

## Cisco 7304 Shared Port Adapter Modular Services Card

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 specifications for the Cisco 7304 Shared Port Adapter Modular Services Card (7304 SPA MSC).

### PRODUCT OVERVIEW

Optimized to deliver flexible, high-performance IP and Multiprotocol Label Switching (MPLS) services in applications such as provider edge, high-end customer premises equipment (CPE), and enterprise Internet gateway routers, the Cisco® 7304 Router offers an excellent price/performance ratio in a compact form factor with rich IP services and comprehensive interface options. Today's applications require that the Cisco 7304 offer higher interface density for more scalable solution deployment, especially when enabling redundant routing engine configurations for resilient network service. To satisfy customers' requirements for increased density and modularity, as well as providing investment protection to the next-generation interfaces, Cisco Systems® offers SPA support on the 7304 Router with the Cisco 7304 SPA MSC (refer to Figure 1).

**Figure 1.** Cisco 7304 SPA MSC with SPAs



The Cisco 7304 SPA MSC is designed to enable two single-height SPAs in one line-card slot of the Cisco 7304. This greatly extends the port density on the current Cisco 7304 chassis and offers customers flexible interface deployment options making the Cisco 7304 Router an ideal platform for service provider or enterprise customers who need high-density aggregation at the edge with a small footprint.

The Cisco 7304 SPA MSC offers:

- Increased interface density and modularity through SPAs for the Cisco 7304 Router
- Ability to add new interfaces such as modular Fast Ethernet and Gigabit Ethernet
- Investment protection for customers deploying next-generation interfaces

Table 1 gives features and benefits of the Cisco 7304 SPA MSC.

**Table 1.** Features and Benefits of Cisco 7304 SPA MSC

Features	Benefits
<b>SPA Support</b>	Enables various single-height SPA interface options on the Cisco 7304, improving slot per chassis port density and enabling new connectivity, such as modular FE/GE.
<b>Investment Protection</b>	Allows customers to use the same carrier card for various kinds of SPA support on the Cisco 7304. In addition, SPA interfaces can be shared across multiple platforms.
<b>Online Insertion and Removal (OIR)</b>	Allows for a combined unit of a Cisco 7304 SPA MSC along with a SPA to be inserted into the Cisco 7304 without rebooting the router.
<b>Modularity</b>	Provides support for any two of a variety of single-height SPAs on any given MSC and can be used in conjunction with native Cisco 7304 line cards or Cisco 7200 Port Adapters.

## SPA SUPPORT

The Cisco 7304 supports three groups of interfaces:

- Cisco 7304 native line cards that occupy one line card slot and are designed to work in the Cisco 7304 Router only
- Cisco 7200 and Cisco 7500 port adapters that need a port adapter carrier card to work in a single line-card slot on the Cisco 7304 Router
- Shared port adapters that work across Cisco carrier routing platforms, offering next generation interfaces that greatly increase modularity and port density of WAN interfaces on a router

## PRODUCT SPECIFICATIONS

**Table 2.** Cisco 7304 SPA MSC Product Specifications

Feature	Description
<b>Chassis</b>	Cisco 7304 Router. Up to four Cisco 7304 SPA MSC may be installed on one Cisco 7304 Router, each occupying a single line card slot.
<b>Supported SPAs</b>	Up to two single-height SPAs can be installed in one Cisco 7304 SPA MSC <b>POS</b> <ul style="list-style-type: none"> <li>• Cisco 2-Port OC-3c/STM-1c POS Shared Port Adapter</li> <li>• Cisco 4-Port OC-3c/STM-1c POS Shared Port Adapter</li> <li>• Cisco 1-Port OC-12c/STM-4c POS Shared Port Adapter</li> </ul> <b>Copper</b> <ul style="list-style-type: none"> <li>• Cisco 2-Port Clear Channel T3/E3 Shared Port Adapter</li> <li>• Cisco 4-Port Clear Channel T3/E3 Shared Port Adapter</li> </ul> <b>Ethernet</b> <ul style="list-style-type: none"> <li>• Cisco 7304 2-Port 1000BASE-X/1000BASE-T GE Shared Port Adapter</li> <li>• Cisco 7304 4-Port 10BASE-T/100BASE-TX FE Shared Port Adapter</li> </ul>
<b>Processor Engine Support</b>	<ul style="list-style-type: none"> <li>• Cisco 7300 NSE-100 Network Services Engine</li> <li>• Cisco 7304 NPE-G100 Network Processing Engine</li> </ul>
<b>OIR</b>	OIR is supported in the Cisco 7304 SPA MSC as well as in the SPAs.
<b>Software Support</b>	Cisco IOS® Software Release 12.2(20)S2 and later releases.

Feature	Description			
LEDs	<b>LED Label</b>	<b>Color</b>	<b>State</b>	<b>Meaning</b>
	<b>OIR-Bay</b>			
	<b>0 SPA</b>	Green	Offline	The SPA in Bay 0 is offline and can be removed.
		Off	Online	The SPA in Bay 0 is online and cannot be removed.
	<b>OIR-Bay</b>			
	<b>1 SPA</b>	Green	Offline	The SPA in Bay 1 is offline and can be removed.
		Off	Online	The SPA in Bay 1 is online and cannot be removed.
	<b>OIR</b>	Green	Offline	The Cisco MSC-100 Modular Services Card is offline and is ready to be removed.
		Off	Online	The Cisco MSC-100 Modular Services Card is online and should not be removed.
	<b>STATUS</b>	Off	Off	The Cisco MSC-100 Modular Services Card is offline.
	Yellow	On	Powering up or powering down	
	Green	On	The Cisco MSC-100 Modular Services Card is online.	
<b>Physical</b>	Occupies one line card slot and can be operated only in Cisco 7304 routers			
	<ul style="list-style-type: none"> <li>• Weight: 3 lb (1.36 kg)</li> <li>• Height: 2 in. (5 cm)</li> <li>• Width: 8.35 in. (21.2 cm)</li> <li>• Depth: 12.75 in. (32.38 cm)</li> </ul>			
<b>Environmental</b>	<ul style="list-style-type: none"> <li>• Storage temperature: -4° to 158°F (-20° to 70°C)</li> <li>• Operating temperature: 32° to 158°F (0° to 70°C)</li> <li>• Relative humidity: 5 to 90 percent, non-condensing</li> </ul>			
<b>Regulatory Compliance</b>	<ul style="list-style-type: none"> <li>• CE Marking</li> <li>• Safety <ul style="list-style-type: none"> <li>- UL60950</li> <li>- CAN/CSA-C22.2 No. 60950</li> <li>- EN 60950</li> <li>- IEC 60950</li> <li>- TS 001</li> <li>- AS/NZS 3260</li> </ul> </li> <li>• EMC <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/NZS 3548 Class A</li> <li>- VCCI Class A</li> <li>- CNS13438</li> <li>- EN55024</li> <li>- EN300386</li> <li>- EN50082-1</li> <li>- EN61000-3-2</li> <li>- EN61000-3-3</li> </ul> </li> </ul>			

## ORDERING INFORMATION

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

**Table 3.** Ordering Information

Product Description	Product Number
Cisco 7304 SPA Modular Services Carrier Card	7304-MSC-100
Cisco 7304 SPA Modular Services Carrier Card (spare)	7304-MSC-100=

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## FOR MORE INFORMATION

For more information about the Cisco 7304 Router, visit <http://www.cisco.com/go/7300>.

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

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