Features and Important Notes for Cisco IOS Release 15.1(1)S

These release notes describe the following topics:

New and Changed Information

This section lists the new hardware and software features supported by Cisco IOS Release 15.1(1)S and contains the following subsections:

New Hardware Features in Cisco IOS Release 15.1(1)S

There are no new hardware features in Cisco IOS Release 15.1(1)S.

New Software Features in Cisco IOS Release 15.1(1)S

This section describes new and changed features in Cisco IOS Release 15.1(1)S. Some features may be new to Cisco IOS Release 15.1S but were released in earlier Cisco IOS software releases. Some features may have been released in earlier Cisco IOS software releases and have been changed in Cisco IOS Release 15.1(1)S. Links to feature modules are included. If a feature listed does not have a link to a feature module, that feature is documented only in the release notes, and information about whether the feature is new or changed will be available in the feature description provided.

1588-V2 Feature Enhancements on Metronome SPA

For detailed information about this feature, see the documents at the following URLs:

http://www.cisco.com/en/US/docs/interfaces_modules/shared_port_adapters/configuration/7600series/76cfgeth.html

http://www.cisco.com/en/US/docs/interfaces_modules/shared_port_adapters/configuration/7600series/76oveth.html

Access Redundancy Circuit for ATM Local Switching

For detailed information about this feature, see the document at the following URL:

http://www.cisco.com/en/US/docs/ios/wan/configuration/guide/wan_l2_lcl_swng.html

ACR Support for CEM

For detailed information about this feature, see the document at the following URL:

http://www.cisco.com/en/US/docs/ios/wan/configuration/guide/wan_l2_lcl_swng.html

ACR Support for IMA

For detailed information about this feature, see the document at the following URL:

http://www.cisco.com/en/US/docs/ios/atm/configuration/guide/atm_acr_supp_ima.html

ATM Routed Bridge Encapsulation

For detailed information about this feature, see the documents at the following URLs:

http://www.cisco.com/en/US/docs/ios/bbdsl/configuration/guide/bba_atm_rbe.html

http://www.cisco.com/en/US/tech/tk39/tk48/technologies_configuration_example09186a008009455f.shtml

Bandwidth Profiles (Weight Assignments) Shared Across L3 and L4 on ES+

For detailed information about this feature, see the document at the following URL:

http://www.cisco.com/en/US/docs/routers/7600/install_config/ES40_config_guide/es40_chap7.html

BFD over SVI on Cisco 7600

For detailed information about this feature, see the document at the following URL:

http://www.cisco.com/en/US/docs/routers/7600/ios/15S/configuration/guide/bfdsvi.html

BGP: RT Constrained Route Distribution

For detailed information about this feature, see the document at the following URL:

http://www.cisco.com/en/US/docs/ios/iproute_bgp/configuration/guide/irg_rt_filter.html

Configuration History MIB Enhancements

For detailed information about this feature, see the document at the following URL:

http://www.cisco.com/en/US/docs/routers/7600/technical_references/7600_mib_guides/MIB_Guide_ver_6/mibgde6.html

Custom Ethertype for the EVC Port Channel

For detailed information about this feature, see the documents at the following URLs:

http://www.cisco.com/en/US/docs/routers/7600/install_config/ES20_config_guide/baldcfg.html

http://www.cisco.com/en/US/docs/routers/7600/install_config/ES40_config_guide/es40_chap4.html

DHCP Snooping with Option 82 on the EVC Port Channel

For detailed information about this feature, see the document at the following URL:

http://www.cisco.com/en/US/docs/routers/7600/install_config/ES40_config_guide/es40_chap4.html

E3 and Channelization Support for SPA-2CHT3-CE-ATM

For detailed information about this feature, see the document at the following URL:

http://www.cisco.com/en/US/docs/interfaces_modules/shared_port_adapters/configuration/7600series/76cfgcep.html

EIGRP IPv6 VRF-Lite

For detailed information about this feature, see the document at the following URL:

http://www.cisco.com/en/US/docs/ios/iproute_eigrp/configuration/guide/ire_cfg_eigrp.html

EVC Port Channel per Flow Load Balancing

For detailed information about this feature, see the document at the following URL:

http://www.cisco.com/en/US/docs/routers/7600/install_config/ES40_config_guide/es40_chap4.html

Hot Standby PW Support for ATM and TDM Access Circuits

For detailed information about this feature, see the documents at the following URLs:

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

http://www.cisco.com/en/US/docs/interfaces_modules/shared_port_adapters/configuration/7600series/76ovwsip.html#wp1062432

http://www.cisco.com/en/US/docs/routers/7600/install_config/ES40_config_guide/es40_chap6.html

http://www.cisco.com/en/US/docs/routers/7600/ios/15S/configuration/guide/pfc3mpls.html

IEEE 802.1ag-2007 Compliant CFM MIB

For detailed information about this feature, see the documents at the following URLs:

http://www.cisco.com/en/US/docs/ios/cether/configuration/guide/ce_cfm-ieee_mib.html

http://www.cisco.com/en/US/docs/routers/7600/technical_references/7600_mib_guides/MIB_Guide_ver_6/mibgde6.html

L2 Access Control List on EVC

For detailed information about this feature, see the documents at the following URLs:

http://www.cisco.com/en/US/docs/ios/cether/configuration/guide/ce_l2acl-evc.html

http://www.cisco.com/en/US/docs/routers/7600/install_config/ES20_config_guide/baldcfg.html

L2VPN VPLS Inter-AS Option B

For detailed information about this feature, see the document at the following URL:

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

L3/L4 ACL on Service Instance

For detailed information about this feature, see the documents at the following URLs:

http://www.cisco.com/en/US/docs/routers/7600/install_config/ES20_config_guide/bald_qos.html

http://www.cisco.com/en/US/docs/routers/7600/install_config/ES20_config_guide/baldcfg.html

Label Switched Multicast Multicast Label Distribution Protocol-Based Multicast VPN Support

For detailed information about this feature, see the document at the following URL:

http://www.cisco.com/en/US/docs/routers/7600/ios/15S/configuration/guide/7600_15_0s_book.html

Legacy QoS Command Deprecation: Removed Commands

For detailed information about this feature, see the document at the following URL:

http://www.cisco.com/en/US/docs/ios/qos/configuration/guide/legacy_qos_cli_deprecation.html

Link State Tracking

For detailed information about this feature, see the documents at the following URLs:

http://www.cisco.com/en/US/docs/routers/7600/install_config/ES20_config_guide/baldcfg.html#wp1710611

http://www.cisco.com/en/US/docs/routers/7600/install_config/ES40_config_guide/es40_sw_config.html

http://www.cisco.com/en/US/docs/routers/7600/ios/15S/configuration/guide/7600_15_0s_book.html

http://www.cisco.com/en/US/docs/switches/lan/catalyst4500/12.2/54sg/configuration/guide/channel.html

Minimum Bandwidth Guarantee Plus Multiple Policies

For detailed information about this feature, see the documents at the following URLs:

http://www.cisco.com/en/US/docs/ios/qos/configuration/guide/port_level_shaping.html

http://www.cisco.com/en/US/docs/routers/7600/install_config/ES40_config_guide/es40_chap7.html

MST on LAG

For detailed information about this feature, see the document at the following URL:

http://www.cisco.com/en/US/docs/routers/7600/install_config/ES20_config_guide/baldcfg.html

MVPN—Data MDT Enhancements

Multicast distribution tree (MDT) groups were selected at random when the traffic passed the threshold and there was a limit of 255 MDTs before they were reused. The MVPN—Data MDT Enhancements feature provides the ability to deterministically map the groups from inside the VPN routing and forwarding (S,G) entry to particular data MDT groups, through an access control list (ACL).

The user can now map a set of VPN routing and forwarding (S,G) to a data MDT group in one of the following ways:

- 1:1 mapping (1 permit in ACL)
- Many to 1 mapping (many permits in ACL)
- Many to many mapping (multiple permits in ACL and a nonzero mask data MDT)

Because the total number of configurable data MDTs is 1024, the user can use this maximum number of mappings in any of the described combinations.

Per Subscriber Session Call Admission Control

For detailed information about this feature, see the document at the following URL:

http://www.cisco.com/en/US/docs/routers/7600/install_config/ES40_config_guide/es40_chap7.html

Port Level Shaping Concurrent with 4HQoS on ES+

For detailed information about this feature, see the documents at the following URLs:

http://www.cisco.com/en/US/docs/ios/qos/configuration/guide/port_level_shaping.html

http://www.cisco.com/en/US/docs/routers/7600/install_config/ES40_config_guide/es40_chap7.html

REP Edge No-Neighbor

For detailed information about this feature, see the document at the following URL:

http://www.cisco.com/en/US/docs/routers/7600/install_config/ES20_config_guide/baldcfg.html#wp1782690

RSVP for Flexible Bandwidth Interface

For detailed information about this feature, see the document at the following URL:

http://www.cisco.com/en/US/docs/ios/qos/configuration/guide/config_rsvp.html

RSVP over DMVPN

For detailed information about this feature, see the document at the following URL:

http://www.cisco.com/en/US/docs/ios/qos/configuration/guide/config_rsvp.html

RSVP Support for Ingress Call Admission Control

For detailed information about this feature, see the document at the following URL:

http://www.cisco.com/en/US/docs/ios/qos/configuration/guide/config_rsvp.html

RSVP-VRF Lite Admission Control

For detailed information about this feature, see the document at the following URL:

http://www.cisco.com/en/US/docs/ios/qos/configuration/guide/qos_rsvp_vrf_lite.html

SDH Support for SPA-1XCHSTM4/OC12

For detailed information about this feature, see the document at the following URL:

http://www.cisco.com/en/US/docs/interfaces_modules/shared_port_adapters/configuration/7600series/76cfstm1.html

Service Groups for Subinterfaces and Access Subinterfaces

For detailed information about this feature, see the documents at the following URLs:

http://www.cisco.com/en/US/docs/ios/qos/configuration/guide/service_groups.html

http://www.cisco.com/en/US/docs/routers/7600/install_config/ES40_config_guide/es40_chap7.html

SSM Support on SPA-1XCHOC12/DS0 and SPA-1XOC48POS/RPR

For detailed information about this feature, see the documents at the following URLs:

http://www.cisco.com/en/US/docs/interfaces_modules/shared_port_adapters/configuration/7600series/76ovwpos.html

http://www.cisco.com/en/US/docs/interfaces_modules/shared_port_adapters/configuration/7600series/76ovwser.html

SSO Support Port Mode Cell Relay on the Cisco 7600

In Cisco IOS Release 15.1(1)S, the Cisco 7600 series routers support stateful switchover (SSO) mode for ATM Cell Relay over MPLS in port mode.

Support MPLS Encapsulation for Cisco 7600 Inline Video Monitoring

For detailed information about this feature, see the document at the following URL:

http://www.cisco.com/en/US/docs/routers/7600/install_config/ES40_config_guide/es40_chap13.html

Unidirectional Link Detection on ES20 Ports Having EVCs

For detailed information about this feature, see the document at the following URL:

http://www.cisco.com/en/US/docs/routers/7600/install_config/ES20_config_guide/baldcfg.html

MIBs

To locate and download MIBs for selected platforms, Cisco IOS releases, and feature sets, use the Cisco MIB Locator found at the following URL:

http://tools.cisco.com/ITDIT/MIBS/servlet/index

If the Cisco MIB Locator does not support the MIB information that you need, you can also obtain a list of supported MIBs and download MIBs from the Cisco MIBs page at the following URL:

http://www.cisco.com/public/sw-center/netmgmt/cmtk/mibs.shtml

To access the Cisco MIB Locator, you must have an account on Cisco.com. If you have forgotten or lost your account information, send a blank e-mail to cco-locksmith@cisco.com. An automatic check will verify that your e-mail address is registered with Cisco.com. If the check is successful, account details with a new random password will be e-mailed to you. Qualified users can establish an account on Cisco.com by following the directions found at this URL:

http://tools.cisco.com/RPF/register/register.do

Important Notes

The following sections contain important notes about Cisco IOS Release 15.1S.

- Cisco IOS Behavior Changes, page 41
- Deferrals, page 43
- Field Notices and Bulletins, page 43

Cisco IOS Behavior Changes

Behavior changes describe the minor modifications to the way a device works that are sometimes introduced in a new software release. These changes typically occur during the course of resolving a software defect and are therefore not significant enough to warrant the creation of a standalone document. When behavior changes are introduced, existing documentation is updated with the changes described in these sections:

- Cisco IOS Release 15.1(1)S2, page 41
- Cisco IOS Release 15.1(1)S1, page 41

Cisco IOS Release 15.1(1)S2

The following behavior changes were introduced in Cisco IOS Release 15.1(1)S2:

- ISG can be configured to not update subscriber sessions with data from reauthentication profiles.

  Old Behavior: Intelligent Services Gateway (ISG) applies data from the reauthentication profile to subscriber sessions.

  New Behavior: The **re-authentication do-not-apply** command prevents ISG from applying data from the reauthentication profile to subscriber sessions.

  Additional Information:
  http://www.cisco.com/en/US/docs/ios/isg/command/reference/isg_m1.html

- Routing protocols purge routes when an interface goes down.

  Old Behavior: Routing protocols do not purge routes when an interface goes down. This is the default behavior.

  New Behavior: Routing protocols purge routes when an interface goes down. This is the default behavior.

  Additional Information:
  http://www.cisco.com/en/US/docs/ios/iproute_pi/command/reference/iri_pi1.html#wp1013065

- Disable ISG on ES+ lowQ line card.

  Old Behavior: No restrictions was present in the ES+ configuration guide.

  New Behavior: The documentation was updated with the following note: “ES+ low queue cards do not support ISG (IP session and PPPoE session).”

  Additional Information:
  http://www.cisco.com/en/US/docs/routers/7600/install_config/ES40_config_guide/es40_chap4.html#wp1554396

Cisco IOS Release 15.1(1)S1

The following behavior changes were introduced in Cisco IOS Release 15.1(1)S1:

- The **no** form of the **ip nhrp map multicast dyn** command clears all dynamic entries in the multicast table.

  Old Behavior: Dynamic entries in the multicast table are not cleared even though the hold time has expired and the **ip nhrp map multicast dyn** command is disabled, which disables the automatic addition of routers to the multicast mappings by NHRP.

  New Behavior: All dynamic entries in the multicast table are now cleared when the hold time has expired and the **ip nhrp map multicast dyn** command is disabled.

Additional Information:

http://www.cisco.com/en/US/docs/ios/ipaddr/command/reference/iad_nhrp.html

- BGP address families are no longer stuck in NoNeg or idle state after reload.

  Old Behavior: After a reload of a router, some or all of the Border Gateway Protocol (BGP) address families do not come up because the router is receiving messages from a neighbor that the address family identifier (AFI) or subsequent address family identifiers (SAFI) is not supported, and the router does not retry those AFIs. The output of the **show ip bgp all** command summary shows the address family in NoNeg or idle state, and it will never leave that state. Typical output looks like:

Neighbor	V	AS	MsgRcvd	MsgSent	TblVer	InQ	OutQ	Up/Down	State/PfxRcd
x.x.x.x	4	1	0	0	1	0	0	never	(NoNeg)

  New Behavior: When the router receives a message that the AFI or SAFI is not supported, the router does not drop the rejected AFIs or SAFIs from subsequent OPEN messages. Instead, the router retries the AFI/SAFI within the existing OPEN message retry timing sequence, but with an exponential backoff (stopping at 10 minutes) applied to decisions about whether to include a particular AFI/SAFI in an OPEN message. The timing of OPEN messages is not changed. Successful negotiation of the AFI results in a reset of the backoff sequence for future attempts. Also, when a BGP connection collision occurs with a session in the ESTABLISHED state, BGP sends a CEASE notification on the newly opened connection, and a keepalive message on the old connection. The new connection is closed. If the old session was stale, the keepalive causes it to be closed. The neighbor will retry its OPEN message after receiving the CEASE message and waiting a few seconds.

- The summary address is not advertised to the peer.

  Old behavior: The summary address is advertised to the peer if the administrative distance is configured as 255.

  New behavior: The summary address is not advertised to the peer if the administrative distance is configured as 255.

- The maximum transmission unit (MTU) and Time-to-Live (TTL) rate limiters are enabled by default.

  Old Behavior: The MTU and TTL rate limiters were not enabled by default.

  New Behavior: The MTU and TTL rate limiters are enabled by default. The default values are 970 and 97, respectively.

  Additional Information:

  http://www.cisco.com/en/US/docs/routers/7600/ios/12.2SR/configuration/guide/dos.html#wp1163490

- Rate limit SIP200_MP-4-PAUSE message to avoid console flooding

  Old Behavior: In a scaled scenario, SIP200_MP-4-PAUSE messages take on substantial logging space and in the process other important logs might get missed.

  New Behavior: SIP200_MP-4-PAUSE message to avoid console flooding.

  Rate limit SIP200_MP-4-PAUSE ensures that one pause message is logged per unique occurrence across the SIP200 reloads and the subsequent occurrences are only statistically accounted.

  Additional Information:

  http://www.cisco.com/en/US/docs/interfaces_modules/shared_port_adapters/configuration/7600series/76tblsip.html

- Disable NP crashinfo for all Network Processor exceptions.

  Old Behavior: A fix is required to reduce the Network Processor (NP) reload time.

  New Behavior: Network Processor crashinfo is disabled for all Network Processor exceptions by default.

  This fix disables crashinfo generation for all SIP400 Network Processor exceptions. This helps in improving the Network Processor reload time.

  Additional Information:

  http://www.cisco.com/en/US/docs/interfaces_modules/shared_port_adapters/configuration/7600series/76ovwsip.html

- The lease time for an IP address that is assigned from a Cisco IOS DHCP server to a DHCP client is changed.

  Old Behavior: DHCP server was sending infinite lease time to manual binding clients.

  New Behavior: The DHCP server sends a finite lease (the value configured using the **lease** command in DHCP pool configuration mode) to the clients for which manual bindings are configured.

- Two new keywords, **protocol** and **pbr**, were added to the **mode route** command.

  Old Behavior: Destination-only traffic classes cannot be controlled when more than one protocol is operating at the border routers.

  New Behavior: Destination-only traffic classes can be controlled when more than one protocol is operating at the border routers using dynamic policy-based routing (PBR).

  Additional Information:

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

Deferrals

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

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

Field Notices and Bulletins

- Field Notices—Cisco recommends that you view the field notices for this release to see if your software or hardware platforms are affected. You can find field notices at http://www.cisco.com/en/US/support/tsd_products_field_notice_summary.html.
- Bulletins—You can find bulletins at http://www.cisco.com/en/US/products/sw/iosswrel/ps5012/prod_literature.html.