's business and monitor TAC interaction so that required information has been communicated.
- Advanced Services Engineer will assist Cisco's TAC with the analysis of any fix suggested by TAC relative to the Customer's environment.

WLAN Performance and Security Assessment

- Provide onsite architectural, security and RF performance analysis of an existing WLAN.
- Hold a project kickoff conference call to discuss the WLAN Performance and Security Assessment goals, process and requirements.
- Provide one (or more) Cisco Advanced Services WLAN Network Consulting Engineers for on-site and remote WLAN RF Network Architecture Review analysis covering the following six (6) focus areas:
 - Coverage Analysis: Measures the actual signal coverage of the wireless LAN
 - Interference Analysis: Identifies overall level of interference and specific sources that may adversely impact WLAN performance.
 - Traffic Pattern Analysis: Reports on the network utilization, accuracy and efficiency metrics of the WLAN.
 - Device Configuration Analysis: Reviews wireless infrastructure device configuration based on leading practices recommendations.
 - Security Analysis: An analysis of the wireless client and wireless infrastructure security posture.
 - Provide the following documentation (generally delivered within approximately two weeks of completion of the on-site data collection)
- Provide a WLAN Architecture, Security and Performance Assessment document that includes items related up to the above six (6) focus areas.

WLAN Remote Knowledge Transfer Session

- The WLAN Remote Knowledge Transfer Session service component of the Wireless LAN Optimization Service allows the Advanced Services Engineer to have direct and interactive communication with the Customer. Based on intimate knowledge of Customer deployment, Advanced Services Engineer can develop customized informal training material or topics of interest tailored to the Customer's needs to make the training most effective. This knowledge transfer is not meant to replace any authorized Cisco classes.

- Best practice mentoring can be delivered in a one-on-one format and can be delivered whenever gaps are found in the Customer processes or when changes occur that change Cisco leading practices.
- 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 QBR's.

Customer Responsibilities

• General Responsibilities

- Designate at least two (2) but not more than six (6) technical representatives in each area covered under Wireless LAN including WAN and RF, who must be Customer's employees in a centralized Network support center (Customer's technical assistance center), to act as the primary technical interface to the Wireless LAN 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 selected under this Service Description (e.g., chair the weekly conference calls, assist with prioritization of projects and activities).
- 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 Wireless LAN Engineer to provide support.
- 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. Customer must immediately return Data Collection Tool(s) to Cisco as instructed by

Cisco, upon the earlier of: (i) expiration or termination of the Service Description or (ii) Cisco's request to Customer that the Data Collection Tools(s) be returned to Cisco.

- Provide a Network topology map, configuration information, and information of new features being implemented as needed.
- Notify Advanced Services Engineer of any major Network changes (e.g., topology, configuration, new IOS releases.).
- In the event the Network composition is altered, after the Services selected under this Service Description have become effective, 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 Advanced Services Engineer.
- Retain overall responsibility for any business process impact and any process change implementations.

WLAN Advanced Services Engineer

- In addition to the General Responsibilities, Customer shall provide the following:
 - Designate person(s) from within its technical support organization to serve as a liaison to the Advanced Services Engineer.
 - Provide its designated person(s) with instructions on process and procedure to initiate cases and access the Advanced Services Engineer.
 - Notify Cisco of its standard operating procedures related to its business practices, its internal operational nomenclature and Network to allow Cisco to effectively communicate and discuss cases with Customer in the context of Customer's business environment.
 - Provide all necessary information to enable Cisco to perform root cause analysis.

WLAN Change Support

- In addition to the General Responsibilities, Customer shall provide the following:
 - Notify Cisco of Wireless LAN related changes that may impact Customer's Network.

- Provide all necessary information required by Cisco to comply with its responsibilities.

- Provide information on Customer change control process

WLAN Design Review Support

- In addition to the General Responsibilities, Customer shall provide the following:
 - Provide the low-level design document describing how Customer Network needs to be built and engineered to meet a specific set of technical requirements and design goals. The level of details must be sufficient to be used as input to an implementation plan.
 - Ensure key detailed design stakeholders and decision-makers are available to participate during the course of the service.
 - Provide or extract additional information required in the design effort (e.g., current and planned traffic characteristics).

WLAN Proactive Software recommendations & Security Alerts, Software Release Feature Analysis.

- In addition to the General Responsibilities, Customer shall provide the following:
 - Provide Information on current releases running in the Network and current configuration templates.
 - Provide details of its current Software release and Hardware version for Wireless LAN solution components.
 - Provide high-level architectural drawing that shows where components are located (for example, geographical location or location within the Network).
 - Provide configuration description for each of the key components.
 - Provide detailed requirements and objectives for the Customer's Network that include but are not limited to scalability, security and manageability.
 - Provide Wireless LAN feature roadmap that may include but is not limited to details regarding new services that Customer intends to offer together with details of the locations for these new services.
 - Provide information on Customer certification process and lab testing process.

WLAN Performance and Security Assessment

- In addition to the General Responsibilities, Customer shall provide the following:
 - Provide a single point of contact (such as a project manager or engineering team lead) for all WLAN Network Architecture, Security and Performance Assessment related issues.
 - Provide physical access to facilities, remote network access (e.g., via IPsec VPN), technical documentation and network device configurations for all in-scope areas of this analysis.
 - Provide with administrator-level access to wireless LAN infrastructure components including access points, wireless LAN controllers, LAN switches, access control servers, network management systems, and related components.
 - Identify locations that require WLAN coverage.
 - Provide information on the business and technical requirements for each type of location (campus/branch office, etc).
 - Provide information on the existing network infrastructure at each location
 - Provide specific information on the current network infrastructure, which may include.
 - Customer WLAN business and technical requirements.
 - Network design documentation including relevant site survey reports, network diagrams.
 - Detailed, current, high-resolution site floor plans in one of the following formats: EMF (Enhanced MetaFile), WMF (Windows MetaFile), GIF (Graphics Interchange Format), JPEG (Joint Photographics Experts Group).
 - Wireless LAN infrastructure device inventory including the following information for all access points, wireless LAN controllers, LAN switches, access control servers, network

management systems: model, hostname and IP address.

- Number, categories, and types of client devices.
- Wireless LAN technology (e.g., 802.11a/b/g), tools, services, capacity requirements, performance requirements, accessibility/reliability requirements, infrastructure management.
- Existing and planned security infrastructure such as VPN concentrators, RADIUS servers, external authentication databases (e.g., Active Directory, NT, LDAP).
- Existing and planned wired network infrastructure, QoS, network design, etc.
- Existing and planned network management infrastructure and operational procedures.
- Existing and planned client management processes.
- Information on any business or technical constraints faced by Customer which may impact the WLAN implementation.
- Information on current and planned traffic characteristics.
- If WLAN IP telephony support is currently implemented or planned for the wireless network, the Customer must provide detail information on the existing IP telephony network infrastructure (i.e., wired network infrastructure, CallManager, QoS, etc.)
- Any known or suspected operational problems in the network infrastructure

requirements is needed to enable Cisco to deliver a more focused and tailored training or mentoring session.

- Ensure that where training or mentoring courses are held at Customer's facility, such facility is, in Cisco's opinion, capable of supporting and has all the resources necessary to support such sessions.

<p>Supplemental Glossary of Terms for WLAN Optimization Support Services</p>

- **“Activity”** means a set of technical or business consulting tasks performed for the benefit of Customer in the delivery of a Service in which no published document accompanies the exit criteria and is typically referred to an “ongoing” task under a subscription service.
- **“Deliverable”** means a set of technical or business consulting tasks performed for the benefit of Customer in the delivery of a Service in which the exit criteria is a published document such as as multiple design reviews or Software recommendation reports, audits, etc.

WLAN Remote Knowledge Transfer Session(s)

- In addition to the General Responsibilities, Customer shall provide the following:
 - Provide Cisco with not less than three (3) weeks prior written notice of a training or mentoring requirement where the delivery of the training or mentoring is to be in a classroom whether or not based at Cisco's or Customer's facility.
 - Ensure that Customer's personnel attending any training or mentoring session meet all course pre-requisites notified by Cisco to Customer.
 - Participate in pre-training or pre-mentoring conference call in the event Cisco determines that further information about Customer's