

Cisco Policy Suite for BNG

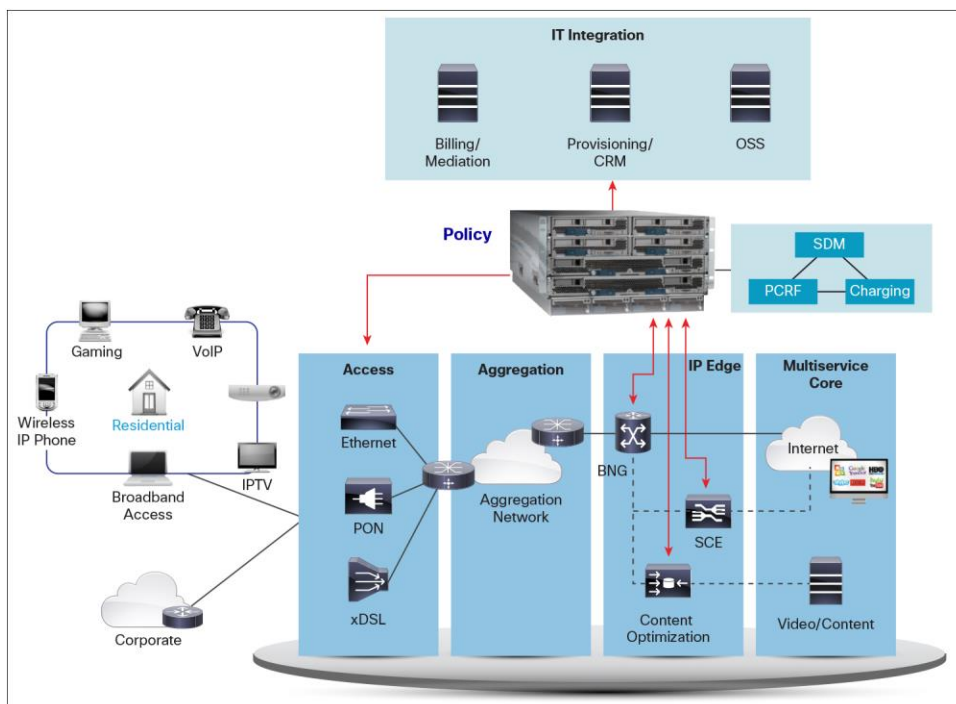
Solution Overview

The Cisco Policy Suite is a fully virtualized policy, charging, and subscriber data management software solution that lets service providers control, monetize, and personalize the service offerings on their broadband networks (Figure 1). Cisco Policy Suite for Broadband Network Gateway (BNG) is a multifaceted policy management solution that empowers service providers 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. Operators will see increased revenue over the short term. But for the long term, they face innumerable challenges as a result of the rapid pace of demand for broadband data access. They will need a solution that not only addresses network policy and bandwidth management, but also helps enable new applications within an easily customized, highly personalized experience.

Figure 1. Cisco Policy Suite Architecture



Cisco Policy Suite for BNG provides dynamic subscriber management functions for both residential and business broadband subscribers, so operators can directly monetize their networks by mapping specific features to specific revenue streams. This suite is ideal for use in all types of broadband deployments. It lets operators deploy network- and application-centered policy technology that accommodates wholesale and retail broadband business models.

Features and Benefits

Cisco Policy Suite for BNG offers industry-leading performance, high availability, and disaster recovery. It also simplifies network architecture by using a single subscriber repository that draws from legacy data sources without conversion or revision. In addition, the solution is a fully virtualized platform with an open development architecture that provides significantly faster policy and service creation. It is the only purpose-built policy platform that has been independently validated for benchmark-setting performance and scalability.

Cisco Policy Suite for BNG helps service providers:

- Reduce the time required to create new services and applications
- Boost revenue by rapidly rolling out new applications
- Avoid the need for custom code when rolling out tiered and personalized service packages by using premade templates and customized portals
- Promote 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
- Easily integrate a range of advanced broadband, value-added, and third-party services

Additional features and benefits are included in Table 1.

Core Modules

Policy module implements Policy and Charging Rules Function (PCRF), which provides real-time management of subscribers, applications, and network resources, based on service provider–configured business rules. The Cisco policy module controls and coordinates the subscriber’s session across multiple enforcement points in the network, including gateways, deep packet inspection (DPI) devices, and optimization servers. Policy control actions include:

- Subscriber session authorization and management
- Service selection and personalization
- Quality of service (QoS) and bandwidth control
- Session- and application-specific quota authorization and tracking
- Application-based admission control

Charging module supports online charging services (OCS) with real-time rating rules. The Cisco Charging module offers an easily deployed prepaid OCS solution, including integration with external intelligent network systems. One-time, recurring, rollover, and top-up balances are supported. Both default and user-personalized thresholds (for example, low-balance notifications) may be defined against these balances. Quotas may be shared across groups, such as family, corporate, or multidevice plans.

Optional Feature Modules

Quota and Usage Control

This module includes:

- Creation of time and/or usage-limited passes, for example, passes that are good for an hour, day, week, or month
- 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

Subscriber Management

This module includes:

- Subscriber data management, ID management, and user data persistence
- Account, subaccount, and user group management
- External subscription profile repository (SPR) integration: Lightweight Directory Access Protocol (LDAP), SQL, and Diameter integration can be configured in service definition GUI

Geographic High Availability

- Geographical redundancy and disaster recovery, which can be deployed in active-active mode and active-passive mode

Table 1. Features and Benefits

Feature	Benefit
Policy Engine	
Web-based service definition manager	Tool for rapid definition of new service plans using customizable, policy-building blocks, supporting, for example, bandwidth tiers and monthly fair use limits and breach rules.
Powerful core rules engine	Powerful rules engine binds the various Policy Suite applications. Provides the framework for the policy rules as well as the APIs present on the system.
Highly scalable, fully virtualized architecture, including geographic availability	Fully virtualized architecture supports the scale required by large mobile networks while maintaining low latency at high transaction rates. Operators can easily add capacity simply by 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, deep packet inspection (DPI), intelligent network, online charging systems (OCSs), billing applications, and provisioning vendors.
Policy Services	
Session management	Authorize, manage, and terminate (as necessary) a subscriber's session and its associated bearers.
Multiple Policy and Charging Enforcement Function (PCEF) controls	Correlate, control, and coordinate policies across multiple policy enforcement points.
Quality-of-service control	Authorize and control the subscriber's bandwidth.
Time-based triggers	Recognize time of day, day of week, month, year, weekday, workday, weekend, and so forth, as inputs for policy decisions.
User notification	Notify subscribers through Short Message Service (SMS), email, Apple Push, browser redirect, or other notification extensions.

Feature	Benefit
Subscriber Data Management	
Flexible schema	Help Cisco Policy Suite fit the service provider's data, not the other way around.
Group accounts	Support multiple users in a single account, along with shared and 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 applications. Onboard subscriber management GUI provides a single interface for viewing data from multiple repositories.
Multiple balance types	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).

System Requirements

The Cisco Policy Suite for BNG 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	Two Intel® e5-2620 or higher-speed processors, depending on system performance requirements
Disk space	Two 2100-GB or larger solid state disks (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	Four commercial blade servers; for example, four Cisco® UCS B-Series blade servers or equivalent
Memory	64 GB minimum, 96 GB or greater recommended, depending on system performance requirements
Network interface	Dual Gigabit Ethernet ports

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 Cisco Policy Suite for BNG, contact your local account representative.

<http://cisco.com/go/mobilepolicy>




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