Q&A

Cisco ASR 1000 Series Shared Port Adapter

Cisco ASR 1000 Physical Interface Support

Q. What physical interface modules are supported on the Cisco® ASR 1000 Series Aggregation Services Routers?

A. The Cisco ASR 1000 supports the shared port adapters (SPAs) currently supported on a wide range of Cisco platforms. The Cisco Interface Flexibility (I-Flex) design enables the SPAs to maximize connectivity options and offer superior service intelligence through programmable interface processors that deliver line-rate performance.

Q. What SPAs do the Cisco ASR 1000 Series support?

A. Please see the list of Cisco ASR 1000 Series supported SPAs here: http://www.cisco.com/en/US/prod/collateral/routers/ps9343/data_sheet_c78-443175_ps9343_Products_Data_Sheet.html.

Current and Future Cisco ASR 1000 SPA Support

Q. Which service SPAs are supported on the Cisco ASR 1000 Series Routers?

A. The Cisco WebEx® Node SPA and Digital Signal Processor (DSP) SPA (SPA-DSP) are supported.

- The Cisco WebEx Node is an extension of the WebEx® Collaboration cloud. It has a standard SPA form factor and is supported first on the Cisco ASR 1000 Series. The Cisco WebEx Node can significantly reduce Internet bandwidth consumption and improve response times for large-scale users of the WebEx Collaboration service.
- The DSP SPA is a single-width, half-height high-power SPA module that you can use in multiple Cisco platforms. It provides voice services such as voice transcoding and transrating and dual-tone multifrequency (DTMF) interworking capability for the platforms supporting SPA modules. The DSP SPA card for the Cisco ASR 1000 enhances the Cisco Session Border Controller (SBC) voice experience, providing both voice transcoding and transrating capabilities.

Q. Is RPR supported on the Cisco 2- and 4-Port OC-48 PoS/RPR SPAs (SPA-2XOC48POS/RPR and SPA-4XOC48POS/RPRs, respectively)?

A. Currently, only PoS is supported on these SPAs, and there are no plans to support RPR with these SPAs.

Q. If a customer receives a 10 Gigabit Ethernet hand-off from a provider for WAN connectivity, which SPA should the customer use?

A. The WAN/physical layer (PHY) variant of the SPA is configurable to operate in either WAN or LAN mode. In the WAN mode the SPA operates at a slightly slower data rate than the LAN PHY and adds some extra encapsulation. Both share the same physical-medium-dependent sub-layers. The WAN PHY mode is designed to interoperate with OC-192/STM-64 SDH/SONET equipment using a lightweight SDH/SONET frame running at 9.953 Gbps. You can use WAN PHY when you want to transport 10 Gigabit Ethernet across telco SDH/SONET or previously installed wavelength-division multiplexing (WDM) systems without having to directly map the Ethernet frames into SDH/SONET.

SPA Carrier Card Support

Q. How are SPAs installed and supported in the Cisco ASR 1000 chassis?

A. SPAs are supported on the Cisco ASR 1000 Series by installing the 10- or 40-Gbps Cisco ASR 1000 Series SPA Interface Processor (SIP) carrier card, which is supported in one of the SIP slots of the Cisco ASR 1000 chassis.

Q. How many SPAs are supported on a SIP carrier card?

A. The 10- and 40-Gbps Cisco ASR 1000 Series SIP can support up to four half-height or two full-height SPAs or two half-height and one full-height SPAs. The SPA support includes Ethernet, PoS, and serial SPAs in the first Cisco ASR 1000 Series release.

Q. How many SPAs can be installed on the Cisco ASR 1000?

A. The number of total half-height SPAs supported on the Cisco ASR 1000 depends on the model type. The Cisco ASR 1002 and ASR 1002-X support 3 SPAs, the Cisco ASR 1004 with 2 SIPs supports 8 half-height SPAs, the Cisco ASR 1006 with 3 SIPs supports up to 12 half-height SPAs, and the Cisco ASR 1013 supports up to 24 half-height SPAs.

Q. How many Cisco WebEx Node SPAs can the Cisco ASR 1000 Series support?

A. It depends on the Cisco ASR 1000 chassis. In the Cisco ASR 1002 chassis, one Cisco WebEx Node SPA can be supported. In the Cisco ASR 1004 chassis, up to three Cisco WebEx Node SPAs can be supported, and in the Cisco ASR 1006 chassis up to five.

SPA Redundancy Support

Q. Does the Cisco ASR 1000 support SIP or SPA redundancy?

A. The Cisco ASR 1000 does not support SIP or SPA line-card redundancy. With appropriate network engineering that incorporates diverse routing or demarcation of physical circuits (Gigabit EtherChannel [GEC], Automatic Protection Switching [APS], etc.), the Cisco ASR 1000 offers compelling system redundancy.

Q. Is the Cisco ASR 1000 In-Service Software Upgrade (ISSU) supported for SIPs and SPAs?

A. ISSU for SIPs and SPAs is not supported because of the lack of redundant SIPs/SPAs. However, Minimum Disruptive Reload (MDR) is planned for a Cisco IOS XE Software release in 2012.

CSU/DSU Support

Q. Are channel service units/data service units (CSUs/DSUs) supported on the SPAs?

A. Yes, the Clear Channel and Channelized T1/E1 as well as the T3/E3 SPAs provide integrated DSUs.

Optic Support

Q. Which pluggable optics are supported on the SPAs?

A. Small Form-Factor Pluggable (SFP) interface converters are supported by the PoS, optical networking, and Gigabit Ethernet SPAs. For a list of optics that are supported, please refer to: Modular Optics Compatibility.

Q. Is the Cisco 100BASE-FX SFP Fast Ethernet Interface Converter (GLC-GE-100FX) supported on 1 Gigabit Ethernet SPAs?

A. The GLC-GE-100FX is supported only on the Cisco 5- and 10-Port Gigabit Ethernet SPA, Version 2 SPAs (SPA-5X1GE-V2 and SPA-10X1GE-V2, respectively) as well as the built-in Gigabit Ethernet ports on the Cisco ASR 1001, ASR 1002, and ASR 1002-X Routers. It is not supported on other Gigabit Ethernet SPAs.

Q. Which optics are supported on the native built-in Gigabit Ethernet ports of the Cisco ASR 1001, ASR 1002, and ASR 1002-X?

A. Built-in Gigabit Ethernet ports support the same optics as the Cisco 5-Port Gigabit Ethernet SPA, Version 2 (SPA-5X1GE-V2).

Q. Which SPAs support the Cisco 1000BASE-T SFP Transceiver Module for Category 5 Copper Wire (SFP-GE-T)?

A. The Cisco 1000BASE-T SFP transceiver module for Category 5 copper wire (SFP-GE-T) is supported on the Cisco 5-, 8-, and 10-Port Gigabit Ethernet SPAs (SPA-5X1GE-V2, SPA-8X1GE-V2, and SPA-10X1GE-V2, respectively) and the built-in Gigabit Ethernet ports of the Cisco ASR 1001 and ASR 1002. The Cisco 2-Port Gigabit Ethernet Shared Port Adapter, Version 2 (SPA-2X1GE-V2) has two built-in copper interfaces.

Q. Is auto-negotiation supported with the Cisco 5-, 8-, and 10-Port Gigabit Ethernet SPAs?

A. No. Auto-negotiation is not supported. The 1000BASE-T SFP transceiver module (SFP-GE-T) supports 10/100/1000 speeds, which you must explicitly configure using the **speed** command. Only full-duplex mode is supported; you must configure it using the **duplex full** command.

For More Information

Q. Where can I find more information about Cisco ASR 1000 Series Shared Port Adapters?

A. Refer to the Cisco ASR 1000 Series Aggregation Services Routers SIP and SPA Hardware Installation Guide for the latest SPA, SIP, and modular optics support and compatibility details.

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