

Cisco Persistent Storage Device

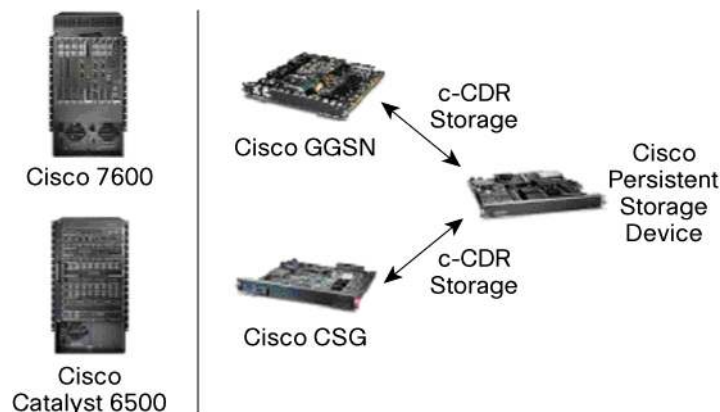
Mobile network operators are now looking to data for revenue. The ability to track the use and type of data services is essential to operator profitability. When a device that tracks this information fails, call detail records (CDRs)—and their associated revenues—can be lost. Outages can be planned (system upgrades) or unplanned (network connection failure or data collector failure). A redundant data collector setup is not enough—reliable physical media is necessary to safely store the CDRs generated during an outage.

The Cisco PSD (Figure 1) is a service module for Cisco Catalyst 6500 Series and Cisco 7600 Series switches. It functions as an extension to the existing storage on the Cisco Content Services Gateway (CSG) or Cisco Gateway GPRS Support Node (GGSN). During an outage, the Cisco Persistent Storage Device (PSD) captures and stores the usage information until the billing mediation agents come back online, assuring service providers that their billing records are protected.

Under normal operating conditions, the Cisco CSG or Cisco GGSN sends the CDRs to the billing data collectors as long as the devices are reachable. If the billing data collectors become unavailable, the Cisco CSG or Cisco GGSN redirects the CDRs (including those not acknowledged by the data collectors before they went down) to the Cisco PSD. With its 37 GB of onboard storage space, the Cisco PSD can safely store up to a week of CDRs from as many as three Cisco CSGs or three GGSNs.

The Cisco CSG or Cisco GGSN continues to check the availability of the billing data collectors. As soon as they are again ready to receive CDRs, the Cisco CSG or Cisco GGSN automatically retrieves the CDRs stored on the Cisco PSD and delivers them to the billing data collectors. The whole process requires no operator intervention, and the operator can be confident that no billing information will be lost.

Figure 1. Cisco Persistent Storage Device



PRIMARY FEATURES

In-Chassis Persistent Storage Support for Cisco CSG and Cisco GGSN

The Cisco PSD is implemented as a single Cisco Catalyst® 6500 Series or Cisco 7600 Series service module card. A Cisco PSD can support up to three in-chassis Cisco CSGs or Cisco GGSNs. A single Cisco PSD can support both a Cisco GGSN and a Cisco CSG concurrently. You determine the number of PSDs required based on expected network traffic and the corresponding number of billing records that the Cisco CSGs or Cisco GGSNs must generate.

Extend CSG or GGSN CDR Storage from Hours to Days

The Cisco PSD has onboard storage space for 37 GB for CDR storage. This is equivalent to 264 million CDRs, which is typically multiple days' worth of user traffic.

Ease of Management

Installation and operation of the Cisco PSD is simple, requiring a one-time configuration of the PSD and the Cisco CSGs or Cisco GGSNs that rely on it. Once configured, the Cisco PSD runs unattended. Configuration and monitoring of the Cisco PSD is made even easier through Simple Network Management Protocol (SNMP) Version 2c manageability, which includes standard network device management and detailed system resource management. SNMPv2c also provides visibility to processes and their use, as well as visibility of disk partitions and disk usage. In addition, the CiscoView network management tool provides management support for the Cisco PSD.

PRIMARY BENEFITS

Protect Critical Billing Information from Loss

The Cisco PSD provides protection of critical billing data from a single failure, such as failure of billing data collector devices or failure of network connectivity with billing data collectors. The Cisco PSD protects against billing information loss as a result of natural disasters, such as a storm disrupting network connectivity or billing data collector sites.

Save with a High-Availability, In-Chassis Solution

The Cisco PSD takes advantage of the high availability of the Cisco Catalyst 6500 Series and Cisco 7600 Series architectures, including in-chassis data transfer through a highly reliable backplane with the Cisco CSG or Cisco GGSN at very high throughput. One Cisco PSD can support as many as three Cisco CSGs or three Cisco GGSNs, providing a more cost-effective solution than deploying redundant billing data collectors. In fact, a single Cisco PSD will support both a Cisco CSG and a Cisco GGSN concurrently.

Allow the Network to Operate Flexibly

Operators using a Cisco PSD need not worry about losing critical billing information during upgrades of the mediation system, billing data collectors, or backend network.

Provide the Simplest Setup for Billing Information Protection

The Cisco PSD helps reduce the need for expensive and complex redundant mediation systems or billing data collectors, as well as the corresponding network provisioning and configuration changes.

SERVICE AND SUPPORT

Cisco Systems® is unmatched in the breadth and depth of its access to resources, shared intellectual capital, and leading data and telecommunications products and expertise. This combination enables Cisco to provide the highest quality in carrier-class support, solutions, and vision for its service provider customers. Cisco service and support solutions enhance the value of your investment in network infrastructure, resulting in an overall reduced cost of doing business. Now, with the backing of world-class support and service, you can deliver fully on the promise of internetworking technology.

Table 1 lists operating, environmental, safety, and regulatory specifications for the Cisco PSD. Table 2 provides product part numbers.

Table 1. Cisco PSD Specifications

Features	Specifications
Configuration Limits	<ul style="list-style-type: none"> Up to 3 clients (combination of Cisco CSGs or Cisco GGSNs)
Cisco CSG Software Requirement	<ul style="list-style-type: none"> Cisco CSG Release 5.5 or later supported with PSD Software Release SC-SVC-CB10 and SC-SVC-CB20
Cisco GGSN Software Requirement	<ul style="list-style-type: none"> Cisco GGSN Release 6.0 or later (for Catalyst 6500 / Cisco 7600 MWAM) supported with PSD Software Release SC-SVC-CB20 or later
Performance Summary	<ul style="list-style-type: none"> 1700 MB/hour peak busy-hour data throughput sustained for one hour 1200 peak busy-hour CDRs/sec
Cisco Catalyst Switch Platform Requirements	<ul style="list-style-type: none"> Native Cisco IOS® Software only (Cisco Catalyst Operating System is not supported) Supervisor Engine 2 or SUP720-3BXL engine supported Classic line card, not switch fabric enabled Multilayer switch feature card—MSFC or MSFC2
Physical Specifications	<ul style="list-style-type: none"> Dimensions (H x W x D): 1.2 x 14.4 x 16 in. (3.0 x 35.6 x 40.6 cm) Occupies any slot in the Cisco Catalyst 6500 Series or Cisco 7600 Series chassis Weight 5 lb (2.27 kg)
Operating Environment	<ul style="list-style-type: none"> Operating temperature: 32 to 104°F (0 to 40°C) Nonoperating and storage temperature: -40 to 158°F (-40 to 70°C) Operating relative humidity: 10 to 90% (noncondensing)\ Nonoperating relative humidity: 5 to 95% (noncondensing) Operating and nonoperating altitude: Sea level to 10,000 ft (3050 m)
Mean Time between Failure (MTBF)	<ul style="list-style-type: none"> 92,958 hours
Agency Approvals	<ul style="list-style-type: none"> Regulatory: CE Marking (89/366/EEC and 73/23/EEC) Safety: UL 1950, CAN/CSA-C22.2 No. 950, EN 60950, IEC 60950 Electromagnetic Emissions: FCC Part 15 (CFR 47) Class A, ICES-003 Class A, EN55022 Class A, CISPR22 Class A, AS/NZS 3548 Class A, VCCI Class A, EN55024, EN50082-1

Table 2. Cisco PSD Ordering Information

Product Number	Product Description
WS-SVC-PSD-1	Cisco Persistent Storage Device
WS-SVC-PSD-1=	Cisco Persistent Storage Device (spare)
SC-SVC-CB10	Cisco CDR Backup System Release 1 (software load for PSD). Client support: <ul style="list-style-type: none">• CSG Release 5.5 or later
SC-SVC-CB10=	Cisco CDR Backup System Release 1 (software load for PSD) (spare). Client support: <ul style="list-style-type: none">• CSG Release 5.5 or later
SC-SVC-CB20	Cisco CDR Backup System Release 2 (software load for PSD). Client Support: <ul style="list-style-type: none">• CSG Release 5.5 or later• GGSN Release 6.0 or later (for Catalyst 6500/Cisco 7600 MWAM)
SC-SVC-CB20=	Cisco CDR Backup System Release 2 (software load for PSD) (spare). Client Support: <ul style="list-style-type: none">• CSG Release 5.5 or later• GGSN Release 6.0 or later (for Catalyst 6500/Cisco 7600 MWAM)

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**Corporate Headquarters**

Cisco Systems, Inc.
170 West Tasman Drive
San Jose, CA 95134-1706
USA
www.cisco.com
Tel: 408 526-4000
800 553-NETS (6387)
Fax: 408 526-4100

European Headquarters

Cisco Systems International BV
Haarlerbergpark
Haarlerbergweg 13-19
1101 CH Amsterdam
The Netherlands
www-europe.cisco.com
Tel: 31 0 20 357 1000
Fax: 31 0 20 357 1100

Americas Headquarters

Cisco Systems, Inc.
170 West Tasman Drive
San Jose, CA 95134-1706
USA
www.cisco.com
Tel: 408 526-7660
Fax: 408 527-0883

Asia Pacific Headquarters

Cisco Systems, Inc.
168 Robinson Road
#28-01 Capital Tower
Singapore 068912
www.cisco.com
Tel: +65 6317 7777
Fax: +65 6317 7799

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