Release Notes for Cisco 1000 Series Integrated Services Routers, Cisco IOS XE Amsterdam 17.2.x

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About Cisco 1000 Series Integrated Services Routers

The Cisco 1000 Series Integrated Services Routers (also referred to as router in this document) are powerful fixed branch routers based on the Cisco IOS XE operating system. They are multi-core routers with separate core for data plane and control plane. There are two primary models with 8 LAN ports and 4 LAN ports. Features such as Smart Licensing, VDSL2 and ADSL2/2+, 802.11ac with Wave 2, 4G LTE-Advanced and 3G/4G LTE and LTEA Omnidirectional Dipole Antenna (LTE-ANTM-SMA-D) are supported on the router.

Note Cisco IOS XE Bengaluru 17.5.1a is the first release for Cisco 1000 Series Integrated Services Routers in the Cisco IOS XE Bengaluru 17.5.1 release series.

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New and Enhanced Hardware and Software Features

New and Changed Hardware Features

New Hardware Features

There are no new or changed hardware features in the Cisco IOS XE Amsterdam 17.2.1r release.

New and Changed Software Features

New Software Features

Cisco IOS XE Amsterdam 17.2.1r is the first release for Cisco 1000 Series Integrated Services Routers in the Cisco IOS XE Amsterdam 17.2.1 release series.

- Install and Deploy Cisco IOS XE and Cisco IOS XE SD-WAN Functionality on Edge Routers: This feature supports the use of a single universalk9 image to deploy Cisco IOS XE SD-WAN and Cisco IOS XE functionality on all the supported devices. The universalk9 image supports two modes - Autonomous mode (IOS XE features) and controlled mode (SD-WAN features).

- 6VPE over DMVPN with IPv6 Transport: With IPv6 support over DMVPN Provider Edge Routers (6VPE), you can create multi-tenant IPv6 LAN prefixes using an IPv6 DMVPN transport over the IPv4 overlay network

- Block BGP Dynamic Neighbor Sessions: With this feature, you can block a router from establishing BGP dynamic neighbor sessions with certain nodes in a BGP peer group; these nodes are identified with their IP addresses. The ability to shut down or prevent the creation of BGP dynamic neighbor sessions may be useful when a peer needs maintenance.

- CPLD Field-Programmable Upgrade: The field-programmable upgrade is performed on a need basis to address any specific issues with the hardware-programmable devices. During an upgrade, you can use field-programmable commands to display the package file version, display progress or perform a CPLD upgrade.

- Control Router Access with Passwords and Privilege Levels: A simple way of providing terminal access control in your network is to use passwords and assign privilege levels. Password protection restricts access to a network or network device. Privilege levels define commands that users can enter after they have logged into a network device.

- CUBE: Smart License Trunk Side Counting: Support for Smart Licensing is based on dynamic call counting.

  For a more detailed overview on Cisco Licensing, go to https://cisco.com/go/licensingguide.

- Debug Commands for PIM and VRF: This feature introduces debug commands for VRF (debug condition vrf) and PIM (debug ip pim) details, where, the **debug condition vrf** command limits the debug output to a specific virtual routing and forwarding (VRF) instance. And the **debug ip pim** command displays the PIM packets received and transmitted, as well as any PIM related events.

- DHCP Unicast Support on IOS-XE: This feature introduces support for unicast mode on DHCP, which helps in splitting the horizon, and therefore improving security of the network.

- EBGP Route Propagation without Policies: With this feature, you can configure an EBGP router to not propagate routes to and from an EBGP neighbor when at least one inbound and one outbound policy are not configured for the neighbor.

- Fail Close Revert Mode: When there is no rekey or the group member is unable to re-register to the key server, group members in GETVPN can remove the downloaded key server policy, and therefore returns to the fail close mode.

- L2TP - Tunneling and Forwarding Protocols: The Layer2 Tunneling Protocol on the Cisco 1000 Integrated Services Routers platform now allows L2TP tunnelling and forwarding of Layer2 protocols.

- L2TPv3 on Switch Virtual Interface: Routed interfaces and sub interfaces supports L2TPv3, which is now extended to Service Virtual interface (SVI).

- LISP Support for TCP Authentication Option: Use TCP Authentication Option (TCP AO) to secure against spoofed TCP segments in the sessions between an ETR and an MS.

- NetFlow Exported Packet with VPN-ID: With VPN-ID in netflow exported packet, you can now identify a VPN using the MPLS VPN-ID.

- Partial Configuration on CPE: With this feature, you can now apply the partial configuration of the CPE using the download RPC method in CWMP instead of a manual configuration.

- Reset Button: This functionality is used to recover the Cisco 1000 series ISRs that go into non-responsive mode. To boot a non-responsive device, press the Reset button to install the preconfigured "golden.bin" image and "golden.cfg" configurations.

- Support for Spoke Nodes in MPLS over DMVPN: You can now configure a spoke node as either a P node or PE node in an MPLS over DMVPN deployment. To configure the spoke node, MP-BGP is required to redistribute the route or label information between the spoke node and a PE node behind it.

ROMmon Compatibility Matrix

The following table lists the ROMmon releases supported in Cisco IOS XE 16.x.x releases and Cisco IOS XE 17.x.x releases

Table 1: Minimum and Recommended ROMmon Releases Supported on Cisco 1000 Series Integrated Services Routers
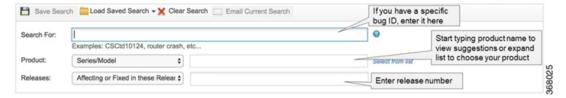
Cisco IOS XE Release	Minimum ROMmon Release Supported for IOS XE	Recommended ROMmon Release Supported for IOS XE
16.6.x	16.6(1r)	16.6(1r)
16.7.x	16.6(1r)	16.6(1r)
16.8.x	16.8(1r)	16.8(1r)
16.9.x	16.9(1r)	16.9(1r)
16.10.x	16.9(1r)	16.9(1r)
16.11.x	16.9(1r)	16.9(1r)
16.12.x	16.9(1r)	16.12(1r)
17.2.x	16.9(1r)	16.12(1r)

Resolved and Open Bugs
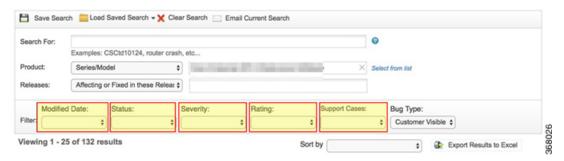
About the Cisco Bug Search Tool

Use the Cisco Bug Search Tool to access open and resolved bugs for a release.

The tool allows you to search for a specific bug ID, or for all bugs specific to a product and a release.

You can filter the search results by last modified date, bug status (open, resolved), severity, rating, and support cases.

Resolved Bugs in Cisco IOS XE Amsterdam 17.2.2

Caveat ID Number	Description
CSCvh24730	PfRv3: Crash while Printing the Same TCA Message
CSCvp24405	Router crashes after adding macsec reply-protection command on an interface
CSCvp88044	Performance Monitor crash
CSCvq42698	Update "bandwidth remaining percent" doesn't take effective reliably on datapath
CSCvr76593	Memory leak in CC-API_VCM and CCSIP_SPI_CONTROL
CSCvr85094	Enabling Telemetry can cause router to crash.
CSCvs30625	SRTP - RTP Crash on ASR with GCM Ciphers
CSCvs42075	crash with shared-line command
CSCvs90555	Template push fails when enabling ipv4 addr family on BGP ipv4 neighbor
CSCvs92677	Crash when removing interface not running isis but has isis config
CSCvt02567	bgp crash @ bgp_db_ipstr2address when get bgp neighbor via bgp-oper yang
CSCvt15007	Unable to detach device from Integration Management
CSCvt16988	Existing configuration on a cEdge could not be modified by a new template
CSCvt18190	Router crash when doing **show bgp ipv6 unicast summary**
CSCvt19772	Stackwise Virtual FMAN-RP IPC channel stuck (paused)

Caveat ID Number	Description
CSCvt21373	unexpected reload in CPP ucode forced by nat 514.
CSCvt33018	MACsec 128/256 XPN on 40g/100g, stop passing traffic for one of AN and interface link flap seen
CSCvt38466	SNMP TIMETICKS difference between sysUpTime vs ipslaEtherJAggStatsStartTimeId
CSCvt40021	Omp-tag is not being set via route-map configuration under bgp
CSCvt46635	Traffic is not getting optimized and it goes as PT connections on CSR router reload in 17.2.1
CSCvt54359	BGP config does not rollback if template push errors out
CSCvt57181	Leaf sends packets to a wrong BVI MAC of ASR GOLF routers
CSCvt58616	L2VPN Crash @ Process = XC Mgr
CSCvt58858	Incorrect CEF programming for local SVI
CSCvt60040	VPLS:MAC learning not happening on SSO
CSCvt60979	1731: ODN Policy for Global prefix still UP even after withdrawing global routes
CSCvt65588	FlexVPN IKEv2 Tunnel route removed after establishing new IKEv2 SA to another peer
CSCvt67752	Object (IPv6 ACL) stuck in forwarding data plane. No ipv6 traffic goes towards the upstream router
CSCvt73592	missing/corrupt IOS-XE PKSC10 format
CSCvt74694	Cert validation failures seen for traffic after template push with SSL
CSCvt76409	Crash due to "Crimson flush transactions Process"
CSCvt78405	Code review: Just fire assert when we reach limit of counter
CSCvt89337	Incorrect Source IP when resolving DNS
CSCvt89441	IOS-XE device crashed with CGD shared memory corruption freed by FMAN-FP
CSCvt94577	Incorrect CEF entry for LISP action signal-fwd
CSCvt98034	BGP communities: changes to route-map which sets BGP communities discards existing communities
CSCvu15043	IR1101 ZBFW blocks good traffic due to Windows Scaling Factor
CSCvu22576	Keepalive CLI needs to be unhidden for GRE tunnel
CSCvu23567	RSP3: BGP crash seen on Stand by router when 100 BGP sessions are established.
CSCvu26678	Some qos config lost during upgrade to 17.02

Caveat ID Number	Description
CSCvu26741	Punt-Keepalive crash with lsmpi_lo_drv and container app traffic.
CSCvu27813	Complete Traffic drop seen on Head Node Post configuring Binding SID on PFP Policy
CSCvu34381	Packets are not dropped as expected in selfzone to zone vpn 0 firewall config
CSCvu52218	Router crashes frequently on NBAR
CSCvu54786	Crash on configuring a highest key identifier for OSPF authentication under an interface
CSCvu65669	Traffic drop from branch overlay ping to service side without zp vpn1 to vpn1 when FW & IPS enabled
CSCvu66723	Evaluation of CVE-2020-10188 - Cisco IOS XE Persistent Telnet
CSCvu80644	LSP Checksum error when default-info originate is configured
CSCvu89033	Template push error due to NAT-MIB process helper traceback/warm restart
CSCvu99616	Snort initiate reset and Failed to load - Real websites in Browser
CSCvv13193	Memory leak 'Admin group' with some triggers in ISIS
CSCvv16164	RSVP TE is not working for broadcast interfaces due to CSCvu94532

Open Caveats in Cisco IOS XE Amsterdam 17.2.2

Caveat ID Number	Description
CSCvs87249	DHCP Server configuration inn Vmanage Template for a Cedge change order of the DNS servers
CSCvt51568	Unexpected Reload due to Sessmgr
CSCvu04160	Unexpected Reload in Device Classifier Code due to Segmentation Fault
CSCvv03229	Crash in sre_dp_traverse_dfa_legacy as SIP invite messages crosses a GRE Tunnel
CSCvv11423	Remote EID space prefix not installed in CEF when overlapping prefix exists as Local EID
CSCvv47691	Reload: IOS-XE router crashing due to DN mismatch
CSCvv71238	Sup crashed with cpp-bqs fatal

Resolved Bugs in Cisco IOS XE Amsterdam 17.2.1r

Caveat ID Number	Description
CSCvg79330	enable platform ipsec control plane conditional debug might cause FP/QFP IPsec outbound SA leak

Caveat ID Number	Description
CSCvp72039	Ucode crash in infra with injected jumbo packet
CSCvq43550	C1111-4P doesn't restart authentication for "clear authen session" if "authen open" the port
CSCvq47444	CLI "config-exchange request" for any ikev2 profile has inconsistent behavior between IOS and confd
CSCvq71864	Crash after executing "show archive config differences"
CSCvq75610	freed rpi_parent is hit when deleting parent route by route update event
CSCvq81620	Router crashes with ZBF HA sync.
CSCvq85556	QoS configuration download failed when device reloading
CSCvq85913	FlexVPN with password encryption -- after MasterKey change password in profile is not working
CSCvq87063	getvpn suiteb:KS sends delete payload to gm's while scheduled rekey after primary KS dead/readded
CSCvq90361	NHRP process crash on using same tunnel address on multiple spokes
CSCvq93850	Passive FTP will fail when going over NAT and either client or server are off a SM-X-ES3
CSCvq98095	Gi0/0/0 interface stays up/up and LED green after cable removed
CSCvq99498	Crashes when trying to bring-up / bring-down IPsec crypto session for OSPFv3
CSCvr00983	Unrecoverable Error with PVDM in 0/4 and Thule+dreamliner in 1/0 on ISR4300
CSCvr01327	incorrect Total number of translations on show ip nat translations
CSCvr01454	Punt fragment crash when receive EoGRE packets which have many fragments
CSCvr05193	IOS PKI	Intermittently SubCA fails to rollover
CSCvr05214	NAT translation table is removed before IKE SA deleted when idle timeout occur
CSCvr17169	qfp ucode crash with media monitor
CSCvr18570	When user cancel Call Forward All from the analog phone, user can't hear the confirmation tone
CSCvr24498	keyman_rp Memory Leak
CSCvr26524	Crash due to NBAR classification
CSCvr31188	GETVPN gikev2 Secondary KS doesn't push new policy after merging split condition
CSCvr33415	Router may crash unexpectedly with Segmentation fault(11), Process = DSMP

Caveat ID Number	Description
CSCvr39932	IPSEC install failed IPSEC_PAL_SA shows "unexpected number of parents"
CSCvr42776	FMAN crashed after firewall reconfiguration
CSCvr42823	Umbrella local domain bypass list is not programmed to DP, FMFP-3-OBJ_DWNLD_TO_DP_FAILED
CSCvr48349	ESP ucode crashed when running NAT with bpa (CGN)
CSCvr55746	Device becomes unresponsive when configuring l2vpn context
CSCvr57565	MGCP Calls with SRTP fail to connect with Cause Value=47 due to T.38 calls
CSCvr61217	GetVPN-ISR4461// Getvpn traffic is failing with Transport mode with all the versions.
CSCvr65986	ISR1K: dot1q-tunneling ports broadcast unknown unicast traffic to all other local switch ports
CSCvr89957	CFT crashed frequently
CSCvr89973	NIM interfaces go into shutdown after router bootup.
CSCvr96597	IOS-XE crash after doing a SCEP enrollment
CSCvs00410	MKA session up but unable to pass data across link using AES-256-XPN cipher
CSCvs02000	%IOSXE-3-PLATFORM: R0/0: kernel: DMA: Out of SW-IOMMU space
CSCvs04194	Process = Exec crash seen on dmap longevity testbed with clear cry sa peer several times
CSCvs05043	ESP40 crash in CGN mode after apply "ip nat setting mode cgn" and "no shut" interface
CSCvs07609	Portchannel stats not working on ASR1002-HX
CSCvs08681	Crash triggered with IPv6, IPv4, PPPoE, PortChannel and NAT
CSCvs13960	IWAN High CPU and Memory
CSCvs18317	C1111X-8P Sku tagged to 4P software tag incorrectly
CSCvs29535	IWAN crash related to DCA channel
CSCvs70052	ALG with NAT trigger a crash when a DNS writeback occurs
CSCvs86573	Connect message is never forwarded to the calling side

Open Caveats in Cisco IOS XE Amsterdam 17.2.1r

Caveat ID Number	Description
CSCvh24730	PfRv3: Crash while Printing the Same TCA Message

Caveat ID Number	Description
CSCvp88044	Performance Monitor crash

Related Information

- Datasheet for Cisco 1000 Series Integrated Services Routers

- Overview of Cisco 1000 Series Integrated Services Routers

- ROMmon Overview and Basic Procedures

- Software Configuration Guide for Cisco 1000 Series Integrated Services Routers