

# BNG Service Manager for Cisco Prime

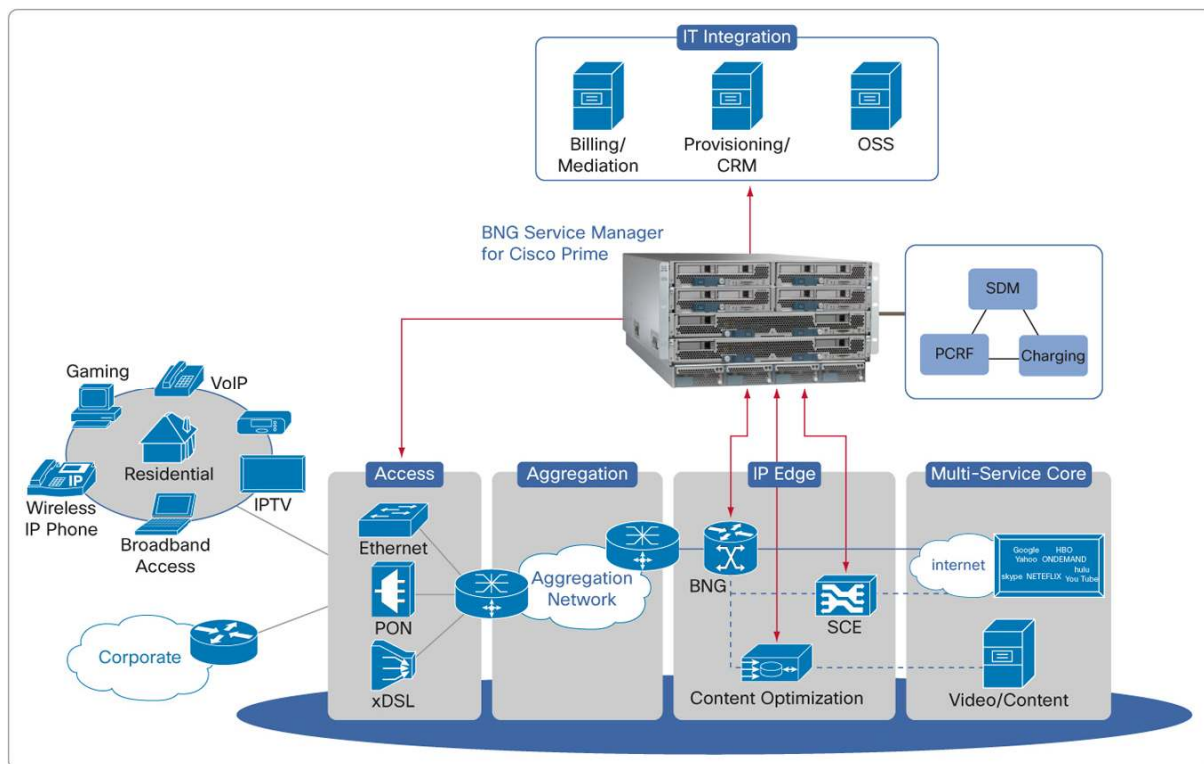
## Product Overview

The BNG Service Manager for Cisco Prime™ is a policy, charging, and subscriber data management solution that helps enable service providers to control, monetize, and personalize the service offerings on their broadband networks. By combining the robust network control, service differentiation, and packet inspection capabilities of the Cisco® Intelligent Services Gateway (ISG) and Cisco Service Control Engine (SCE) platforms with the BNG Service Manager for Cisco Prime, service providers are able to:

- Rapidly roll out new services and promotions
- Deploy resource and admission control, validate available bandwidth, and automatically allocate real-time service
- Dynamically manage broadband performance
- Integrate advanced broadband, value-added, and third-party services

Subscriber demands for new voice, video, and data applications are accelerating, and data transfers over broadband connections are reaching unprecedented levels. While there are tangible benefits for operators in the short term - such as increased revenue - over the long term they face innumerable challenges as a result of the rapid pace of demand for broadband data access. A key component for addressing these challenges is a multifaceted policy management solution that addresses not just network policy and bandwidth management, but also helps enable new applications and offers subscribers an easily customized, highly personalized experience using any application, anytime, on any device Broadband Network Gateway refers to. This provides dynamic subscriber management functions for both residential and business broadband subscribers and is where service providers can directly monetize their networks by mapping specific features to specific revenue streams. The BNG Service Manager for Cisco Prime is ideal for use in all types of broadband deployments, helping enable operators to deploy network- and application-centered policy technology that accommodates wholesale and retail broadband business models.

**Figure 1.** BNG Service Manager for Cisco Prime Architecture



## Features and Benefits

With the BNG Service Manager for Cisco Prime, service providers can do the following:

- Reduce the time required for new service and application creation
- Boost revenue by rapidly rolling out new applications
- Avoid the need for custom code when rolling out tiered and personalized service packages using premade templates and customized portals
- Help ensure network integrity by dynamically managing broadband performance
- Streamline network policy control by combining multiple services, such as Internet, email, triple-play (voice, video, and data services), and security, as well as easily integrate a range of advanced broadband, value-added, and third-party services

In addition, the solution is a fully virtualized platform with an open development architecture that provides significantly faster policy and service creation than other approaches and is optimized for third-party development and application integration.

The BNG Service Manager for Cisco Prime is a modular solution composed of the following service creation modules:

- **Residential Broadband Base Package**
  - Tiered services and per user quality of service (QoS) that facilitates subscriber base segmentation to offer differentiated services and pricing - for example, premium, high-speed access targeted at business users and gamers versus basic access speeds for email and browsing users

- Bandwidth on demand/turbo boost that allow subscribers to increase their bandwidth either on a preschedule or an on-demand basis - for example, for a streaming video session or business demonstration
- Session usage data record generation
- Subscriber data management including subaccount/user group management and identity management
- Subscriber account creation and service selection portal API that interfaces with a service provider's portal, helping enable end users' secure control of their service experience
- **Metered Broadband Package**
  - Tracking of subscriber session- and/or application-specific usage against daily, weekly, or monthly billing cycle fair use usage limits; provides the ability to block, downgrade, or restrict subscriber usage when exceeding usage limits
  - Alerts for subscribers when they are approaching limits based on user-personalized (or plan default) threshold
  - Options to extend a user's quotas including Pay as You Go (PAYG) top-ups
  - Incentivize users to perform data intensive transfers, such as online backups, during off-peak hours using time-of-day windows
  - Upsell subscribers with premium, value-added options, for example exemptions of specific traffic, such as social networking, from plan usage limits
  - Subscriber usage balance management, including daily, weekly, monthly recurring, rollover and single use plans, and top-ups
  - Quota management portal API that allows subscribers to view their quota usage and prevent bill shock by tracking and extending quotas
- **Charging Package**
  - Flexible charging detail record (CDR) generation with rule-based filters - for example, strip out non-billing-related fields or augment accounting records with data from other sources
  - Aggregation of partial CDRs and correlation of CDRs from multiple sources
  - Dynamically charge services based on real-time rating rules
  - Real-time and/or offline charging and policy enforcement
  - Prepaid, postpaid, and hybrid payment models

For additional features, see Table 1.

**Table 1.** Features and Benefits

Feature	Benefit
<b>Policy Engine</b>	
<b>Web-based service definition manager</b>	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.
<b>Powerful core rules engine</b>	Highly powerful rules engine that binds the various BNG Service Manager for Cisco Prime applications. Provides the framework for the policy rules as well as the APIs present on the system.
<b>Highly scalable, carrier-grade architecture</b>	Architecture supports the scale required by large mobile networks while maintaining low latency at high transaction rates. Easily add capacity by simply adding blades. Carrier-grade geographic high availability is an option.

Feature	Benefit
<b>Extensive multivendor interoperability</b>	Proven interoperability across numerous authentication, authorization, and accounting (AAA) servers, broadband remote access servers (BRASs), broadband network gateways (BNGs), mobile packet core, deep packet inspection (DPI), Intelligent Network (IN), online charging systems (OCSs), billing, application and provisioning vendors.
<b>Policy Services</b>	
<b>Session management</b>	Authorize, manage, and terminate (as necessary) a subscriber's session and its associated bearer connections.
<b>Multi-PCEF (Policy and Charging Enforcement Function) control</b>	Correlate, control, and coordinate policies across multiple policy enforcement points, for example, a Cisco ISG and/or Cisco SCE DPI for a subscriber's session.
<b>Quality of service control</b>	Authorize and control the subscriber's bandwidth.
<b>Time-based triggers</b>	Recognize time of day, day of week, month, year, weekday, workday, weekend, and so forth, as inputs for policy decisions.
<b>Multiple balance types</b>	Provide 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).
<b>User notification</b>	Notify subscribers through Short Message Service (SMS), email, Apple Push Notification Service, browser redirect, or other notification extensions.
<b>Subscriber Data Management</b>	
<b>Flexible schema</b>	Flexible data schema helps enable the Unified Subscriber Manager to fit the service provider's data, not the other way around.
<b>Group accounts</b>	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.
<b>Seamless provisioning</b>	Simple Object Access Protocol/Representative State Transfer (SOAP/REST) web services API support for simplified integration to OSS/BSS applications. Onboard subscriber management GUI provides a single interface for viewing data from multiple repositories.

## System Requirements

The BNG Service Manager for Cisco Prime is certified for many commercial off-the-shelf blade-server platforms, including Cisco Unified Computing System™ (Cisco UCS™). 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

<b>CPU</b>	2 Intel Xeon X5650s or higher speed
<b>Disk space</b>	2 100 GB or higher SSDs with Hardware RAID 1
<b>Hardware</b>	Must be listed on the VMware HCL <a href="http://www.vmware.com/resources/compatibility/search.php">http://www.vmware.com/resources/compatibility/search.php</a>
<b>Memory</b>	24 GB RAM for 0-500,000 subscribers 48 GB RAM for 500,001-1,000,000 subscribers 72 GB RAM for > 1,000,000 subscribers
<b>Network interface</b>	Dual Gigabit Ethernet Ports

## Ordering Information

See Table 3 for ordering information. To place an order, visit the [Cisco Ordering Home Page](#).

**Table 3.** Ordering Information

Product Name	Part Number
<b>BNG Service Manager for Cisco Prime (Dynamic Configuration Tool Top-Level Ordering Use Only)</b>	L-PRIME-1-BNG-K9
<b>BNG Residential Broadband Package (including 250,000 Subscribers)</b>	L-BNGBB-1.0-K9
<b>BNG Residential Broadband - 100,000 Additional Subscribers</b>	L-BNGBB-1-100KSUB

Product Name	Part Number
<b>BNG Residential Broadband - 1,000,000 Additional Subscribers</b>	L-BNGBB-1-1MSUB
<b>BNG Metered Broadband Package (including 250,000 Subscribers)</b>	L-BNGMB-1.0-K9
<b>BNG Metered Broadband - 100,000 Additional Subscribers</b>	L-BNGMB-1-100KSUB
<b>BNG Metered Broadband - 1,000,000 Additional Subscribers</b>	L-BNGMB-1-1MSUB
<b>BNG Charging Package (including 250,000 Subscribers)</b>	L-BNGCP-1.0-K9
<b>BNG Charging Package - 100,000 Additional Subscribers</b>	L-BNGCP-1-100KSUB
<b>BNG Charging Package - 1,000,000 Additional Subscribers</b>	L-BNGCP-1-1MSUB
<b>BNG Service Manager Geo HA up to 1,000,000 Subscribers</b>	L-BNGHA-1-1MSUB
<b>BNG Service Manager Geo HA up to 2,500,000 Subscribers</b>	L-BNGHA-1-2.5MSUB
<b>BNG Service Manager Geo HA up to 5,000,000 Subscribers</b>	L-BNGHA-1-5MSUB
<b>BNG Service Manager Geo HA up to 10,000,000 Subscribers</b>	L-BNGHA-1-10MSUB

## 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 A-to-Z management for IP next-generation networks, mobility, video, and managed services.

## Why Cisco and BroadHop?

BroadHop 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 driving 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 (NGNs). Together, BroadHop and Cisco provide world-class networking solutions that help enable service providers to dramatically boost sales, improve customer satisfaction and drive profitability.

## Service and Support

One year of BroadHop maintenance and support is provided with purchase. Additional end-user support and maintenance is available for purchase through BroadHop and will be offered to customers as an option upon fulfillment of the order. In addition, 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.

## For More Information

For more information about the BNG Service Manager for Cisco Prime, visit <http://www.cisco.com/go/prime-bng> or contact your local account representative or [ask-prime-policy@cisco.com](mailto:ask-prime-policy@cisco.com).




Americas Headquarters  
Cisco Systems, Inc.  
San Jose, CA

Asia Pacific Headquarters  
Cisco Systems (USA) Pte. Ltd.  
Singapore

Europe Headquarters  
Cisco Systems International BV Amsterdam,  
The Netherlands

Cisco has more than 200 offices worldwide. Addresses, phone numbers, and fax numbers are listed on the Cisco Website at [www.cisco.com/go/offices](http://www.cisco.com/go/offices).

 Cisco and the Cisco logo are trademarks or registered trademarks of Cisco and/or its affiliates in the U.S. and other countries. To view a list of Cisco trademarks, go to this URL: [www.cisco.com/go/trademarks](http://www.cisco.com/go/trademarks). Third party trademarks mentioned are the property of their respective owners. The use of the word partner does not imply a partnership relationship between Cisco and any other company. (1110R)

Printed in USA

C78-692761-00 11/11