

Cisco SIP Proxy Server Data Sheet

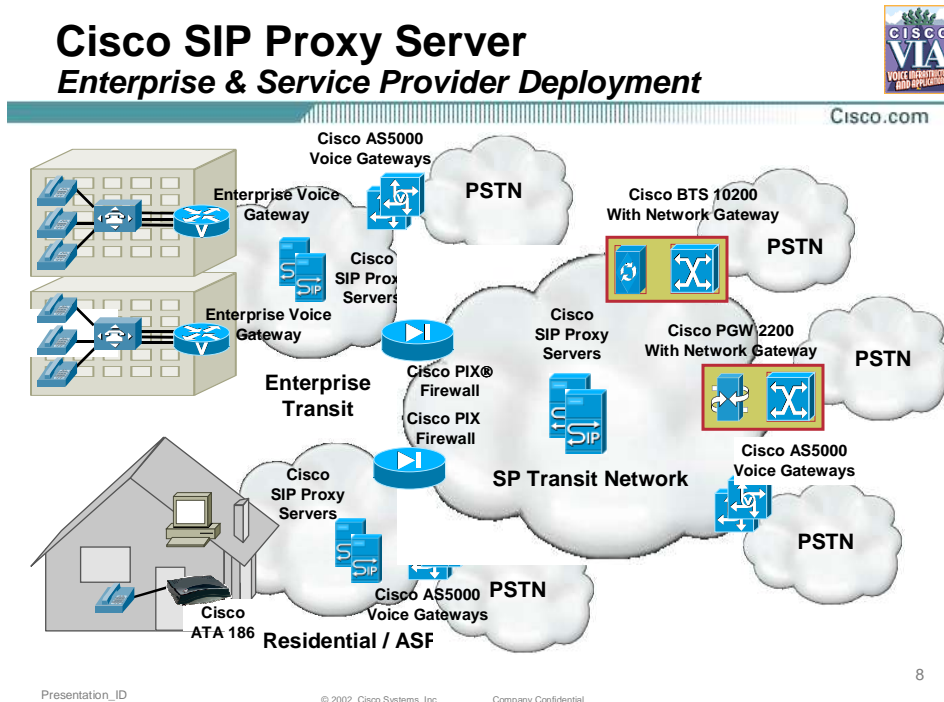
PRODUCT OVERVIEW

The Cisco® SIP Proxy Server is a software application that provides call-routing services in an IP telephony network. Using the Cisco SIP Proxy Server, service providers and enterprises can create large-scale, highly reliable packet voice networks.

Session Initiation Protocol (SIP) is an Internet Engineering Task Force (IETF) multimedia communications standard. The Cisco SIP Proxy Server combines the standard functions of a SIP proxy server and a SIP registrar with additional features to create an IP telephony infrastructure component.

The Cisco SIP Proxy Server is part of the Cisco Voice Infrastructure and Applications (VIA) solution for service providers. Service providers can use the Cisco SIP Proxy Server to offer voice services between SIP-based application service providers (ASPs) and the public switched telephone network (PSTN). The Cisco SIP Proxy Server also provides residential voice services over broadband access as part of the Cisco Broadband Local Integrated Services Solution (BLISS). Enterprises can use the Cisco SIP Proxy Server for internal IP telephony transit among enterprise voice gateways and SIP-capable IP PBXs, as well as interconnection with the PSTN. Examples of Cisco SIP Proxy Server deployments are depicted in Figure 1.

Figure 1 Cisco SIP Proxy Server Deployments



Product Operation

The Cisco SIP Proxy Server accepts registration requests from SIP endpoints such as IP telephones, residential voice gateways, and PC applications, creating a dynamic record of the endpoint's current contact address. Static registrations can also be configured directly on the Cisco SIP Proxy Server. When the Cisco SIP Proxy Server receives a SIP "Invite" (call setup) request, it searches its registry to locate the desired endpoint. If no match is found in its registry, the Cisco SIP Proxy Server can use external Telephone Number Mapping (ENUM) or location request (LRQ) queries, or locally configured static routes to determine where to forward the request.

The Cisco SIP Proxy Server can perform a digest authentication of SIP Register and Invite requests, and can encrypt SIP requests and responses using Transport Layer Security (TLS). The Cisco SIP Proxy Server can generate RADIUS accounting records for all call attempts.

Redundant deployment of the Cisco SIP Proxy Server can provide high availability and increased performance. Both servers in a pair are active, sharing dynamic registration data. An external means, such as Domain Name System (DNS) services (SRV) records, must be used to distribute SIP requests between servers in a redundant deployment.

A Graphical User Interface (GUI) is provided to configure the Cisco SIP Proxy Server. Configuration data is stored in a local database, which is automatically replicated in redundant deployments. A Simple Network Management Protocol (SNMP) interface is also provided to monitor and control the Cisco SIP Proxy Server.

Product Specifications

Table 1 lists the product functions, Table 2 provides platform information, and Table 3 provides ordering information about the Cisco SIP Proxy Server.

Table 1 Cisco SIP Proxy Server Product Functions

SIP functions	SIP proxy or redirect server Transaction stateful or stateless SIP registrar User Datagram Protocol (UDP) Transport Control Protocol (TCP)
Security	Transport Layer Security (TLS) IP Security (IPSec) Access control lists (ACLs) Digest authentication via database or RADIUS interface
Call routing	Static routes Static and dynamic registrations Domain-specific registration ENUM interface H.323 LRQ interface DNS NAPTR, SRV, and A-Records
Call-forwarding features	Call forward busy Call forward no answer Call forward unavailable Call forward unconditional
Privacy features	Calling and redirecting number privacy Addition and removal of identity headers
Other call-processing features	Call forking (parallel) and alternate routing (serial) Record route Recursive lookups Spiral loop detection "rport" parameter
Accounting	Accounting for all call attempts RADIUS interface Cisco vendor-specific attributes (VSAs)

Availability	Redundant servers Redundant databases External load balancing
Capacity	20,000 dynamic or static registrations 20,000 static routes
Database	MySQL
Operating systems	Sun Solaris Operating Environment Version 8 RedHat Enterprise Linux Version 3.0
Management	Graphical user interface (GUI) Command-line interface (CLI) SNMP interface Access, error, and statistics logging

Recommended Platforms and Performance

Recommended Platforms

IBM x336: <http://www-03.ibm.com/servers/eserver/xseries/x336.html>

Sun Fire V120: <http://www.sun.com/servers/entry/v120/index.html>

Sun Netra 240: <http://www.sun.com/products-n-solutions/hw/networking/240/>

Platform Characteristics and Performance

Table 2 Cisco SIP Proxy Server Platform Information

Platform		IBM x335	Sun Fire V120	Sun Netra 20
Central processing units		2 x 2.0 GHz	1 x 550 MHz	2 x 900 MHz
Memory		1 GB or more	512 MB or more	1 GB or more
Hard disk		40 GB or more	40 GB or more	40 GB or more
Operating system		Red Hat AS 3.0	Solaris 8	Solaris 8
Registrations per second (rps)	UDP	67	55	67
	TCP	40	8	20
Calls per second (cps)	UDP	1000	90	375
	TCP	250	45	125

Notes About Performance

Up to 1000 TCP connections can be made per server.

IBM servers can sustain peak rps and cps concurrently.

For Sun servers with concurrent registrations and calls, a conservative engineering guideline is:

$X + Y \leq 80$ percent, where

$X = (\text{expected peak rps} / \text{value in table}) * 100$ percent

$Y = (\text{expected peak cps} / \text{value in table}) * 100$ percent

Performance assumptions include:

- Redundant servers
 - Record route used
 - 20,000 dynamic registrations
 - TCP connections not reused (reuse will improve performance)
- 30 percent overhead allowed for other features
Disk mirroring not used

Availability and Ordering Information

Evaluation copies of SPS are licensed for 90 days, and may be extended in 90-day increments. Customers who have purchased an initial evaluation are entitled to order a conversion to a permanent license at a reduced price. To assure the success of SPS evaluations, the Cisco SPS engineering team will provide customer support for licensed evaluations. Customers can request support by sending email to sps-eval@cisco.com. Please note that the Cisco Technical Assistance Center (TAC) will not provide customer support for SPS evaluations.

Table 3 Cisco SIP Proxy Server Ordering Information

Product Description	Part Number
Cisco SIP Proxy Server Version 2.2 for Linux	SPS-2.2-L-K9
Cisco SIP Proxy Server Version 2.2 for Solaris	SPS-2.2-S-K9
Cisco SIP Proxy Server Version 2.2 for Linux Upgrade from Version 2.1	SPS-2.2-L-UPG-K9
Cisco SIP Proxy Server Version 2.2 for Solaris Upgrade from Version 2.1	SPS-2.2-S-UPG-K9
Cisco SIP Proxy Server Version 2.x for Linux Software Application Support	CON-SAS-SPS-L2X
Cisco SIP Proxy Server Version 2.x for Solaris Software Application Support	CON-SAS-SPS-S2X
Cisco SIP Proxy Server Version 2.x for Linux Software Application Support + Upgrades	CON-SAU-SPS-L2X
Cisco SIP Proxy Server Version 2.x for Solaris Software Application Support + Upgrades	CON-SAU-SPS-S2X

**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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