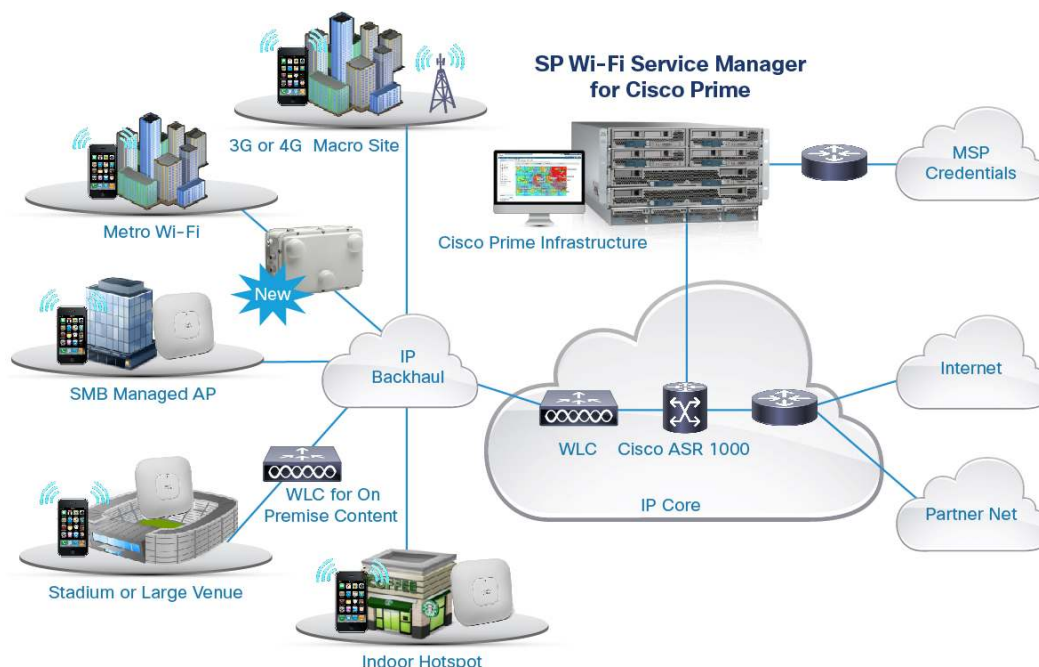# SP Wi-Fi Service Manager for Cisco Prime

Product Overview

The SP Wi-Fi Service Manager for Cisco Prime™ is a carrier-grade policy and subscriber data management software solution that helps enable service providers to control, monetize, and personalize Wi-Fi offerings on their networks (Figure 1). By combining the comprehensive network control, service differentiation, and deep-packet inspection (DPI) capabilities of the Cisco® Intelligent Services Gateway (ISG) and Cisco Service Control Engine (SCE) platforms with the SP Wi-Fi Service Manager for Cisco Prime, service providers can optimize their networks by offering a cost-effective method of offloading large amounts of mobile data traffic. The solution also offers a platform for delivering a variety of new services with a growing number of Wi-Fi applications that take unique advantage of intelligent Wi-Fi network attributes such as location, presence, and mobile devices.

Figure 1.   SP Wi-Fi Service Manager for Cisco Prime Architecture

Today's service providers need to capitalize on the resources across all of their networks, offering subscribers a premium, customized, and interactive experience whether they are on the road or in the office. The SP Wi-Fi Service Manager for Cisco Prime does exactly that, offering service providers the opportunity to maintain control, manage voice and data traffic, automatically communicate with individual subscribers, and establish comprehensive business models for Wi-Fi services. With this solution from BroadHop and Cisco, service providers can add on-the-go Wi-Fi services for subscribers, activate hotspots, and transparently offload mobile traffic to a local Wi-Fi network. They can activate, authenticate, authorize, track usage, personalize services, and bill with a single solution. The SP Wi-Fi Service Manager for Cisco Prime is modular, so it can be quickly configured for networks with or without DPI, and integrated with the existing network infrastructure.

With the SP Wi-Fi Service Manager for Cisco Prime, service providers can improve the subscriber quality of experience, automatically validate a subscriber's identity, allow immediate access to personalized Wi-Fi services, track usage, match to policy-based or personalized thresholds, and charge for services in real time. New subscribers can be granted access through customized portals, including account creation, service selection, and terms and condition acceptance through click-and-go options. The SP Wi-Fi Service Manager for Cisco Prime helps service providers address their data congestion problems by offloading mobile traffic to Wi-Fi networks. This can lead to new revenue streams, as Wi-Fi service providers develop relationships with mobile service providers.

With the SP Wi-Fi Service Manager for Cisco Prime, service providers can improve customer service and network efficiency using comprehensive analytics on subscriber and network usage to improve service quality and make educated decisions about policy and network needs. They can accurately track quota sharing between fixed and mobile systems and manage services from third-party providers.

Features and Benefits

The SP Wi-Fi Service Manager for Cisco Prime offers industry-leading performance, high availability, and disaster recovery, and it simplifies network architectures by using a single subscriber repository that draws from older data sources without conversion or revision. Cisco and BroadHop have teamed to provide best-in-class components of the SP Wi-Fi Service Manager for Cisco Prime. The solution includes BroadHop's virtualized, purpose-built policy platform that has been independently validated for record-breaking performance and scalability. The BroadHop platform provides real-time management of subscriber sessions, applications, and network resources based on service-provider-configured business rules and subscriber data management.

With the SP Wi-Fi Service Manager for Cisco Prime, service providers can:

- Rapidly define new service plans using customizable policy building blocks
- Simplify policy control and service catalog management
- Accelerate time to market for new service plans
- Increase revenue through market segmentation
- Improve customer satisfaction with personalized, tiered, and interactive services
- Reduce operating costs

The SP Wi-Fi Service Manager for Cisco Prime provides the following features.

- **Subscriber authentication and authorization:**
  - RADIUS and Diameter authentication protocols
  - Wireless Internet Service Provider roaming (WISPr) protocol 1.0
  - Transparent Automatic Logon (TAL), helping to enable end users to maintain an always-on connection without the need to authenticate each time they connect
  - 3rd Generation Partnership Project (3GPP) compliant Policy and Charging Rules Function (PCRF)
  - Wi-Fi federation for roaming among different service provider Wi-Fi networks

- **Subscriber service web portal:**
  - Self-branded web portal for subscriber access control
  - Standard Wi-Fi portal login pages: Click and Go, Username and Password, Voucher and Code, Roaming Partner, and Browser Cookie
  - Service provisioning pages: Time-based passes, quality of service (QoS) tiers, and promotional and ad-sponsored access (allowing service providers to offer free access to Wi-Fi for a limited time)
  - Subscriber management pages: Username and password creation, contact information, and service provisioning
  - Credit card purchase page: Page that allows end users to enter credit card information for purchase of Wi-Fi access or upsold features
  - Content management pages: Pages that provide the ability to manage images, text, and Cascading Style Sheets (CSS)
- **Tiered services:**
  - Application of policy rules based on the service plan, such as bandwidth speed, usage limits, number of logins, and more, on a per-tier basis
  - Segmentation of a service provider's subscriber base by offers of differentiated services and pricing (for example, a service provider may target premium, high-speed access services at business users and gamers and target basic access speeds for email and browsing users)
- **Quota and usage control:**
  - Creation of time and/or usage-limited passes, for example, hour-, day-, week-, and month-long passes
  - Tracking and application of daily, weekly, or monthly billing cycle usage limits
  - Application of pay as you go (PAYG) top-ups and/or downgrades when subscribers exceed usage limits
  - Control of roaming overages and reduction of customer bill shock, which also assists in compliance with European Union roaming regulations
- **3GPP mobile data offload:**
  - A cost-effective option for reducing mobile data traffic congestion by offloading traffic through the Wi-Fi network
  - 3G Mobile Long Term Evolution (LTE) integration with Gateway GPRS Support Node/Packet Data Serving Node (GGSN/PDSN) technology, including the Cisco ASR 5000 Evolved Packet Core (EPC)
  - Diameter and RADIUS Extensible Authentication Protocol (EAP) authentication
  - Diameter Gx/Gy Policy and Charging Control (PCC) for 3GPP LTE architecture functionality

Additional features and benefits are listed in Table 1.

Table 1. Features and Benefits

Feature	Benefit
Carrier-Grade Architecture	
Web-based service definition manager	Tool for rapid definition of new service plans using customizable policy building blocks; for example, bandwidth tiers and monthly fair use limits and breach rules.
Powerful core rules engine	Powerful rules engine that binds the various SP Wi-Fi Service Manager for Cisco Prime applications. This provides the framework for the policy rules as well as the APIs present on the system.
Highly scalable, carrier-grade architecture including geographic availability	Architecture that supports the scale required by large mobile networks while maintaining low latency at high transaction rates. Operators can easily add capacity by simply adding blades. In addition, carrier-grade geographic high availability is available as an option. Geographic high availability provides for geographical redundancy and disaster recovery and can be deployed in active-active mode and active-passive mode.
Extensive multivendor interoperability	Proven interoperability across numerous authentication, authorization, and accounting (AAA) servers, broadband remote access servers (B-RASs), broadband network gateways (BNGs), mobile packet core, DPI, intelligent network (IN), online charging systems (OCSs), billing applications, and provisioning vendors.
Policy Services	
Session management	Ability to authorize, manage, and terminate (as necessary) a subscriber's session and its associated bearers.
Multi-PCEF control	Correlation, control, and coordination of policies across multiple policy enforcement points; for example, a Cisco ISG and/or Cisco SCE DPI for a subscriber's session.
QoS control	Authorization and control of the subscriber's bandwidth.
Time-based triggers	Recognition of time of day, day of week, month, year, weekday, workday, weekend, and so forth, as inputs for policy decisions.
Multiple balance types	Provision of one-time, recurring, rollover, and top-up balances. Service providers determine how recurring and rollover balances are replenished (such as daily, weekly, monthly, or per billing cycle).
User notification	Notification of subscribers through Short Message Service (SMS), email, Apple Push, browser redirect, or other notification extensions.
Location awareness	Use of the subscriber's location as an input for policy decisions; for example, different portal pages or policy rules based on where the subscriber is accessing from.
Subscriber Data Management	
Flexible schema	Flexible data schema that helps the SP Wi-Fi Service Manager to fit the service provider's data, not the other way around.
Group accounts	Multiple user support (support for multiple users in a single account along with shared as well as individually assigned services and multiple identities and credentials). Helps enable quota sharing, parental controls, and multiuser plans.
Seamless provisioning	Simple Object Access Protocol/Representative State Transfer (SOAP/REST) web services API support for simplified integration to OSS/BSS (operations support system/business support system) applications. Onboard subscriber management GUI provides a single interface for viewing data from multiple repositories.

System Requirements

The SP Wi-Fi Service Manager for Cisco Prime is certified for many commercial blade-server platforms, including Cisco Unified Computing System™ (Cisco UCS®) B Series. The specifications listed in Table 2 are the minimum hardware requirements. Please consult with your account manager for your specific deployment requirements.

Table 2.   System Requirements

CPU	2 Intel® Xeon® X5650s or higher speed
Disk space	2 100-GB or higher SSDs with hardware Redundant Array of Independent Disks (RAID) 1
Virtualization	Must be listed on the VMware Hardware Compatibility List (HCL): http://www.vmware.com/resources/compatibility/search.php
Hardware	4 commercial blade servers; for example, 4 Cisco UCS B-Series blade servers or equivalent
Memory	24 GB RAM for 0 to 500,000 subscribers 48 GB RAM for 500,001 to 1,000,000 subscribers 72 GB RAM for greater than 1,000,000 subscribers
Network interface	Dual Gigabit Ethernet ports

Ordering Information

To place an order, visit the Cisco Ordering Homepage. See Table 3 for ordering information.

Table 3.   Ordering Information

Product Name	Part Number
SP Wi-Fi Service Manager for Cisco Prime (Dynamic Configuration Tool Top-Level Ordering Use Only)	L-PRIME1-SPWIFI-K9
SP WiFi Service Manager for Cisco Prime Base Package	L-SPWIFI-PRIME-K9
SP WiFi Service Manager for Cisco Prime: 10,000 Subscriber License	L-SPWIFI-10K-SUB
SP WiFi Service Manager for Cisco Prime: 50,000 Subscriber License	L-SPWIFI-50K-SUB
SP WiFi Service Manager for Cisco Prime: ASR 5000 Integration	L-SPWIFI-ASR5K
SP WiFi Service Manager for Cisco Prime: Wi-Fi Federation	L-SPWIFI-FED
SP WiFi Service Manager for Cisco Prime GEO HA Base Package	L-SPWIFI-HA
SP WiFi Service Manager for Cisco Prime GEO HA: 10,000 Subscriber License	L-SPWIFI-HA-10K
SP WiFi Service Manager for Cisco Prime GEO HA: 50,000 Subscriber License	L-SPWIFI-HA-50K
SP WiFi Service Manager for Cisco Prime Lab System	L-SPWIFI-LAB-K9

About Cisco Prime

The Cisco Prime portfolio of enterprise and service provider management offerings empowers IT organizations to more effectively manage their networks and the services they deliver. Built on a service-centered foundation, the Cisco Prime portfolio of products supports integrated lifecycle management through an intuitive workflow-oriented user experience. The portfolio of Cisco Prime solutions for service providers provides comprehensive management for IP next-generation networks, mobility, video, and managed services.

Why Cisco?

Cisco leads the industry in policy management deployments with the only policy platform to offer network control, subscriber awareness, application integration, and service monetization. Cisco is committed to promoting innovation in the service provider market and continues to develop new products and solutions to help service providers transform their networks to more profitable, service-rich, and flexible IP next-generation networks (IP NGNs). Cisco provides world-class networking solutions that help enable service providers to dramatically boost sales, improve customer satisfaction, and increase profitability.

Service and Support

Using the Cisco lifecycle services approach, Cisco and its partners provide a broad portfolio of end-to-end services and support that can help increase your network's business value and return on investment. This approach defines the minimum set of activities needed, by technology and by network complexity, to help you deploy and operate Cisco technologies and optimize their performance throughout the network lifecycle.

For More Information

For more information about the SP Wi-Fi Service Manager for Cisco Prime, visit http://www.cisco.com/go/prime-sp-wifi or contact your local account representative or ask-prime-policy@cisco.com.

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