

PA-A3 Enhanced ATM Port Adapter FAQ

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Introduction

This document answers questions about the ATM PA-A3 Enhanced ATM port adapter.

Q. What are Enhanced ATM port adapters?

A. The Enhanced ATM port adapter (ATM PA-A3) family offers a variety of interfaces and support on platforms that include the Cisco 7200 and 7500 series routers and the FlexWAN/Enhanced FlexWAN module for the Catalyst 6000 switches. It supports optical carrier (OC)-12c, synchronous transfer mode (STM)-4, OC-3c, STM-1, digital signal level 3 (DS3), E3, and inverse multiplexing over ATM inverse multiplexing over ATM (IMA) on T-1 and E-1 interfaces.

Q. What are the different interfaces of PA-A3 cards?

A. These are the available PA-A3 modules.

Interface	Product Module	Minimum Cisco IOS® Software Supported
T1/E1 IMA	PA-A3-8T1IMA PA-A3-8E1IMA	Cisco IOS Software Releases 12.0(5)XE,12.1(1)T, and 12.1(1)E
DS3/E3	PA-A3-T3 PA-A3-E3	Cisco IOS Software Releases 11.1(22)CC,12.0(1), 12.0(3)T, 12.0(5)S, 12.1(1)E, and 2.1(1)T
OC3/STM1	PA-A3-OC3SMI PA-A3-OC3SML PA-A3-OC3MM PA-A3-OC3SMI-IPP (1 Port ATM OC#SMI PA for VXR Chassis)	Cisco IOS Software Releases 11.1(22)CC, 12.0(1),12.0(3)T, 12.0(5)S, 12.1(1)E, and 12.1(1)T
OC12/STM4	PA-A3-OC12SMI PA-A3-OC12MM	Cisco IOS Software Releases 12.0(11)S,12.1(3)E, and 12.1(4)T

Always refer to the [Software Advisor](#) ([registered](#) customers only) to select the proper Cisco IOS Software release for your routers.

Q. Does FlexWAN/Enhanced FlexWAN module support all the PA-A3 modules?

A. The FlexWAN/Enhanced FlexWAN module supports all PA-A3 modules except PA-A3-Optical Carrier (OC)12 module.

These documents contain useful information for the configuration of PA-A3 on the FlexWAN/Enhanced FlexWAN module.

- [Does the Catalyst 6000 FlexWAN Support Bridged-Format RFC 1483 Protocol Data Units \(PDUs\)?](#)
- [Configuring Per-VC Queueing and IP to ATM CoS on the PA-A3 and FlexWAN](#)

Q. What features are not supported when you use the PA-A3 ATM port adapter with FlexWAN/Enhanced FlexWAN?

A. These features are not supported by the FlexWAN/Enhanced FlexWAN module:

- ATM LAN Emulation (LANE)
- ATM Multiprotocol over ATM (MPOA)

For detailed information, refer to the [FlexWAN and Enhanced FlexWAN Modules Installation and Configuration Guide](#).

Q. What is the plan for Optical Carrier (OC)-12c ATM on the Cisco 7200/7500 and FlexWAN/Enhanced FlexWAN?

A. Cisco now ships the OC-12c/synchronous transfer mode (STM)-4 version of the PA-A3 on the Cisco 7500 series router with the Versatile Interface Processor 4 (VIP4)-80. It is not available on the FlexWAN/Enhanced FlexWAN or the Cisco 7200 series router platform.

Q. Does the PA-A3 support LAN emulation (LANE)?

A. The Optical Carrier (OC)-3/synchronous transfer mode (STM)-1/T3/E3 version of the PA-A3 currently supports LAN Emulation (LANE). LANE is supported on the OC-12/STM-4/T3/E3 version starting in Cisco IOS Software Releases 12.1(1)E and 12.1(4) T. LANE is not supported when the PA-A3 port adapter is used on FlexWAN/Enhanced FlexWAN.

Q. Is the PA-A3 hot swappable?

A. PA-A3 is hot swappable on Cisco 7200 routers, but not with Versatile Interface Processor (VIP) on Cisco 7500 routers. You need to schedule a maintenance window, pull out the VIP, swap the PA and then reinsert the VIP into the Cisco 7500. Otherwise you may end up with a crash on the VIP. For detailed instructions, refer to [Removing and Installing the Port Adapter on VIP](#).

Q. What is the difference between the Enhanced ATM port adapter (ATM PA-A3) and the ATM port adapter (ATM PA-A1)?

A. The ATM PA-A1 was the initial Cisco ATM port adapter for the Cisco 7200 and 7500 series routers. PA-A1 does not support traffic shaping. The ATM PA-A3 provides many enhanced features that include per-virtual circuit (VC) and per-virtual path (VP) shaping, improved performance, and support for such ATM service classes as near real time Variable Bit Rate (nrt-VBR), Available Bit Rate (ABR), and Universal Bit Rate (UBR). The ATM PA-A3 targets ATM Enterprise WAN and service provider applications. Refer to [Does the PA-A1 ATM Port Adapter Support Traffic Shaping?](#) for detailed comparison between PA-A1 and PA-A3.

There are no future enhancements for the PA-A1 port adapter. End-of-sale status has been announced effective July 30, 2000.

Q. Does the PA-A3 support constant bit rate (CBR) or real time variable bit rate (VBR-rt)?

A. Even though field feedback indicates fairly good accuracy for CBR and VBR-rt like configuration on PA-A3, Cisco does not claim true CBR and VBR-rt support due to the potential jitter issue which the port adapter might not be able to guarantee. However, there are customer networks that run this configuration. See [Understanding the CBR Service Category for ATM VCs](#) for application and platform support information.

Q. Does the ATM PA-A3 support Cisco IOS Software Releases 11.2 and 11.3?

A. No. The ATM PA-A3 is available on the Cisco IOS Software Release 11.1CC. After Cisco IOS Software Release 11.1CC, the ATM PA-A3 is supported in Cisco IOS Software Release 12.0. Always refer to the [Software Advisor](#) ([registered](#) customers only) to select the proper Cisco IOS Software release for your

routers.

Q. What does Cisco IOS Software Release 12.x do for the ATM PA-A3?

A. Cisco IOS Software Release 12.x supports new ATM functionality such as a new command-line interface (CLI), better management of ATM virtual connections, ATM class of service (CoS), Multiprotocol Label Switching (MPLS), and other quality of service (QoS) support.

Q. When will Available Bit Rate (ABR) be supported for the PA-A3-Optical Carrier (OC)-12/synchronous transfer mode (STM)-4 flavors?

A. ABR will not be supported in this version of the port adapter. The PA-A3-OC12 supports near real time Variable Bit Rate (VBR-nrt) and Universal Bit Rate (UBR) ATM service categories. Refer to [PA-A3-OC12 Frequently Asked Questions](#) for more information. Also PA-A3-OC12 is not supported on Cisco 7200 routers.

Q. How can I confirm that traffic shaping works on the PA-A3?

A. Cisco recommends the use of an external device such as traffic monitor to certify PA-A3 traffic shaping capability.

Q. Does Cisco support Multiprotocol Label Switching (MPLS)-virtual private network (VPN)?

A. Yes. MPLS-VPN is supported. Basic MPLS, MPLS class of service (CoS), and MPLS Traffic Engineering are also supported. See the [MPLS over ATM Configuration Example](#).

Q. Will there be an inverse multiplexing over ATM (IMA) version of the ATM port adapters?

A. Yes, Cisco started shipping a multiple port T1/E1 IMA ATM PA for the Cisco 7200/7500 routers. Refer to [Inverse Multiplexing for ATM \(IMA\) FAQ](#) for sample configurations.

Q. Does the PA-A3 support Universal Bit Rate+ (UBR+)?

A. Yes, but only the UBR+ feature in LAN Emulation (LANE)/Multiprotocol over ATM (MPOA). Quality of service (QoS) configuration is enabled on the PA-A3-Optical Carrier (OC)-3/synchronous transfer mode (STM)-1 T3/E3 but not on the OC-12c/STM4 versions. Refer to [Understanding the UBR+ Service Category for ATM VCs](#) for more information.

Q. Does the ATM PA-A3 support virtual path (VP) shaping like the ATM circuit emulation service (CES) PA?

A. VC and VP shaping are now supported across the PA-A3 product family. Refer to [Configuring VP Shaping on the PA-A3 ATM Port Adapter](#) for a configuration example.

Related Information

- [Enhanced ATM Port Adapter \(ATM PA-A3\) - Overview](#)
- [Enhanced ATM Port Adapter \(ATM PA-A3\) - Data Sheet](#)

- [PA-A3 Enhanced ATM Port Adapter Installation and Configuration](#)
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