

Cisco 2-Port OC-3/STM-1 Packet-over-SONET Port Adapter with Automatic Protection Switching for the Cisco 7200, 7301, and 7500 Series Routers

Q. What is the Cisco 2-Port OC-3/STM-1 Packet-over-SONET (POS) Port Adapter with Automatic Protection Switching (APS) for the Cisco 7200, 7301, and 7500 series routers?

A. The 2-Port OC-3/STM-1 POS Port Adapter (PA-POS-2OC3) with APS is a new single-wide port adapter for the Cisco 7200, 7301, and 7500 series routers. It uses an innovative design to deliver line-rate OC-3/STM-1 connectivity with APS failover between ports. The port adapter also incorporates modular, pluggable optics to allow for maximum flexibility.

Q. How does the PA-POS-2OC3 differ from the older PA-POS-OC3 port adapter?

A. The port adapter is based on a completely different design and uses cutting-edge technology to deliver greater density, flexibility, and features than the original OC-3/STM1 port adapter. The POS-2OC3 is geared for line rate performance, supports APS which offers failover between ports and also incorporates small form-factor pluggable (SFP) optics to allow for maximum flexibility. Different module types—multimode fiber, short range (MM), single-mode fiber, intermediate range (SMIR), and single-mode fiber, long range (SMLR)—may be mixed on the port adapter. This new technology is also

available on the PA-POS-1OC3 base port adapters and SFP optic options where as the PA-POS-OC3MM, PA-POS-OC3SMI and PA-POS-OC3SML are shipped with optics built on to the card.

Q. What are some of the recommended applications for the 2-Port OC-3/STM-1 POS Port Adapter?

A. This new port adapter is ideal for service providers or large enterprises deploying multiple OC-3/STM-1 links for dual connectivity or a single link with redundancy. A specific example might be a dual-homing requirement for an Internet gateway or customer-premises equipment (CPE) deployment.

Q. When should a customer choose the new 2-Port OC-3/STM-1 POS Port Adapter over the older OC-3/STM-1 POS Port Adapter?

A. Customers should choose the PA-POS-2OC3 port adapter over the older design if they require any of the following:

- Greater port density (for dual-port connectivity in a single slot or for single-port connectivity with redundancy)
- Multiple ports of OC-3/STM-1 POS at line rate
- APS failover



- Modular, pluggable optics for improved flexibility in deployment and sparing
- Mixed optics on a single port adapter (MM, SMIR, SMLR)
- Up to 15 percent savings per port (SMLR)

Q. What are the benefits of the PA-POS-2OC3 port adapter?

A. The port adapter offers dual-port connectivity with line-rate performance, APS failover between ports, and modular, pluggable optics (MM, SMIR, and SMLR) for maximum flexibility in sparing and deployment. Table 1 outlines these benefits.

Table 1 Benefits of Cisco 2-Port OC-3/STM-1 POS Port Adapter with APS

Features	Benefits
Dual ports	Offers greater per-slot density for Cisco platforms using port adapter technology (Cisco 7200 Series, Cisco 7301, for example)
Performance	Depending on processing engine, provides line-rate bidirectional performance across both ports
APS	Provides failover protection between POS ports and port adapters
Modular SFP optics	Offers greater flexibility in deployment and sparing; allows for mixed optics on a single port adapter

Q. What are the part numbers for the port adapter?

A. Table 2 provides details on the port adapter's part numbers. Note that the SFP optics are sold separately.

Table 2 Port Adapter Part Numbers

Product Number	Product Description
PA-POS-2OC3	2-Port OC-3/STM-1 POS port adapter with APS
PA-POS-2OC3=	2-Port OC-3/STM-1 POS port adapter with APS (spare)

Q. What are Small Form-factor Pluggable (SFP) optics?

A. SFP connectors are modular optics that are offered in MM, SMIR, and SMLR modes. The port adapter can be purchased with any combination of optics or even without optics. Table 3 details SPF ordering information.

Table 3 SPF Part Numbers

Product Number	Product Description
SFP-OC3-MM	OC-3/STM-1 POS SFP, multimode fiber, short range (MM)
SFP-OC3-IR1	OC-3/STM-1 POS SFP, single-mode fiber, intermediate range (SMI)
POM-OC3-SMLR	OC-3/STM-1 POS SFP, single-mode fiber, long range (SML)



Q. Which Cisco IOS® Software releases support the 2-Port OC-3/STM-1 POS port adapter?

A. The port adapter is supported in Cisco IOS Release 12.2(13)ZE (FCS1) and later. Support is also targeted for releases 12.3, 12.3(first)T, 12.2S(RLS3), and 12.0(27)S. Please contact your Cisco representative for details.

Q. What platforms support the 2-Port OC-3/STM-1 POS port adapter?

A. The port adapter is supported on the platforms and processors indicated in Table 4. Future support is also targeted for the Cisco 7301, 7304, and 7600 Flex WAN. Please contact your Cisco representative for additional details.

Table 4 Supported Platforms and Processors

Chassis	Processors
Cisco 7204VXR, 7206VXR	NPE-400 and above
Cisco 7301	NPE-400 and above
Cisco 7505, 7507, 7513	VIP6-80, VIP4-80; RSP 16, RSP 8

Q. Can the 2-Port OC-3/STM-1 POS port adapter support two different module types?

A. Yes. With its innovative SFP optics, the port adapter will allow mixing of module types on the same card.

Q. Does the port adapter support APS?

A. Yes. For greater reliability, the port adapter supports APS failover between ports and between port adapters.

Q. Does the port adapter support online insertion and removal (OIR)?

A. Yes.

Q. For the Cisco 7200VXR Series, how many bandwidth points need to be allocated for the port adapter?

A. Because the port adapter offers dual OC-3/STM-1 connectivity, it will require 600 bandwidth points on a Cisco 7200VXR Series bus.



Corporate Headquarters
Cisco Systems, Inc.
170 West Tasman Drive
San Jose, CA 95134-1706
USA
www.cisco.com
Tel: 408 526-4000
800 553-NETS (6387)
Fax: 408 526-4100

European Headquarters
Cisco Systems International BV
Haarlerbergpark
Haarlerbergweg 13-19
1101 CH Amsterdam
The Netherlands
www-europe.cisco.com
Tel: 31 0 20 357 1000
Fax: 31 0 20 357 1100

Americas Headquarters
Cisco Systems, Inc.
170 West Tasman Drive
San Jose, CA 95134-1706
USA
www.cisco.com
Tel: 408 526-7660
Fax: 408 527-0883

Asia Pacific Headquarters
Cisco Systems, Inc.
Capital Tower
168 Robinson Road
#22-01 to #29-01
Singapore 068912
www.cisco.com
Tel: +65 6317 7777
Fax: +65 6317 7799

Cisco Systems has more than 200 offices in the following countries and regions. Addresses, phone numbers, and fax numbers are listed on the
Cisco Web site at www.cisco.com/go/offices

Argentina • Australia • Austria • Belgium • Brazil • Bulgaria • Canada • Chile • China PRC • Colombia • Costa Rica • Croatia
Czech Republic • Denmark • Dubai, UAE • Finland • France • Germany • Greece • Hong Kong SAR • Hungary • India • Indonesia • Ireland
Israel • Italy • Japan • Korea • Luxembourg • Malaysia • Mexico • The Netherlands • New Zealand • Norway • Peru • Philippines • Poland
Portugal • Puerto Rico • Romania • Russia • Saudi Arabia • Scotland • Singapore • Slovakia • Slovenia • South Africa • Spain • Sweden
Switzerland • Taiwan • Thailand • Turkey • Ukraine • United Kingdom • United States • Venezuela • Vietnam • Zimbabwe

All contents are Copyright © 1992–2003 Cisco Systems, Inc. All rights reserved. Cisco, Cisco Systems, Cisco IOS, and the Cisco Systems logo are registered trademarks of Cisco Systems, Inc. and/or its affiliates in the U.S. and certain other countries.

All other trademarks mentioned in this document or Web site 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.
(0301R) KW/LW4107 01/03