

# Cisco Universal Small Cell 8050 Enterprise Management System



The Cisco<sup>®</sup> Universal Small Cell 8050 Enterprise Management System (USC 8050 EMS) is part of the Cisco Universal Small Cell Solution, an end-to-end platform that integrates 3G, LTE and carrier-grade Wi-Fi with self-organizing network (SON) and backhaul technologies for an efficient and highly secure heterogeneous network (HetNet). The Cisco USC platform provides the right solution for every indoor environment, from the home to enterprises of every size, up to large high-density environments such as airports, shopping malls, and campuses (Figure 1). The Cisco USC 8050 EMS is a centralized configuration, fault, and performance-management system that allows mobile operators to manage multiple Cisco USC 8000 Series small cells through a powerful and easy-to-use graphical interface.

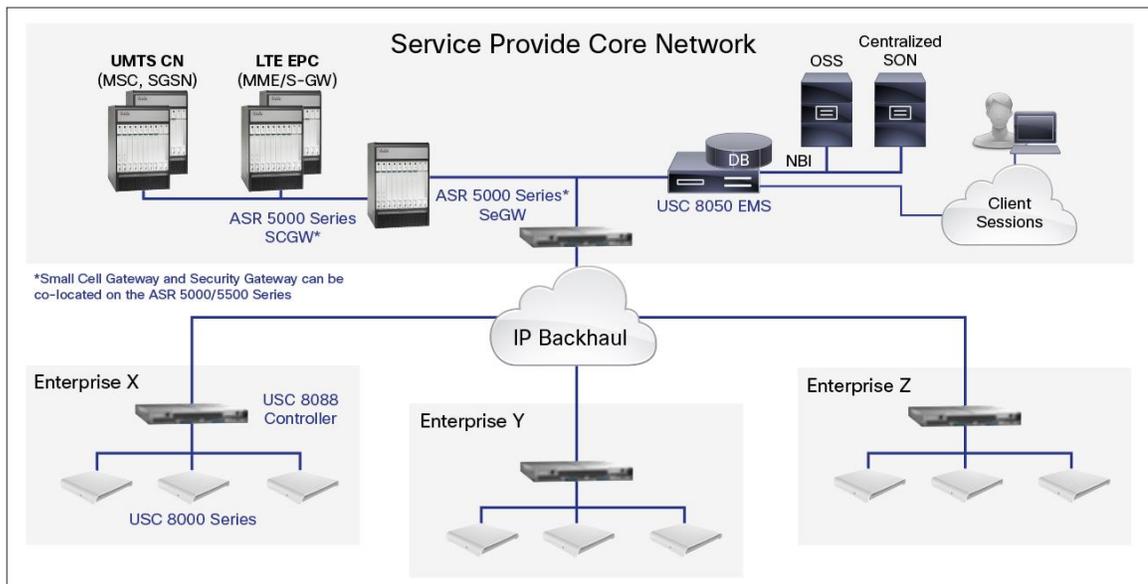
**Figure 1.** Cisco Universal Small Cell Portfolio



## Product Overview

The Cisco USC 8050 EMS uses the Broadband Forum TR-069 protocol to manage small cells deployed in an enterprise through the Cisco USC 8088 Controller. Each controller connects the small cells in an in-building deployment with the Cisco USC 8050 EMS in the operator's core network through secure IPsec tunnels. The USC 8050 integrates with the operator's support systems using Simple Network Management Protocol (SNMP) as a northbound interface (Figure 2).

**Figure 2.** Cisco Universal Small Cell Architecture with USC 8050 EMS



The fault management framework implemented on the Cisco USC 8050 EMS provides quick and easy access to critical information events and alarms. This allows mobile operators to monitor small cell deployments with a single alarm table. Operators can also filter alarms and events on specific criteria, including severity level and alarm type. The system can also generate daily alarm reports.

Performance management is an important aspect of the Cisco Universal Small Cell solution. The Cisco USC 8050 EMS continuously collects system, small cell, and equipment data from the network elements and provides key performance indicator (KPI) results for metrics such as Call Drop Rate (CDR) or Call Setup Success Rate (CSSR) based on a predefined formula. A customizable dashboard view displays the current performance management KPI and can act as a starting point for troubleshooting and resolution.

In summary, the Cisco USC 8050 EMS provides a complete set of small cell management functions, including:

- Centralized management for scalable small cell deployments inside an enterprise
- Easy provisioning through intuitive GUI and preconfigured templates
- Bulk configuration changes and software upgrades
- Concise inventory views of all small cell network elements
- Inventory tables with RAT small cell attributes and neighbor cells
- Scheduled tasks, including remote software upgrades, configuration, and database backups
- Fault and event management

- Alarm forwarding to operator's operations support systems (OSS)
- Performance management using customizable dashboard for monitoring system and small cell KPIs
- Authenticated and encrypted client to server sessions
- Secure access with per-user or group privileges and audit-trail logs
- Server and database redundancy

### Cisco USC 8050 EMS Benefits

The Cisco USC 8050 EMS optimizes the small cell network by supporting all phases of the small cell lifecycle including provisioning, software maintenance, and troubleshooting. It provides the following benefits:

- Accelerates time to revenue by simplifying the process of provisioning enterprise small cell networks
- Facilitates maintenance activities by centralizing and simplifying software management across multiple deployments
- Allows rapid response to system faults or alarms, reducing overall network downtime and support costs
- Provides the visibility and insight to optimize the user experience

### Carrier-Class Security and Access Control

Client sessions are authenticated by username and password and encrypted. The administrator can create multiple role-based user profiles, restricting or allowing access to management operations. Separate user accounts can be activated and mapped to defined user profiles. Client sessions can be restricted to specific workstations or to configurable time limits. All user operations are securely logged on the server, and audit trails are available for future inspection.

### System Requirements

Table 1 lists the software and hardware system requirements for the Cisco USC 8050 EMS.

**Table 1.** System Requirements

	Recommended Minimum Specification
<b>Hardware</b>	
<b>CPU</b>	Intel® Xeon® 6-core 2.4 GHz or equivalent, 64-bit
<b>Network interface card</b>	3 x Gigabit Ethernet
<b>Memory</b>	16 GB RAM (expandable configuration recommended)
<b>Disk</b>	1 TB free disk space for partition containing the server and database
<b>Display</b>	1024 x 768, 32-bit color
<b>Input/output</b>	DVD device, USB port or other means to load software
<b>Miscellaneous</b>	Keyboard
<b>Software</b>	
<b>Operating system</b>	Red Hat Enterprise (RHE) Linux 6.3 or 6.4
<b>MySQL database</b>	Classic Edition
<b>Java runtime environment</b>	Latest 1.7 Java by Oracle; 64-bit with latest security patches

## Ordering Information

The Cisco USC 8050 EMS is available as part of the accompanying software of the Cisco USC 8088 Controller. To place an order, visit the [Cisco Ordering homepage](#). For part numbers, refer to Tables 2 and 3.

**Table 2.** Hardware Ordering Guide

### Hardware

Product Name	Description	Order Code
<b>Universal Small Cell 8088 Controller</b>	Controller hardware capable of supporting 100 single-band (UMTS-only or LTE-only) small cells, or 50 dual-band (UMTS + LTE or dual-LTE) small cells	USC8088-LC-K9
<b>Universal Small Cell 8088 Controller (High Capacity)</b>	Controller hardware capable of supporting 200 single-band (UMTS-only or LTE-only) small cells, or 100 dual-band (UMTS + LTE or dual-LTE) small cells	USC8088-HC-K9

**Table 3.** Software Ordering Guide

### Software

Product Name	Description	Order Code
<b>Controller Software License</b>	Controller capacity expansion software license for each small cell	USC8088-CSW-K9
<b>Enterprise Management System License</b>	Management software license for each small cell. One license is required per small cell.	USC8050-MSW-K9
<b>Enterprise Management Platform License</b>	Licensed per server instance. Two platform licenses needed for redundant deployment. Each platform license can support up to 400 USC 8088 Controllers.	L-USC8050-PL-K9

## Warranty

The Cisco USC 8050 EMS includes a 90-day warranty. More detailed warranty information is available on Cisco.com at the [Product Warranties](#) page.

## Cisco Small Cell Services

The Cisco Universal Small Cell Solution can be delivered by Cisco Services, an organization with exceptional experience and expertise implementing large commercial small cell deployments and providing world-class systems service integration. With specialized tools, knowledge, methodologies, best practices, and a collaborative delivery model that combines Cisco expertise with our partners' and customers' capabilities, Cisco Services achieves superior results. We help service providers mitigate risk, accelerate time to market for new revenue-generating services, lower total cost of ownership, optimize the value of investments, and improve the customer experience through service assurance.

The Cisco Services team delivers comprehensive support, encompassing the service provider's entire network lifecycle. Through a lifecycle approach to services, Cisco has developed consistent and proven methodologies to help service providers successfully design and deliver new service offerings. These services are customized to operator needs and are delivered through an extensive global support infrastructure, which includes the award-winning Cisco Technical Assistance Center (TAC), Cisco Services resources, Centers of Excellence, small cell interoperability testing (IOT) and system verification (SVT) labs, and ecosystem partners.

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### For More Information

For more information about the Cisco USC 8050 EMS, visit <http://www.cisco.com/go/smallcell> or contact your local account representative.



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