

## New Circuit Emulation Shared Port Adapters for Cisco 7600 Series Routers

PB390536

### Introduction

Cisco® is announcing the availability of two new shared port adapters (SPAs) for Cisco 7600 Series Routers. The Cisco I-Flex design combines SPAs and SPA interface processors (SIPs), using an extensible design that enables service prioritization for voice, video, and data services.

The Circuit Emulation over Packet (CEoP) SPAs enable support for a new service over an IP/Multiprotocol Label Switching (MPLS) network. These SPAs provide bit-transparent data transport that is completely protocol independent. This allows network administrators to use their existing IP/MPLS network to provide leased-line emulation services or to carry data streams or protocols that do not meet the format requirements of other multiservice platform interfaces. In addition, these SPAs can be used for low-speed ATM services, including Inverse Multiplexing over ATM (IMA).

### Circuit Emulation over Packet Applications

These SPAs do not assume that data has any predefined format or structure. They simply regard the data as an arbitrary bit stream. All data bits are simply transported to a defined destination encapsulated in IP/MPLS packets. Some applications include:

- Backhaul of second-generation (2G) and third-generation (3G) network traffic over packet networks for mobile operators. The SPA is positioned for multigenerational migration of mobile networks (2G and 3G), simultaneously carrying time-division multiplexing (TDM) and ATM traffic over IP/MPLS networks.
- T1/E1 circuit emulation for leased-line replacement.
- Private branch exchange (PBX)-to-PBX connectivity over packet networks.
- High-density Signaling System 7 (SS7) backhaul over IP/MPLS.
- Mobile Switching Center (MSC) connectivity.
- Transport of preencrypted data for government, defense, or other high-security applications.
- Proprietary synchronous or asynchronous data protocols used in transportation, utilities, and other industries.
- Leased-line emulation service offerings in metropolitan (metro) Ethernet or wide-area network service provider environments.

## New Features

The circuit emulation SPAs are the first Cisco router interfaces designed to meet the emerging standards for Circuit Emulation Services over Packet Switched Network (CESoPSN) and Structure-Agnostic Transport over Packet (SAToP) transport. New features enabled in the Cisco 7600 Series include:

- Bit-transparent data transport: All data bits are transported to their destination regardless of the payload or protocol. Therefore, data that could only be carried using a TDM interface can now be transported over a packet-based infrastructure.
- Protocol-independent data transport: Because all data bits are encapsulated, any protocol can be transported, which enables proprietary, nonstandard data streams to be carried.
- Multiple types of clock recovery schemes: Three types of clock recovery are supported, including Synchronous, Differential, and Adaptive. This enables remote sites to recover a clock over a packet stream despite the lack of a traditional BITS clock or T1/E1 reference signal.
- High granularity for TDM and ATM transport: Nx64-kbps T1 and E1 transport and Nx56 framed T1 transport enable customers to groom and optimize bandwidth at the DS0 level.
- Unframed (unstructured) T1/E1 transport: No T1/E1 framing is required, so any signal at 1.544 Mbs (T1) or 2.048 Mbs (E1) can be transported over a packet network.
- Configurable jitter buffer (up to 320 milliseconds): The jitter buffer helps ensure accurate data signals despite delays within the packet network.
- T1/E1 line diagnostic loopbacks: Local line, local payload, and network payload. These industry standard loopbacks facilitate network troubleshooting.
- Compliance with IETF draft-ietf-pwe2-cesopsn-07.txt: Structure-aware TDM Circuit Emulation Service over Packet standard enables interoperability with third-party suppliers that also meet the same standard.
- Compliance with IETF RFC4553: SAToP standard enables interoperability with third-party equipment.

## Upgrade Paths

The new circuit emulation SPAs can be used in Cisco 7600 Series Routers operating Cisco IOS® Software Release 12.2(33)SRB or later. The SPAs must be inserted into Cisco 7600 SIP-400 SPA Interface Processor cards. They will not operate in Cisco Catalyst® 6500 Series Switches. Refer to the release notes for Release 12.2(33)SRB for more details about this version of Cisco IOS Software.

## Availability

The software and hardware referenced in this bulletin will be available in March 2007. Contact your local Cisco representative for the latest information.

## Ordering Information

To place an order, visit the Cisco Ordering Homepage or refer to Table 1. To download software, visit the Cisco Software Center.

**Table 1.** Ordering Information

Product Name	Part Number
Cisco 1-port Channelized OC3/STM-1 Circuit Emulation and ATM SPA	SPA-1CHOC3-CE-ATM
OC-3/STM-1, OC-3/STM-1 SFP, MM	SFP-OC3-MM
OC-3/STM-1, OC-3/STM-1 SFP, SM, SR	SFP-OC3-SR
OC-3/STM-1, OC-3/STM-1 SFP, SM, IR-1	SFP-OC3-IR1
OC-3/STM-1, OC-3/STM-1 SFP, SM, LR-1	SFP-OC3-LR1
OC-3/STM-1, OC-3/STM-1 SFP, SM, LR-2	SFP-OC3-LR2
Cisco 24-Port T1/E1/J1 Circuit Emulation and ATM SPA	SPA-24CHT1-CE-ATM
Cable for 24-port T1/E1/J1 CE-ATM SPA	CABLE-24T1E1

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## For More Information

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



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