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Service Description: Cisco Mobility Customer Experience Management

This document describes Cisco's Mobility Customer Experience Management (CEM) Service.

Related Documents: This document should be read in conjunction with the following documents also posted at www.cisco.com/go/servicedescriptions/: (1) Glossary of Terms; (2) List of Services Not Covered; 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. 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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This Mobility CEM 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 by Cisco's Foundation Technology Service Provider Optimization Service. Cisco shall provide the Mobility CEM 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 Service and duration that Cisco shall provide such Service. 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. Availability of Service described herein and service delivery may vary by geographical region.

Mobility Customer Experience Management Service

Service Summary

The Cisco Mobility Customer Experience Management Service consists of Network Performance Management (NPM), Service Quality Management (SQM), Customer Experience Management (CEM) and Business Analytics and Monetization (BAM).

Cisco Responsibilities:

Cisco's Mobility Customer Experience Management 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:

- Designate an engineer ("Advanced Services Engineer") to act as the primary interface with Customer for their Network.
- 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 and collected data. 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 Service are purchased as identified in the Quote provided by Cisco.

General Support

- Designate an engineer ("Cisco Network Consulting Engineer") to act as the primary interface with the Cisco project manager appointed for the Customer.
- Participate in regular visits to the Customer as required by the project manager either via phone or in-person to review proactive deliverables and activities and to plan for next quarter. Any in-person visits not to exceed number of days identified in the Quote. Additional visits

will be mutually agreed at Cisco's then-current travel and labor rates.

- Participate in periodic conference calls (usually weekly) to review Customer's Network status, planning and the Service being provided.
- Monitor a Customer-specific Cisco email alias to facilitate communication with primary Cisco Network Consulting Engineer as well as the engineers on the Cisco's Mobility CEM support team.
- Cisco Network Consulting Engineer may utilize Customer provided data, scripts or internal tools to assist in collecting data from the Network.

Network Performance Management

Network Intelligence Reporting

Cisco will provide report that will include a comprehensive list of key network indicators based on the subscribed domain specified in the Quote. The report will provide consolidated views and thresholds, and may include the following:

- Holistic view of network performance
- Identification of top offending KPIs and trends
- Identify and provide recommended remediation steps based on detected offending indicators.
- Pre-emptive indication of problematic indicators
- Correlation of other data sources such as syslogs / configurations/SNMP trap errors.
- Synchronize detected errors based on known issues found within the Cisco knowledgebase.

Network Benchmarking

Cisco will provide a comparative Network Benchmarking report based on other similar peer networks anonymously to help bring focus and attention on areas of improvement from a network performance perspective..

Based on the domain coverage, the report may include the following:

- Control plane KPIs
- User plane KPIs
- Review of observations and findings
- Recommended actionable items to improve network quality

Network Performance Audit

Cisco will consult with the Customer through a series of meetings to audit the Customer infrastructure across various network elements and vendor domains.

The audit will be delivered based on a proven four-step methodology – business alignment, discovery, analysis, and assessment readout.

The coverage typically includes the following areas:

Network Architecture Design

- Network Functionality
- Best Practices
- Optimization Recommendations
- Scalability and Resiliency
- Capacity Assessment
- Security, QoS and Traffic Engineering
- Evolution and Technology Roadmap
- Process and Operations Review

Deliverables may include the following:

- Detailed Project Plan
- Kickoff Presentation
- Interim Customer Readout
- Final Report Readout and Presentation

Network Capacity Planning and Optimization

Cisco will 1) assess the capacity from a network level, nodal level, interface level and service level and identify problematic areas, and 2).provide a capacity forecast based on the existing call model.

As part of this service, the deliverables for this service may include the following:

- Network Capacity Report
- Call Model Analysis Report

Service Quality Management (SQM)

Cisco will provide the measurement of service quality indicators within the network and support Customer in tailoring the solution to proactively identify service quality issues and network degradation based on the existing network environment.

The coverage area within this service may include:

- Quality of Experience for Services and Applications
- VoLTE MOS Scores for Voice and Video
- Geographic mapping of service quality
- Proactive identification of service degradation trends
- Drill down support from network level down to subscriber level
- Subscriber call flow analysis

Customer Experience Management (CEM)

The CEM services are aimed to provide a full view of the subscriber profile within a Customer domain by aggregating multiple data points within Customer network. This view enables Cisco to provide proactive support in remediating technical issues for high value, high risk subscribers.

The coverage area within this service may include:

- Churn rate and factors
- Flagging of high churn, high value customers
- Flagging of high churn, low value customers
- 360° view of Customer Profile

Business Analytics and Monetization (BAM)

Cisco will provide an analytics solution aimed to capture subscriber network behavior and demographics. As part of the

BAM services, Cisco will provide a customized service aimed to track and map campaign data to identify its usage, adoption rate and effectiveness. Cisco will act as the technical consultant in identifying the technical feasibility, implementation, and network impacts of launched or planned campaigns, Over-the-Top (OTT) marketing strategies and targeted advertisements.

The coverage area within this service may include:

- Marketing attribution and effectiveness
- Development of new products, services and value-added differentiator
- Target marketing based on consumer segmentation and geo-location
- OTT marketing and collaboration strategies

Continuous Learning

- Knowledge Transfer and Mentoring.
 - Provide informal technical update training such as a "chalk talk" on a topic that is mutually agreed upon and relevant to the Products and Cisco technologies. Such training would be provided by the Cisco SON Network Consulting Engineer or another senior Cisco engineer.

Customer Responsibilities:

General Responsibilities

- Designate at least two (2) but not more than six (6) 0 technical representatives in each area covered under Mobility CEM, 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 Cisco Mobility CEM Network Consulting 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 Cisco's Mobility CEM Network Consulting Engineer to provide support.

- If Cisco provides Data Collection Tools or scripts 0 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 Cisco with such information, data and documentation as Cisco may require to enable Cisco to provide the Services and comply with Cisco's Responsibilities set forth herein including but not limited to:

 (a) information relating to Customer's network, design, business and other applicable requirements;
 (b) functional and/or technical documentation relating to such requirements; and
 (c) topology maps, configuration information and existing and proposed network infrastructure.
- Provide such general assistance and access to Customer's sites and/or facilities as Cisco may require providing the Services and complying with the Cisco Responsibilities set forth herein.
- Ensuring that contracts with its own vendors and third parties are fully executed and reflect the correct terms to enable Customer's business requirements to be met in full.
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- Customer to provide Customer's existing security guidelines and policies.
- If requested by Cisco, providing physical and logical network schematics for other network elements not included in the scope of this project.
- 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.

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- Proide information about expected Network growth and application mix changes.
- 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.

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- Customer will support the implementation of software required to use tools in their environment.
 - Notify Cisco Mobility CEM Network Consulting Engineer of any major Network changes (e.g., topology, configuration, new OSS / BSS software 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 Cisco Mobility CEM Network Consulting Engineer.
 - Retain overall responsibility for any business process impact and any process change implementations.
 - Customer should respond to all of the Cisco requests or queries within 5 business days
 - Customer should provide access to internal Mobility CEM performance monitoring tools.

Continuous Learning

- Knowledge Transfer and Mentoring.
 - Details of Customer requirements on the topics it wants to see covered through transfer and mentoring together with background information on the skill sets of the audience.
 - Ensure that facilities and equipment are available to host the informal technical update sessions.