

## Cisco 4-Port Serial Shared Port Adapter

The Cisco® I-Flex approach combines shared port adapters (SPAs) and SPA interface processors (SIPs), providing an extensible design that helps prioritize data, voice, and video 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 quality of service (QoS) features for premium service delivery while effectively reducing the overall cost of ownership. This data sheet contains the specifications for the Cisco 4-Port Serial Shared Port Adapter (Figure 1).

**Figure 1.** Cisco 4-Port Serial Shared Port Adapter



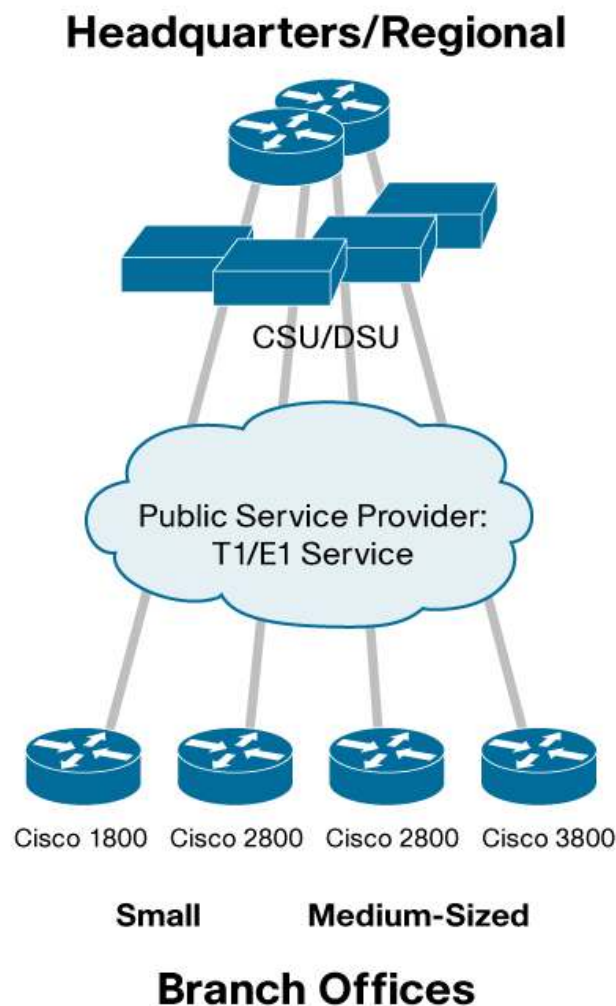
### Product Overview

The Cisco 4-Port Serial SPA delivers flexible, high-performance WAN connectivity for enterprise and service provider networks. It provides four synchronous serial ports, each capable of speeds up to 8 Mbps.

The Cisco 4-Port Serial SPA supports a variety of interface types determined by separately purchased cable type connected to it. The supported electrical standards include EIA-232, X.21, V.35, EIA-530, EIA-530A, and EIA-449. Each port can be configured independently of the others to provide superior flexibility. Also depending on the cable type, each interface can either be configured for Data Terminal Equipment (DTE) or Data Communications Equipment (DCE).

The serial interfaces can be used to aggregate WAN connections from remote sites. The ability to support 8 Mbps per port is ideal for low- and medium-density aggregation at the head end (Figure 2.) The Cisco 4-Port Serial SPA can also be installed wherever a service provider requires an external CSU/DSU demarcation point.

**Figure 2.** WAN Aggregation



The Cisco 4-Port Serial SPA can be used to transport some synchronous legacy protocols (such as X.25) over an IP network. Serial synchronous ports also help lower costs for converged networks by eliminating the need for expensive leased lines to carry low-speed traffic that is commonly associated with legacy protocols.

### Features and Benefits

The Cisco 4-Port Serial SPA offers many advantages, including:

- Four software-configurable serial ports
- Each port capable of 8 Mbps depending on the attached cable type
- Each port can support EIA-232, X.21, V.35, EIA-530, EIA-530A, and EIA-449 serial standards
- Capable of both DTE and DCE modes
- Support for all major encapsulations including High-Level Data Link Control (HDLC), Frame Relay, and Multilink Point-to-Point Protocol (MLPPP)

The Cisco 4-Port Serial SPA is a cost-effective solution that delivers very high performance at a very low price per port.

The Cisco SPA/SIP portfolio offers the following additional advantages:

- Highly modular, flexible, intelligent interface processors
  - Superior flexibility, supporting a combination of interface types on the same interface processor for consistent services, independent of access technology
  - Pioneering programmable interface processors that provide flexibility for the service diversity required in next-generation networks
  - Innovative design that supports intelligent service delivery without compromising on performance
- Increased speed-to-service revenue
  - The scalable, programmable Cisco architecture extended to 10 Gbps dramatically improves customer density, increasing potential revenue per platform.
  - Interface breadth (copper, channelized, POS, ATM, and Ethernet) on a modular interface processor allows service providers to roll out new services more quickly, helping ensure that all customers, large and small, receive consistent, secure, and guaranteed services.
  - High-density Small Form-Factor Pluggable (SFP) interfaces are featured for high-port-count applications with reach flexibility. Future optical technology improvements can be adopted using existing SPAs.
- Dramatically improved return on your routing investment
  - Improved slot economics and increased density reduce capital expenditures (CapEx).
  - The ability to easily add new interfaces as they are needed facilitates a "pay-as-you-grow" business model.
  - SPAs are shared across multiple platforms, and can be easily moved from one to another, providing consistent feature support, accelerated product delivery, and a significant reduction in operating expenses (OpEx) through common sparing as service needs change.

## Product Specifications

Table 1 gives specifications of the Cisco 4-Port Serial Shared Port Adapter.

**Table 1.** Product Specifications

<b>Product Compatibility</b>	Cisco 7600 Series Routers Cisco XR 12000 Series Routers Cisco ASR 1000 Series Router
<b>Port Density Per SPA</b>	4 ports
<b>Physical Interface</b>	<ul style="list-style-type: none"> <li>• Four synchronous ports with Smart Serial connectors</li> <li>• Visual indicators:               <ul style="list-style-type: none"> <li>◦ SPA status LEDs</li> <li>◦ CD detect and local loopback (LL pin)LED for each individual port</li> </ul> </li> </ul>
<b>Serial Protocols</b>	<ul style="list-style-type: none"> <li>• The type of cable will determine the DTE or DCE mode of the port</li> <li>• Each port can be individually configured to the following specifications depending on the cable being used.               <ul style="list-style-type: none"> <li>◦ EIA-232</li> <li>◦ EIA-449</li> <li>◦ EIA-530</li> <li>◦ EIA-530A</li> <li>◦ V.35</li> <li>◦ X.21</li> </ul> </li> </ul>

<b>Features and Functions</b>	<p>The SPA supports the following encapsulations:</p> <ul style="list-style-type: none"> <li>• HDLC</li> <li>• PPP</li> <li>• Frame Relay</li> <li>• MLPPP</li> </ul> <p>Some notable physical-layer features include:</p> <ul style="list-style-type: none"> <li>• Each port capable of synchronous maximum speed of 8 Mbps</li> <li>• Data Signal Inversion</li> <li>• NRZ/NRZI Encoding</li> <li>• Serial Signal Manipulation <ul style="list-style-type: none"> <li>◦ For DTE: <ul style="list-style-type: none"> <li>CTS</li> <li>DSR</li> <li>DCD</li> </ul> </li> <li>◦ For DCE: <ul style="list-style-type: none"> <li>DTR</li> <li>RTS</li> </ul> </li> </ul> </li> <li>• Ignoring Serial Signals</li> <li>• Pulse Time Manipulation</li> <li>• Loopback capabilities <ul style="list-style-type: none"> <li>◦ Local loop (LL pin) loopback (DTE will generate LL and DCE will react to LL and put the DCE in loopback)</li> <li>◦ DCE loopback should be initiated from DCE side using CLI</li> </ul> </li> </ul>
<b>Physical dimensions (HxWxD)</b>	<ul style="list-style-type: none"> <li>• Height: 0.8 in. (2.03 cm) (single height)</li> <li>• Width: 6.75 in. (17.15 cm)</li> <li>• Depth: 7.28 in. (18.49 cm)</li> </ul>
<b>Power</b>	11W
<b>Environmental Specifications</b>	<ul style="list-style-type: none"> <li>• Operating temperature: 41 to 104°F (5 to 40°C)</li> <li>• Storage temperature: -38 to 150°F (-40 to 70°C)</li> <li>• Operating humidity: 5 to 85% relative humidity</li> <li>• Storage humidity: 5 to 95% relative humidity</li> </ul>
<b>Approvals and compliance</b>	<p><b>CE Marking</b></p> <p>Safety</p> <ul style="list-style-type: none"> <li>• UL 60950</li> <li>• CSA 22.2 No.60950</li> <li>• IEC 60950</li> <li>• EN 60950</li> </ul> <p><b>Electromagnetic Compatibility (EMC)</b></p> <ul style="list-style-type: none"> <li>• Emissions: <ul style="list-style-type: none"> <li>CE marking</li> <li>EN 55022, 1998, class A</li> <li>CISPR22, 1997, class A</li> <li>AS/NZS CISPR 22 class A</li> <li>CFR47, Part 15, class A</li> <li>ICES 003 Class A</li> <li>VCCI Class A</li> <li>EN61000-3-2 Harmonic Current Emission</li> <li>EN61000-3-3 Voltage Fluctuation and Flicker</li> </ul> </li> <li>• Immunity: <ul style="list-style-type: none"> <li>CE Marking</li> <li>CISPR24, ITE-Immunity characteristics, Limits and methods of measurement</li> <li>EN 55024, ITE-Immunity characteristics, Limits and methods of measurement</li> <li>EN50082-1, Electromagnetic compatibility - Generic immunity standard</li> <li>EN 300 386 Telecommunications Network Equipment (EMC)</li> </ul> </li> </ul> <p>EN61000-6-1 Generic Immunity Standard</p>
<b>Additional specifications</b>	No support for asynchronous protocols

## Ordering Information

To place an order, visit the Cisco Ordering Home Page or refer to Tables 2 and 3.

**Table 2.** Ordering Information

Product Name	Part Number
Cisco 4-Port Serial Shared Port Adapter	SPA-4XT-Serial

**Table 3.** Smart Serial Cabling for Cisco 4-Port Serial SPA

Part Number	Product Name
CAB-SS-V35MT	V.35 Cable, DTE Male to Smart Serial
CAB-SS-V35FC	V.35 Cable, DCE Female to Smart Serial
CAB-SS-232FC	RS-232 Cable, DCE Female to Smart Serial
CAB-SS-232MT	RS-232 Cable, DTE Male to Smart Serial
CAB-SS-449MT	RS-449 Cable, DTE Male to Smart Serial
CAB-SS-449FC	RS-449 Cable, DCE Female to Smart Serial
CAB-SS-530MT	RS-530 Cable, DTE Male to Smart Serial
CAB-SS-530AMT	RS-530A Cable, DTE Male to Smart Serial
CAB-SS-X21MT	X.21 Cable, DTE Male to Smart Serial
CAB-SS-530FC	RS-530 Cable, DCE Female to Smart Serial
CAB-SS-530AFC	RS-530A Cable, DCE Female to Smart Serial
CAB-SS-X21FC	X.21 Cable, DCE Female to Smart Serial

All cables are 10 feet (3m) in length.

## Service and Support

Cisco offers a wide range of services programs to accelerate customer success. These innovative services programs are delivered through a unique combination of people, processes, tools, and partners, resulting in high levels of customer satisfaction. Cisco services help you protect your network investment, optimize network operations, and prepare your network for new applications to extend network intelligence and the power of your business. For more information about Cisco Services, refer to Cisco Technical Support Services or Cisco Advanced Services.

## For More Information

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



**Americas Headquarters**  
Cisco Systems, Inc.  
San Jose, CA

**Asia Pacific Headquarters**  
Cisco Systems (USA) Pte. Ltd.  
Singapore

**Europe Headquarters**  
Cisco Systems International BV Amsterdam,  
The Netherlands

Cisco has more than 200 offices worldwide. Addresses, phone numbers, and fax numbers are listed on the Cisco Website at [www.cisco.com/go/offices](http://www.cisco.com/go/offices).

Cisco and the Cisco Logo are trademarks of Cisco Systems, Inc. and/or its affiliates in the U.S. and other countries. A listing of Cisco's trademarks can be found at [www.cisco.com/go/trademarks](http://www.cisco.com/go/trademarks). Third party trademarks mentioned are the property of their respective owners. The use of the word partner does not imply a partnership relationship between Cisco and any other company. (1005R)