New Features in Cisco IOS XE 3.11S Releases

This chapter provides information about the new features introduced in the Cisco IOS XE Release 3.11S.

This chapter includes the following sections:

New Hardware Features in Cisco IOS XE Release 3.11S

There are no new hardware features for Cisco IOS XE Release 3.11 S.

New Software Features in Cisco IOS XE Release 3.11S

The following features are introduced in Cisco IOS Release 3.11S.

AAL5 termination

This feature enables the Asynchronous Transfer Mode Adaptation Layer 5 (AAL5) layer 3 termination on the interface module (IM) (T1/E1 and OC-3) cards on the Cisco ASR 903 Router.

For more information see,
http://www.cisco.com/en/US/docs/routers/asr903/software/guide/b_Configuring_AAL5_termination_903.html

Access Switch Device Manager Template

This feature can be used to configure system resources on the router to optimize support for specific features, depending on how the router is used in the network.

For more information see,
http://www.cisco.com/en/US/docs/routers/asr903/software/guide/b_SDM_ASR903.html

Data Plane Ethernet Loopback with QoS

The Ethernet data plane loopback feature provides a means for remotely testing the throughput of an Ethernet port. For more information see,
http://www.cisco.com/en/US/docs/routers/asr903/software/guide/b_layer2_ASR903_chapter_00.html.

Dissimilar PHB Match at Ingress and Egress

The dissimilar per-hop behavior (PHB) **match** on exp is supported for Ingress and Egress on MPLS and VPLS interfaces.

In earlier releases prior to Cisco IOS XE Release 3.11S, when **qos-group** or **discard-class** based on exp classification was configured, Egress based classification was *not* allowed on any other classification except Ingress **set qos-group** or **discard-class**. This was due to the PHB security model.

With Cisco IOS Release 3.11, only EVC based tunnel type configuration with either Layer2 VPN or Layer3 VPN is supported.

For more information see,
http://www.cisco.com/en/US/docs/routers/asr903/software/guide/b_QoS_guidelines_903_chapter_00.html

Dying Gasp

This feature generates an alert when the Cisco ASR 903 Router encounters any of the following conditions:

- Interface error-disable
- Reload
- Power failure or removal of power supply cable

For more information see,
http://www.cisco.com/en/US/docs/routers/asr903/feature/guide/Dying_Gasp_ASR_903.html.

DS3 Framing on OC-3 and OC-12

This feature introduces support for the DS3 clear channel for OC-3 and OC-12 interface modules. For more information, see
http://www.cisco.com/en/US/docs/routers/asr903/software/guide/chassis/Release3.9.0S/OC_Ifc_Module.html.

Fast Reroute Support for Bridge Domain Interface

Fast Reroute is supported on bridge domain interfaces on the Cisco ASR 903 router. For more information, see http://www.cisco.com/en/US/docs/routers/asr903/feature/guide/b_lfa_frr_903.html.

BGP PIC Support for Bridge Domain Interface with FRR

BGP PIC is supported on bridge domain interfaces with FRR on the Cisco ASR 903 router. For more information on configuring BGP PIC, see
http://www.cisco.com/en/US/docs/ios-xml/ios/iproute_bgp/configuration/xe-3s/asr903/irg-bgp-mp-pic.html.

IPv6 Multicast: Multicast Listener Discovery (MLD)

This feature is used by IPv6 devices to discover multicast listeners (nodes that want to receive multicast packets destined for specific multicast addresses) on directly attached links.

For more information see,
http://www.cisco.com/en/US/docs/routers/asr903/software/guide/b_ipmcast_pim_xe_3S_asr903_chapter_0101.html

IPv6 Multicast: PIM v6

This feature supports the following:

- PIM Source-Specific Multicast—The PIM source-specific multicast (SSM) routing protocol supports SSM implementation and is derived from PIM-SM.

- PIM Sparse Mode (PIM-SM)—IPv6 multicast provides support for intra domain multicast routing using PIM sparse mode (PIM-SM).

- PIM Embedded RP Support—Embedded RP support allows the device to learn RP information using the multicast group destination address instead of the statically configured RP.

- PIM Accept Register—supports the PIM accept register feature to perform PIM-SM register message filtering at the RP.

For more information see,
http://www.cisco.com/en/US/docs/routers/asr903/software/guide/b_ipmcast_pim_xe_3S_asr903_chapter_0110.html

ISIS and OSPF Local Microloop Protection

For ISIS Micoloop Protection, see
http://www.cisco.com/en/US/docs/ios-xml/ios/iproute_isis/configuration/xe-3s/irs-uloop-local-avoid.html

For OSPF Microloop Protections, see
http://www.cisco.com/en/US/partner/docs/ios-xml/ios/iproute_ospf/configuration/xe-3s/iro-ospfv2-ip-frr.html

MR-APS Integration with Hotstandby Pseudowire

This feature is a protection mechanism for Synchronous Optical Network (SONET) networks that enablesSONET connections to switch to another SONET circuit when a circuit failure occurs.For more information see,
http://www.cisco.com/en/US/docs/routers/asr903/software/guide/b_MR_APS_ASR903.html

Remote SPAN

This feature is used for remote monitoring of multiple devices at source port, source Vlan levels in the Layer2 network. For more information, see
http://www.cisco.com/en/US/docs/routers/asr903/software/guide/b_layer2_ASR903_chapter_01.html

Service Groups

The Service groups feature allows you to create service groups and apply aggregate features to those service groups.

For more information, see
http://www.cisco.com/en/US/docs/routers/asr903/software/guide/b_QoS_guidelines_903_chapter_00.html

TCAM Threshold Based Alarms

This feature generates syslog and consequently a Simple Network Management Protocol (SNMP) trap when an application reaches the preset threshold for its allotted TCAM size.

For more information, see
http://www.cisco.com/en/US/docs/routers/asr903/software/guide/b_TCAM_alarms_ASR903.html.