

Cisco Service and Application Module for IP

The Cisco® Service and Application Module for IP provides high-performance, scalable, distributed service processing for the Cisco 7600 Series Routers (Figure 1). The module enables service providers to deploy, provision, and manage value-added services at the network edge. This innovative service module delivers the most comprehensive set of edge aggregation services for fixed-line and mobile operators worldwide.

The Cisco Service and Application Module for IP is supported on the Cisco 7600 Series platforms to deliver the performance, density, and scalability required for comprehensive IP service delivery in large-scale deployments. It combines subscriber management features and functions with Tier-1-class routing to enable service providers to deliver new, competitive IP services to their subscribers.

Cisco 7600 Series Routers are the industry-leading edge devices that deliver robust, high-performance features for a range of service provider edge applications and enterprise metropolitan-area network (MAN) and WAN applications. Coupled with the broadest set of interfaces and innovative, adaptive network processing technology, the Cisco 7600 Series Routers lead the industry with integrated Ethernet and private-line aggregation capabilities. This unique combination enables operators to improve operational efficiency at the network edge while maximizing return on investment.

Figure 1. Cisco Service and Application Module for IP and Cisco 7600 Series Router



Highly Scalable Architecture

The Cisco Service and Application Module for IP consists of a base board and two daughter boards occupying a single slot in a Cisco 7600 Series chassis. The module supports switching fabric interface, constellation bus interface, network processor subsystems, and multiple processor subsystems for added performance and capacity. It has a fixed configuration. The daughter board has internal interfaces for one DDR2 MiniDIMM per processor and one Compact Flash. Three processor subsystems are implemented on the daughter card.

System Requirements

- All Cisco 7600 Series Chassis and 7600 S-Chassis are supported.
- Cisco Service and Application Module for IP is supported in Cisco IOS® Software Release 12.2(33)SRB1 (native) for the Cisco 7600 Series.
- Supported supervisor engines are:
 - Supervisor Minimum IOS Software release
 - WS-SUP720 12.2(33)SRB
 - WS-SUP720-3B 12.2(33)SRB
 - WS-SUP720-3BXL 12.2(33)SRB
 - WS-SUP32-GE-3B 12.2(33)SRC
 - WS-SUP32-10GE-3B 12.2(33)SRC
 - WS-RSP720-3C-GE 12.2(33)SRC
 - WS-RSP720-3CXL-GE 12.2(33)SRC
 - WS-RSP720-3CXL-10GE Not supported yet
- Single or redundant supervisor engine configurations are supported.
- There is no restriction on other cards (such as service and network modules) on the chassis.

Applications

Several applications have been or will soon be migrated to the Cisco Service and Application Module for IP to increase session density, improve management capabilities, and reduce complexity of configuration. These include:

- **Cisco Content Services Gateway 2:** content-based billing and filtering (available now)
- **Cisco Packet Data Serving Node:** Code-Division Multiple Access (CDMA) packet gateway
- **Cisco Home Agent:** mobile IP agent
- **Cisco GPRS Gateway Support Node:** General Packet Radio Service (GPRS) packet gateway
- **Cisco Access Service Network Gateway:** WiMAX access router
- **Cisco IP Transfer Point:** SS7-over-TDM and IP gateway

Currently each module card must be configured with a single application. Multiple module cards with different applications can be implemented within a chassis.

Key Features and Benefits

- **Greater performance:** Compared to earlier modules, the Cisco Service and Application Module for IP offers increased performance. This is realized through parallel processing and faster CPUs.
- **Integrated module:** Installed inside a chassis with enhanced processing and memory capabilities, the module allows increased session density compared to traditional solutions. This is of critical importance where rack space is at a premium.
- **Scalability:** The flexible Cisco IOS Software-based architecture means that the module will be able to meet future requirements without requiring a system overhaul. Multiple modules can be added to the chassis to meet growing demands.

- **Lower cost of ownership:** Because the module is integrated in the chassis, there are fewer devices to manage, and capacity can be increased by adding new cards rather than new systems. The module will be the hardware platform for multiple Cisco Service Exchange Framework for Mobile applications, further reducing TCO compared to multiple applications on multiple hardware platforms.

Refer to Table 1 for ordering information, to Table 2 for CPU and memory specifications, and to Table 3 for physical specifications.

Table 1. Ordering Information

Product Number	Description
WS-SVC-SAMI-BB-K9	Cisco Service and Application Module for IP
WS-SVC-SAMI-BB-K9=	Cisco Service and Application Module for IP (spare)

Table 2. Daughter Card CPU and Memory Specifications

Description per pair of Daughter Cards (2 on module)
Six PowerPC SC8548 at 1.25 GHz (5 for traffic classification)
1 GB double data rate 2 (DDR2) synchronous dynamic RAM (SDRAM) per PowerPC at 250 MHz; upgradeable to one 2-GB dual in-line memory module (DIMM) each
Daughter card data path – 32-bit FIFO at 125 MHz DDR (8 Gbps)
PowerPC data path – 16-bit FIFO at 125 MHz single data rate (SDR) (2 Gbps)

Table 3. Physical Specifications

Specification	Description
Location	Occupies any slot in the Cisco 7600 Series chassis
Dimensions (H x W x D)	1.2 x 14.4 x 16 in. (3.0 x 35.6 x 40.6 cm)
Weight	12.15 lb
Environmental conditions	
Operating temperature	32 to 104.5°F (0 to 40°C)
Non-operating temperature	–40 to 158°F (–40 to 70°C)
Operating relative humidity	10 to 90 percent (non-condensing)
Non-operating relative humidity	5 to 97 percent (non-condensing)
Operating and non-operating altitude	Sea level to 3000 meters operating, 4650 meters non-operating
Mean Time Between Failures	54,793 hours (1 base, 2 daughter cards)
Power Consumption	300W

Agency Approvals

Emissions:

- CE marking
- EN 55022, 1998, class A
- CISPR22, 1997, class A
- AS/NZS CISPR 22 class A
- CFR47, Part 15, class A
- ICES 003 class A
- VCCI Class A
- EN61000-3-2 Harmonic Current Emission
- EN61000-3-3 Voltage Fluctuation and Flicker

Immunity:

- CE Marking
- CISPR24, ITE-Immunity characteristics, Limits and methods of measurement
- EN 55024, ITE-Immunity characteristics, Limits and methods of measurement
- EN50082-1, Electromagnetic compatibility - Generic immunity standard
- EN 300 386 Telecommunications Network Equipment (EMC)
- EN61000-6-1 Generic Immunity Standard



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