

## Cisco 7600 Series/Catalyst 6500 Series Services SPA Carrier-400

The Cisco® I-Flex design combines shared port adapters (SPAs) and SPA interface processors (SIPs), leveraging an extensible design that enables service prioritization for voice, video and data services. Enterprise and service provider customers can take advantage of improved slot economics resulting from modular port adapters that are interchangeable across Cisco routing platforms. The I-Flex design maximizes connectivity options and offers superior service intelligence through programmable interface processors that deliver line-rate performance. I-Flex enhances speed-to-service revenue and provides a rich set of QoS features for premium service delivery while effectively reducing the overall cost of ownership. This data sheet contains the specifications for the Cisco 7600 Series/Catalyst® 6500 Series Services SPA Carrier-400 (Cisco Services SPA Carrier-400; refer to Figure 1).

### Product Overview

The Cisco Services SPA Carrier-400 helps enable high-performance IP Security (IPSec) VPN services for secure transport of mission-critical data across the network. It provides enterprises and service providers tremendous flexibility and density as they scale their network infrastructure and expand secure, remote services to branch offices and offsite users.

**Figure 1.** Cisco Services SPA Carrier-400 with Two Cisco IPSec VPN SPAs



Cisco 7600 Series Routers and Cisco Catalyst 6500 Series Switches offer innovative, next-generation converged services for enterprises and service providers. The Cisco Services SPA Carrier-400 and Cisco 7600 Series/Catalyst 6500 Series IPSec VPN Shared Port Adapter (Cisco IPSec VPN SPA) form the cornerstone of the IPSec VPN technology, and they help enable tremendous cost savings and new revenue streams.

## Features and Benefits

Table 1 gives the primary features of the Cisco Services SPA Carrier-400.

**Table 1.** Features and Benefits of Cisco Services SPA Carrier-400

Feature	Cisco Services SPA Carrier-400	Benefit
<b>Modularity</b>	Up to 2 Cisco IPSec VPN SPAs per Cisco Services SPA Carrier-400	Creates investment protection and offers flexibility across Cisco 7600 Series Routers and Cisco Catalyst 6500 Series Switches
<b>Scalability</b>	Up to 5 Cisco Services SPA Carrier-400 modules and 10 Cisco IPSec VPN SPAs in a Cisco 7600 or Cisco Catalyst 6500 chassis	Offers high-density, high-performance IPSec VPN services while maintaining attractive footprint and tremendous scalability
<b>Switch Fabric Connectivity</b>	Supported	Enables the use of 720-Gbps switch fabric modules for data forwarding
<b>Online Insertion and Removal (OIR)</b>	Supports OIR of both the Cisco Services SPA Carrier-400 and the Cisco IPSec VPN SPA	Increases high availability, and provides operational ease of use

## Product Specifications

Table 2 gives specifications of the Cisco Services SPA Carrier-400.

**Table 2.** Product Specifications

Features	Descriptions
<b>Compatibility</b>	<ul style="list-style-type: none"> <li>• Cisco 7600 Series/Catalyst 6500 Series Supervisor Engine 720, 720-3B, or 720-3BXL</li> </ul>
<b>Minimum Software Compatibility</b>	<ul style="list-style-type: none"> <li>• Cisco IOS® Software Release 12.2(18)SXE1 or later native Cisco IOS Software releases</li> </ul>
<b>Slot Configuration</b>	<ul style="list-style-type: none"> <li>• 2 double-height Cisco IPSec VPN SPA bays per Cisco Services SPA Carrier-400</li> </ul>
<b>Features and Benefits</b>	<ul style="list-style-type: none"> <li>• High performance—Offers a combined 5-Gbps packet forwarding (2.5 Gbps for each full-height, singlewide slot) capacity for high-density aggregation</li> <li>• Switch fabric connectivity—Allows system scalability up to 720 Gbps by offering switch fabric connectivity</li> <li>• OIR of the Cisco Services SPA Carrier-400 and the Cisco IPSec VPN SPAs</li> <li>• QoS and queuing <ul style="list-style-type: none"> <li>◦ 2 high and low queues</li> <li>◦ Weighted Fair Queuing (WFQ)</li> </ul> </li> <li>• Congestion avoidance <ul style="list-style-type: none"> <li>◦ Weighted Random Early Detection (WRED)</li> </ul> </li> <li>• High availability <ul style="list-style-type: none"> <li>◦ Stateful failover</li> <li>◦ OIR</li> </ul> </li> </ul>
<b>Supported SPAs</b>	<ul style="list-style-type: none"> <li>• Cisco IPSec VPN SPA</li> </ul>
<b>Environmental Conditions</b>	<ul style="list-style-type: none"> <li>• Operating temperature: 32 to 104°F (0 to 40°C)</li> <li>• Storage temperature: –40 to 167°F (–20 to 70°C)</li> <li>• Relative humidity: 10 to 90%, noncondensing</li> <li>• Operating altitude: –60 to 2000m</li> </ul>
<b>Reliability and Availability</b>	<ul style="list-style-type: none"> <li>• OIR of the Cisco Services SPA Carrier-400 and the Cisco IPSec VPN SPAs</li> </ul>
<b>Network Management</b>	<ul style="list-style-type: none"> <li>• Supported with CiscoWorks—CiscoView and CiscoWorks Resource Manager Essentials (RME)</li> <li>• Cisco IP Solution Center (ISC)</li> </ul>
<b>Physical Specifications</b>	<ul style="list-style-type: none"> <li>• Occupies one slot in a Cisco Catalyst 6500 or Cisco 7600</li> <li>• Requires Supervisor Engine 720, 720-3B, 720-3BXL, or Supervisor Engine 2</li> <li>• Dimensions (H x W x D): 1.75 x 15.375 x 16 in</li> <li>• Dimensions (H x W x D): 4.45 x 39.05 x 40.64 cm</li> </ul>

<b>Power</b>	<ul style="list-style-type: none"> <li>• 150W power consumption per Cisco Services SPA Carrier-400</li> <li>• 235W maximum power consumption with Cisco Services SPA Carrier-400 and two Cisco IPsec VPN SPAs</li> </ul>
<b>Indicators</b>	<ul style="list-style-type: none"> <li>• Cisco Services SPA Carrier-400 status: green (operational); orange (faulty)</li> </ul>
<b>Regulatory Compliance</b>	<p><b>EMC</b></p> <ul style="list-style-type: none"> <li>• FCC Part 15 (CFR 47) Class A</li> <li>• ICES-003 Class A</li> <li>• EN55022 Class A</li> <li>• CISPR22 Class A</li> <li>• AS/NZSCISPR Class A</li> <li>• VCCI Class A</li> <li>• EN55024</li> <li>• EN300 386</li> <li>• EN50082-1</li> <li>• EN61000-3-2</li> <li>• EN61000-3-3</li> </ul> <p><b>Safety Compliance</b></p> <ul style="list-style-type: none"> <li>• UL 60950</li> <li>• IEC 60825-1, -2</li> <li>• IEC 60950</li> <li>• EN 60950</li> <li>• EN 60825-1, -2</li> <li>• CAN/CSA-C22.2 No. 60950-00</li> <li>• AS/NZS 3260-1993</li> <li>• 21CFR1040</li> </ul>
<b>Network Equipment Building System (NEBS) and Environmental Standard Compliance</b>	<ul style="list-style-type: none"> <li>• GR-63-Core NEBS Level 3</li> <li>• GR-1089-Core NEBS Level 3</li> <li>• ETSI 300 019 Storage Class 1.1</li> <li>• ETSI 300 019 Transportation Class 2.3</li> <li>• ETSI 300 019 Stationary Use Class 3.1</li> </ul>

## Ordering Information

To place an order, visit the [Cisco Ordering Home Page](#) or refer to Table 3.

**Table 3.** Ordering Information

Product Name	Part Number
Cisco 7600 Series/Catalyst 6500 Series IPsec VPN Shared Port Adapter	SPA-IPSEC-2G
Cisco 7600 Series/Catalyst 6500 Series Services SPA Carrier-400	7600-SSC-400
Cisco 7600 Series/Catalyst 6500 Series Introductory Bundle: Includes 1 Cisco IPsec VPN SPA and 1 Cisco Services SPA Carrier-400	SPA-IPSEC-SSC400-1
Cisco 7600 Series/Catalyst 6500 Series Dual Bundle: Includes 2 Cisco IPsec VPN SPAs and 1 Cisco Services SPA Carrier-400	SPA-IPSEC-SSC400-2

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## For More Information

For more information about the Cisco Services SPA Carrier-400 and the Cisco SPA/SIP portfolio, visit <http://www.cisco.com/go/spa> or contact your local Cisco account representative.



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