New Features in Cisco IOS XE 3.13S Releases

This chapter provides information about the new features introduced in the Cisco IOS XE Release 3.13S.

This chapter includes the following sections:

New Hardware Features in Cisco IOS XE Release 3.13.2S

There are no new hardware features introduced for Cisco IOS XE Release 3.13.2S.

New Hardware Features in Cisco IOS XE Release 3.13S

The following features are introduced in Cisco IOS XE Release 3.13S.

A900-RSP2 Modules and Interface Modules

The A900-RSP2A-64 and A900-RSP2A-128 RSP modules are introduced on the ASR 900 Series Routers.

The following interface modules are introduced on the Cisco ASR 900 Series Routers

- SFP Combo IM—8-port Gigabit Ethernet (8X1GE) + 1-port 10 Gigabit Ethernet (1X10GE)
- Copper Combo IM—8-port Gigabit Ethernet (8X1GE) + 1-port 10 Gigabit Ethernet Interface Module(1X10GE)
- 2-port 10 Gigabit Ethernet Interface Module(2X10GE)

For information on supported interface modules, part numbers and slot restrictions, see Hardware Supported, page 1-2.

For information on installation, see

- *Cisco ASR 903 Series Aggregation Services Router Hardware Installation Guide*
- *Cisco ASR 902 Aggregation Services Router Hardware Installation Guide*

For information on migrating from ASR 900 RSP1 to ASR RSP2 modules, see *Cisco ASR 900 RSP1 to ASR 900 RSP2 Migration and Upgrade Guide*.

Swapping of Interface Modules

Swapping of interface modules is supported on the A900-RSP2 Module. For more information, see *Cisco ASR 903 Series Aggregation Services Router Hardware Installation Guide.*

The **hw-module subslot default** command is introduced before performing a swap of the modules. to default the interfaces on the interface module. For more information, see *Cisco IOS Interface and Hardware Component Command Reference*.

Support External Alarms and Traps

Starting with Cisco IOS XE Release 3.13, external alarms and traps are supported on the Cisco 900 Series Routers.

For information on alarms, see *Cisco ASR 903 Series Aggregation Services Router Hardware Installation Guide.*

Support for Syslog and Trigger for External Alarm

Starting with Cisco IOS XE Release 3.13, syslog and trigger support is introduced for the external alarms on the Cisco 900 Series Routers.

For information on alarms, see *Cisco ASR 903 Series Aggregation Services Router Hardware Installation Guide.*

New Software Features in Cisco IOS XE Release 3.13.2S

There are no new software features introduced for Cisco IOS XE Release 3.13.2S.

New Software Features in Cisco IOS XE Release 3.13S

The following features are introduced in Cisco IOS Release 3.13S.

- RSP2 Module Features
- Clear-Channel ATM
- PTP-SYNCE on 10G interface in WANPHY mode
- Digital Code Signing
- 802.1ad
- UniDirectional Link Detection (UDLD)
- REP Access Gateway
- Smart Call Home
- Autonomic Networking
- PIM DR Loadbalancing

RSP2 Module Features

See Feature Set Table, page 1-9 for the list of supported software features in Cisco IOS XE Release 3.13S.

Clear-Channel ATM

When the clear channel ATM feature is enabled, the entire payload rate over Synchronous Optical Network (SONET) or the Synchronous Digital Hierarchy (SDH) line is used as a single flow of cells or packets.

For more information, see *Asynchronous Transfer Mode Configuration Guide, Cisco IOS XE Release 3S (ASR 900 Series Routers).*

PTP-SYNCE on 10G interface in WANPHY mode

Starting with Cisco IOS XE Release 3.13, PTP and SycnE in WANPHY mode is supported for RSP2 and 10G interface modules.

For more information, see *Cisco ASR 903 Series Aggregation Services Router Hardware Installation Guide*.

Digital Code Signing

The digital code signing functionality validates the integrity and authenticity of the ROMMON image before booting it.

For more information, see *Cisco ASR 903 Series Aggregation Services Router Hardware Installation Guide*.

802.1ad

IEEE 802.1ad enables the service providers to use the architecture and protocols of IEEE 802.1Q to offer separate LANs, bridged local area networks, or virtual bridged local area networks to a number of customers, with minimal cooperation or no cooperation between each customer and the service provider.

For more information, see *Carrier Ethernet Configuration Guide, Cisco IOS XE Release 3S (Cisco ASR 900 Series)*.

UniDirectional Link Detection (UDLD)

The UniDirectional Link Detection protocol is a Layer 2 protocol that detects and disables one-way connections before they create undesired situation such as Spanning Tree loops.

For more information, see *LAN Switching Configuration Guide, Cisco IOS XE Release 3S (Cisco ASR 900 Series)*.

REP Access Gateway

Resilient Ethernet Protocol (REP) is a ring protection protocol designed to provide fast failure detection and recovery.

For more information, see *LAN Switching Configuration Guide, Cisco IOS XE Release 3S (Cisco ASR 900 Series)*.

Smart Call Home

The Call Home feature provides e-mail-based and web-based notification of critical system events. A versatile range of message formats are available for optimal compatibility with pager services, standard e-mail, or XML-based automated parsing applications.

For more information, see *Software Activation Configuration Guide, Cisco IOS XE Release 3S.*

Autonomic Networking

See, *Autonomic Networking Configuration Guide, Cisco IOS XE Release 3S (Cisco ASR 900 Series).*

PIM DR Loadbalancing

See, *IP Multicast: PIM Configuration Guide, Cisco IOS XE Release 3S*.

Ingress QoS Serial Interface

Ingress Qos is supported on MLPPP bundle and serial interfaces. For more information, see

- *Quality of Service Configuration Guidelines for Cisco ASR 900 Router Series*