Overview of the SIP

This chapter provides an overview of the release history, and feature and Management Information Base (MIB) support for the Cisco ASR1000-SIP10 and Cisco ASR1000-SIP40.

This chapter includes the following sections:

Release History

Note For release history information about the introduction of SPA support on the SIP, refer to the corresponding "Overview" chapters in the SPA technology sections of this document. In addition, features specific to certain SPA technologies are documented in the corresponding SPA sections of this document.

Release	Modification
Cisco IOS XE Release 3.7S	Added information about support for the Cisco ASR1000-SIP40 on all routers that support the Cisco ASR1000-SIP10.
Cisco IOS XE Release 3.1S	Added information about the new Cisco ASR1000-SIP40.

Release	Modification
Cisco IOS XE Release 2.4S	Added information about the following SPAs: • 2-Port, 4-Port, and 8-Port OC-12 POS SPA • 1-Port OC-48 POS SPA • 8-Port OC-3 POS SPA • 1-Port OC-192 POS SPA • WMA-K9 SPA
Cisco IOS XE Release 2.3S	Added information about the 1-Port and 3-Port OC-3 ATM SPA.
Cisco IOS XE Release 2.2S	Added information about the following SPAs: • 2-Port and 4-Port OC-48c/STM-16 POS/RPR SPA • 1-Port Channelized STM-1/OC-3 SPA
Cisco IOS XE Release 2.1S	First release.

Supported SIP Features

The Cisco ASR1000-SIP10, is a high-performance, feature-rich SPA interface processor that functions as a carrier card for shared port adapters (SPAs) on the Cisco ASR 1000 Series Routers. The SIP is supported on the Cisco Aggregation Services Router 1000 Series, and is compatible with one or more platform-independent SPAs. For more information on SPA compatibility, see the *SIP and SPA Compatibility* section.

This section provides a list of some of the primary features supported by the SIP hardware and software. For feature compatibility information by SIP and SPA combination, and information about configuring these features, see the *Configuring the SIP* chapter.

Cisco ASR1000-SIP10 Features

The Cisco ASR1000-SIP10 supports the standard Field-Programmable Devices (FPD) upgrade methods for the Cisco Aggregation Services Router 1000 Series. For more information about FPD support, see the *Upgrading Field-Programmable Devices* chapter.

Cisco ASR1000-SIP40 Features

The Cisco ASR1000-SIP40 supports upto 40 Gbps total bandwidth for the four SPA bays and 46 Gbps sustained through carrier card when utilizing two four-link 6.25 GHz ESIs. Following are the features of the Cisco ASR1000-SIP40:

- It supports 40 Gbps of non oversubscribed throughput.
- Compatible with existing and future SPAs, ESPs, and RPs.
- It supports online-insertion-and-removal (OIR) of all SIP-10 SPAs and Cisco ASR1000-SIP40.
- Provides higher port density support of 48 point dual priority, and 96 point single priority.
- Enables enhanced QoS and timestamp support.
- Performs ingress packet prioritization based on Layer 2 or Layer 3 headers.
- Enables the flow-control the SPAs.
- Distributes line clocking reference from a single SPA to the RPs.
- It supports Onboard Failure Logging (OBFL).
- All the SPAs on Cisco ASR1000-SIP40 provide FPD support.
- From Release 3.7.0S onward, the Cisco ASR1000-SIP40 is supported on all the routers that support the Cisco ASR1000-SIP10.

Note The Cisco ASR1000-SIP40 supports four half-height SPAs, two full-height SPAs, and a combination of two half-height and one full-height SPAs. The Cisco ASR1000-SIP40 does not support double-wide SPAs, double-high SPAs having two connectors.

Cisco ASR1000-SIP10 High-Availability Features

- Online insertion and removal (OIR) of the SIP and SPAs
- Nonstop Forwarding (NSF)
- Stateful switchover (SSO)
- Frame Relay switching
- VC bundle Class of Service (CoS) precedence mapping

Supported MIBS

The following MIBs are supported in Cisco IOS XE Release 2.2 and later releases for the Cisco ASR1000-SIP10 on a Cisco ASR 1000 Series Router:

- ENTITY-MIB (RFC 4133)
- CISCO-ENTITY-FRU-CONTROL-MIB
- CISCO-ENTITY-ALARM-MIB
- ENTITY-SENSOR-MIB (RFC 3433)
- CISCO-ENTITY-SENSOR-MIB
- CISCO-EXTENDED-EXT-MIB

The following MIBs are supported in Cisco IOS XE Release 3.1S and later for the Cisco ASR1000-SIP40 on a Cisco ASR 1000 Series Router:

- ENTITY-MIB (RFC 4133)
- CISCO-ENTITY-FRU-CONTROL-MIB
- CISCO-ENTITY-ALARM-MIB
- ENTITY-SENSOR-MIB (RFC 3433)
- CISCO-ENTITY-SENSOR-MIB
- CISCO-EXTENDED-EXT-MIB

Command Reference Information

For command reference information, refer to the Cisco IOS command reference and master index publications.