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

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### Recommended Platforms and Performance

#### Recommended Platforms

Sun Fire V120: [http://www.sun.com/servers/entry/v120/index.html](http://www.sun.com/servers/entry/v120/index.html)

#### Platform Characteristics and Performance

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

### 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:

\[
X + Y \leq 80 \text{ percent, where} \\
X = \left(\frac{\text{expected peak rps}}{\text{value in table}}\right) \times 100 \text{ percent} \\
Y = \left(\frac{\text{expected peak cps}}{\text{value in table}}\right) \times 100 \text{ percent}
\]

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

<table>
<thead>
<tr>
<th>Product Description</th>
<th>Part Number</th>
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<tbody>
<tr>
<td>Cisco SIP Proxy Server Version 2.2 for Linux</td>
<td>SPS-2.2-L-K9</td>
</tr>
<tr>
<td>Cisco SIP Proxy Server Version 2.2 for Solaris</td>
<td>SPS-2.2-S-K9</td>
</tr>
<tr>
<td>Cisco SIP Proxy Server Version 2.2 for Linux Upgrade from Version 2.1</td>
<td>SPS-2.2-L-UPG-K9</td>
</tr>
<tr>
<td>Cisco SIP Proxy Server Version 2.2 for Solaris Upgrade from Version 2.1</td>
<td>SPS-2.2-S-UPG-K9</td>
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<tr>
<td>Cisco SIP Proxy Server Version 2.x for Linux Software Application Support</td>
<td>CON-SAS-SPS-L2X</td>
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<tr>
<td>Cisco SIP Proxy Server Version 2.x for Solaris Software Application Support</td>
<td>CON-SAS-SPS-S2X</td>
</tr>
<tr>
<td>Cisco SIP Proxy Server Version 2.x for Linux Software Application Support + Upgrades</td>
<td>CON-SAU-SPS-L2X</td>
</tr>
<tr>
<td>Cisco SIP Proxy Server Version 2.x for Solaris Software Application Support + Upgrades</td>
<td>CON-SAU-SPS-S2X</td>
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