

Cisco Content Services Gateway: Second Generation Release 3

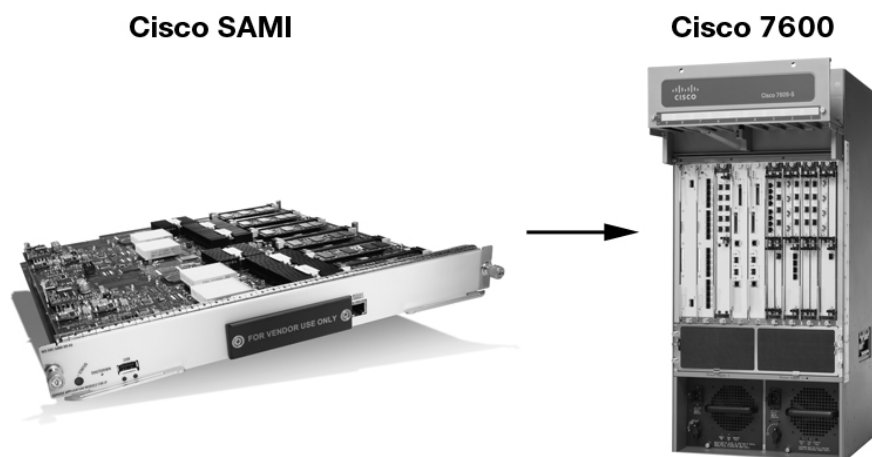
Product Overview

The Cisco® Content Services Gateway—Second Generation (CSG2) provides intelligent network capabilities such as flexible policy management and charging, deep packet inspection, and subscriber and application awareness capabilities that enable mobile operators to quickly and easily offer value-added, differentiated services over and above existing core mobile data services. The CSG2 is the highly scalable fault-tolerant solution needed by mobile operators to meet the demand of their rapidly growing mobile broadband service.

The Cisco CSG2 R3 builds upon Cisco's market-leading Content Services Gateway technology. With its deep packet inspection capability, operators can analyze, optimize, secure, and meter all traffic flows, including content-based services. The CSG2 delivers the flexibility and power essential for cost-effective, revenue-generating services requisite to ensuring customer loyalty to over 200 million mobile subscribers worldwide today.

The Cisco CSG2 is an application deployed on the Cisco Service Application Module for IP (SAMI), which provides high-capacity parallel processing to the Cisco 7600 Series Routers (Figure 1). Together these technologies deliver the scalability and performance requisite for current and new-generation Mobile Internet solutions.

Figure 1. Cisco CSG2 on the SAMI, for the Cisco 7600 Series



Cisco Mobile Internet

The Cisco CSG2 is part of the Cisco Mobile Internet platform, an open platform that can readily interface to all the control elements in a mobile network, including multiple Radio Access Networks (RANs), back-end billing systems, and content-filtering and compression solutions. Mobile operators can install and deploy Cisco Mobile Internet without disrupting any services.

Cisco has already demonstrated the interoperability of the platform with popular RAN solutions as well as authentication, authorization, and accounting (AAA); content billing; content filtering; and compression solutions, relieving mobile operators of the need to dedicate resources to ensure a smooth deployment. More than 100 mobile operators worldwide have deployed Cisco Mobile Internet. Cisco continuously applies their feedback to add valuable new features, maintaining the innovation and cost-effectiveness of the platform.

In addition, Cisco's strong partnerships with top billing, mediation, and filtering vendors provide an end-to-end content billing and filtering solution.

Benefits

The Cisco CSG2 provides the following customer benefits:

- Superior price and performance for high-data-demand mobile networks
- Controlled subscriber access to services
- Pricing capabilities that differ per service and per event
- Greater revenue generation from content aware billing
- Compliance with governmental and self regulation for content control

Features

Table 1 lists the features available with the Cisco CSG2.

Table 1. Features

Feature	Benefit
Service-aware content measurement	<ul style="list-style-type: none"> • Meters data traffic and generates accounting records at the content and service level. • Enables differentiated billing based on the actual object requested. • Supports different rates for different services, according to the operator's pricing strategy.
Real-time, prepaid billing support	<ul style="list-style-type: none"> • Meters subscriber usage so that the subscriber cannot exceed the balance allocated by the billing system. • Supports per-service balance and allocation. • Provisions for free services as well as services that provide a credit. • Balance allocation can be a specified number of transactions, a specified number of bytes, or service duration.
Specific user-awareness capability	<ul style="list-style-type: none"> • Identifies and correlates users based on IP addresses obtained from AAA RADIUS flows or from an XML database. • Records subscriber access information and charging identification that can be provided to the billing system in conjunction with regular charge reporting, thus allowing charge differentiation based on access, and offloading significant correlation load from the billing system.
Open interface with multiple billing agents	<ul style="list-style-type: none"> • Standard, open base protocols are used to communicate with the billing mediation or billing devices. • Provides failover in the event that one of the billing systems becomes unavailable. • Provides robust reporting.
Use of content for data mining	<ul style="list-style-type: none"> • Service providers can gather subscriber network, service, and content usage data across their networks. • Providers can apply business intelligence to the collected information to better understand user transaction behaviors and apply that knowledge to marketing and partnership strategies. • Traffic patterns can also be analyzed for use in quality-of-service (QoS) plans. • Popular sites can be identified and approached with real data to justify opportunities for content-delivery hosting.
Content filtering	<ul style="list-style-type: none"> • Provides support for dynamic content filtering in conjunction with Cisco partners. • Service providers can provide personal filtering based upon blacklists and whitelists, allowing access to content deemed appropriate or on a paid-for basis.

New Features in Cisco CSG2 Release 3

In addition to the Cisco CSG2 Release 2 feature set, CSG2 Release 3 supports the following new capabilities:

- Service Based QoS control
- Network Based Application Recognition (NBAR) for select peer-to-peer (P2P) and instant messaging protocol support
- Attribute maps
- Dual quota
- Default billing plan
- Call detail record (CDR) suppression for incompletely established TCP sessions
- Mix of postpaid and prepaid services
- Uplink next-hop
- Flexible retransmit accounting
- License Exceeded Notification
- URL Map support for interleaved RTSP
- 8-byte TLVs
- Enhanced Adaptability for Network Generated Out-of-Order TCP Packet for Layer 4 Flows
- Bi-directional support for Selective-ACK for Layer 4 Flows

Service Manager Support

Cisco CSG2 R3 is supported by Cisco Mobile Wireless Transport Manager (MWTM) 6.1.

Configuration Limits

- 8192 content policy pairs
- 2048 total contents with 2033 available for user configuration
- 1024 services
- 100 MB of map storage, total number of maps and matches vary by configuration
- 8192 policies
- 10 maximum active QS/BMA
- Up to nine Cisco CSG2s can be installed in a Cisco 7600 Series chassis

Performance

- Up to 1,800,000 concurrent sessions
- Up to 500,000 connected subscribers per 1-GB SAMI 2.0 module
- Up to 1.25 million connected subscribers per 2-GB SAMI 2.0 module
- Up to 4500 Advices of Charge (AOCs) per second
- Up to 7500 data plane Layer 7 transactions per second
- Up to 12,000 data plane Layer 4 transactions per second

Throughput

Throughput performance per Cisco CSG2 is up to 8 Gbps

Table 2. System Requirements

Product Type	Product Description
Chassis	All Cisco 7600 Series Routers supported: the Cisco 7604, 7606, 7609, and 7613
Supervisor	Supervisor Engine 32, 720-3BXL, and Route Switch Processor (RSP) 720
Software	Minimum Cisco IOS® Software Release 12.2SRB (SAMI w/ 1GB memory) and 12.2SRC (SAMI w/ 2GB memory)
SAMI	Minimum Cisco IOS Software Release 12.4(22)MD

Ordering Information

To place an order, visit the Cisco Ordering Home Page. To download software, visit the Cisco Software Center.

Table 3. Ordering Information

Product Name	Part Number
Service Application Module for IP 6 x PPCs with 1GB (Crypto)	WS-SVC-SAMI-BB-K9 (=)
Service Application Module 1GB UPG	MEM-SAMI-6P-1GB (=)
Service Application Module 2GB UPG	MEM-SAMI-6P-2GB (=)
CSG3 R3 RTU License (License per SAMI)	SSAC30K9-12422MD (=)
CSG2 10,000 Connected Subscribers	FL-SC-10K-SUB
CSG2 100,000 Connected Subscribers	FL-SC-100K-SUB
CSG2 R2 to R3 Upgrade License	FL-SC-R2R3-K9-UP

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For More Information

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