



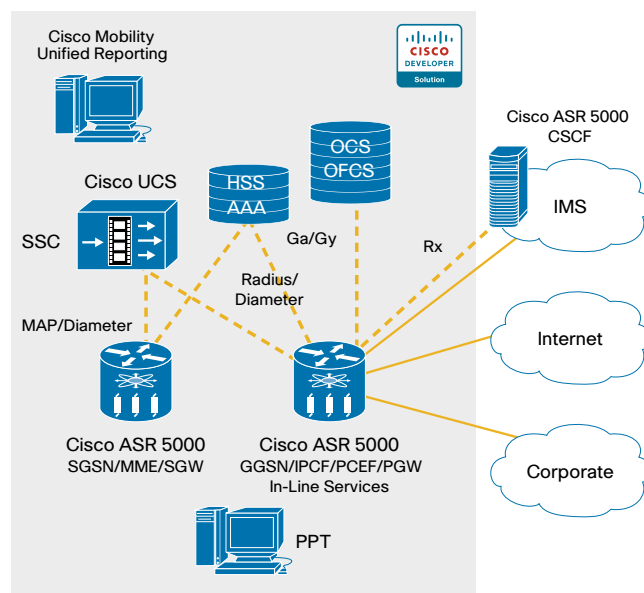
Cisco Policy and Charging Control Solution with Cisco Intelligent Policy Control Function

With traffic volumes on mobile networks growing dramatically and applications and devices requiring differentiated service plans, mobile operators need a dependable policy and charging control infrastructure to manage this traffic while increasing service revenues. Policy and charging control help operators assure the proper allocation of network resources based on what subscribers have purchased and what the network can deliver. The combined solution also supports the efficient deployment, management, and monetization of basic and complex service offerings.

Solution

The Cisco® Policy and Charging Control (PCC) solution with the Cisco Intelligent Policy Control Function (IPCF), Figure 1, is compliant with 3rd Generation Partnership Program (3GPP) standards for Long Term Evolution (LTE) and IP Multimedia Subsystem (IMS) architectures.

Figure 1. New Cisco Policy and Charging Control Solution Architecture



Components of the solution include the following:

- **Cisco Intelligent Policy Control Function (IPCF)** contains the Policy and Charging Rules Function (PCRF), with policies defining network, application, and subscriber conditions that must be met to successfully deliver a service or maintain its quality of service (QoS). A Subscriber Policy Register (SPR) node also provides subscriber-specific data to the PCRF to assist in evaluating policy decisions.
- **Cisco Subscriber Service Controller (SSC)** is a SPR function that uses an extended implementation of the 3GPP Sh interface messaging to exchange both static and dynamic subscriber profile data with the IPCF. With the optional Decision Center functionality, the Cisco SSC provides enforcement of aggregate rules in support of volume usage across groups of subscribers sharing a common account.
- **Cisco Policy Provisioning Tool (PPT)** is a graphical user interface for facilitating the definition of policy rules and for managing their distribution to the deployed SSC and IPCF nodes.

Additionally, a Policy and Charging Enforcement Function (PCEF) supports flow gating, rate limiting, policing, shaping, Differentiated Services (DiffServ) marking, and other features. These are coupled with integrated deep packet inspection (DPI) capabilities, 3GPP QoS controls, and advanced Gx reporting capabilities. These capabilities run on the Cisco ASR 5000 Series, which supports mobile gateway services such as the Cisco Gateway General Packet Radio Service (GPRS) Support Node (GGSN), Home Agent (HA), Cisco Serving Gateway (SGW), and Cisco Packet Data Network (PDN) Gateway (PGW). Together, they provide an unmatched PCEF platform for meeting the PCC requirements of subscribers.

Cisco PCC integrates with Online Charging Subsystem (OCS) and Offline Charging Subsystem (OFCS) solutions from Cisco partners.



Competitive Benefits

Available on the Cisco ASR 5000 Series multimedia core platform and Cisco Unified Computing System™ blade servers or IBM BladeCenter servers, Cisco PCC with Cisco IPCF provides these benefits over competitive solutions:

- **High scalability:** The Cisco ASR 5000 Series provides a distributed architecture that can deliver any service on any card anywhere within the system. The platform is optimized across the three main performance dimensions—high data throughput, high connection setup times, and high concurrent sessions.
- **Reliability and redundancy:** Cisco IPCF is integrated into the Cisco ASR 5000 platform and supports both intrachassis high availability and interchassis geographic redundancy and active session failover, consistent with ASR 5000 standard platform capabilities.
- **Reduced latency:** By collocating the PCRF with the GGSN, network complexity is reduced along with call setup latency.

Why Cisco?

Cisco has extensive deployment experience with policy and charging control applications among mobile operators around the world. The Cisco PCC solution with Cisco IPCF provides mobile operators with a solution that has among the lowest total cost of ownership on the market and is among the most high performance and most scalable solutions from any vendor.

Cisco Services

Cisco Services are proven to rapidly deliver Mobile Internet Solution, resulting in top quality voice, data, and video for a powerful customer experience and faster realization of increased revenue and market share.

For More Information

For information on Cisco Policy and Charging Control, visit <http://www.cisco.com/go/move>