



New Features in and Important Notes About Cisco ASR 1000 Series Aggregation Services Routers Release 3.7S

This chapter provides information about the new features introduced in Cisco ASR 1000 Series Aggregation Services Routers Release 3.7S. In addition, important notes about this release are also included.

This chapter contains the following sections:

- [New and Changed Information, page 149](#)
- [Important Notes, page 158](#)

New and Changed Information

The following sections list the new hardware and software features that are supported by the Cisco ASR 1000 Series Routers for Cisco IOS XE Release 3.7S:

- [New Hardware Features in Cisco ASR 1000 Series Aggregation Services Routers Release 3.7S, page 149](#)
- [New Software Features in Cisco ASR 1000 Series Aggregation Services Routers Release 3.7S, page 150](#)

New Hardware Features in Cisco ASR 1000 Series Aggregation Services Routers Release 3.7S

The following are the new hardware features in Cisco ASR 1000 Series Aggregation Services Routers Release 3.7S:



Cisco ASR 1002-X Router

The Cisco ASR 1002-X Router is a 3-SPA, 2-RU chassis. The embedded services processor and route processor are integrated into the chassis. There are 6 small form factor pluggable (SFP) Gigabit Ethernet ports. The router provides a forwarding bandwidth of up to 36 Gbps. The Cisco ASR 1002-X Router supports all the general-purpose routing and security features of the Cisco ASR 1000 Series Aggregation Services Routers.

For detailed information, see the following Cisco document:

<http://www.cisco.com/en/US/docs/routers/asr1000/install/guide/asr1routers/asr1higV8.html>

Cisco ASR 1000 Embedded Services Processor 100-Gbps

The Cisco ASR 1000 Series Aggregation Services Routers 100-Gbps Embedded Services Processor is a centralized forwarding engine option for the Cisco ASR 1006 and ASR 1013 Routers.



Note

Availability of ASR1000 Series 100-Gbps Embedded Services Processor is limited to those customers whose feature set profiles are validated and approved by the corresponding Cisco Business Unit.

For detailed information, see the following Cisco document:

<http://www.cisco.com/en/US/docs/routers/asr1000/install/guide/asr1routers/asr1higV8.html>

SPA-4XOC3-POS-V2 support on ASR-1000

For detailed information, see the following Cisco document:

http://www.cisco.com/en/US/docs/interfaces_modules/shared_port_adapters/configuration/ASR1000/ASRspasw.html

New Software Features in Cisco ASR 1000 Series Aggregation Services Routers Release 3.7S

The following are the new software features introduced in Cisco ASR 1000 Series Aggregation Services Routers Release 3.7S:

ALG—H.323 vTCP with High Availability Support for Firewall and NAT

For detailed information, see the following Cisco documents:

http://www.cisco.com/en/US/docs/ios-xml/ios/ipaddr_nat/configuration/xr-3s/iadnat-h323-vtcp-ha.html

http://www.cisco.com/en/US/docs/ios-xml/ios/sec_data_zbf/configuration/xr-3s/sec-fw-h323-alg.html

ASR1000 IPsec Debuggability Enhancement - Phase I

The IOS-XE IPsec Debuggability Enhancements in IPsec VPN reduces the overall debugging effort for customers by modifying the **debug platform hardware qfp active feature** (IPsec) command and merging the output of several show commands into the output of the following commands that were modified for this feature: **show crypto engine accelerator statistic**, **show crypto ipsec sa**, **show crypto ruleset**, and **show tech-support ipsec**.

For more information, refer to the Cisco IOS Security Command Reference: Commands S to Z (<http://www.cisco.com/en/US/docs/ios-xml/ios/security/s1/sec-s1-cr-book.html>), and Cisco IOS Debug Command Reference, Commands M through R (<http://www.cisco.com/en/US/docs/ios-xml/ios/debug/command/m1/db-m1-cr-book.html>).

BGP—Attribute Filter and Enhance Attribute Error Handling

For detailed information, see the following Cisco document:

http://www.cisco.com/en/US/docs/ios-xml/ios/iproute_bgp/configuration/xe-3s/asr1000/irg-attribute-filter.html

E-OAM : Multiple Port MAs Under Single MD

For detailed information, see the following Cisco document:

<http://www.cisco.com/en/US/docs/ios-xml/ios/cether/configuration/xe-3s/ce-cfm-ieee-xe.html>

BGP Support for the L2VPN Address Family

For detailed information, see the following Cisco document:

http://www.cisco.com/en/US/docs/ios-xml/ios/iproute_bgp/configuration/xe-3sg/irg-sup-l2vpn.html

CUBE(SP): H.248 BAC Support

For detailed information, see the following Cisco document:

http://www.cisco.com/en/US/docs/routers/asr1000/configuration/guide/sbcu/sbc_h248.html

CUBE(SP): IMS: Support for RF Interface (charging)

For detailed information, see the following Cisco document:

http://www.cisco.com/en/US/docs/routers/asr1000/configuration/guide/sbcu/sbc_rx_diam.html

Flexible NetFlow: IPFIX Export Format

For detailed information, see the following Cisco document:

<http://www.cisco.com/en/US/docs/ios-xml/ios/AVC/configuration/xe-3s/asr1000/cfg-AVC-xe.html>

Flexible NetFlow: Export to an IPv6 Address

For detailed information, see the following Cisco document:

<http://www.cisco.com/en/US/docs/ios-xml/ios/fnetflow/configuration/xe-3s/asr1000/cfg-de-fnflow-exp-rt-s-xe.html>

FTP66 ALG support for IPv6 Firewall

For detailed information, see the following Cisco document:

http://www.cisco.com/en/US/partner/docs/ios-xml/ios/sec_data_zbf/configuration/xe-3s/sec-ftp66-ipv6-fw.html

GRE IPv6 Tunnels

For detailed information, see the following Cisco document:

<http://www.cisco.com/en/US/partner/docs/ios-xml/ios/interface/configuration/xe-3s/ir-gre-ipv6-tunls-xe.html>

IP SLA QFP Time Stamping

For detailed information, see the following Cisco document:

http://www.cisco.com/en/US/docs/ios-xml/ios/ipsla/configuration/xe-3s/asr1000/sla_timestmp.html

IPv6 Firewall Support for Prevention of DDoS Attacks and Resource Management

For detailed information, see the following Cisco document:

http://www.cisco.com/en/US/docs/ios-xml/ios/sec_data_zbf/configuration/xe-3s/sec-ipv6-ddos-rman.html

IPv6 Zone-Based Firewall Support Over VASI Interfaces

For detailed information, see the following Cisco document:

http://www.cisco.com/en/US/docs/ios-xml/ios/sec_data_zbf/configuration/xe-3s/sec-fw-ipv6-vasi.html

Lawful Intercept License Monitoring Support

For detailed information, see the following Cisco document:

http://www.cisco.com/en/US/docs/routers/asr1000/configuration/guide/chassis/csa_rtu.html

NBAR Classification Enhancements for IOS-XE3.7

For detailed information, see the following Cisco document:

http://www.cisco.com/en/US/docs/ios-xml/ios/qos_nbar/prot_lib/configuration/xe-3s/nbar-prot-lib.html

NBAR Multi-stage classification

For detailed information, see the following Cisco document:

http://www.cisco.com/en/US/docs/ios-xml/ios/qos_nbar/configuration/xe-3s/Classifying_Network_Traffic_Using_NBAR_in_Cisco_IOS_XE_Software.html

Performance Routing (PfR) with NBAR/CCE Application Recognition

For detailed information, see the following Cisco document:

<http://www.cisco.com/en/US/docs/ios-xml/ios/pfr/configuration/xe-3s/asr1000/pfr-nbar.html>

Stateful NAT64—Interchassis Redundancy

For detailed information, see the following Cisco document:

http://www.cisco.com/en/US/docs/ios-xml/ios/ipaddr_nat/configuration/xe-3s/iadnat-stful-int-chas.html

Suite-B Support in IOS SW Crypto

For detailed information, see the following Cisco documents:

http://www.cisco.com/c/en/us/td/docs/ios-xml/ios/sec_conn_vpnips/configuration/xe-3s/asr1000/sec-se-c-for-vpns-w-ipsec-xe-3s-asr1000-book/sec-cfg-vpn-ipsec.html

http://www.cisco.com/c/en/us/td/docs/ios-xml/ios/sec_conn_ikevpn/configuration/xe-3s/asr1000/sec-ike-for-ipsec-vpns-xe-3s-asr1000-book/sec-key-exch-ipsec.html

http://www.cisco.com/c/en/us/td/docs/ios-xml/ios/sec_conn_pki/configuration/xe-3s/asr1000/sec-pki-xe-3s-asr1000-book.html

Unicast Reverse Path Forwarding ACL Support

For detailed information, see the following Cisco document:

http://www.cisco.com/en/US/docs/ios-xml/ios/sec_data_urpf/configuration/xe-3s/urpf-acl-sup.html

Universal SIP40 support for ASR1K

For detailed information, see the following Cisco document:

<http://www.cisco.com/en/US/docs/routers/asr1000/install/guide/asr1routers/asr1higV8.html>

VPLS Autodiscovery, BGP-based

For detailed information, see the following Cisco document:

http://www.cisco.com/en/US/docs/ios/mpls/configuration/guide/mp_vpls_auto_bgp.html

Walk-By User Support for PWLAN

For detailed information, see the following Cisco document:

<http://www.cisco.com/en/US/docs/ios-xml/ios/isdg/configuration/xe-3s/isdg-wlkby-supp.html>

GGSN Pooling Support for Firewalls

For detailed information, see the following Cisco document:

http://www.cisco.com/en/US/docs/ios-xml/ios/sec_data_zbf/configuration/xe-3s/sec-fw-ggsn-pool.html

IPv6 Over DMVPN

For detailed information, see the following Cisco document:

<http://www.cisco.com/en/US/docs/ios-xml/ios/ipv6/configuration/xe-3s/ip6-ospf.html>

IPv6 Remote Access for IPSec VPN

For detailed information, see the following Cisco document:

http://www.cisco.com/en/US/docs/ios-xml/ios/sec_conn_ike2vpn/configuration/15-2mt/sec-cfg-flex-clnt.html

Bandwidth Based Call Admission Control (CAC)

For detailed information, see the following Cisco document:

http://www.cisco.com/en/US/docs/ios-xml/ios/voice/cube_proto/configuration/xe-3s/asr1000/voi-cub-cac.html

Dynamic REFER Handling on CUBE

For detailed information, see the following Cisco document:

http://www.cisco.com/en/US/docs/ios-xml/ios/voice/cube_sip/configuration/xe-3s/asr1000/voi-cub-sip-dyn-refer-handling.html

External: Support for Inclusion of Authorization Header in the Initial REGISTER Request

For detailed information, see the following Cisco document:

http://www.cisco.com/en/US/docs/ios-xml/ios/voice/cube_sipsip/configuration/xe-3s/asr1000/voi-sip-trunk-reg.html

Multiple Destination Pattern Support on Voice Dialpeer

For detailed information, see the following Cisco document:

http://www.cisco.com/en/US/docs/ios-xml/ios/voice/cube_fund/configuration/xe-3s/asr1000/vd-mdp-dialpeer.html

Supplementary Services Support on CUBE for RTP-SRTP calls

For detailed information, see the following Cisco document:

http://www.cisco.com/en/US/docs/ios-xml/ios/voice/cube_proto/configuration/xe-3s/asr1000/voi-srtp-rtp-int.html

Support for Populating Route Header Based on Proxy Server IP Address and Port, and Service-route Header Present in the REGISTER Response

For detailed information, see the following Cisco document:

http://www.cisco.com/en/US/docs/ios-xml/ios/voice/cube_proto/configuration/xe-3s/asr1000/voi-sip-trunk-reg.html

Support for SIP Registration Proxy on CUBE

For detailed information, see the following Cisco document:

http://www.cisco.com/en/US/docs/ios-xml/ios/voice/cube_sipsip/configuration/xe-3s/asr1000/voi-sip-reg-proxy.html

E-OAM : Multiple Port MAs Under Single MD

For detailed information, see the following Cisco document:

<http://www.cisco.com/en/US/docs/ios-xml/ios/cether/configuration/xe-3s/ce-cfm-ieee-xe.html>

EIGRP IPv6 MIBs

For detailed information, see the following Cisco document:

http://www.cisco.com/en/US/docs/ios-xml/ios/iproute_eigrp/configuration/xe-3s/eigrp-mib.html

Embedded Packet Capture (EPC)

For detailed information, see the following Cisco document:

<http://www.cisco.com/en/US/partner/docs/ios-xml/ios/epc/configuration/xe-3s/asr1000/nm-packet-capture-xe.html>

Flexible NetFlow: Extracted Fields Support

For detailed information, see the following Cisco document:

<http://www.cisco.com/en/US/docs/ios-xml/ios/AVC/configuration/xe-3s/asr1000/cfg-AVC-xe.html>

IPSLA 4.0 - IP v6 phase2

For detailed information, see the following Cisco documents:

http://www.cisco.com/en/US/docs/ios-xml/ios/ipsla/configuration/xe-3s/sla_icmp_pathecho.html

http://www.cisco.com/en/US/docs/ios-xml/ios/ipsla/configuration/xe-3s/sla_ftp.html

http://www.cisco.com/en/US/docs/ios-xml/ios/ipsla/configuration/xe-3s/sla_dns.html

http://www.cisco.com/en/US/docs/ios-xml/ios/ipsla/configuration/xe-3s/sla_icmp_pathjitter.html

http://www.cisco.com/en/US/docs/ios-xml/ios/ipsla/configuration/xe-3s/sla_http.html

ISIS client for BFD c-bit support

For detailed information, see the following Cisco document:

http://www.cisco.com/en/US/docs/ios-xml/ios/iproute_bfd/configuration/xe-3s/irb-bfd-isis-cbit.html

MVPNv6

For detailed information, see the following Cisco document:

http://www.cisco.com/en/US/products/ps5845/products_installation_and_configuration_guides_list.html

OSPFv3 RFC 3101 Support

For detailed information, see the following Cisco document:

http://www.cisco.com/en/US/docs/ios-xml/ios/iproute_ospf/configuration/xe-3s/iro-cfg.html

OSPFv3 MIB

For detailed information, see the following Cisco document:

http://www.cisco.com/en/US/docs/ios-xml/ios/iproute_ospf/configuration/xe-3s/asr1000/iro-ospfv3-mib.html

Perf-mon V3

For detailed information, see the following Cisco document:

http://www.cisco.com/en/US/docs/ios-xml/ios/media_monitoring/configuration/xe-3s/mm-pasv-mon.html

FRF.12 Support on MFR Interfaces

For detailed information, see the following Cisco document:

http://www.cisco.com/en/US/docs/ios-xml/ios/wan_frly/configuration/xe-3s/wan_ml_fr_frf161_xe.html

PfR Syslog and Trap enhancement

The PfR Syslog and Trap Enhancement feature introduces a new CLI command, trigger-log-percentage, that specifies the percentage of out-of-policy (OOP) PfR traffic classes that trigger a syslog. Enhanced error message descriptions are accessible from the Error Message Decoder tool.

For detailed information, see the following Cisco document:

<http://www.cisco.com/en/US/docs/ios-xml/ios/pfr/command/pfr-cr-book.html>

PPPoGEC: Per Session QoS

For detailed information, see the following Cisco document:

http://www.cisco.com/en/US/docs/ios-xml/ios/qos_mqc/configuration/xe-3s/asr1000/qos-eth-int.html

PWLAN ISG: Walking-by Sessions Scale Support

For detailed information, see the following Cisco document:

<http://www.cisco.com/en/US/docs/ios-xml/ios/isg/configuration/xe-3s/isg-wlkby-suppl.html>

Y.1731/CFM Test TLV support

For detailed information, see the following Cisco document:

<http://www.cisco.com/en/US/docs/ios-xml/ios/cether/command/ce-cr-book.html>

BGP - Add Path

For detailed information, see the following Cisco document:

http://www.cisco.com/en/US/docs/ios-xml/ios/iproute_bgp/configuration/xe-3s/asr1000/irg-additional-paths.html

BGP VPLS Auto Discovery Support on Route Reflector

For detailed information, see the following Cisco document:

http://www.cisco.com/en/US/partner/docs/ios-xml/ios/iproute_bgp/configuration/xe-3s/asr1000/irg-int-features.html

BGP - mVPN SAFI-129 IPv6

For detailed information, see the following Cisco document:

http://www.cisco.com/en/US/docs/ios-xml/ios/iproute_bgp/configuration/xe-3s/asr1000/irg-mvpn-safi-ipv6.html

BGP - mVPN BGP sAFI 129 IPv4

For detailed information, see the following Cisco document:

http://www.cisco.com/en/US/docs/ios-xml/ios/iproute_bgp/configuration/xe-3s/asr1000/irg-mvpn-safi.html

BGP - multicast VPN auto-discovery and customer-multicast routing

For detailed information, see the following Cisco document:

http://www.cisco.com/en/US/docs/ios-xml/ios/iproute_bgp/configuration/xe-3s/asr1000/irg-mvpn-safi-ipv6.html

ISIS BFD TLV

The IS-IS Bidirectional Forwarding Detection (BFD) Tag Length Value (TLV) feature provides a faster method to detect a loss of an IS-IS adjacency. Before, when an IS-IS adjacency reached the UP state (and therefore could be used for forwarding), a BFD session needed to be established with that neighbor. Now, a BFD session is maintained as long as the hello holddown timer for the neighbor does not expire, which is new for BFD TLV. The BFD session is only deleted if the neighbor hello times out. If BFD signals to IS-IS that a session has gone DOWN, the adjacency associated with that session will transition to DOWN state. Once the BFD session goes back UP, the adjacency state can transition back to an UP state. For a given IS-IS topology, IS-IS determines if BFD is usable for a given neighbor on that topology. BFD is not usable when BFD is enabled on both sides and the BFD session is down. When there are multiple BFD sessions enabled for different address families, such as IPv4 and IPv6, if BFD is not usable for any address family, then BFD is considered not usable for the entire adjacency on that topology. For example, if both IPv4 and IPv6 BFD are enabled for single topology, if either the IPv4 BFD session is down or IPv6 BFD session is down, the neighbor state will be set to DOWN state. If BFD is not enabled for a given address family, then BFD is considered usable for that address family. For single topology mode, the neighbor state is down when either the IPv4 or IPv6 BFD session is not BFD usable, that is, if BFD is enabled on both sides and the BFD session is DOWN. If BFD is not enabled on either side, BFD will be set to TRUE. For multi-topology mode, IS-IS adjacency will be in UP state as long as any topology is UP. However, the neighbor for the topology where BFD is considered not usable is considered down for that specific topology. For example, if both IPv4 and IPv6 BFD are enabled, and the IPv4 session is DOWN and IPv6 session is UP, then the IS-IS adjacency is still UP. In this case, the IPv4 neighbor is considered DOWN and IPv6 neighbor is considered UP.

Important Notes

The following sections contain important notes about Cisco ASR 1000 Series Aggregation Services Routers Release 3.7S.

End of Sale and End of Life of Cisco Traditional NetFlow

Cisco announces the end-of-sale and end-of-life of the Cisco Traditional NetFlow (TNF) Feature on ASR1000 platform. Cisco will not have any future development, CLI support, TAC support and Documentation on the Traditional NetFlow (TNF) feature beyond the Cisco IOS Software release XE 3.10.

Customers with Cisco Traditional NetFlow (TNF) Feature on Cisco ASR1000 Platform are encouraged to migrate to the Cisco Flexible NetFlow (FNF) Feature on Cisco ASR1000 Platform.

For details on transition to Flexible NetFlow, see the *Migrating from Traditional to Flexible NetFlow* white paper:

http://www.cisco.com/en/US/prod/collateral/iosswrel/ps6537/ps6555/ps6601/ps6965/white_paper_c11-545581.html

Deferrals

Cisco IOS software images are subject to deferral. We recommend that you view the deferral notices at the following location to determine whether your software release is affected:

http://www.cisco.com/en/US/products/products_security_advisories_listing.html

Field Notices and Bulletins

- Field Notices—We recommend that you view the field notices for Release 3.7S to determine whether your software or hardware platforms are affected. You can find the field notices at the following location:

http://www.cisco.com/en/US/support/tsd_products_field_notice_summary.html

- Bulletins—You can find bulletins at the following location:

http://www.cisco.com/en/US/products/sw/iosswrel/ps5012/prod_literature.html

Important Notes About Cisco ASR 1000 Series Aggregation Services Routers Release 3.7.0S

There are no important notes specific to Cisco ASR 1000 Series Aggregation Services Routers Release 3.7.0S.

