

Release Notes for Cisco CRS for Cisco IOS XR Software Release 5.2.2

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Cisco IOS XR Software is a distributed operating system designed for continuous system operation combined with service flexibility and higher performance.

This release notes describe the features provided in the Cisco IOS XR Software Release 5.2.2 for the Cisco CRS Routers and are updated as needed.



Note

For information on the Cisco CRS Routers running Cisco IOS XR Software Release 5.2.2, see the [Important Notes](#), on page 73.

You can find the most current Cisco IOS XR software documentation at:

http://www.cisco.com/en/US/products/ps5763/tsd_products_support_series_home.html

This electronic documents may contain updates and modifications. For more information on obtaining Cisco documentation, see the [Obtaining Documentation and Submitting a Service Request](#), on page 80 section.

For a list of software caveats that apply to Cisco IOS XR Software Release see the Caveats section.

We recommend that you view the field notices for this release located at the following URL to see if your software or hardware platforms are affected:

<http://www.cisco.com/c/en/us/support/routers/carrier-routing-system/products-field-notices-list.html>

Cisco IOS XR Software running on the Cisco CRS Router provides the following features and benefits:

- **IP and Routing**—This supports a wide range of IPv4 and IPv6 services and routing protocols such as Border Gateway Protocol (BGP), Routing Information Protocol (RIPv2), Intermediate System-to-Intermediate System (IS-IS), Open Shortest Path First (OSPF), IP Multicast, Routing Policy Language (RPL), , Hot Standby Router Protocol (HSRP), and Virtual Router Redundancy Protocol (VRRP) features.
- **BGP Prefix Independent Convergence**—This provides the ability to converge BGP routes within sub seconds instead of multiple seconds. The Forwarding Information Base (FIB) is updated, independent of a prefix, to converge multiple 100K BGP routes with the occurrence of a single failure. This convergence is applicable to both core and edge failures and with or without MPLS. This fast convergence innovation is unique to Cisco IOS XR Software.
- **Multiprotocol Label Switching (MPLS)**—This supports MPLS protocols, including Traffic Engineering (TE), Resource Reservation Protocol (RSVP), Label Distribution Protocol (LDP), Virtual Private LAN Service (VPLS), Layer 2 Virtual Private Network (L2VPN), and Layer 3 Virtual Private Network (L3VPN).
- **Multicast**—This provides comprehensive IP Multicast software including Source Specific Multicast (SSM) and Protocol Independent Multicast (PIM) in Sparse Mode only.

- **Quality of Service (QoS)**—This supports QoS mechanisms including policing, marking, queuing, random and hard traffic dropping, and shaping. Additionally, Cisco IOS XR Software also supports modular QoS command-line interface (MQC). MQC is used to configure QoS features.
- **Manageability**—This provides industry-standard management interfaces including modular command-line interface (CLI), Simple Network Management Protocol (SNMP), and native Extensible Markup Language (XML) interfaces. Includes a comprehensive set of Syslog messages.
- **Security**—This provides comprehensive network security features including access control lists (ACLs); routing authentications; Authentication, Authorization, and Accounting (AAA)/Terminal Access Controller Access Control System (TACACS+), Secure Shell (SSH), Management Plane Protection (MPP) for management plane security, and Simple Network Management Protocol version3 (SNMPv3). Control plane protections integrated into line card Application-Specific Integrated Circuits (ASICs) include Generalized TTL Security Mechanism (GTSM), RFC 3682, and Dynamic Control Plane Protection (DCPP).
- **Availability**—This supports rich availability features such as fault containment, fault tolerance, fast switchover, link aggregation, nonstop routing for ISIS, LDP, BGP, OSPF, and nonstop forwarding (NSF).
- **Multicast service delivery in SP NGN**—MVPNv4 support carries multicast traffic over an ISP MPLS core network.
- **IPv6 Provider Edge Router support for IPv6 applications**—This delivers IPv6 traffic over an IPv4/MPLS core with IPv6 provider edge router (6PE) support.
- **IPv6 VPN over MPLS (6VPE) support**—This delivers IPv6 VPN over MPLS (IPv6) VPN traffic over an IPv4 or MPLS core with 6VPE support.
- **IPv6 VPN over IP** —This delivers IPv6 VPN over IP traffic.



Note IPv6 VPN over MPLS and IPv6 VPN over IP won't co-exist

- **Carrier Grade Network Address Translation (CGN)**—This enables services providers to execute orderly transitions to IPv6 through mixed IPv4 and IPv6 networks. CGN provides address family translation but is not limited to just translation within one address family. CGN delivers a comprehensive solution suite for IP address management and IPv6 transition.
- **Enhanced core competencies:**
 - IP fast convergence with Fast reroute (FRR) support for Intermediate System-to-Intermediate System (IS-IS) and OSPF
 - Traffic engineering support for unequal load balancing
 - Traffic engineering over generic routing encapsulation (GRE) tunnel interfaces—LDP, L2VPN, and L3VPN over TE over GRE are supported. VPN routes over TE and over GRE, require a labelled path for path resolution
 - VRF support for GRE tunnel interfaces—This support includes GRE tunnel interfaces under a VRF, however the GRE tunnel source and destination are in the global table
 - RSVP support over GRE tunnels
 - Path Computation Element (PCE) capability for traffic engineering

For more information about new features provided on the Cisco CRS router for Cisco IOS XR Software Release, see the Software Features Introduced in Cisco IOS XR Software Release 5.2.2 section in this document.

System Requirements

This section describes the system requirements for Cisco IOS XR Software Release 5.2.2 supported on the Cisco CRS Router.

To determine the software versions or levels of your current system, see the *Determining Your Software Version* section.

Feature Set Table

[Feature Set Table](#), on page 3 lists the Cisco IOS XR Software feature set matrix (PIE files) and associated filenames available for the Cisco IOS XR Software Release 5.2.2 supported on the Cisco CRS router.

Table 1: Cisco IOS XR Software Release 5.2.2 PIE Files

Feature Set	Filename	Description
Composite Package		
Cisco IOS XR IP Unicast Routing Core Bundle	hfr-mini-px.pie-5.2.2	Contains the required core packages, including OS, Admin, Base, Forwarding, Modular Services Card, Routing, SNMP Agent, and Alarm Correlation.
Cisco IOS XR IP Unicast Routing Core Bundle	hfr-mini-px.vm-5.2.2	Contains the required core packages including OS, Admin, Base, Forwarding, Modular Services Card, Routing, SNMP Agent, and Alarm Correlation.
Optional Individual Packages (Packages are installed individually)		
Cisco IOS XR Manageability Package	hfr-mgbl-px.pie-5.2.2	Common Object Request Broker Architecture (CORBA) agent, Extensible Markup Language (XML) Parser, and HTTP server packages.

Cisco IOS XR MPLS Package	hfr-mpls-px.pie-5.2.2	MPLS Traffic Engineering (MPLS-TE), Label Distribution Protocol (LDP), MPLS Forwarding, MPLS Operations, Administration, and Maintenance (OAM), Link Manager Protocol (LMP), Optical User Network Interface (OUNI), Resource Reservation Protocol (RSVP), and Layer-3 VPN.
Cisco IOS XR Multicast Package	hfr-mcast-px.pie-5.2.2	Multicast Routing Protocols (PIM), Multicast Source Discovery Protocol [MSDP], Internet Group Management Protocol [IGMP], Auto-RP), Tools (SAP, MTrace), and Infrastructure [(Multicast Routing Information Base [MRIB], Multicast-Unicast RIB [MURIB], Multicast forwarding [MFWD]), and Bidirectional Protocol Independent Multicast (BIDIR-PIM).
Cisco IOS XR Security Package	hfr-k9sec-px.pie-5.2.2	Support for Encryption, Decryption, IP Security (IPSec), Secure Shell (SSH), Secure Socket Layer (SSL), and Public-key infrastructure (PKI) (Software based IPSec support—maximum of 500 tunnels)
Cisco IOS XR FPD Package	hfr-fpd-px.pie-5.2.2	Firmware for Fixed Physical layer interface module (PLIM) and Shared port adapters (SPA) modules as well as ROM monitor (ROMMON) images for Cisco CRS chassis.
Cisco IOS XR Diagnostic Package	hfr-diags-px.pie-5.2.2	Diagnostic utilities for Cisco IOS XR routers.
Cisco IOS XR Documentation Package	hfr-doc-px.pie-5.2.2	.man pages for Cisco IOS XR Software on the Cisco CRS chassis.
Cisco IOS XR Video Package	hfr-video-px.pie-5.2.2	Support for Video Monitoring on Cisco CRS routers.

Cisco IOS XR Carrier Grade Services Engine Package	hfr-services-px.pie-5.2.2	Support for Carrier Grade NAT and Cloud Centric Networking on Cisco CRS routers.
Cisco IOS XR Satellite Package	hfr-asr9000v-nV-px.pie-5.2.2	Includes binaries to support Cisco ASR9000v Series Router Software.
Cisco IOS XR Lawful Intercept (LI) Package	hfr-li-px.pie5.2.2	Includes LI software images.

Table 2: Cisco IOS XR Software Release 5.2.2 TAR Files

Feature Set	Filename	Description
Cisco IOS XR IP/MPLS Core Software	CRS-iosxr-px-5.2.2.tar	<ul style="list-style-type: none"> • Cisco IOS XR IP Unicast Routing Core Bundle • Cisco IOS XR Manageability Package • Cisco IOS MPLS Package • Cisco IOS XR Multicast Package • Cisco IOS XR Diagnostic Package • Cisco IOS XR FPD Package • Cisco IOS XR Lawful Intercept Package

Feature Set	Filename	Description
Cisco IOS XR IP/MPLS Core Software 3DES	CRS-iosxr-px-k9-5.2.2.tar	<ul style="list-style-type: none"> • Cisco IOS XR IP Unicast Routing Core Bundle • Cisco IOS XR Manageability Package • Cisco IOS XR MPLS Package • Cisco IOS XR Multicast Package • Cisco IOS XR Security Package • Cisco IOS XR Diagnostic Package • Cisco IOS XR FPD Package • Cisco IOS XR Lawful Intercept Package

Memory Requirements



Caution

If you remove the media in which the software image or configuration is stored, the router may become unstable and fail.

The minimum memory requirements for a Cisco CRS running Cisco IOS XR Software Release 5.2.2 consist of the following:

- 4 GB memory on the route processors (RPs)
- 4 GB PCMCIA Flash Disk on the route processors (RPs)

Supported Hardware

The following tables lists the supported hardware components on the Cisco CRS Router and the minimum required software versions. For more information, see the *Firmware Support* section.

All hardware features are supported on Cisco IOS XR Software, subject to the memory requirements specified in the *Memory Requirements* section.

Table 3: Cisco CRS Supported Hardware and Minimum Software Requirements

Component	Part Number	Support from version
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Cisco CRS Series 16-Slot Line Card Chassis		
Cisco CRS 16-Slot Line Card Chassis	CRS-16-LCC	3.2
Cisco CRS Fan Tray for 16-Slot LCC	CRS-16-LCC-FAN-TR	3.2
Cisco CRS Fan Controller for 16-Slot Line Card Chassis	CRS-16-LCC-FAN-CT	3.2
Cisco CRS 16-Slot Alarm Board	CRS-16-ALARM	3.2
Cisco CRS AC Delta Power Shelf for 16-Slot LCC	CRS-16-LCC-PS-ACD	3.2
Cisco CRS AC Wye Power Shelf for 16-Slot LCC	CRS-16-LCC-PS-ACW	3.2
Cisco CRS DC Power Shelf for 16-Slot LCC	CRS-16-LCC-PS-DC	3.2
Cisco CRS LCC Front AC Power Panel	CRS-16-ACGRILLE	3.2
Cisco CRS LCC Front DC Power Panel	CRS-16-DCGRILLE	3.2
Cisco CRS Line Card Chassis Front Doors	CRS-16-LCC-DRS-F	3.2
Cisco CRS Line Card Chassis Front Cable Mgmt	CRS-16-LCC-FRNT	3.2
Cisco CRS LCC Expanded Front Cable Mgmt	CRS-16-LCC-FRNT-E	3.2
Cisco CRS Line Card Chassis Rear Cable Mgmt	CRS-16-LCC-BCK-CM	3.2
Cisco CRS Line Card Chassis Rear Doors	CRS-16-LCC-DRS-R	3.2
Cisco CRS Lift for LCC 16 and FCC	CRS-16-LIFT/B	3.2
Cisco CRS DC PEM for 16 slot LCC and FCC	CRS-16-DC-PEM	3.2
Cisco CRS 16 Slot System Reduced-Noise DC PEM	CRS-16-DC-PEM-B	3.8
Cisco CRS 16 Slot System Reduced-Noise Fan Tray	CRS-16-LCC-FNTR-B	3.8
Cisco CRS Series LC Chassis Fan Controller	CRS-16-LCC-F-CT-B	4.0.1PX
Cisco CRS 16-Slot Enhanced Line Card Chassis	CRS-16-LCC-B	4.0.3
Cisco CRS Modular Power Alarm for 16 slots and FCC	CRS-16-ALARM-C	3.9
Cisco CRS Modular Power Grill For 16 Slots and FCC	CRS-16-PW-GRILL	3.9

Cisco CRS Modular DC Power Shelf for 16 slots LCC	CRS-16LCC-PSH-DC	3.9
Cisco CRS Modular AC Power Shelf for 16 slots LCC	CRS-16LCC-PSH-AC	3.9
Cisco CRS Modular AC Power Module	CRS-PM-AC	3.9
Cisco CRS Series 8-Slot Line Card Chassis		
Cisco CRS 8-Slot Install Kit	CRS-8-INSTALL-KT	N/A
Cisco CRS 8-Slot Fork Lift Tube	CRS-8-LIFT-TUBE	N/A
Cisco CRS 8-Slot Front Badge Panel	CRS-8-BDG-PANEL	N/A
Cisco CRS 8-Slot Front Inlet Grill	CRS-8-FRNT-GRILL	N/A
Cisco CRS 8-Slot Horizontal Install Rails	CRS-8-HRZ-RAILS	N/A
Cisco CRS 8-Slot Line Card Chassis	CRS-8-LCC	3.2
Cisco CRS Fan Tray for 8-Slot Line Card Chassis	CRS-8-LCC-FAN-TR	3.2
Cisco CRS Line Card Chassis Filter Pack	CRS-8-LCC-FILTER	3.2
Cisco CRS AC Pwr Rectifier for 8-Slot LCC	CRS-8-AC-RECT	3.2
Cisco CRS DC Power Entry Module for 8-Slot LCC	CRS-8-DC-PEM	3.2
Cisco CRS AC & DC Power Module Filter for 8-Slot LCC	CRS-8-PWR-FILTER	3.2
Cisco CRS AC Delta PDU for CRS-8 LCC	CRS-8-LCC-PDU-ACD	3.2
Cisco CRS AC Wye PDU for CRS-8 LCC	CRS-8-LCC-PDU-ACW	3.2
Cisco CRS DC PDU for CRS-8 LCC	CRS-8-LCC-PDU-DC	3.2
Cisco CRS 8-Slot Enhanced Line Card Chassis	CRS-8-LCC-B	4.2.0
Cisco CRS Modular DC Power Shelf for 8 slots Chassis	CRS-8-PSH-DC	3.9
Cisco CRS Modular DC Power Module	CRS-PM-DC	3.9
Cisco CRS Modular AC Power Shelf for 8 slots Chassis	CRS-8-PSH-AC	3.9

Cisco CRS Modular AC Power Module	CRS-PM-AC	3.9
Cisco CRS Series 4-Slot Line Card Chassis		
Cisco CRS 4-Slot Line Card Chassis	CRS-4-CH	3.4
Cisco CRS Fabric Chassis Hardware		
Cisco CRS-1 Series Fabric Card Chassis Only	CRS-FCC=	3.2
CRS-1 Fabric Chassis AC Delta Power Kit	CRS-FCC-ACD-KIT	3.2
CRS-1 Fabric Chassis AC Grille	CRS-FCC-ACGRILLE	3.2
CRS-1 Fabric Chassis AC-Wye Power Kit	CRS-FCC-ACW-KIT	3.2
CRS Fabric Chassis DC Power Kit	CRS-FCC-DC-KIT	3.2
CRS-1 Fabric Chassis DC Power Grille	CRS-FCC-DCGRILLE	3.2
CRS Fabric Chassis Lift Bracket	CRS-FCC-LIFT-BRKT	3.2
CRS Fabric Chassis OIM Modules	CRS-FCC-OIM-1S=	3.2
Cisco CRS-1 Series FC Chassis Shelf/Fan/Enet cntr	CRS-FCC-SC-GE=	3.2
CRS-1 Fabric Chassis AC Intake Grille	CRS-FCC-ACGRILLE=	3.2
CRS-1 Fabric Chassis DC Intake Grille	CRS-FCC-DCGRILLE=	3.2
Cisco CRS-1 Series Fan Tray for FCC	CRS-FCC-FAN-TR=	3.2
CRS-1 Fabric Card Chassis Fan Tray Filters	CRS-FCC-FILTER=	3.2
CRS-1 Fabric Chassis Front Cosmetic Kit	CRS-FCC-FRNT-CM=	3.2
Cisco CRS-1 Series Fabric Card Chassis Fiber Module LED	CRS-FCC-LED=	3.2
Cisco CRS-1 Series DC Power Shelf for FCC	CRS-FCC-PS-DC=	3.2
CRS-1 Fabric Chassis Rear Cosmetic Kit	CRS-FCC-REAR-CM=	3.2
CRS-LIFT Brackets for Fabric Chassis	CRS-FCC-LIFT-BRKT=	3.2
CRS Fabric Chassis OIM Module	CRS-FCC-OIM-1S	3.2
CRS-1 Fabric Chassis AC Delta Power Supply	CRS-FCC-PS-ACD	3.2
CRS-1 Fabric Chassis AC Wye Option	CRS-FCC-PS-ACW	3.2

CRS-1 Fabric Chassis DC Power Option	CRS-FCC-PS-DC	3.2
Cisco CRS-1 Series Fabric Card Chassis Switch Fabric Card	CRS-FCC-SFC=	3.2
CRS-1 Fabric Chassis Integrated Switch Controller Card	CRS-FCC-SC-22GE Integrated Switch	3.4.1
Cisco CRS-3 Series Fabric Card Chassis Switch	CRS-FCC-SFC-140	4.0.3
CRS-1 Fabric Chassis Integrated Switch Controller Card - B	CRS-FCC-SC-22GE-B	5.1.3
Cisco CRS-X Fabric Card Chassis Switch Fabric Card (400G)-B	CRS-FCC-SFC-400-B	5.3.3 with hfr-px-5.3.3.CRS.tar SMU tar file
Cisco CRS General Chassis Hardware		
Cisco CRS PCMCIA Flash Disk 4 GB	CRS-FLASH-DISK-4G	3.8
Cisco CRS PCMCIA Flash Disk 16 GB	CRS-FLASH-DISK-16G	4.2
Cisco CRS Modular Service Card	CRS-MSC	3.2
Cisco CRS Modular Service Card B	CRS-MSC-B	3.6
Cisco CRS-1 Series Forwarding Processor 40G	CRS-FP40	3.8.1
Cisco CRS Series Modular Services Card 140G	CRS-MSC-140G	4.0.0 PX
Cisco CRS Series Forwarding Processor Card 140G	CRS-FP140	4.0.0 PX
Cisco CRS-3 Label Switch Processor	CRS-LSP	4.3.0
Cisco CRS 8-Slot Fabric Card/Single	CRS-8-FC/S	3.2
Cisco CRS 8-Slot Fabric Card Blank	CRS-8-FC-BLANK	3.2
Cisco CRS 8-Slot Fabric Handle	CRS-8-FC-HANDLE	3.2
Cisco CRS 16-Slot Fabric Card/Single	CRS-16-FC/S	3.2
Cisco CRS Series 4 Slots Fabric Card / Single (140G)	CRS-4-FC140/S	4.0.0 PX
Cisco CRS Series 8 Slots Fabric Card / Single (140G)	CRS-8-FC140/S	4.0.0 PX
Cisco CRS Series 16 Slots Fabric Card / Single (140G)	CRS-16-FC140/S	4.0.0 PX

Cisco CRS Series 16 Slots Fabric Card / Multi (140G)	CRS-16-FC140/M	4.0.3
Cisco CRS Series 8-Slot Back-to-Back Fabric Card	CRS-8-FC140/M	4.3.1
Cisco CRS Interface and Route Processor Cards		
Cisco Carrier 1 Series SPA Interface Processor 40G	CRS1-SIP-800	3.2
Cisco CRS-1 Distributed Route Processor	CRS-DRP	3.3
Cisco CRS-1 Distributed Route Processor CPU Module	CRS-DRP-B-CPU	3.4.1
Cisco CRS-1 Distributed Route Processor PLIM Module	CRS-DRP-B-PLIM	3.4.1
Cisco CRS Series 14x10GbE LAN/WAN-PHY Interface Module	14X10GBE-WL-XFP	4.0.0 PX
Cisco CRS Series 20x10GbE LAN/WAN-PHY Interface Module	20X10GBE-WL-XFP	4.0.0 PX
Cisco CRS 1-port 100-GE CFP PLIM	1x100-GE CFP PLIM	4.0.1 PX
Cisco CRS 2-port 100-GE and 5-port 40-GE QSFP+combination PLIM	2X100GE-FLEX-40	5.1.3
Cisco CRS-1 Series 8 Slots 6 Gb Performance Route Processor	CRS-8-PRP-6G	4.1
Cisco CRS-1 Series 8 Slots 12 Gb Performance Route Processor	CRS-8-PRP-12G	4.1
Cisco CRS-1 Series 16 Slots 6 Gb Performance Route Processor	CRS-16-PRP-6G	4.1
Cisco CRS-1 Series 16 Slots 12 Gb Performance Route Processor	CRS-16-PRP-12G	4.1
Cisco CRS Series 4x40GbE OTU3 Interface Module	4-40GE-L/OTN	4.2.3
Cisco CRS Series 2x40GbE OTU3 Interface Module	2-40GE-L/OTN	4.2.3
Cisco CRS Series 1x100GbE IPoDWDM Interface Module	1-100GE-DWDM/C	4.2.3

Cisco CRS 80 Gbps Carrier Grade Services Engine PLIM	CRS-CGSE-PLUS	4.3.1
Cisco CRS SONET Interface Modules and SPAs		
Cisco CRS 4xOC-192c/STM64c POS/DPT Interface Module/VS	4OC192-POS/DPT-VS	3.2
Cisco CRS 4xOC-192c/STM64c POS/DPT Interface Module/SR	4OC192-POS/DPT-SR	3.2
Cisco CRS 4xOC-192c/STM64c POS/DPT Interface Module/IR	4OC192-POS/DPT-IR	3.2
Cisco CRS 4xOC-192c/STM64c POS/DPT Interface Module/LR	4OC192-POS/DPT-LR	3.2
Cisco CRS 16xOC-48c/STM16c POS/DPT Interface Module	16OC48-POS/DPT	3.2
Cisco CRS 1xOC-768c/STM256c POS Interface Module/SR	1OC768-POS-SR	3.2
Cisco CRS 8-Port OC-12c/STM-4c Shared Port Adapter	SPA-8XOC12-POS	3.3 on CRS1-SIP-800
Cisco CRS 2-Port OC-48c/STM-16c POS/RPR Shared Port Adapter	SPA-2XOC48-POS/RPR	3.4 on CRS1-SIP-800
Cisco CRS 4-Port OC-48c/STM-16c POS/RPR Shared Port Adapter	SPA-4XOC48-POS/RPR	3.4 on CRS1-SIP-800
Cisco CRS 1-Port OC-192c/STM-64c POS/RPR Shared Port Adapter with XFP Optics	SPA-OC192POS-XFP	3.2 on CRS1-SIP-800
Cisco CRS 4-Port OC-3c/STM-1c Shared Port Adapter	SPA-4XOC3-POS	3.2 on CRS1-SIP-800
Cisco CRS 1-Port OC-192/STM-64 POS/RPR SPA VSR Optics	SPA-OC192POS-VSR	3.4.1 on CRS1-SIP-800
Cisco CRS 1-Port OC-768c/STM-256c (C-band) DWDM PLIM	1OC768-ITU/C	3.3
Cisco CRS 1-Port OC-768c/STM-256c (C-band) DPSK+ DWDM PLIM	1OC768-DPSK/C	3.6
Cisco CRS ATM Modules and SPAs		
3-Port Clear Channel OC-3 ATM SPA	SPA-3XOC3-ATM-V2	3.7 on CRS1-SIP-800

1-Port Clear Channel OC-12 ATM SPA	SPA-1XOC12-ATM-V2	3.7 on CRS1-SIP-800
Cisco CRS Serial Interface Modules and SPAs		
Cisco CRS 4-Port Clear Channel T3/E3 Serial Shared Port Adapter	SPA-4XT3/E3	3.4.1 on CRS1-SIP-800
Cisco CRS 2-Port Clear Channel T3/E3 Serial Shared Port Adapter	SPA-2XT3/E3	3.4.1 on CRS1-SIP-800
Cisco CRS Ethernet Interface Modules and SPAs		
Cisco CRS 8x10 GbE Interface Module LR/ER	8-10GBE	3.2
Cisco 5-Port Gigabit Ethernet Shared Port Adapter, Version 2	SPA-5X1GE-V2	3.4 on CRS1-SIP-800
Cisco 8-Port Gigabit Ethernet Shared Port Adapter, Version 2	SPA-8X1GE-V2	3.4 on CRS1-SIP-800
Cisco 8-Port Gigabit Ethernet Shared Port Adapter	SPA-8X1GE	3.2 on CRS1-SIP-800
Cisco 10-Port Gigabit Ethernet Shared Port Adapter, Version 2	SPA-10X1GE-V2	3.4 on CRS1-SIP-800
Cisco 1-Port Ten Gigabit Ethernet Shared Port Adapter, Version 2	SPA-1X10GE-L-V2	3.4 on CRS1-SIP-800
Cisco 4-Port Ten Gigabit Ethernet (C-band) DWDM PLIM	4-10GE-ITU/C	3.3
Cisco 1-port 10GbE SPA WAN/LAN PHY	SPA-1X10GE-WL-V2	3.5.2 on CRS1-SIP-800
Cisco CRS-1 Series 4x10GE Interface Module	4-10GE	3.8.1
Cisco CRS-1 Series 42x1GE Interface Module	42-1GE	3.8.1
Cisco CRS-1 Series 8-Port Ten Gigabit Ethernet Interface Module	8-10GBE-WL-XFP	3.9.1
Cisco CRS-1 Series 4-Port Ten Gigabit Ethernet Interface Module	4-10GBE-WL-XFP	3.8.4
Cisco CRS-1 Series 20x1GE Flexible Interface Module	20-1GE-FLEX	3.8.1
Cisco CRS-1 Series 2x10GE WAN/LAN Flexible Interface Module	2-10GE-WL-FLEX	3.8.1
Cisco CRS 10GE Optical to Electrical Modules		

10GBASE-LR XENPAK Module for Cisco CRS	XENPAK-10GB-LR+	3.4
10GBASE-DWDM XENPAK	XENPAK-10GB-DWDM	3.2.2
10GBASE-ER XENPAK Modular for Cisco CRS-1	XENPAK-10GB-ER	3.4
10GBASE-ER XENPAK Modular for Cisco CRS-1	XENPAK-10GB-ER+	3.4
Cisco 10GBASE-SR XFP Module for MMF	XFP-10G-MM-SR	3.8
Cisco Multirate 10GBASE-LR/-LW and OC-192/STM-64 SR-1 XFP Module for SMF	XFP-10GLR-OC192SR	3.4
Cisco Multirate 10GBASE-LR/-LW and OC-192/STM-64 SR-1 XFP Module for SMF, low power (1.5W)	XFP10GLR-192SR-L	3.8.4, 3.9.1
Cisco Multirate 10GBASE-ER/-EW and OC-192/STM-64 IR-2 XFP Module for SMF	XFP-10GER-192IR+	3.4
Cisco Multirate 10GBASE-ER/-EW and OC-192/STM-64 IR-2 XFP Module for SMF, low power (2.5W)	XFP10GER-192IR-L	3.8.4, 3.9.1
Cisco Multirate 10GBASE-ZR/-ZW and OC-192/STM-64 IR-2 XFP Module for SMF	XFP-10GZR-OC192LR	3.4
Cisco fixed rate Dense Wavelength-Division Multiplexing XFP Modules	DWDM-XFP-30.33 through DWDM-XFP-59.79	NA
Cisco 10GBASE Dense Wavelength-Division Multiplexing XFP Module	DWDM-XFP-C	4.2.3
Cisco CRS SFPs and CFPs		
Cisco CRS 2.5 G SFP LR Optic	POM-OC48-LR2-LC-C	3.2
Cisco CRS 2.5 G SFP SR Optic	POM-OC48-SR-LC-C	3.2
GE SFP, LC connector LX/LH transceiver	GLC-LH-SM	3.2
1000BASE-SX SFP transceiver module, MMF, 850nm, DOM	GLC-SX-MMD	3.6
1000BASE-LX/LH SFP transceiver module, MMF/SMF, 1310nm, DOM	GLC-LH-SMD	3.6
1000BASE-LX/LH SFP	SFP-GE-L	3.4

1000BASE-SX SFP (DOM)	SFP-GE-S	3.4
1000BASE-T SFP (NEBS 3 ESD)	SFP-GE-T	3.4
1000BASE-ZX Gigabit Ethernet SFP (DOM)	SFP-GE-Z	3.4
100GBASE-LR4 CFP transceiver module for SMF, 1310-nm wavelength, SC duplex connector	CFP-100G-LR4	4.0
100 Gigabit Ethernet over 10 short-reach optical lanes (SR10) optics (multimode fiber)	CFP-100G-SR10	4.2.1
100-Gigabit Ethernet C Form-factor Pluggable (CFP) optics module - CFP-100G-ER4	CFP-100G-ER4	5.1.2
40-Gigabit Ethernet C Form-factor Pluggable (CFP) optics module - 40GBASE-LR4	CFP-40G-LR4	4.2.3
40-Gigabit Ethernet C Form-factor Pluggable (CFP) optics module - 40GBASE-SR4	CFP-40G-SR4	4.2.3
40-Gigabit Ethernet C Form-factor Pluggable (CFP) optics module - 40GBASE-FR	CFP-40G-FR	4.2.3
Cisco 40GBASE-SR4 QSFP Module	QSFP-40G-SR4	5.1.3
Cisco 40GBASE-LR4 QSFP Module	QSFP-40G-LR4	5.1.3

- For all slots (except slots 1 & 6): 24 ports of 10GE ER per 24x10GE LC
- For slots 1 & 6: 12 ports of 10GE ER and remaining 12 ports of SR/LR per 24x10GE LC



Note This is applicable at 40 degrees C.

Hardware Not Supported

The following hardware are not supported:

Component	Part Number
Cisco CRS-1 16-Slot Line-Card Chassis Route Processor	CRS-16-RP
Cisco CRS PCMCIA Flash Disk 2 GB	CRS-FLASH-DISK-2G

**Note**

- CRS supports PRP for all Single chassis and Multichassis configurations, due to its significant advantages in improving boot time, performance, and scale. For information on End-of-Sale and End-of-Life Announcement for the Cisco CRS 8-Slot and 16-slot Line Card Chassis Route Processors:
http://www.cisco.com/en/US/prod/collateral/routers/ps5763/end_of_life_notice_c51-695816.html
http://www.cisco.com/en/US/prod/collateral/routers/ps5763/end_of_life_notice_c51-695817.html
- Cisco Session Border Controller (SBC) is not supported. Cisco IOS XR Software Release 3.7 is the last release that supports SBC.
- Cisco CRS-1 Series Forwarding Processor 40G (CRS-FP40) is not supported on Cisco CRS 16-Slot chassis.

CRS-FP140 Licenses

The following licenses apply to the CRS-FP140:

Licence	Description
XC-ENH-NF-140G	Cisco CRS Series Enhanced Netflow Performance License 140G
XC-L2L3VPN-140G	Cisco CRS Series L2 and L3 VPN Peering Edge License 140G
XC-RTE-SCL-140G	Cisco CRS Series Route Scale License 140G
XC-TE-SCL-140G	Cisco CRS Series Traffic Engineering Scale License 140G
XC-MC-LIC-140G	Cisco CRS Series Multichassis License 140G

CRS-FP140 also supports eDelivery licenses, which can be downloaded as the License Certificates in PDF format.

For further information or questions, please visit <http://www.cisco.com/web/partners/tools/edelivery.html>.

eDelivery PID	Description
L-XC-ENH-NF-140G=	Cisco CRS Series Enhanced NetFlow License 140G
L-XC-RTE-SCL-140G=	Cisco CRS Series Route Scale License 140G
L-XC-MC-LIC-140G=	Cisco CRS Series Multichassis License 140G
L-XC-TE-SCL-140G=	Cisco CRS Series Traffic Engineering Scale License 140G

L-XC-L2L3VPN-140G=	Cisco CRS Series L2 L3 VPN Peering Edge License 140G
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Software Compatibility

Cisco IOS XR Software Release 5.2.2 is compatible with the following Cisco CRS-1 and CRS-3 systems:

- Cisco CRS 4-Slot Single Chassis System
- Cisco CRS 8-Slot Single Chassis System
- Cisco CRS 16-Slot Single Chassis System
- Cisco CRS Multichassis Systems

Cisco IOS XR Software Release 5.2.2 is compatible with the following Cisco CRS-3 system:

- Cisco CRS Back-to-Back System

```
RP/0/RP0/CPU0:router#LC/0/0/CPU0:Dec 15 17:57:53.653 : rsi_agent[247]:
%LICENSE-ASR9K_LICENSE-2-INFRA_VRF_NEEDED : 5 VRF(s) are configured without license
A9K-iVRF-LIC in violation of the Software Right To Use Agreement. This feature may be
disabled by the system without the appropriate license. Contact Cisco to purchase the
license immediately to avoid potential service interruption.
```

Firmware Support

To check the firmware code running on the Cisco CRS Router, run the **show fpd package** command in admin mode.

- The bundled ROMMON version is 2.10.
- For details about minimum required firmware versions please refer to **admin show fpd package** (see below).
- To upgrade firmware use the **admin upgrade hw-module fpd** command. Alternatively, refer to the fpd auto-upgrade feature.

```
RP/0/RP0/CPU0:router(admin)#show fpd package
```

```
=====
                          Field Programmable Device Package
=====
```

Card Type	FPD Description	Type	Subtype	SW Version	Min Req SW Ver	Min Req HW Vers
PRP	FPGA ZJF uBlaze	1c	fpga2	0.01	0.00	0.0
	S-8 FPGA Nirvana	1c	fpga3	14.00	0.00	0.0
	FPGA BCM 8727	1c	fpga4	0.01	0.00	0.0
	FPGA MCU	1c	fpga5	0.01	0.00	0.0
	FPGA CPU ZJF	1c	fpga1	7.00	0.00	0.0
	ROMMONA swv2.10 x86mp	1c	rommonA	2.10	2.09	0.0

	ROMMONB swv2.10 x86mp	lc	rommon	2.10	2.10	0.0
PRP	FPGA ZJF uBlaze	lc	fpga2	0.01	0.00	0.0
	S-16 FPGA Nirvana	lc	fpga3	14.00	0.00	0.0
	FPGA BCM 8727	lc	fpga4	0.01	0.00	0.0
	FPGA MCU	lc	fpga5	0.01	0.00	0.0
	ZJF FPGA CPU	lc	fpga1	7.00	0.00	0.0
	ROMMONA swv2.10 x86mp	lc	rommonA	2.10	2.09	0.0
	ROMMONB swv2.10 x86mp	lc	rommon	2.10	2.10	0.0
S2	FPGA 4.02	lc	fpga2	4.02	0.00	0.0
	FPGA 5.00	lc	fpga3	5.00	0.00	0.0
	FPGA 6.04 spb	lc	fpga1	6.04	0.00	0.0
	ROMMONA swv2.10 spb	lc	rommonA	2.10	2.09	0.0
	ROMMONB swv2.10 spb	lc	rommon	2.10	2.10	0.0
140G-S1S2S3	FPGA 4.01	lc	fpga2	4.01	0.00	0.0
	FPGA 6.04 spb	lc	fpga1	6.04	0.00	0.0
	ROMMONA swv2.10 spb	lc	rommonA	2.10	2.09	0.0
	ROMMONB swv2.10 spb	lc	rommon	2.10	2.10	0.0
Fabric HS123 Superst	FPGA 4.00	lc	fpga2	4.00	0.00	0.0
	FPGA 6.04 spb	lc	fpga1	6.04	0.00	0.0
	ROMMONA swv2.10 spb	lc	rommonA	2.10	2.09	0.0
	ROMMONB swv2.10 spb	lc	rommon	2.10	2.10	0.0
140G-4-S1S2S3	FPGA 4.01	lc	fpga2	4.01	0.00	0.0
	FPGA 6.04 spb	lc	fpga1	6.04	0.00	0.0
	ROMMONA swv2.10 spb	lc	rommonA	2.10	2.09	0.0
	ROMMONB swv2.10 spb	lc	rommon	2.10	2.10	0.0
140G-S1S3	FPGA 4.01	lc	fpga2	4.01	0.00	0.0
	FPGA 6.04 spb	lc	fpga1	6.04	0.00	0.0
	ROMMONA swv2.10 spb	lc	rommonA	2.10	2.09	0.0
	ROMMONB swv2.10 spb	lc	rommon	2.10	2.10	0.0
140G-S1S2S3-2	FPGA 4.01	lc	fpga2	4.01	0.00	0.0
	FPGA 6.04 spb	lc	fpga1	6.04	0.00	0.0
	ROMMONA swv2.10 spb	lc	rommonA	2.10	2.09	0.0
	ROMMONB swv2.10 spb	lc	rommon	2.10	2.10	0.0

140G-S1S3-2	FPGA 4.01	lc	fpga2	4.01	0.00	0.0
	FPGA 6.04 spb	lc	fpga1	6.04	0.00	0.0
	ROMMONA swv2.10 spb	lc	rommonA	2.10	2.09	0.0
	ROMMONB swv2.10 spb	lc	rommon	2.10	2.10	0.0
	RXPOD swvF034 spb	lc	rxpod	0.52	0.00	0.0
	TXPOD swvF039 spb	lc	txpod	0.57	0.00	0.0
140G-S2-2	FPGA 4.02	lc	fpga2	4.02	0.00	0.0
	FPGA 16.00	lc	fpga3	16.00	0.00	0.0
	FPGA 6.04 spb	lc	fpga1	6.04	0.00	0.0
	ROMMONA swv2.10 spb	lc	rommonA	2.10	2.09	0.0
	ROMMONB swv2.10 spb	lc	rommon	2.10	2.10	0.0
	RXPOD swvF034 spb	lc	rxpod	0.52	0.00	0.0
	TXPOD swvF039 spb	lc	txpod	0.57	0.00	0.0
140G-HS1S3-1	FPGA 4.02	lc	fpga2	4.02	0.00	0.0
	FPGA 6.04 spb	lc	fpga1	6.04	0.00	0.0
	ROMMONA swv2.10 spb	lc	rommonA	2.10	2.09	0.0
	ROMMONB swv2.10 spb	lc	rommon	2.10	2.10	0.0
	RXPOD swvF034 spb	lc	rxpod	0.52	0.00	0.0
	TXPOD swvF039 spb	lc	txpod	0.57	0.00	0.0
400G-S1S2S3	FPGA 0.35	lc	fpga2	0.35	0.00	0.0
	FPGA 1.04 spc	lc	fpga1	1.04	0.00	0.0
	ROMMONA swv2.10 spc	lc	rommonA	2.10	2.09	0.0
	ROMMONB swv2.10 spc	lc	rommon	2.10	2.10	0.0
Fabric HS123 Sapir	FPGA 0.35	lc	fpga2	0.35	0.00	0.0
	FPGA 1.04 spc	lc	fpga1	1.04	0.00	0.0
	ROMMONA swv2.10 spc	lc	rommonA	2.10	2.09	0.0
	ROMMONB swv2.10 spc	lc	rommon	2.10	2.10	0.0
400G-S1S3	FPGA 0.35	lc	fpga2	0.35	0.00	0.0
	FPGA 1.04 spc	lc	fpga1	1.04	0.00	0.0
	ROMMONA swv2.10 spc	lc	rommonA	2.10	2.09	0.0
	ROMMONB swv2.10 spc	lc	rommon	2.10	2.10	0.0
Fabric HS13 Sapir	FPGA 0.35	lc	fpga2	0.35	0.00	0.0
	FPGA 1.04 spc	lc	fpga1	1.04	0.00	0.0

	ROMMONA swv2.10 spc	lc	rommonA	2.10	2.09	0.0
	ROMMONB swv2.10 spc	lc	rommon	2.10	2.10	0.0

140G-MSG	FPGA Linecard 0.36	lc	fpga2	0.36	0.00	0.0
	FPGA CPU 0.8	lc	fpga1	0.08	0.00	0.0
	ROMMONA swv2.10 kensho	lc	rommonA	2.10	2.09	0.0
	ROMMONB swv2.10 kensho	lc	rommon	2.10	2.10	0.0

FP-140G	FPGA Linecard 0.36	lc	fpga2	0.36	0.00	0.0
	FPGA CPU 0.8	lc	fpga1	0.08	0.00	0.0
	ROMMONA swv2.10 kensho	lc	rommonA	2.10	2.09	0.0
	ROMMONB swv2.10 kensho	lc	rommon	2.10	2.10	0.0

CRS-LSP	FPGA Linecard 0.36	lc	fpga2	0.36	0.00	0.0
	FPGA CPU 0.8	lc	fpga1	0.08	0.00	0.0
	ROMMONA swv2.10 kensho	lc	rommonA	2.10	2.09	0.0
	ROMMONB swv2.10 kensho	lc	rommon	2.10	2.10	0.0

400G-MSG	FPGA Linecard 0.47	lc	fpga2	0.47	0.00	0.0
	FPGA CPU 0.11	lc	fpga1	0.11	0.00	0.0
	ROMMONA swv2.10 kensho	lc	rommonA	2.10	2.09	0.0
	ROMMONB swv2.10 kensho	lc	rommon	2.10	2.10	0.0

FP-400G	FPGA Linecard 0.47	lc	fpga2	0.47	0.00	0.0
	FPGA CPU 0.11	lc	fpga1	0.11	0.00	0.0
	ROMMONA swv2.10 kensho	lc	rommonA	2.10	2.09	0.0
	ROMMONB swv2.10 kensho	lc	rommon	2.10	2.10	0.0

LSP-400G	FPGA Linecard 0.47	lc	fpga2	0.47	0.00	0.0
	FPGA CPU 0.11	lc	fpga1	0.11	0.00	0.0
	ROMMONA swv2.10 kensho	lc	rommonA	2.10	2.09	0.0
	ROMMONB swv2.10 kensho	lc	rommon	2.10	2.10	0.0

10C768-ITU/C	OPTICS FIRMWARE 110B10	lc	fpga2	110.10	0.00	0.0

10C768-DWDM-L	OPTICS FIRMWARE 110B10	lc	fpga2	110.10	0.00	0.0

10C768-DPSK/C	OPTICS FIRMWARE 110B14	lc	fpga2	110.14	0.00	0.0

10C768-DPSK/C-O	OPTICS FIRMWARE 110B14	lc	fpga2	110.14	0.00	0.0

10C768-DPSK/C-E	OPTICS FIRMWARE 110B14	lc	fpga2	110.14	0.00	0.0

CRS-CGSE-PLIM	FPGA mCPU0 0.559	1c	fpga2	0.559	0.00	0.0
	FPGA sCPU0 0.559	1c	fpga3	0.559	0.00	0.0
	FPGA mCPU1 0.559	1c	fpga4	0.559	0.00	0.0
	FPGA sCPU1 0.559	1c	fpga5	0.559	0.00	0.0
	FPGA PLIM_SVC 0.41014	1c	fpga1	0.41014	0.00	0.0
2-40GBE-OTN	PLIM FPGA 32	1c	fpga3	32.00	0.00	0.0
1-100GBE-DWDM	PLIM FPGA 32.0	1c	fpga3	32.00	0.00	0.0
	OPTICS FIRMWARE 5.05	1c	fpga4	5.05	0.00	0.0
4-40GBE-OTN	PLIM FPGA 32	1c	fpga3	32.00	0.00	0.0
6-10GE-WLO-FLEX	OBI FPGA 31.0	1c	fpga3	31.00	0.00	0.0
	TORBAY FPGA 45.0	1c	fpga4	45.00	0.00	0.0
CRS-CGSE-PLUS-PLIM	PLIM FPGA 0.03	1c	fpga3	0.4107	0.00	0.0
	FPGA XLP 0.301	1c	fpga4	0.301	0.00	0.0
40-10GbE	NUGGET FPGA 33.0	1c	fpga3	33.00	0.00	0.0
	GEM0 FPGA 4.0	1c	fpga4	4.00	0.00	0.0
	GEM1 FPGA 4.0	1c	fpga5	4.00	0.00	0.0
4-100GbE	NUGGET FPGA 33.0	1c	fpga3	33.00	0.00	0.0
2x100GE_5x40GE	NUGGET FPGA 33.0	1c	fpga3	33.00	0.00	0.0
	GEM0 FPGA 4.0	1c	fpga4	4.00	0.00	0.0
20-10GBE	PLIM FPGA 42.0	1c	fpga3	42.00	0.00	0.0
12-10GBE	PLIM FPGA 42.0	1c	fpga3	42.00	0.00	0.0
1-100GBE	PLIM FPGA 19.0	1c	fpga3	19.00	0.00	0.0
	RX MAC FPGA 52.0	1c	fpga4	52.00	0.00	0.0
	TX MAC FPGA 39.0	1c	fpga5	39.00	0.00	0.0
14-10GBE	PLIM FPGA 42.0	1c	fpga3	42.00	0.00	0.0
DRP_B	FPGA 6.04 spb	1c	fpga1	6.04	0.00	0.0
	ROMMONA swv2.10 asmp	1c	rommonA	2.10	2.09	0.0
	ROMMONA swv2.10 dsmp	1c	rommonA	2.10	2.09	0.0
	ROMMONA swv2.10 sp	1c	rommonA	2.10	2.09	0.0
	ROMMONA swv2.10 spb	1c	rommonA	2.10	2.09	0.0

	ROMMONB swv2.10 asmp	lc	rommon	2.10	2.10	0.0
	ROMMONB swv2.10 dsmp	lc	rommon	2.10	2.10	0.0
	ROMMONB swv2.10 sp	lc	rommon	2.10	2.10	0.0
	ROMMONB swv2.10 spb	lc	rommon	2.10	2.10	0.0

MSC_B	FPGA 6.04 spb	lc	fpga1	6.04	0.00	0.0
	ROMMONA swv2.10 asmp	lc	rommonA	2.10	2.09	0.0
	ROMMONA swv2.10 dsmp	lc	rommonA	2.10	2.09	0.0
	ROMMONA swv2.10 sp	lc	rommonA	2.10	2.09	0.0
	ROMMONA swv2.10 spb	lc	rommonA	2.10	2.09	0.0
	ROMMONB swv2.10 asmp	lc	rommon	2.10	2.10	0.0
	ROMMONB swv2.10 dsmp	lc	rommon	2.10	2.10	0.0
	ROMMONB swv2.10 sp	lc	rommon	2.10	2.10	0.0
	ROMMONB swv2.10 spb	lc	rommon	2.10	2.10	0.0

FP40	FPGA 6.04 spb	lc	fpga1	6.04	0.00	0.0
	ROMMONA swv2.10 asmp	lc	rommonA	2.10	2.09	0.0
	ROMMONA swv2.10 dsmp	lc	rommonA	2.10	2.09	0.0
	ROMMONA swv2.10 sp	lc	rommonA	2.10	2.09	0.0
	ROMMONA swv2.10 spb	lc	rommonA	2.10	2.09	0.0
	ROMMONB swv2.10 asmp	lc	rommon	2.10	2.10	0.0
	ROMMONB swv2.10 dsmp	lc	rommon	2.10	2.10	0.0
	ROMMONB swv2.10 sp	lc	rommon	2.10	2.10	0.0
	ROMMONB swv2.10 spb	lc	rommon	2.10	2.10	0.0

CRS1-SIP-800	JACKET FPGA swv6.0	lc	fpga1	6.00	5.00	0.0
	FPGA swv6.0 hww80	lc	fpga1	6.00	5.00	0.80

8-10GBE	FPGA swvA.0	lc	fpga1	10.00	0.00	0.0

OC48-POS-16-ED	FPGA PLIM_OC48 9.0	lc	fpga1	9.00	0.00	0.0

4-10GBE	FPGA sw_4p_v15.0	lc	fpga1	15.00	0.00	0.0

8-10GBE	FPGA sw_8p_v15.0	lc	fpga1	15.00	0.00	0.0

4-10GE	SQUIRREL FPGA 10.0	lc	fpga1	10.00	0.00	0.0

42-1GE	FPGA swv6.0	lc	fpga1	6.00	0.00	0.0
	FPGA swv6.0 hww0.80	lc	fpga1	6.00	0.00	0.80

20-1GE-FLEX	FPGA swv6.0	lc	fpga1	6.00	0.00	0.0
	FPGA swv6.0 hwv0.80	lc	fpga1	6.00	0.00	0.80

2-10GE-WL-FLEX	FPGA swv6.0	lc	fpga1	6.00	0.00	0.0
	FPGA swv6.0 hwv0.80	lc	fpga1	6.00	0.00	0.80

CRS-16-ALARM-C	FPGA 6.04 spb	lc	fpga1	6.04	0.00	0.0
	ROMMONA swv2.10 sp	lc	rommonA	2.10	2.09	0.0
	ROMMONA swv2.10 spb	lc	rommonA	2.10	2.09	0.0
	ROMMONB swv2.10 sp	lc	rommon	2.10	2.10	0.0
	ROMMONB swv2.10 spb	lc	rommon	2.10	2.10	0.0

CRS-16-ALARM-B	FPGA 6.05 spb	lc	fpga1	6.05	0.00	0.0
	ROMMONA swv2.10 spb	lc	rommonA	2.10	2.09	0.0
	ROMMONB swv2.10 spb	lc	rommon	2.10	2.10	0.0

CRS-16-FAN-CT	FPGA 6.04 spb	lc	fpga1	6.04	0.00	0.0
	ROMMONA swv2.10 spb	lc	rommonA	2.10	2.09	0.0
	ROMMONB swv2.10 spb	lc	rommon	2.10	2.10	0.0

CRS-16-LCC-F-CT-B	FPGA 6.04 spb	lc	fpga1	6.04	0.00	0.0
	ROMMONA swv2.10 spb	lc	rommonA	2.10	2.09	0.0
	ROMMONB swv2.10 spb	lc	rommon	2.10	2.10	0.0

CRS-FCC-LED	FPGA 6.04 spb	lc	fpga1	6.04	0.00	0.0
	ROMMONA swv2.10 sp	lc	rommonA	2.10	2.09	0.0
	ROMMONA swv2.10 spb	lc	rommonA	2.10	2.09	0.0
	ROMMONB swv2.10 sp	lc	rommon	2.10	2.10	0.0
	ROMMONB swv2.10 spb	lc	rommon	2.10	2.10	0.0

Route Processor	ROMMONA swv2.10 asmp	lc	rommonA	2.10	2.09	0.0
	ROMMONA swv2.10 dsmp	lc	rommonA	2.10	2.09	0.0
	ROMMONB swv2.10 asmp	lc	rommon	2.10	2.10	0.0
	ROMMONB swv2.10 dsmp	lc	rommon	2.10	2.10	0.0

SC	ROMMONA swv2.10 asmp	lc	rommonA	2.10	2.09	0.0
	ROMMONA swv2.10 dsmp	lc	rommonA	2.10	2.09	0.0
	ROMMONB swv2.10 asmp	lc	rommon	2.10	2.10	0.0
	ROMMONB swv2.10 dsmp	lc	rommon	2.10	2.10	0.0

RP	ROMMONA swv2.10 asmp	lc	rommonA	2.10	2.09	0.0

	ROMMONA swv2.10 dsmp	lc	rommonA	2.10	2.09	0.0
	ROMMONB swv2.10 asmp	lc	rommon	2.10	2.10	0.0
	ROMMONB swv2.10 dsmp	lc	rommon	2.10	2.10	0.0

Shelf Controller GE	ROMMONA swv2.10 asmp	lc	rommonA	2.10	2.09	0.0
	ROMMONA swv2.10 dsmp	lc	rommonA	2.10	2.09	0.0
	ROMMONB swv2.10 asmp	lc	rommon	2.10	2.10	0.0
	ROMMONB swv2.10 dsmp	lc	rommon	2.10	2.10	0.0

RP	ROMMONA swv2.10 asmp	lc	rommonA	2.10	2.09	0.0
	ROMMONA swv2.10 dsmp	lc	rommonA	2.10	2.09	0.0
	ROMMONB swv2.10 asmp	lc	rommon	2.10	2.10	0.0
	ROMMONB swv2.10 dsmp	lc	rommon	2.10	2.10	0.0

Shelf Controller GE2	ROMMONA swv2.10 asmp	lc	rommonA	2.10	2.09	0.0
	ROMMONA swv2.10 dsmp	lc	rommonA	2.10	2.09	0.0
	ROMMONB swv2.10 asmp	lc	rommon	2.10	2.10	0.0
	ROMMONB swv2.10 dsmp	lc	rommon	2.10	2.10	0.0

DRP	ROMMONA swv2.10 asmp	lc	rommonA	2.10	2.09	0.0
	ROMMONA swv2.10 dsmp	lc	rommonA	2.10	2.09	0.0
	ROMMONA swv2.10 sp	lc	rommonA	2.10	2.09	0.0
	ROMMONB swv2.10 asmp	lc	rommon	2.10	2.10	0.0
	ROMMONB swv2.10 dsmp	lc	rommon	2.10	2.10	0.0
	ROMMONB swv2.10 sp	lc	rommon	2.10	2.10	0.0

S1S2S3	ROMMONA swv2.10 sp	lc	rommonA	2.10	2.09	0.0
	ROMMONB swv2.10 sp	lc	rommon	2.10	2.10	0.0

S1S3	ROMMONA swv2.10 sp	lc	rommonA	2.10	2.09	0.0
	ROMMONB swv2.10 sp	lc	rommon	2.10	2.10	0.0

S2	ROMMONA swv2.10 sp	lc	rommonA	2.10	2.09	0.0
	ROMMONB swv2.10 sp	lc	rommon	2.10	2.10	0.0

Fabric HS123	ROMMONA swv2.10 sp	lc	rommonA	2.10	2.09	0.0
	ROMMONB swv2.10 sp	lc	rommon	2.10	2.10	0.0

Fabric QQS123	ROMMONA swv2.10 sp	lc	rommonA	2.10	2.09	0.0
	ROMMONB swv2.10 sp	lc	rommon	2.10	2.10	0.0

LED	ROMMONA swv2.10 sp	lc	rommonA	2.10	2.09	0.0

	ROMMONB swv2.10 sp	lc	rommon	2.10	2.10	0.0
40G-MS-C	ROMMONA swv2.10 asmp	lc	rommonA	2.10	2.09	0.0
	ROMMONA swv2.10 dsmp	lc	rommonA	2.10	2.09	0.0
	ROMMONA swv2.10 sp	lc	rommonA	2.10	2.09	0.0
	ROMMONB swv2.10 asmp	lc	rommon	2.10	2.10	0.0
	ROMMONB swv2.10 dsmp	lc	rommon	2.10	2.10	0.0
	ROMMONB swv2.10 sp	lc	rommon	2.10	2.10	0.0
CRS-16-ALARM	ROMMONA swv2.10 sp	lc	rommonA	2.10	2.09	0.0
	ROMMONB swv2.10 sp	lc	rommon	2.10	2.10	0.0
CRS-16-LCC-FAN-CT	ROMMONA swv2.10 sp	lc	rommonA	2.10	2.09	0.0
	ROMMONB swv2.10 sp	lc	rommon	2.10	2.10	0.0
FC Fan Controller	ROMMONA swv2.10 sp	lc	rommonA	2.10	2.09	0.0
	ROMMONB swv2.10 sp	lc	rommon	2.10	2.10	0.0
SPA-4XT3/E3	SPA E3 Subrate FPGA	spa	fpga2	1.04	0.00	0.0
	SPA T3 Subrate FPGA	spa	fpga3	1.04	0.00	0.0
	SPA I/O FPGA	spa	fpga1	1.00	0.00	0.0
	SPA ROMMON	spa	rommon	2.12	0.00	0.0
SPA-2XT3/E3	SPA E3 Subrate FPGA	spa	fpga2	1.04	0.00	0.0
	SPA T3 Subrate FPGA	spa	fpga3	1.04	0.00	0.0
	SPA I/O FPGA	spa	fpga1	1.00	0.00	0.0
	SPA ROMMON	spa	rommon	2.12	0.00	0.0
SPA-OC192POS-XFP	SPA FPGA swv1.101 hwv3	spa	fpga2	1.101	0.00	3.0
	SPA FPGA swv1.2	spa	fpga1	1.02	0.00	0.0
SPA-1XCHOC48/DS3	SPA I/O FPGA	spa	fpga2	1.00	0.00	0.49
	SPA I/O FPGA	spa	fpga3	1.00	0.00	0.52
	SPA I/O FPGA	spa	fpga1	1.36	0.00	0.49
	SPA ROMMON	spa	rommon	2.02	0.00	0.49
SPA-1XCHOC12/DS0	SPA I/O FPGA	spa	fpga2	1.00	0.00	0.49
	SPA I/O FPGA	spa	fpga1	1.36	0.00	0.49
	SPA ROMMON	spa	rommon	2.02	0.00	0.49
SPA-OC192POS	SPA FPGA swv1.3	spa	fpga1	1.03	0.00	0.0

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SPA-8XOC12-POS	SPA FPGA swv1.0	spa fpga1	1.00	0.00	0.5
SPA-4XOC3-POS	SPA FPGA swv3.4	spa fpga1	3.04	0.00	0.0
SPA-1XOC12-POS	SPA FPGA swv3.4	spa fpga1	3.04	0.00	0.0
SPA-8X1GE	SPA FPGA swv1.8	spa fpga1	1.08	0.00	0.0
SPA-2XOC48POS/RPR	SPA FPGA swv1.0	spa fpga1	1.00	0.00	0.0
SPA-4XOC48POS/RPR	SPA FPGA swv1.0	spa fpga1	1.00	0.00	0.0
SPA-1XOC48POS/RPR	SPA FPGA swv1.2	spa fpga1	1.02	0.00	0.0
SPA-8XOC3-POS	SPA FPGA swv1.0	spa fpga1	1.00	0.00	0.5
	SPA FPGA swv1.0	spa fpga1	1.00	0.00	0.5
SPA-2XOC12-POS	SPA FPGA swv1.0	spa fpga1	1.00	0.00	0.5
SPA-4XOC12-POS	SPA FPGA swv1.0	spa fpga1	1.00	0.00	0.5
SPA-10X1GE-V2	SPA FPGA swv1.10	spa fpga1	1.10	0.00	0.0
SPA-8X1GE-V2	SPA FPGA swv1.10	spa fpga1	1.10	0.00	0.0
SPA-5X1GE-V2	SPA FPGA swv1.10	spa fpga1	1.10	0.00	0.0
SPA-1X10GE-L-V2	SPA FPGA swv1.11	spa fpga1	1.11	0.00	0.0
SPA-4XOC3-POS-V2	SPA FPGA swv1.0	spa fpga1	1.00	0.00	0.5
SPA-1X10GE-WL-V2	SPA FPGA swv1.11	spa fpga1	1.11	0.00	0.0
SPA-1XOC3-ATM-V2	SPA FPGA swv1.2	spa fpga1	2.02	0.00	0.0
SPA-2XOC3-ATM-V2	SPA FPGA swv1.2	spa fpga1	2.02	0.00	0.0
SPA-3XOC3-ATM-V2	SPA FPGA swv1.2	spa fpga1	2.02	0.00	0.0
SPA-1XOC12-ATM-V2	SPA FPGA swv1.2	spa fpga1	2.02	0.00	0.0

Minimum Firmware Requirement

The following table provides the procedures and resources for minimum firmware requirements:

After completing an RMA, upgrade the firmware as per the matrix in this link, which also links to PDF copies of the IOS XR Firmware Upgrade Guides	http://www.cisco.com/web/Cisco_IOS_XR_Software/index.html
For the upgrade CLI, refer to the <i>Hardware Redundancy and Node Administration Commands</i> on <i>Cisco IOS XR Software</i> chapter of the <i>Cisco IOS XR System Management Command Reference for the Cisco CRS router</i>	http://www.cisco.com/en/US/products/ps5763/prod_command_reference_list.html

**Note**

P image is discontinued from Cisco IOS XR Software Release 4.2 onwards. For more information about this, see the discontinuation of P image for Cisco CRS in Cisco IOS XR Software Release 4.2 and later at

http://www.cisco.com/en/US/prod/collateral/routers/ps5763/product_bulletin_c25-663499.html.

Determining Your Software Version

**Note**

P image is discontinued from Cisco IOS XR Software Release 4.2 onwards. For more information about this, see the discontinuation of P image for Cisco CRS in Cisco IOS XR Software Release 4.2 and later at

http://www.cisco.com/en/US/prod/collateral/routers/ps5763/product_bulletin_c25-663499.html.

To determine the version of Cisco IOS XR Software running on your router, log in to the router and enter the **show version** command:

SUMMARY STEPS

1. Establish a Telnet session with the router.
2. Enter **show version** command from EXEC mode.

DETAILED STEPS

Step 1 Establish a Telnet session with the router.

Step 2 Enter **show version** command from EXEC mode.

Note Alternatively you may use the **show version brief** command. This command provides familiar output as the **show version** command does but includes less details on the installed software packages.

The show version command output for Cisco CRS-1 and Cisco CRS-3 router:

```

RP/0/RP0/CPU0:router#show version
Cisco IOS XR Software, Version 5.2.2[Default]
Copyright (c) 2014 by Cisco Systems, Inc.

ROM: System Bootstrap, Version 2.10(20140717:214615) [CRS ROMMON],

ios uptime is 21 hours, 30 minutes
System image file is "disk0:hfr-os-mbi-5.2.2/0x100008/mbihfr-rp-x86e.vm"

cisco CRS-8/S-B (Intel 686 F6M14S4) processor with 12582912K bytes of memory.
Intel 686 F6M14S4 processor at 1729Mhz, Revision 2.174
CRS-8 Line Card Chassis-enhanced for CRS-8/S-B

4 Management Ethernet
52 GigabitEthernet/IEEE 802.3 interface(s)
34 DWDM controller(s)
34 WANPHY controller(s)
45 TenGigE
47 GigabitEthernet
12 SONET/SDH
12 Packet over SONET/SDH
1019k bytes of non-volatile configuration memory.
15801M bytes of hard disk.
11223024k bytes of disk0: (Sector size 512 bytes).
11223024k bytes of disk1: (Sector size 512 bytes).

Boot device on node 0/0/CPU0 is mem:
Package active on node 0/0/CPU0:
iosxr-adv-video, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-adv-video-5.2.2
  Built on Fri Oct 24 06:29:36 IST 2014
  By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-adv-video-suppl, V 5.2.2[Default], Cisco Systems, at disk0:hfr-adv-video-suppl-5.2.2
  Built on Fri Oct 24 06:29:36 IST 2014
  By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-video-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-video-px-5.2.2
  Built on Fri Oct 24 06:29:38 IST 2014
  By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-service, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-service-5.2.2
  Built on Fri Oct 24 06:18:42 IST 2014
  By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-service-suppl, V 5.2.2[Default], Cisco Systems, at disk0:hfr-service-suppl-5.2.2
  Built on Fri Oct 24 06:18:42 IST 2014
  By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-services-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-services-px-5.2.2
  Built on Fri Oct 24 06:19:21 IST 2014
  By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

```

iosxr-mps, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-mps-5.2.2
Built on Fri Oct 24 05:58:36 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-mps-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-mps-px-5.2.2
Built on Fri Oct 24 05:58:48 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-infra, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-infra-5.2.2
Built on Fri Oct 24 05:59:03 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-fwding, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-fwding-5.2.2
Built on Fri Oct 24 05:59:03 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-routing, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-routing-5.2.2
Built on Fri Oct 24 05:59:03 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-diags, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-diags-5.2.2
Built on Fri Oct 24 05:59:03 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-ce, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-ce-5.2.2
Built on Fri Oct 24 05:59:03 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-base, V 5.2.2[Default], Cisco Systems, at disk0:hfr-base-5.2.2
Built on Fri Oct 24 05:59:03 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-os-mpi, V 5.2.2[Default], Cisco Systems, at disk0:hfr-os-mpi-5.2.2
Built on Fri Oct 24 06:01:30 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-fwding, V 5.2.2[Default], Cisco Systems, at disk0:hfr-fwding-5.2.2
Built on Fri Oct 24 05:59:14 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-ce, V 5.2.2[Default], Cisco Systems, at disk0:hfr-ce-5.2.2
Built on Fri Oct 24 05:59:14 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-mini-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-mini-px-5.2.2
Built on Fri Oct 24 06:01:58 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-mcast, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-mcast-5.2.2
Built on Fri Oct 24 05:58:49 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-mcast-supp, V 5.2.2[Default], Cisco Systems, at disk0:hfr-mcast-supp-5.2.2
Built on Fri Oct 24 05:58:49 IST 2014

```
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-mcast-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-mcast-px-5.2.2
Built on Fri Oct 24 05:59:02 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-li, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-li-5.2.2
Built on Fri Oct 24 06:39:45 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-li-supp, V 5.2.2[Default], Cisco Systems, at disk0:hfr-li-supp-5.2.2
Built on Fri Oct 24 06:39:45 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-li-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-li-px-5.2.2
Built on Fri Oct 24 06:39:47 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-fpd, V 5.2.2[Default], Cisco Systems, at disk0:hfr-fpd-5.2.2
Built on Fri Oct 24 06:18:12 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-fpd-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-fpd-px-5.2.2
Built on Fri Oct 24 06:18:32 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-diags-supp, V 5.2.2[Default], Cisco Systems, at disk0:hfr-diags-supp-5.2.2
Built on Fri Oct 24 06:17:47 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-diags-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-diags-px-5.2.2
Built on Fri Oct 24 06:18:08 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

Boot device on node 0/1/CPU0 is mem:
Package active on node 0/1/CPU0:
iosxr-adv-video, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-adv-video-5.2.2
Built on Fri Oct 24 06:29:36 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-adv-video-supp, V 5.2.2[Default], Cisco Systems, at disk0:hfr-adv-video-supp-5.2.2
Built on Fri Oct 24 06:29:36 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-video-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-video-px-5.2.2
Built on Fri Oct 24 06:29:38 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-service, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-service-5.2.2
Built on Fri Oct 24 06:18:42 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-service-supp, V 5.2.2[Default], Cisco Systems, at disk0:hfr-service-supp-5.2.2
Built on Fri Oct 24 06:18:42 IST 2014
```

By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-services-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-services-px-5.2.2
Built on Fri Oct 24 06:19:21 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-mpls, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-mpls-5.2.2
Built on Fri Oct 24 05:58:36 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-mpls-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-mpls-px-5.2.2
Built on Fri Oct 24 05:58:48 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-infra, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-infra-5.2.2
Built on Fri Oct 24 05:59:03 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-fwding, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-fwding-5.2.2
Built on Fri Oct 24 05:59:03 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-routing, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-routing-5.2.2
Built on Fri Oct 24 05:59:03 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-diags, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-diags-5.2.2
Built on Fri Oct 24 05:59:03 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-ce, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-ce-5.2.2
Built on Fri Oct 24 05:59:03 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-base, V 5.2.2[Default], Cisco Systems, at disk0:hfr-base-5.2.2
Built on Fri Oct 24 05:59:03 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-os-mpi, V 5.2.2[Default], Cisco Systems, at disk0:hfr-os-mpi-5.2.2
Built on Fri Oct 24 06:01:30 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-fwding, V 5.2.2[Default], Cisco Systems, at disk0:hfr-fwding-5.2.2
Built on Fri Oct 24 05:59:14 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-ce, V 5.2.2[Default], Cisco Systems, at disk0:hfr-ce-5.2.2
Built on Fri Oct 24 05:59:14 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-mini-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-mini-px-5.2.2
Built on Fri Oct 24 06:01:58 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

```
iosxr-mcast, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-mcast-5.2.2
  Built on Fri Oct 24 05:58:49 IST 2014
  By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-mcast-supp, V 5.2.2[Default], Cisco Systems, at disk0:hfr-mcast-supp-5.2.2
  Built on Fri Oct 24 05:58:49 IST 2014
  By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-mcast-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-mcast-px-5.2.2
  Built on Fri Oct 24 05:59:02 IST 2014
  By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-li, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-li-5.2.2
  Built on Fri Oct 24 06:39:45 IST 2014
  By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-li-supp, V 5.2.2[Default], Cisco Systems, at disk0:hfr-li-supp-5.2.2
  Built on Fri Oct 24 06:39:45 IST 2014
  By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-li-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-li-px-5.2.2
  Built on Fri Oct 24 06:39:47 IST 2014
  By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-fpd, V 5.2.2[Default], Cisco Systems, at disk0:hfr-fpd-5.2.2
  Built on Fri Oct 24 06:18:12 IST 2014
  By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-fpd-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-fpd-px-5.2.2
  Built on Fri Oct 24 06:18:32 IST 2014
  By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-diags-supp, V 5.2.2[Default], Cisco Systems, at disk0:hfr-diags-supp-5.2.2
  Built on Fri Oct 24 06:17:47 IST 2014
  By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-diags-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-diags-px-5.2.2
  Built on Fri Oct 24 06:18:08 IST 2014
  By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

Boot device on node 0/2/CPU0 is lcdisk0:
Package active on node 0/2/CPU0:
iosxr-adv-video, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-adv-video-5.2.2
  Built on Fri Oct 24 06:29:36 IST 2014
  By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-adv-video-supp, V 5.2.2[Default], Cisco Systems, at disk0:hfr-adv-video-supp-5.2.2
  Built on Fri Oct 24 06:29:36 IST 2014
  By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-video-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-video-px-5.2.2
  Built on Fri Oct 24 06:29:38 IST 2014
  By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie
```


iosxr-service, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-service-5.2.2
Built on Fri Oct 24 06:18:42 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-service-supp, V 5.2.2[Default], Cisco Systems, at disk0:hfr-service-supp-5.2.2
Built on Fri Oct 24 06:18:42 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-services-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-services-px-5.2.2
Built on Fri Oct 24 06:19:21 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-mps, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-mps-5.2.2
Built on Fri Oct 24 05:58:36 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-mps-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-mps-px-5.2.2
Built on Fri Oct 24 05:58:48 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-infra, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-infra-5.2.2
Built on Fri Oct 24 05:59:03 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-fwding, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-fwding-5.2.2
Built on Fri Oct 24 05:59:03 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-routing, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-routing-5.2.2
Built on Fri Oct 24 05:59:03 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-diags, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-diags-5.2.2
Built on Fri Oct 24 05:59:03 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-ce, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-ce-5.2.2
Built on Fri Oct 24 05:59:03 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-base, V 5.2.2[Default], Cisco Systems, at disk0:hfr-base-5.2.2
Built on Fri Oct 24 05:59:03 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-os-mpi, V 5.2.2[Default], Cisco Systems, at disk0:hfr-os-mpi-5.2.2
Built on Fri Oct 24 06:01:30 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-fwding, V 5.2.2[Default], Cisco Systems, at disk0:hfr-fwding-5.2.2
Built on Fri Oct 24 05:59:14 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-ce, V 5.2.2[Default], Cisco Systems, at disk0:hfr-ce-5.2.2
Built on Fri Oct 24 05:59:14 IST 2014

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By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-mini-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-mini-px-5.2.2
Built on Fri Oct 24 06:01:58 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-mcast, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-mcast-5.2.2
Built on Fri Oct 24 05:58:49 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-mcast-supp, V 5.2.2[Default], Cisco Systems, at disk0:hfr-mcast-supp-5.2.2
Built on Fri Oct 24 05:58:49 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-mcast-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-mcast-px-5.2.2
Built on Fri Oct 24 05:59:02 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-li, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-li-5.2.2
Built on Fri Oct 24 06:39:45 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-li-supp, V 5.2.2[Default], Cisco Systems, at disk0:hfr-li-supp-5.2.2
Built on Fri Oct 24 06:39:45 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-li-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-li-px-5.2.2
Built on Fri Oct 24 06:39:47 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-fpd, V 5.2.2[Default], Cisco Systems, at disk0:hfr-fpd-5.2.2
Built on Fri Oct 24 06:18:12 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-fpd-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-fpd-px-5.2.2
Built on Fri Oct 24 06:18:32 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-diags-supp, V 5.2.2[Default], Cisco Systems, at disk0:hfr-diags-supp-5.2.2
Built on Fri Oct 24 06:17:47 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-diags-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-diags-px-5.2.2
Built on Fri Oct 24 06:18:08 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

Boot device on node 0/3/CPU0 is lcdisk0:
Package active on node 0/3/CPU0:
iosxr-adv-video, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-adv-video-5.2.2
Built on Fri Oct 24 06:29:36 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-adv-video-supp, V 5.2.2[Default], Cisco Systems, at disk0:hfr-adv-video-supp-5.2.2
Built on Fri Oct 24 06:29:36 IST 2014
```

By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-video-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-video-px-5.2.2
Built on Fri Oct 24 06:29:38 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-service, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-service-5.2.2
Built on Fri Oct 24 06:18:42 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-service-supp, V 5.2.2[Default], Cisco Systems, at disk0:hfr-service-supp-5.2.2
Built on Fri Oct 24 06:18:42 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-services-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-services-px-5.2.2
Built on Fri Oct 24 06:19:21 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-mpls, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-mpls-5.2.2
Built on Fri Oct 24 05:58:36 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-mpls-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-mpls-px-5.2.2
Built on Fri Oct 24 05:58:48 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-infra, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-infra-5.2.2
Built on Fri Oct 24 05:59:03 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-fwding, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-fwding-5.2.2
Built on Fri Oct 24 05:59:03 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-routing, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-routing-5.2.2
Built on Fri Oct 24 05:59:03 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-diags, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-diags-5.2.2
Built on Fri Oct 24 05:59:03 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-ce, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-ce-5.2.2
Built on Fri Oct 24 05:59:03 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-base, V 5.2.2[Default], Cisco Systems, at disk0:hfr-base-5.2.2
Built on Fri Oct 24 05:59:03 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-os-mpi, V 5.2.2[Default], Cisco Systems, at disk0:hfr-os-mpi-5.2.2
Built on Fri Oct 24 06:01:30 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-fwding, V 5.2.2[Default], Cisco Systems, at disk0:hfr-fwding-5.2.2
Built on Fri Oct 24 05:59:14 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-ce, V 5.2.2[Default], Cisco Systems, at disk0:hfr-ce-5.2.2
Built on Fri Oct 24 05:59:14 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-mini-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-mini-px-5.2.2
Built on Fri Oct 24 06:01:58 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-mcast, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-mcast-5.2.2
Built on Fri Oct 24 05:58:49 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-mcast-supp, V 5.2.2[Default], Cisco Systems, at disk0:hfr-mcast-supp-5.2.2
Built on Fri Oct 24 05:58:49 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-mcast-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-mcast-px-5.2.2
Built on Fri Oct 24 05:59:02 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-li, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-li-5.2.2
Built on Fri Oct 24 06:39:45 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-li-supp, V 5.2.2[Default], Cisco Systems, at disk0:hfr-li-supp-5.2.2
Built on Fri Oct 24 06:39:45 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-li-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-li-px-5.2.2
Built on Fri Oct 24 06:39:47 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-fpd, V 5.2.2[Default], Cisco Systems, at disk0:hfr-fpd-5.2.2
Built on Fri Oct 24 06:18:12 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-fpd-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-fpd-px-5.2.2
Built on Fri Oct 24 06:18:32 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-diags-supp, V 5.2.2[Default], Cisco Systems, at disk0:hfr-diags-supp-5.2.2
Built on Fri Oct 24 06:17:47 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-diags-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-diags-px-5.2.2
Built on Fri Oct 24 06:18:08 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

Boot device on node 0/6/CPU0 is mem:
Package active on node 0/6/CPU0:

iosxr-adv-video, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-adv-video-5.2.2
Built on Fri Oct 24 06:29:36 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-adv-video-suppl, V 5.2.2[Default], Cisco Systems, at disk0:hfr-adv-video-suppl-5.2.2
Built on Fri Oct 24 06:29:36 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-video-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-video-px-5.2.2
Built on Fri Oct 24 06:29:38 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-service, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-service-5.2.2
Built on Fri Oct 24 06:18:42 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-service-suppl, V 5.2.2[Default], Cisco Systems, at disk0:hfr-service-suppl-5.2.2
Built on Fri Oct 24 06:18:42 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-services-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-services-px-5.2.2
Built on Fri Oct 24 06:19:21 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-mps, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-mps-5.2.2
Built on Fri Oct 24 05:58:36 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-mps-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-mps-px-5.2.2
Built on Fri Oct 24 05:58:48 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-infra, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-infra-5.2.2
Built on Fri Oct 24 05:59:03 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-fwding, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-fwding-5.2.2
Built on Fri Oct 24 05:59:03 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-routing, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-routing-5.2.2
Built on Fri Oct 24 05:59:03 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-diags, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-diags-5.2.2
Built on Fri Oct 24 05:59:03 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-ce, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-ce-5.2.2
Built on Fri Oct 24 05:59:03 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-base, V 5.2.2[Default], Cisco Systems, at disk0:hfr-base-5.2.2
Built on Fri Oct 24 05:59:03 IST 2014

By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-os-mpi, V 5.2.2[Default], Cisco Systems, at disk0:hfr-os-mpi-5.2.2
Built on Fri Oct 24 06:01:30 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-fwding, V 5.2.2[Default], Cisco Systems, at disk0:hfr-fwding-5.2.2
Built on Fri Oct 24 05:59:14 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-ce, V 5.2.2[Default], Cisco Systems, at disk0:hfr-ce-5.2.2
Built on Fri Oct 24 05:59:14 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-mini-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-mini-px-5.2.2
Built on Fri Oct 24 06:01:58 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-mcast, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-mcast-5.2.2
Built on Fri Oct 24 05:58:49 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-mcast-supp, V 5.2.2[Default], Cisco Systems, at disk0:hfr-mcast-supp-5.2.2
Built on Fri Oct 24 05:58:49 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-mcast-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-mcast-px-5.2.2
Built on Fri Oct 24 05:59:02 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-li, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-li-5.2.2
Built on Fri Oct 24 06:39:45 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-li-supp, V 5.2.2[Default], Cisco Systems, at disk0:hfr-li-supp-5.2.2
Built on Fri Oct 24 06:39:45 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-li-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-li-px-5.2.2
Built on Fri Oct 24 06:39:47 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-fpd, V 5.2.2[Default], Cisco Systems, at disk0:hfr-fpd-5.2.2
Built on Fri Oct 24 06:18:12 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-fpd-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-fpd-px-5.2.2
Built on Fri Oct 24 06:18:32 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-diags-supp, V 5.2.2[Default], Cisco Systems, at disk0:hfr-diags-supp-5.2.2
Built on Fri Oct 24 06:17:47 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

```
hfr-diags-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-diags-px-5.2.2
  Built on Fri Oct 24 06:18:08 IST 2014
  By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

Boot device on node 0/7/CPU0 is lcdisk0:
Package active on node 0/7/CPU0:
iosxr-adv-video, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-adv-video-5.2.2
  Built on Fri Oct 24 06:29:36 IST 2014
  By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-adv-video-supp, V 5.2.2[Default], Cisco Systems, at disk0:hfr-adv-video-supp-5.2.2
  Built on Fri Oct 24 06:29:36 IST 2014
  By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-video-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-video-px-5.2.2
  Built on Fri Oct 24 06:29:38 IST 2014
  By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-service, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-service-5.2.2
  Built on Fri Oct 24 06:18:42 IST 2014
  By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-service-supp, V 5.2.2[Default], Cisco Systems, at disk0:hfr-service-supp-5.2.2
  Built on Fri Oct 24 06:18:42 IST 2014
  By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-services-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-services-px-5.2.2
  Built on Fri Oct 24 06:19:21 IST 2014
  By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-mps, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-mps-5.2.2
  Built on Fri Oct 24 05:58:36 IST 2014
  By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-mps-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-mps-px-5.2.2
  Built on Fri Oct 24 05:58:48 IST 2014
  By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-infra, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-infra-5.2.2
  Built on Fri Oct 24 05:59:03 IST 2014
  By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-fwding, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-fwding-5.2.2
  Built on Fri Oct 24 05:59:03 IST 2014
  By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-routing, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-routing-5.2.2
  Built on Fri Oct 24 05:59:03 IST 2014
  By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-diags, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-diags-5.2.2
  Built on Fri Oct 24 05:59:03 IST 2014
  By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie
```

iosxr-ce, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-ce-5.2.2
Built on Fri Oct 24 05:59:03 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-base, V 5.2.2[Default], Cisco Systems, at disk0:hfr-base-5.2.2
Built on Fri Oct 24 05:59:03 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-os-mpi, V 5.2.2[Default], Cisco Systems, at disk0:hfr-os-mpi-5.2.2
Built on Fri Oct 24 06:01:30 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-fwding, V 5.2.2[Default], Cisco Systems, at disk0:hfr-fwding-5.2.2
Built on Fri Oct 24 05:59:14 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-ce, V 5.2.2[Default], Cisco Systems, at disk0:hfr-ce-5.2.2
Built on Fri Oct 24 05:59:14 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-mini-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-mini-px-5.2.2
Built on Fri Oct 24 06:01:58 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-mcast, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-mcast-5.2.2
Built on Fri Oct 24 05:58:49 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-mcast-supp, V 5.2.2[Default], Cisco Systems, at disk0:hfr-mcast-supp-5.2.2
Built on Fri Oct 24 05:58:49 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-mcast-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-mcast-px-5.2.2
Built on Fri Oct 24 05:59:02 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-li, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-li-5.2.2
Built on Fri Oct 24 06:39:45 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-li-supp, V 5.2.2[Default], Cisco Systems, at disk0:hfr-li-supp-5.2.2
Built on Fri Oct 24 06:39:45 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-li-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-li-px-5.2.2
Built on Fri Oct 24 06:39:47 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-fpd, V 5.2.2[Default], Cisco Systems, at disk0:hfr-fpd-5.2.2
Built on Fri Oct 24 06:18:12 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-fpd-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-fpd-px-5.2.2
Built on Fri Oct 24 06:18:32 IST 2014


```
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-diags-supp, V 5.2.2[Default], Cisco Systems, at disk0:hfr-diags-supp-5.2.2
Built on Fri Oct 24 06:17:47 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-diags-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-diags-px-5.2.2
Built on Fri Oct 24 06:18:08 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

Configuration register on node 0/RP0/CPU0 is 0x102
Boot device on node 0/RP0/CPU0 is disk0:
Package active on node 0/RP0/CPU0:
iosxr-adv-video, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-adv-video-5.2.2
Built on Fri Oct 24 06:29:36 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-adv-video-supp, V 5.2.2[Default], Cisco Systems, at disk0:hfr-adv-video-supp-5.2.2
Built on Fri Oct 24 06:29:36 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-video-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-video-px-5.2.2
Built on Fri Oct 24 06:29:38 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-service, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-service-5.2.2
Built on Fri Oct 24 06:18:42 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-service-supp, V 5.2.2[Default], Cisco Systems, at disk0:hfr-service-supp-5.2.2
Built on Fri Oct 24 06:18:42 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-services-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-services-px-5.2.2
Built on Fri Oct 24 06:19:21 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-mpls, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-mpls-5.2.2
Built on Fri Oct 24 05:58:36 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-mpls-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-mpls-px-5.2.2
Built on Fri Oct 24 05:58:48 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-infra, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-infra-5.2.2
Built on Fri Oct 24 05:59:03 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-fwding, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-fwding-5.2.2
Built on Fri Oct 24 05:59:03 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-routing, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-routing-5.2.2
```

```
Built on Fri Oct 24 05:59:03 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-diags, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-diags-5.2.2
Built on Fri Oct 24 05:59:03 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-ce, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-ce-5.2.2
Built on Fri Oct 24 05:59:03 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-base, V 5.2.2[Default], Cisco Systems, at disk0:hfr-base-5.2.2
Built on Fri Oct 24 05:59:03 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-os-mpi, V 5.2.2[Default], Cisco Systems, at disk0:hfr-os-mpi-5.2.2
Built on Fri Oct 24 06:01:30 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-fwding, V 5.2.2[Default], Cisco Systems, at disk0:hfr-fwding-5.2.2
Built on Fri Oct 24 05:59:14 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-ce, V 5.2.2[Default], Cisco Systems, at disk0:hfr-ce-5.2.2
Built on Fri Oct 24 05:59:14 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-mini-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-mini-px-5.2.2
Built on Fri Oct 24 06:01:58 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-mgbl, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-mgbl-5.2.2
Built on Fri Oct 24 05:58:30 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-mgbl-supp, V 5.2.2[Default], Cisco Systems, at disk0:hfr-mgbl-supp-5.2.2
Built on Fri Oct 24 05:58:30 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-mgbl-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-mgbl-px-5.2.2
Built on Fri Oct 24 05:58:35 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-mcast, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-mcast-5.2.2
Built on Fri Oct 24 05:58:49 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-mcast-supp, V 5.2.2[Default], Cisco Systems, at disk0:hfr-mcast-supp-5.2.2
Built on Fri Oct 24 05:58:49 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-mcast-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-mcast-px-5.2.2
Built on Fri Oct 24 05:59:02 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie
```

iosxr-li, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-li-5.2.2
Built on Fri Oct 24 06:39:45 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-li-suppl, V 5.2.2[Default], Cisco Systems, at disk0:hfr-li-suppl-5.2.2
Built on Fri Oct 24 06:39:45 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-li-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-li-px-5.2.2
Built on Fri Oct 24 06:39:47 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-security, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-security-5.2.2
Built on Fri Oct 24 06:17:39 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-k9sec-suppl, V 5.2.2[Default], Cisco Systems, at disk0:hfr-k9sec-suppl-5.2.2
Built on Fri Oct 24 06:17:39 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-k9sec-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-k9sec-px-5.2.2
Built on Fri Oct 24 06:17:46 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-fpd, V 5.2.2[Default], Cisco Systems, at disk0:hfr-fpd-5.2.2
Built on Fri Oct 24 06:18:12 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-fpd-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-fpd-px-5.2.2
Built on Fri Oct 24 06:18:32 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-doc-suppl, V 5.2.2[Default], Cisco Systems, at disk0:hfr-doc-suppl-5.2.2
Built on Fri Oct 24 06:18:36 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-doc-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-doc-px-5.2.2
Built on Fri Oct 24 06:18:41 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-diags-suppl, V 5.2.2[Default], Cisco Systems, at disk0:hfr-diags-suppl-5.2.2
Built on Fri Oct 24 06:17:47 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-diags-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-diags-px-5.2.2
Built on Fri Oct 24 06:18:08 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-asr9000v-nV-suppl, V 5.2.2[Default], Cisco Systems, at disk0:hfr-asr9000v-nV-suppl-5.2.2
Built on Fri Oct 24 06:17:32 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-asr9000v-nV-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-asr9000v-nV-px-5.2.2

```
Built on Fri Oct 24 06:17:38 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

Configuration register on node 0/RP1/CPU0 is 0x102
Boot device on node 0/RP1/CPU0 is disk0:
Package active on node 0/RP1/CPU0:
iosxr-adv-video, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-adv-video-5.2.2
  Built on Fri Oct 24 06:29:36 IST 2014
  By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-adv-video-supp, V 5.2.2[Default], Cisco Systems, at disk0:hfr-adv-video-supp-5.2.2
  Built on Fri Oct 24 06:29:36 IST 2014
  By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-video-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-video-px-5.2.2
  Built on Fri Oct 24 06:29:38 IST 2014
  By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-service, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-service-5.2.2
  Built on Fri Oct 24 06:18:42 IST 2014
  By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-service-supp, V 5.2.2[Default], Cisco Systems, at disk0:hfr-service-supp-5.2.2
  Built on Fri Oct 24 06:18:42 IST 2014
  By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-services-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-services-px-5.2.2
  Built on Fri Oct 24 06:19:21 IST 2014
  By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-mpls, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-mpls-5.2.2
  Built on Fri Oct 24 05:58:36 IST 2014
  By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-mpls-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-mpls-px-5.2.2
  Built on Fri Oct 24 05:58:48 IST 2014
  By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-infra, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-infra-5.2.2
  Built on Fri Oct 24 05:59:03 IST 2014
  By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-fwding, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-fwding-5.2.2
  Built on Fri Oct 24 05:59:03 IST 2014
  By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-routing, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-routing-5.2.2
  Built on Fri Oct 24 05:59:03 IST 2014
  By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-diags, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-diags-5.2.2
  Built on Fri Oct 24 05:59:03 IST 2014
  By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie
```

iosxr-ce, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-ce-5.2.2
Built on Fri Oct 24 05:59:03 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-base, V 5.2.2[Default], Cisco Systems, at disk0:hfr-base-5.2.2
Built on Fri Oct 24 05:59:03 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-os-mpi, V 5.2.2[Default], Cisco Systems, at disk0:hfr-os-mpi-5.2.2
Built on Fri Oct 24 06:01:30 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-fwding, V 5.2.2[Default], Cisco Systems, at disk0:hfr-fwding-5.2.2
Built on Fri Oct 24 05:59:14 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-ce, V 5.2.2[Default], Cisco Systems, at disk0:hfr-ce-5.2.2
Built on Fri Oct 24 05:59:14 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-mini-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-mini-px-5.2.2
Built on Fri Oct 24 06:01:58 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-mgbl, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-mgbl-5.2.2
Built on Fri Oct 24 05:58:30 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-mgbl-supp, V 5.2.2[Default], Cisco Systems, at disk0:hfr-mgbl-supp-5.2.2
Built on Fri Oct 24 05:58:30 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-mgbl-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-mgbl-px-5.2.2
Built on Fri Oct 24 05:58:35 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-mcast, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-mcast-5.2.2
Built on Fri Oct 24 05:58:49 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-mcast-supp, V 5.2.2[Default], Cisco Systems, at disk0:hfr-mcast-supp-5.2.2
Built on Fri Oct 24 05:58:49 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-mcast-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-mcast-px-5.2.2
Built on Fri Oct 24 05:59:02 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-li, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-li-5.2.2
Built on Fri Oct 24 06:39:45 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-li-supp, V 5.2.2[Default], Cisco Systems, at disk0:hfr-li-supp-5.2.2
Built on Fri Oct 24 06:39:45 IST 2014

```
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-li-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-li-px-5.2.2
Built on Fri Oct 24 06:39:47 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-security, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-security-5.2.2
Built on Fri Oct 24 06:17:39 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-k9sec-supp, V 5.2.2[Default], Cisco Systems, at disk0:hfr-k9sec-supp-5.2.2
Built on Fri Oct 24 06:17:39 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-k9sec-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-k9sec-px-5.2.2
Built on Fri Oct 24 06:17:46 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-fpd, V 5.2.2[Default], Cisco Systems, at disk0:hfr-fpd-5.2.2
Built on Fri Oct 24 06:18:12 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-fpd-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-fpd-px-5.2.2
Built on Fri Oct 24 06:18:32 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-doc-supp, V 5.2.2[Default], Cisco Systems, at disk0:hfr-doc-supp-5.2.2
Built on Fri Oct 24 06:18:36 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-doc-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-doc-px-5.2.2
Built on Fri Oct 24 06:18:41 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-diags-supp, V 5.2.2[Default], Cisco Systems, at disk0:hfr-diags-supp-5.2.2
Built on Fri Oct 24 06:17:47 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-diags-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-diags-px-5.2.2
Built on Fri Oct 24 06:18:08 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-asr9000v-nV-supp, V 5.2.2[Default], Cisco Systems, at disk0:hfr-asr9000v-nV-supp-5.2.2
Built on Fri Oct 24 06:17:32 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-asr9000v-nV-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-asr9000v-nV-px-5.2.2
Built on Fri Oct 24 06:17:38 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

Boot device on node 1/0/CPU0 is lcdisk0:
Package active on node 1/0/CPU0:
iosxr-adv-video, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-adv-video-5.2.2
Built on Fri Oct 24 06:29:36 IST 2014
```

By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-adv-video-supp, V 5.2.2[Default], Cisco Systems, at disk0:hfr-adv-video-supp-5.2.2
Built on Fri Oct 24 06:29:36 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-video-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-video-px-5.2.2
Built on Fri Oct 24 06:29:38 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-service, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-service-5.2.2
Built on Fri Oct 24 06:18:42 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-service-supp, V 5.2.2[Default], Cisco Systems, at disk0:hfr-service-supp-5.2.2
Built on Fri Oct 24 06:18:42 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-services-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-services-px-5.2.2
Built on Fri Oct 24 06:19:21 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-mpls, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-mpls-5.2.2
Built on Fri Oct 24 05:58:36 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-mpls-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-mpls-px-5.2.2
Built on Fri Oct 24 05:58:48 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-infra, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-infra-5.2.2
Built on Fri Oct 24 05:59:03 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-fwding, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-fwding-5.2.2
Built on Fri Oct 24 05:59:03 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-routing, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-routing-5.2.2
Built on Fri Oct 24 05:59:03 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-diags, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-diags-5.2.2
Built on Fri Oct 24 05:59:03 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-ce, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-ce-5.2.2
Built on Fri Oct 24 05:59:03 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-base, V 5.2.2[Default], Cisco Systems, at disk0:hfr-base-5.2.2
Built on Fri Oct 24 05:59:03 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-os-mpi, V 5.2.2[Default], Cisco Systems, at disk0:hfr-os-mpi-5.2.2
Built on Fri Oct 24 06:01:30 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-fwding, V 5.2.2[Default], Cisco Systems, at disk0:hfr-fwding-5.2.2
Built on Fri Oct 24 05:59:14 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-ce, V 5.2.2[Default], Cisco Systems, at disk0:hfr-ce-5.2.2
Built on Fri Oct 24 05:59:14 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-mini-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-mini-px-5.2.2
Built on Fri Oct 24 06:01:58 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-mcast, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-mcast-5.2.2
Built on Fri Oct 24 05:58:49 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-mcast-supp, V 5.2.2[Default], Cisco Systems, at disk0:hfr-mcast-supp-5.2.2
Built on Fri Oct 24 05:58:49 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-mcast-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-mcast-px-5.2.2
Built on Fri Oct 24 05:59:02 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-li, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-li-5.2.2
Built on Fri Oct 24 06:39:45 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-li-supp, V 5.2.2[Default], Cisco Systems, at disk0:hfr-li-supp-5.2.2
Built on Fri Oct 24 06:39:45 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-li-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-li-px-5.2.2
Built on Fri Oct 24 06:39:47 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-fpd, V 5.2.2[Default], Cisco Systems, at disk0:hfr-fpd-5.2.2
Built on Fri Oct 24 06:18:12 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-fpd-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-fpd-px-5.2.2
Built on Fri Oct 24 06:18:32 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-diags-supp, V 5.2.2[Default], Cisco Systems, at disk0:hfr-diags-supp-5.2.2
Built on Fri Oct 24 06:17:47 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-diags-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-diags-px-5.2.2
Built on Fri Oct 24 06:18:08 IST 2014


```
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

Boot device on node 1/1/CPU0 is mem:
Package active on node 1/1/CPU0:
iosxr-adv-video, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-adv-video-5.2.2
  Built on Fri Oct 24 06:29:36 IST 2014
  By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-adv-video-supp, V 5.2.2[Default], Cisco Systems, at disk0:hfr-adv-video-supp-5.2.2
  Built on Fri Oct 24 06:29:36 IST 2014
  By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-video-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-video-px-5.2.2
  Built on Fri Oct 24 06:29:38 IST 2014
  By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-service, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-service-5.2.2
  Built on Fri Oct 24 06:18:42 IST 2014
  By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-service-supp, V 5.2.2[Default], Cisco Systems, at disk0:hfr-service-supp-5.2.2
  Built on Fri Oct 24 06:18:42 IST 2014
  By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-services-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-services-px-5.2.2
  Built on Fri Oct 24 06:19:21 IST 2014
  By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-mps, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-mps-5.2.2
  Built on Fri Oct 24 05:58:36 IST 2014
  By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-mps-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-mps-px-5.2.2
  Built on Fri Oct 24 05:58:48 IST 2014
  By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-infra, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-infra-5.2.2
  Built on Fri Oct 24 05:59:03 IST 2014
  By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-fwding, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-fwding-5.2.2
  Built on Fri Oct 24 05:59:03 IST 2014
  By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-routing, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-routing-5.2.2
  Built on Fri Oct 24 05:59:03 IST 2014
  By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-diags, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-diags-5.2.2
  Built on Fri Oct 24 05:59:03 IST 2014
  By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-ce, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-ce-5.2.2
  Built on Fri Oct 24 05:59:03 IST 2014
```

By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-base, V 5.2.2[Default], Cisco Systems, at disk0:hfr-base-5.2.2
Built on Fri Oct 24 05:59:03 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-os-mpi, V 5.2.2[Default], Cisco Systems, at disk0:hfr-os-mpi-5.2.2
Built on Fri Oct 24 06:01:30 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-fwding, V 5.2.2[Default], Cisco Systems, at disk0:hfr-fwding-5.2.2
Built on Fri Oct 24 05:59:14 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-ce, V 5.2.2[Default], Cisco Systems, at disk0:hfr-ce-5.2.2
Built on Fri Oct 24 05:59:14 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-mini-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-mini-px-5.2.2
Built on Fri Oct 24 06:01:58 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-mcast, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-mcast-5.2.2
Built on Fri Oct 24 05:58:49 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-mcast-supp, V 5.2.2[Default], Cisco Systems, at disk0:hfr-mcast-supp-5.2.2
Built on Fri Oct 24 05:58:49 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-mcast-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-mcast-px-5.2.2
Built on Fri Oct 24 05:59:02 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-li, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-li-5.2.2
Built on Fri Oct 24 06:39:45 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-li-supp, V 5.2.2[Default], Cisco Systems, at disk0:hfr-li-supp-5.2.2
Built on Fri Oct 24 06:39:45 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-li-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-li-px-5.2.2
Built on Fri Oct 24 06:39:47 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-fpd, V 5.2.2[Default], Cisco Systems, at disk0:hfr-fpd-5.2.2
Built on Fri Oct 24 06:18:12 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-fpd-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-fpd-px-5.2.2
Built on Fri Oct 24 06:18:32 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-diags-supp, V 5.2.2[Default], Cisco Systems, at disk0:hfr-diags-supp-5.2.2
Built on Fri Oct 24 06:17:47 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-diags-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-diags-px-5.2.2
Built on Fri Oct 24 06:18:08 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

Boot device on node 1/2/CPU0 is mem:
Package active on node 1/2/CPU0:

iosxr-adv-video, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-adv-video-5.2.2
Built on Fri Oct 24 06:29:36 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-adv-video-supp, V 5.2.2[Default], Cisco Systems, at disk0:hfr-adv-video-supp-5.2.2
Built on Fri Oct 24 06:29:36 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-video-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-video-px-5.2.2
Built on Fri Oct 24 06:29:38 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-service, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-service-5.2.2
Built on Fri Oct 24 06:18:42 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-service-supp, V 5.2.2[Default], Cisco Systems, at disk0:hfr-service-supp-5.2.2
Built on Fri Oct 24 06:18:42 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-services-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-services-px-5.2.2
Built on Fri Oct 24 06:19:21 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-mpls, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-mpls-5.2.2
Built on Fri Oct 24 05:58:36 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-mpls-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-mpls-px-5.2.2
Built on Fri Oct 24 05:58:48 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-infra, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-infra-5.2.2
Built on Fri Oct 24 05:59:03 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-fwding, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-fwding-5.2.2
Built on Fri Oct 24 05:59:03 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-routing, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-routing-5.2.2
Built on Fri Oct 24 05:59:03 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-diags, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-diags-5.2.2
Built on Fri Oct 24 05:59:03 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-ce, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-ce-5.2.2
Built on Fri Oct 24 05:59:03 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-base, V 5.2.2[Default], Cisco Systems, at disk0:hfr-base-5.2.2
Built on Fri Oct 24 05:59:03 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-os-mpi, V 5.2.2[Default], Cisco Systems, at disk0:hfr-os-mpi-5.2.2
Built on Fri Oct 24 06:01:30 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-fwding, V 5.2.2[Default], Cisco Systems, at disk0:hfr-fwding-5.2.2
Built on Fri Oct 24 05:59:14 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-ce, V 5.2.2[Default], Cisco Systems, at disk0:hfr-ce-5.2.2
Built on Fri Oct 24 05:59:14 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-mini-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-mini-px-5.2.2
Built on Fri Oct 24 06:01:58 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-mcast, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-mcast-5.2.2
Built on Fri Oct 24 05:58:49 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-mcast-supp, V 5.2.2[Default], Cisco Systems, at disk0:hfr-mcast-supp-5.2.2
Built on Fri Oct 24 05:58:49 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-mcast-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-mcast-px-5.2.2
Built on Fri Oct 24 05:59:02 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-li, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-li-5.2.2
Built on Fri Oct 24 06:39:45 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-li-supp, V 5.2.2[Default], Cisco Systems, at disk0:hfr-li-supp-5.2.2
Built on Fri Oct 24 06:39:45 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-li-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-li-px-5.2.2
Built on Fri Oct 24 06:39:47 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-fpd, V 5.2.2[Default], Cisco Systems, at disk0:hfr-fpd-5.2.2
Built on Fri Oct 24 06:18:12 IST 2014

```
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-fpd-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-fpd-px-5.2.2
Built on Fri Oct 24 06:18:32 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-diags-supply, V 5.2.2[Default], Cisco Systems, at disk0:hfr-diags-supply-5.2.2
Built on Fri Oct 24 06:17:47 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-diags-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-diags-px-5.2.2
Built on Fri Oct 24 06:18:08 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

Boot device on node 1/4/CPU0 is mem:
Package active on node 1/4/CPU0:
iosxr-adv-video, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-adv-video-5.2.2
Built on Fri Oct 24 06:29:36 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-adv-video-supply, V 5.2.2[Default], Cisco Systems, at disk0:hfr-adv-video-supply-5.2.2
Built on Fri Oct 24 06:29:36 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-video-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-video-px-5.2.2
Built on Fri Oct 24 06:29:38 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-service, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-service-5.2.2
Built on Fri Oct 24 06:18:42 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-service-supply, V 5.2.2[Default], Cisco Systems, at disk0:hfr-service-supply-5.2.2
Built on Fri Oct 24 06:18:42 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-services-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-services-px-5.2.2
Built on Fri Oct 24 06:19:21 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-mpls, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-mpls-5.2.2
Built on Fri Oct 24 05:58:36 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-mpls-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-mpls-px-5.2.2
Built on Fri Oct 24 05:58:48 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-infra, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-infra-5.2.2
Built on Fri Oct 24 05:59:03 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-fwding, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-fwding-5.2.2
Built on Fri Oct 24 05:59:03 IST 2014
```

By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie
iosxr-routing, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-routing-5.2.2
Built on Fri Oct 24 05:59:03 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-diags, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-diags-5.2.2
Built on Fri Oct 24 05:59:03 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-ce, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-ce-5.2.2
Built on Fri Oct 24 05:59:03 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-base, V 5.2.2[Default], Cisco Systems, at disk0:hfr-base-5.2.2
Built on Fri Oct 24 05:59:03 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-os-mpi, V 5.2.2[Default], Cisco Systems, at disk0:hfr-os-mpi-5.2.2
Built on Fri Oct 24 06:01:30 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-fwding, V 5.2.2[Default], Cisco Systems, at disk0:hfr-fwding-5.2.2
Built on Fri Oct 24 05:59:14 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-ce, V 5.2.2[Default], Cisco Systems, at disk0:hfr-ce-5.2.2
Built on Fri Oct 24 05:59:14 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-mini-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-mini-px-5.2.2
Built on Fri Oct 24 06:01:58 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-mcast, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-mcast-5.2.2
Built on Fri Oct 24 05:58:49 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-mcast-supp, V 5.2.2[Default], Cisco Systems, at disk0:hfr-mcast-supp-5.2.2
Built on Fri Oct 24 05:58:49 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-mcast-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-mcast-px-5.2.2
Built on Fri Oct 24 05:59:02 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-li, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-li-5.2.2
Built on Fri Oct 24 06:39:45 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-li-supp, V 5.2.2[Default], Cisco Systems, at disk0:hfr-li-supp-5.2.2
Built on Fri Oct 24 06:39:45 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-li-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-li-px-5.2.2
Built on Fri Oct 24 06:39:47 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-fpd, V 5.2.2[Default], Cisco Systems, at disk0:hfr-fpd-5.2.2
Built on Fri Oct 24 06:18:12 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-fpd-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-fpd-px-5.2.2
Built on Fri Oct 24 06:18:32 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-diags-supp, V 5.2.2[Default], Cisco Systems, at disk0:hfr-diags-supp-5.2.2
Built on Fri Oct 24 06:17:47 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-diags-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-diags-px-5.2.2
Built on Fri Oct 24 06:18:08 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

Boot device on node 1/5/CPU0 is mem:
Package active on node 1/5/CPU0:

iosxr-adv-video, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-adv-video-5.2.2
Built on Fri Oct 24 06:29:36 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-adv-video-supp, V 5.2.2[Default], Cisco Systems, at disk0:hfr-adv-video-supp-5.2.2
Built on Fri Oct 24 06:29:36 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-video-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-video-px-5.2.2
Built on Fri Oct 24 06:29:38 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-service, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-service-5.2.2
Built on Fri Oct 24 06:18:42 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-service-supp, V 5.2.2[Default], Cisco Systems, at disk0:hfr-service-supp-5.2.2
Built on Fri Oct 24 06:18:42 IST 2014
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hfr-services-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-services-px-5.2.2
Built on Fri Oct 24 06:19:21 IST 2014
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iosxr-mpls, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-mpls-5.2.2
Built on Fri Oct 24 05:58:36 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-mpls-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-mpls-px-5.2.2
Built on Fri Oct 24 05:58:48 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-infra, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-infra-5.2.2
Built on Fri Oct 24 05:59:03 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-fwding, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-fwding-5.2.2
Built on Fri Oct 24 05:59:03 IST 2014
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iosxr-routing, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-routing-5.2.2
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Built on Fri Oct 24 05:59:03 IST 2014
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iosxr-ce, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-ce-5.2.2
Built on Fri Oct 24 05:59:03 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-base, V 5.2.2[Default], Cisco Systems, at disk0:hfr-base-5.2.2
Built on Fri Oct 24 05:59:03 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-os-mpi, V 5.2.2[Default], Cisco Systems, at disk0:hfr-os-mpi-5.2.2
Built on Fri Oct 24 06:01:30 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-fwding, V 5.2.2[Default], Cisco Systems, at disk0:hfr-fwding-5.2.2
Built on Fri Oct 24 05:59:14 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

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Built on Fri Oct 24 05:59:14 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-mini-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-mini-px-5.2.2
Built on Fri Oct 24 06:01:58 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-mcast, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-mcast-5.2.2
Built on Fri Oct 24 05:58:49 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-mcast-supp, V 5.2.2[Default], Cisco Systems, at disk0:hfr-mcast-supp-5.2.2
Built on Fri Oct 24 05:58:49 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-mcast-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-mcast-px-5.2.2
Built on Fri Oct 24 05:59:02 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-li, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-li-5.2.2
Built on Fri Oct 24 06:39:45 IST 2014


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By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-li-supp, V 5.2.2[Default], Cisco Systems, at disk0:hfr-li-supp-5.2.2
Built on Fri Oct 24 06:39:45 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-li-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-li-px-5.2.2
Built on Fri Oct 24 06:39:47 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-fpd, V 5.2.2[Default], Cisco Systems, at disk0:hfr-fpd-5.2.2
Built on Fri Oct 24 06:18:12 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-fpd-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-fpd-px-5.2.2
Built on Fri Oct 24 06:18:32 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-diags-supp, V 5.2.2[Default], Cisco Systems, at disk0:hfr-diags-supp-5.2.2
Built on Fri Oct 24 06:17:47 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-diags-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-diags-px-5.2.2
Built on Fri Oct 24 06:18:08 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

Boot device on node 1/6/CPU0 is mem:
Package active on node 1/6/CPU0:
iosxr-adv-video, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-adv-video-5.2.2
Built on Fri Oct 24 06:29:36 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-adv-video-supp, V 5.2.2[Default], Cisco Systems, at disk0:hfr-adv-video-supp-5.2.2
Built on Fri Oct 24 06:29:36 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-video-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-video-px-5.2.2
Built on Fri Oct 24 06:29:38 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-service, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-service-5.2.2
Built on Fri Oct 24 06:18:42 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-service-supp, V 5.2.2[Default], Cisco Systems, at disk0:hfr-service-supp-5.2.2
Built on Fri Oct 24 06:18:42 IST 2014
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hfr-services-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-services-px-5.2.2
Built on Fri Oct 24 06:19:21 IST 2014
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iosxr-mppls, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-mppls-5.2.2
Built on Fri Oct 24 05:58:36 IST 2014
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By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-mpls-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-mpls-px-5.2.2
Built on Fri Oct 24 05:58:48 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-infra, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-infra-5.2.2
Built on Fri Oct 24 05:59:03 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-fwding, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-fwding-5.2.2
Built on Fri Oct 24 05:59:03 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-routing, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-routing-5.2.2
Built on Fri Oct 24 05:59:03 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-diags, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-diags-5.2.2
Built on Fri Oct 24 05:59:03 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-ce, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-ce-5.2.2
Built on Fri Oct 24 05:59:03 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-base, V 5.2.2[Default], Cisco Systems, at disk0:hfr-base-5.2.2
Built on Fri Oct 24 05:59:03 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-os-mpi, V 5.2.2[Default], Cisco Systems, at disk0:hfr-os-mpi-5.2.2
Built on Fri Oct 24 06:01:30 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-fwding, V 5.2.2[Default], Cisco Systems, at disk0:hfr-fwding-5.2.2
Built on Fri Oct 24 05:59:14 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-ce, V 5.2.2[Default], Cisco Systems, at disk0:hfr-ce-5.2.2
Built on Fri Oct 24 05:59:14 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-mini-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-mini-px-5.2.2
Built on Fri Oct 24 06:01:58 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-mcast, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-mcast-5.2.2
Built on Fri Oct 24 05:58:49 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-mcast-supp, V 5.2.2[Default], Cisco Systems, at disk0:hfr-mcast-supp-5.2.2
Built on Fri Oct 24 05:58:49 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

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hfr-mcast-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-mcast-px-5.2.2
  Built on Fri Oct 24 05:59:02 IST 2014
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iosxr-li, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-li-5.2.2
  Built on Fri Oct 24 06:39:45 IST 2014
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hfr-li-supp, V 5.2.2[Default], Cisco Systems, at disk0:hfr-li-supp-5.2.2
  Built on Fri Oct 24 06:39:45 IST 2014
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hfr-li-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-li-px-5.2.2
  Built on Fri Oct 24 06:39:47 IST 2014
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hfr-fpd, V 5.2.2[Default], Cisco Systems, at disk0:hfr-fpd-5.2.2
  Built on Fri Oct 24 06:18:12 IST 2014
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hfr-fpd-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-fpd-px-5.2.2
  Built on Fri Oct 24 06:18:32 IST 2014
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hfr-diags-supp, V 5.2.2[Default], Cisco Systems, at disk0:hfr-diags-supp-5.2.2
  Built on Fri Oct 24 06:17:47 IST 2014
  By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-diags-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-diags-px-5.2.2
  Built on Fri Oct 24 06:18:08 IST 2014
  By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

Boot device on node 1/7/CPU0 is lcdisk0:
Package active on node 1/7/CPU0:
iosxr-adv-video, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-adv-video-5.2.2
  Built on Fri Oct 24 06:29:36 IST 2014
  By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-adv-video-supp, V 5.2.2[Default], Cisco Systems, at disk0:hfr-adv-video-supp-5.2.2
  Built on Fri Oct 24 06:29:36 IST 2014
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hfr-video-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-video-px-5.2.2
  Built on Fri Oct 24 06:29:38 IST 2014
  By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-service, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-service-5.2.2
  Built on Fri Oct 24 06:18:42 IST 2014
  By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-service-supp, V 5.2.2[Default], Cisco Systems, at disk0:hfr-service-supp-5.2.2
  Built on Fri Oct 24 06:18:42 IST 2014
  By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie
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hfr-services-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-services-px-5.2.2
Built on Fri Oct 24 06:19:21 IST 2014
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iosxr-mpls, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-mpls-5.2.2
Built on Fri Oct 24 05:58:36 IST 2014
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hfr-mpls-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-mpls-px-5.2.2
Built on Fri Oct 24 05:58:48 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-infra, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-infra-5.2.2
Built on Fri Oct 24 05:59:03 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-fwding, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-fwding-5.2.2
Built on Fri Oct 24 05:59:03 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-routing, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-routing-5.2.2
Built on Fri Oct 24 05:59:03 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-diags, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-diags-5.2.2
Built on Fri Oct 24 05:59:03 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-ce, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-ce-5.2.2
Built on Fri Oct 24 05:59:03 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-base, V 5.2.2[Default], Cisco Systems, at disk0:hfr-base-5.2.2
Built on Fri Oct 24 05:59:03 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-os-mpi, V 5.2.2[Default], Cisco Systems, at disk0:hfr-os-mpi-5.2.2
Built on Fri Oct 24 06:01:30 IST 2014
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hfr-mini-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-mini-px-5.2.2
Built on Fri Oct 24 06:01:58 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-mcast, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-mcast-5.2.2
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iosxr-li, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-li-5.2.2
Built on Fri Oct 24 06:39:45 IST 2014
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hfr-li-supp, V 5.2.2[Default], Cisco Systems, at disk0:hfr-li-supp-5.2.2
Built on Fri Oct 24 06:39:45 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-li-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-li-px-5.2.2
Built on Fri Oct 24 06:39:47 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-fpd, V 5.2.2[Default], Cisco Systems, at disk0:hfr-fpd-5.2.2
Built on Fri Oct 24 06:18:12 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-fpd-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-fpd-px-5.2.2
Built on Fri Oct 24 06:18:32 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-diags-supp, V 5.2.2[Default], Cisco Systems, at disk0:hfr-diags-supp-5.2.2
Built on Fri Oct 24 06:17:47 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-diags-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-diags-px-5.2.2
Built on Fri Oct 24 06:18:08 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

Configuration register on node 1/RP0/CPU0 is 0x102
Boot device on node 1/RP0/CPU0 is disk0:
Package active on node 1/RP0/CPU0:
iosxr-adv-video, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-adv-video-5.2.2
Built on Fri Oct 24 06:29:36 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-adv-video-supp, V 5.2.2[Default], Cisco Systems, at disk0:hfr-adv-video-supp-5.2.2
Built on Fri Oct 24 06:29:36 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-video-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-video-px-5.2.2
Built on Fri Oct 24 06:29:38 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-service, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-service-5.2.2
```

Built on Fri Oct 24 06:18:42 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-service-supply, V 5.2.2[Default], Cisco Systems, at disk0:hfr-service-supply-5.2.2
Built on Fri Oct 24 06:18:42 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-services-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-services-px-5.2.2
Built on Fri Oct 24 06:19:21 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-mps, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-mps-5.2.2
Built on Fri Oct 24 05:58:36 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-mps-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-mps-px-5.2.2
Built on Fri Oct 24 05:58:48 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-infra, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-infra-5.2.2
Built on Fri Oct 24 05:59:03 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-fwding, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-fwding-5.2.2
Built on Fri Oct 24 05:59:03 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-routing, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-routing-5.2.2
Built on Fri Oct 24 05:59:03 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-diags, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-diags-5.2.2
Built on Fri Oct 24 05:59:03 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-ce, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-ce-5.2.2
Built on Fri Oct 24 05:59:03 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-base, V 5.2.2[Default], Cisco Systems, at disk0:hfr-base-5.2.2
Built on Fri Oct 24 05:59:03 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-os-mpi, V 5.2.2[Default], Cisco Systems, at disk0:hfr-os-mpi-5.2.2
Built on Fri Oct 24 06:01:30 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-fwding, V 5.2.2[Default], Cisco Systems, at disk0:hfr-fwding-5.2.2
Built on Fri Oct 24 05:59:14 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-ce, V 5.2.2[Default], Cisco Systems, at disk0:hfr-ce-5.2.2
Built on Fri Oct 24 05:59:14 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-mini-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-mini-px-5.2.2
Built on Fri Oct 24 06:01:58 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-mgbl, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-mgbl-5.2.2
Built on Fri Oct 24 05:58:30 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-mgbl-supp, V 5.2.2[Default], Cisco Systems, at disk0:hfr-mgbl-supp-5.2.2
Built on Fri Oct 24 05:58:30 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-mgbl-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-mgbl-px-5.2.2
Built on Fri Oct 24 05:58:35 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-mcast, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-mcast-5.2.2
Built on Fri Oct 24 05:58:49 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-mcast-supp, V 5.2.2[Default], Cisco Systems, at disk0:hfr-mcast-supp-5.2.2
Built on Fri Oct 24 05:58:49 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-mcast-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-mcast-px-5.2.2
Built on Fri Oct 24 05:59:02 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-li, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-li-5.2.2
Built on Fri Oct 24 06:39:45 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-li-supp, V 5.2.2[Default], Cisco Systems, at disk0:hfr-li-supp-5.2.2
Built on Fri Oct 24 06:39:45 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-li-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-li-px-5.2.2
Built on Fri Oct 24 06:39:47 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-security, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-security-5.2.2
Built on Fri Oct 24 06:17:39 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-k9sec-supp, V 5.2.2[Default], Cisco Systems, at disk0:hfr-k9sec-supp-5.2.2
Built on Fri Oct 24 06:17:39 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-k9sec-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-k9sec-px-5.2.2
Built on Fri Oct 24 06:17:46 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-fpd, V 5.2.2[Default], Cisco Systems, at disk0:hfr-fpd-5.2.2

```
Built on Fri Oct 24 06:18:12 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-fpd-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-fpd-px-5.2.2
Built on Fri Oct 24 06:18:32 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-doc-supp, V 5.2.2[Default], Cisco Systems, at disk0:hfr-doc-supp-5.2.2
Built on Fri Oct 24 06:18:36 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-doc-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-doc-px-5.2.2
Built on Fri Oct 24 06:18:41 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-diags-supp, V 5.2.2[Default], Cisco Systems, at disk0:hfr-diags-supp-5.2.2
Built on Fri Oct 24 06:17:47 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-diags-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-diags-px-5.2.2
Built on Fri Oct 24 06:18:08 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-asr9000v-nV-supp, V 5.2.2[Default], Cisco Systems, at disk0:hfr-asr9000v-nV-supp-5.2.2
Built on Fri Oct 24 06:17:32 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-asr9000v-nV-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-asr9000v-nV-px-5.2.2
Built on Fri Oct 24 06:17:38 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

Configuration register on node 1/RP1/CPU0 is 0x2
Boot device on node 1/RP1/CPU0 is disk0:
Package active on node 1/RP1/CPU0:
iosxr-adv-video, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-adv-video-5.2.2
Built on Fri Oct 24 06:29:36 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-adv-video-supp, V 5.2.2[Default], Cisco Systems, at disk0:hfr-adv-video-supp-5.2.2
Built on Fri Oct 24 06:29:36 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-video-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-video-px-5.2.2
Built on Fri Oct 24 06:29:38 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-service, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-service-5.2.2
Built on Fri Oct 24 06:18:42 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-service-supp, V 5.2.2[Default], Cisco Systems, at disk0:hfr-service-supp-5.2.2
Built on Fri Oct 24 06:18:42 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie
```


hfr-services-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-services-px-5.2.2
Built on Fri Oct 24 06:19:21 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-mps, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-mps-5.2.2
Built on Fri Oct 24 05:58:36 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-mps-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-mps-px-5.2.2
Built on Fri Oct 24 05:58:48 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-infra, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-infra-5.2.2
Built on Fri Oct 24 05:59:03 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-fwding, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-fwding-5.2.2
Built on Fri Oct 24 05:59:03 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-routing, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-routing-5.2.2
Built on Fri Oct 24 05:59:03 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-diags, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-diags-5.2.2
Built on Fri Oct 24 05:59:03 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-ce, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-ce-5.2.2
Built on Fri Oct 24 05:59:03 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-base, V 5.2.2[Default], Cisco Systems, at disk0:hfr-base-5.2.2
Built on Fri Oct 24 05:59:03 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-os-mpi, V 5.2.2[Default], Cisco Systems, at disk0:hfr-os-mpi-5.2.2
Built on Fri Oct 24 06:01:30 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-fwding, V 5.2.2[Default], Cisco Systems, at disk0:hfr-fwding-5.2.2
Built on Fri Oct 24 05:59:14 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-ce, V 5.2.2[Default], Cisco Systems, at disk0:hfr-ce-5.2.2
Built on Fri Oct 24 05:59:14 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-mini-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-mini-px-5.2.2
Built on Fri Oct 24 06:01:58 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-mgbl, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-mgbl-5.2.2
Built on Fri Oct 24 05:58:30 IST 2014

By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-mgbl-supp, V 5.2.2[Default], Cisco Systems, at disk0:hfr-mgbl-supp-5.2.2
Built on Fri Oct 24 05:58:30 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-mgbl-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-mgbl-px-5.2.2
Built on Fri Oct 24 05:58:35 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-mcast, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-mcast-5.2.2
Built on Fri Oct 24 05:58:49 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-mcast-supp, V 5.2.2[Default], Cisco Systems, at disk0:hfr-mcast-supp-5.2.2
Built on Fri Oct 24 05:58:49 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-mcast-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-mcast-px-5.2.2
Built on Fri Oct 24 05:59:02 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-li, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-li-5.2.2
Built on Fri Oct 24 06:39:45 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-li-supp, V 5.2.2[Default], Cisco Systems, at disk0:hfr-li-supp-5.2.2
Built on Fri Oct 24 06:39:45 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-li-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-li-px-5.2.2
Built on Fri Oct 24 06:39:47 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

iosxr-security, V 5.2.2[Default], Cisco Systems, at disk0:iosxr-security-5.2.2
Built on Fri Oct 24 06:17:39 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-k9sec-supp, V 5.2.2[Default], Cisco Systems, at disk0:hfr-k9sec-supp-5.2.2
Built on Fri Oct 24 06:17:39 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-k9sec-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-k9sec-px-5.2.2
Built on Fri Oct 24 06:17:46 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-fpd, V 5.2.2[Default], Cisco Systems, at disk0:hfr-fpd-5.2.2
Built on Fri Oct 24 06:18:12 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-fpd-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-fpd-px-5.2.2
Built on Fri Oct 24 06:18:32 IST 2014
By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

```
hfr-doc-supp, V 5.2.2[Default], Cisco Systems, at disk0:hfr-doc-supp-5.2.2
  Built on Fri Oct 24 06:18:36 IST 2014
  By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-doc-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-doc-px-5.2.2
  Built on Fri Oct 24 06:18:41 IST 2014
  By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-diags-supp, V 5.2.2[Default], Cisco Systems, at disk0:hfr-diags-supp-5.2.2
  Built on Fri Oct 24 06:17:47 IST 2014
  By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-diags-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-diags-px-5.2.2
  Built on Fri Oct 24 06:18:08 IST 2014
  By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-asr9000v-nV-supp, V 5.2.2[Default], Cisco Systems, at disk0:hfr-asr9000v-nV-supp-5.2.2
  Built on Fri Oct 24 06:17:32 IST 2014
  By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie

hfr-asr9000v-nV-px, V 5.2.2[Default], Cisco Systems, at disk0:hfr-asr9000v-nV-px-5.2.2
  Built on Fri Oct 24 06:17:38 IST 2014
  By iox-lnx-009 in /auto/srcarchive12/production/5.2.2/all/workspace for pie
```

Software Features Introduced in Cisco IOS XR Software Release 5.2.2

iBGP Neighbour Peering

Support has been added to specify the same autonomous system number for **local-as** and **remote-as** commands while configuring neighbor peerings. This makes the peer consider the neighbor to be an iBGP neighbor.

Overview of BGP Monitoring Protocol

The BGP Monitoring Protocol (BMP) feature enables monitoring of BGP speakers (called BMP clients). You can configure a device to function as a BMP server, which monitors either one or several BMP clients, which in turn, has several active peer sessions configured. You can also configure a BMP client to connect to one or more BMP servers. The BMP feature enables configuration of multiple BMP servers (configured as primary servers) to function actively and independent of each other, simultaneously to monitor BMP clients.

The BMP Protocol provides access to the Adjacent Routing Information Base, Incoming (Adj-RIB-In) table of a peer on an ongoing basis and a periodic dump of certain statistics that the monitoring station can use for further analysis. The BMP provides pre-policy view of the Adj-RIB-In table of a peer.

For more information on BGP Monitoring Protocol, see the *Implementing BGP* chapter in the *Cisco IOS XR Routing Configuration Guide for the Cisco CRS Router*. For more information on BGP Monitoring Protocol commands, see the *BGP Commands* chapter in the *Cisco IOS XR Routing Command Reference for the Cisco CRS Router*.

BGP Persistence

BGP persistence enables the local router to retain routes that it has learnt from the configured neighbor even after the neighbor session is down. BGP persistence is also referred as Long Lived Graceful Restart (LLGR). LLGR takes effect after graceful restart (GR) ends or immediately if GR is not enabled. LLGR ends either when the LLGR stale timer expires or when the neighbor sends the end-of-RIB marker after it has revised its routes. When LLGR for a neighbor ends, all routes from that neighbor that are still stale will be deleted. The LLGR capability is signaled to a neighbor in the BGP OPEN message if it has been configured for that neighbor. LLGR differs from graceful restart in the following ways.

- It can be in effect for a much longer time than GR
- LLGR stale routes are least preferred during route selection (bestpath computation).
- An LLGR stale route will be advertised with the LLGR_STALE community attached if it is selected as best path. It will not be advertised at all to routers that are not LLGR capable.
- LLGR stale routes will not be deleted when the forwarding path to the neighbor is detected to be down
- An LLGR stale route will not be deleted if the BGP session to the neighbor goes down multiple times even if that neighbor does not re-advertise the route.
- Any route that has the NO_LLGR community will not be retained.

BGP will not pass the updates containing communities 65535:6, 65535:7 to its neighbors until the neighbors negotiate BGP persistence capabilities. The communities 65535:6 and 65535:7 are reserved for LLGR_STALE and NO_LLGR respectively, BGP behavior maybe unpredictable if you have configured these communities prior to release 5.2.2. We recommend not to configure the communities 65535:6 and 65535:7.

The BGP persistence feature is supported only on the following AFIs:

- VPNv4 and VPNv6
- RT constraint
- Flow spec (IPv4, IPv6, VPNv4 and VPNv6)
- Private IPv4 and IPv6 (IPv4/v6 address family inside VRF)

For more information on BGP Persistence, see the *Implementing BGP* chapter in the *Cisco IOS XR Routing Configuration Guide for the Cisco CRS Router*. For more information on BGP Persistence commands, see the *BGP Commands* chapter in the *Cisco IOS XR Routing Command Reference for the Cisco CRS Router*.

Make-Before-Break

The MPLS TE Make-Before-Break (MBB) explicit path and path option configuration change feature allows tunnels whose explicit paths or path options are modified to be reoptimized without any data loss.

OSPF Area Specific Route Redistribution

This release supports redistribution of routes originating from specific OSPF areas into other routing protocols like BGP. The OSPF areas are specified, either explicitly or as an area-set, in the route policy. The route policy is thereafter used for route redistribution.

Segment Routing Mapping Server

The mapping server functionality in Cisco IOS XR segment routing centrally assigns prefix-SIDs for some or all of the known prefixes. A router must be able to act as a mapping server, a mapping client, or both.

- A router that acts as a mapping server allows the user to configure SID mapping entries to specify the prefix-SIDs for some or all prefixes. This creates the local SID-mapping policy. The local SID-mapping policy contains non-overlapping SID-mapping entries. The mapping server advertises the local SID-mapping policy to the mapping clients.
- A router that acts as a mapping client receives and parses remotely received SIDs from the mapping server to create remote SID-mapping entries.
- A router that acts as a mapping server and mapping client uses the remotely learnt and locally configured mapping entries to construct the non-overlapping consistent active mapping policy. IGP instance uses the active mapping policy to calculate the prefix-SIDs of some or all prefixes.

The mapping server automatically manages the insertions and deletions of mapping entries to always yield an active mapping policy that contains non-overlapping consistent SID-mapping entries.

- Locally configured mapping entries must not overlap each other.
- The mapping server takes the locally configured mapping policy, as well as remotely learned mapping entries from a particular IGP instance, as input, and selects a single mapping entry among overlapping mapping entries according to the preference rules for that IGP instance. The result is an active mapping policy that consists of non-overlapping consistent mapping entries.
- At steady state, all routers, at least in the same area or level, must have identical active mapping policies.

Affinity Failure Delayed LSP Tear

The affinity failure delayed label switched path (LSP) tear feature starts a 5 minute timer at the headend once an LSP has hit an affinity failure. If the tunnel is not able to reoptimize within the time frame, it is torn down.

Performance Monitoring for Satellite Network Virtualization Optical Shelf

Support has been added for Performance Monitoring of a Satellite Network Virtualization (nV) Optical Shelf System. It allows historical operational data for the dense wavelength-division multiplexing (DWDM) ports to be stored and viewed. The history of almost every statistic available at the Optical and Optical Transport Network (OTN) layers are stored in both 15-minute and 24-hour intervals. The Performance Monitoring Engine UI library provides the CLIs for configuring Performance Monitoring statistics (such as setting threshold values and enabling/disabling threshold crossing alerts (TCAs)).

Satellite Network Virtualization Optical Shelf System

Support has been added for Optical Shelf Manager to configure and manage IP over dense wavelength-division multiplexing (IPoDWDM) solution to integrate the IP and optical networks. The Cisco ASR 9000 Series Aggregation Services Router is configured as a Cisco IOS XR host in the Satellite Network Virtualization (nV) System. An external Optical Network System (ONS) such as the Cisco 15454 M6 is configured as an optical shelf. The nV satellite system and the optical shelf are connected through short range grey optics in

Transponder and Muxponder application topologies to produce a single high-capacity DWDM link using Optical Transport Network (OTN) technology.

Multicast Non-Stop Routing

Multicast NSR is enabled by default, however, if any unsupported features like BNG or Snooping are configured, Multicast performs Non-Stop Forwarding (NSF) functionality during failover events. When Multicast NSR is enabled, multicast routing state is synchronized between the active and standby RSPs. Once the synchronization occurs, each of the multicast processes signal the NSR readiness to the system. For the multicast processes to support NSR, the processes must be hot standby compliant. That is, the processes on active and standby RSPs both have to be in synchronization at all times. The active RSP receives packets from the network and makes local decisions while the standby receives packet from the network and synchronizes it with the active RSPs for all the local decisions. Once the state is determined, a check is performed to verify if the states are synchronized. If the states are synchronized, a signal in the form NSR_READY is conveyed to the NSR system.

With NSR, in the case of a failover event, routing changes are updated to the forwarding plane immediately. With NSF, there is an NSF hold time delay before routing changes can be updated.

Non-Supported Features

The following features are unsupported on NG NSR:

- IGMP and MLD Snooping
- BNG

Need for Multicast Offload

The Satellite nV System architecture currently requires the Cisco ASR 9000 Series Router host to process all replications for supported multicast traffic and topology profiles. This is in line with the envisioned port extender functionality of the satellite devices where all protocol processing and forwarding decisions happen on the host to fully utilize the IOS-XR functionalities. With the introduction of support for a wider variety of satellite topologies, the satellites are no longer restricted by a need for direct connection to the hosts. The satellites can be connected to a Dual Host system to form a Ring topology or through a hub and spoke topology. The satellites can also be reached over an Layer-2 fabric connection through transport provider EVCs.



Note

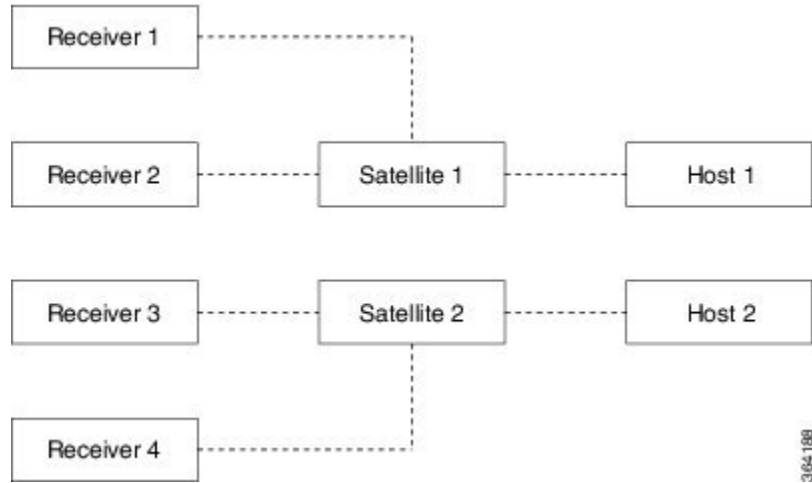
Refer the *Configuring the Satellite Network Virtualization (nV) System* chapter for more information on Simple Ring and Layer 2 fabric topologies.

This use of satellite fabric connections over EVCs or sharing of the same fabric link by a chain of satellite devices has introduced new bandwidth conservation requirements. One such specific case is the forwarding of multicast traffic over satellite ports where the Host currently does all the replication even if all the copies are destined to the ports on the same satellite device. The satellite device is unaware of any multicast group or membership and if multiple receivers are present on the ports of the same satellite, multiple copies of the same packet is sent to the satellite for each of the receivers which can eventually oversubscribe the fabric bandwidth.

With the increasing scale of satellites over the new topologies, it is evident that the model of Host side replication is not very efficient or scalable. The nV Satellite multicast offload feature is introduced to solve this problem. This feature allows the Host to forward just the pre-replicated multicast streams per multicast

route (S,G) to the satellites and offload the per satellite access port replication to the satellite device itself. The protocols still run on the Cisco IOS-XR Software modules of the Host but the final replication happens locally on the satellite device based on selective download of routes to the satellites.

Figure 1: Satellite nV System Multicast Offload Illustration



Without offload, Host 1 (assuming that it is the active for both Satellite 1 and Satellite 2) sends 4 copies to receivers 1,2,3 and 4 even if they join the same multicast group, (S1,G1). With offload, Host 1 sends 1 copy and Satellite 1 replicates it twice for receivers 1 and 2 and Satellite 2 replicates it twice for receivers 3 and 4.

Restrictions for Implementing IP Service Level Agreements

- The maximum number of IP SLA operations that is supported by Cisco IOS XR Software is 2048.
- The maximum number of IP SLA configurable operations that is supported by Cisco IOS XR Software is 2000.
- The current validated scale numbers for scheduling operations are as follows:
 - The number of UDP echo operations is 1000 operations with default frequency.
 - The number of UDP jitter operations is 1000 operations with default frequency.
 - The number of ICMP echo operations is 1000 operations with default frequency.
 - The number of ICMP echo-path operations is 400 operations with default frequency.
 - The ICMP jitter operations that can be configured with default frequency without packet loss is 75.
 - The MPLS LSP ping operations that can be configured with default frequency without packet loss is 100.
 - The MPLS LSP trace operations that can be configured with default frequency without packet loss is 100.

- We do not recommend scheduling all the operations at the same start time as this may affect the performance. At the same start time, not more than 10 operations per second should be scheduled. We recommend using the `start after` configuration.



Note Setting the frequency to less than 60 seconds will increase the number of packets sent. But this could negatively impact the performance of IP SLA operation when scheduled operations have same start time.

- IP SLA is not HA capable.
- Higher accuracy hardware time stamping is only available on some platforms such as CRS.
- Consider the following guidelines before configuring the frequency, timeout, and threshold commands.
 - For the UDP and ICMP jitter operation, the following guidelines are recommended:
 - `frequency > timeout + 2 seconds + num_packets * packet_interval`
 - `timeout > rtt_threshold`
 - `num_packet > loss_threshold`
 - For all other IP SLAs operations, the following configuration guideline is recommended:
 - `frequency > timeout > rtt_threshold`

Software Feature Enhancements

These software feature enhancements are introduced in Cisco IOS XR Software Release 5.2.2.

- Cluster L3 ECMP Rack Locality—In order to keep the traffic local to a chassis or rack, the load-balance choice for traffic includes only the outgoing interfaces that are local to the rack. This indicates that the choice of load balancing is different on each chassis or rack as it is composed of that chassis or rack's local interfaces. All interfaces are categorized to be preferred or non-preferred. Preferred is the default.
- Generic OBFL Message Logging—The **show logging onboard** and **clear logging onboard** commands are updated with a new keyword called **common** to log generic string messages by multiple clients.
- SNMP Hardening and Statistics Debuggability—These new commands were included:
 - **show snmp request type summary**
 - **show snmp request type detail**
 - **show snmp request drop summary**
 - **show snmp request overload stats**
 - **show snmp statistics oid group**
 - **show snmp statistics pdu**
 - **show snmpmib ifmib general**
 - **show snmp mib ifmib cache**

- **show snmp mib ifmib statsd**
- **show snmp traps details**
- **show snmp informs details**
- **show snmp statistics slow oid**
- **show snmp statistics poll oid**
- **show snmp statistics slow oid**

Hardware Features Introduced in Cisco IOS XR Software Release 5.2.2 for Cisco CRS Router

There are no new hardware features introduced in Cisco IOS XR Software Release 5.2.2 for the Cisco CRS router.

Important Notes

- **Default timestamp setting**—The timestamp prompt that precedes console output is enabled by default. To disable the timestamp prompt, use the **no service timestamp** command. For more information, refer to the *Cisco IOS XR System Management Command Reference for the Cisco CRS Router, Release 5.3.x*.
- **Country-specific laws, regulations, and licenses**—In certain countries, use of these products may be prohibited and subject to laws, regulations, or licenses, including requirements applicable to the use of the products under telecommunications and other laws and regulations; customers must comply with all such applicable laws in the countries in which they intend to use the products.
- **Field replaceable unit (FRU) removal**—For all card removal and replacement (including fabric cards, line cards, fan controller, and RP) follow the instructions provided by Cisco to avoid impact to traffic. See the *Cisco IOS XR Getting Started Guide for the Cisco CRS Router* for procedures.
- **Exceeding Cisco testing**—If you intend to test beyond the combined maximum configuration tested and published by Cisco, contact your Cisco Technical Support representative to discuss how to engineer a large-scale configuration for your purpose.
- **mpls traffic engineering igp-intact** command—This command must be used only when policy based tunnel selection is configured for all tunnels originating on the device. This CLI needs to be turned on under IGP (OSPF/ISIS) under the respective AFI.
- The following TE Path option attribute commands are not supported on the Cisco CRS-1 Series Router:
 - affinity location set
 - affinity location type
 - affinity program
 - affinity self

- BFD IPv6 UDP Checksum Calculation—Starting Cisco IOS XR Software Release 3.9, you turn the BFD IPv6 UDP checksum calculation on and off:
 - To disable the BFD IPv6 UDP checksum calculation:


```
RP/0/RP0/CPU0:router(config)#bfd
RP/0/RP0/CPU0:router(config-bfd)#ipv6 checksum disable
RP/0/RP0/CPU0:router(config-bfd)#end
```
 - To enable BFD IPv6 UDP checksum calculation:


```
RP/0/RP0/CPU0:router(config)#bfd
RP/0/RP0/CPU0:router(config-bfd)#no ipv6 checksum disable
RP/0/RP0/CPU0:router(config-bfd)#end
```
- When upgrading a system from a release prior to 3.8.4, the MAC address assigned to physical interfaces changes. This is required because prior to Cisco IOS XR Software Release 3.8.4 the MAC address assigned to the bundle interface was taken from the first member's MAC address. If this bundle member is removed from the bundle, the bundle gets a new MAC address, which results in traffic loss due to ARP resolution. Beginning in Cisco IOS XR Software Release 3.8.4, a pool of MAC addresses are assigned to the bundle interfaces by the bundlemgr process during bundle interface creation.
- Deactivation of os-mbi dependent (Nonreload) SMU fails—Backing out the non reload os-mbi SMU fails because deactivation runs out of memory (activation did not release some memory, which stayed at 38 MB). This failure to activate or deactivate the SMU due to insufficient SP resources impacts SP cards on CRS.
- When configuring the Label Distribution Protocol (LDP) graceful restart (GR) process in a network with multiple [link and/or targeted] LDP hello adjacencies with the same neighbor, make sure that GR is activated on the session before any hello adjacency times out due to neighbor control plane failures. One way of achieving this is by configuring a lower session hold time between neighbors such that session time out always occurs before hello adjacency can time out. Cisco recommends setting LDP session hold time using the following formula:

$$\text{LDP session hold time} \leq (\text{Hello hold time} - \text{Hello interval}) * 3$$
 This means that for default values of 15/5 seconds respectively for the link Hello hold time and the Hello interval, the LDP session hold time should be set to 30 seconds or less.

For more information, refer to the *Implementing MPLS Label Distribution Protocol on Cisco IOS XR Software* section of the *Cisco IOS XR MPLS Configuration Guide for the Cisco CRS Router*.
- For information about upgrading from a Cisco CRS-1 to a Cisco CRS-3 chassis, refer to the *Cisco CRS-1 Carrier Routing System to Cisco CRS-3 Carrier Routing System Upgrade Guide* at the following URL: http://www.cisco.com/en/US/products/ps5763/prod_installation_guides_list.html
- The following commands have been modified to support Cisco CRS-3 and CRS-X routers:
 - **show environment**
 - **hw-module reload**
 - **show controllers egressq client location** <>
 - **show controllers egressq queue drr [max | min] location** <>
 - **show controllers egressq queue drr [max | min] location** <>

- **show controllers egressq group ntb [max | min] location** <>
- **show controllers egressq port bmap location** <>
- **show controllers egressq statistics detail location** <>
- **show controllers egressq resources location** <>

For information about these commands, refer to the *Commands* section of the *Cisco CRS-1 Carrier Routing System to Cisco CRS-3 Carrier Routing System Upgrade Guide*:

http://www.cisco.com/en/US/products/ps5763/prod_installation_guides_list.html

- This release supports the following fixed DWDM XFPs with CRS-3 and certain CRS-1 10GE interface modules:
 - DWDM-XFP-30.33
 - DWDM-XFP-60.61
 - DWDM-XFP-50.92
 - DWDM-XFP-50.12
 - DWDM-XFP-31.12
 - DWDM-XFP-31.90
 - DWDM-XFP-32.68
 - DWDM-XFP-34.25
 - DWDM-XFP-35.04
 - DWDM-XFP-35.82
 - DWDM-XFP-36.61
 - DWDM-XFP-38.19
 - DWDM-XFP-38.98
 - DWDM-XFP-39.77
 - DWDM-XFP-40.56
 - DWDM-XFP-42.14
 - DWDM-XFP-42.94
 - DWDM-XFP-43.73
 - DWDM-XFP-44.53
 - DWDM-XFP-46.12
 - DWDM-XFP-46.92
 - DWDM-XFP-47.72
 - DWDM-XFP-48.51
 - DWDM-XFP-51.72
 - DWDM-XFP-52.52

- DWDM-XFP-54.13
- DWDM-XFP-54.94
- DWDM-XFP-55.75
- DWDM-XFP-56.55
- DWDM-XFP-58.17
- DWDM-XFP-58.98
- DWDM-XFP-59.79

DWDM Configuration Management



Note

This section describes the new DWDM configuration requirements in Cisco IOS XR 3.9.0 and later releases. It does not describe all updates to the DWDM feature. For more information about DWDM configuration, refer to the *Configuring Dense Wavelength Division Multiplexing Controllers on Cisco IOS XR Software* module in the *Cisco IOS XR Interface and Hardware Component Configuration Guide for the Cisco CRS Router*.

Cisco IOS XR Software Release 3.9.0 introduced new commands in addition to an important change to the default laser state for all of the DWDM physical layer interface modules (PLIMs) supported on the Cisco CRS-1 and CRS-3 routers, which impacts the required configuration to support those cards.

This change affects all models of the following hardware on the Cisco CRS-1 router:

- Cisco 1-Port OC-768c/STM-256c DWDM PLIM
- Cisco 4-Port 10-Gigabit Ethernet DWDM PLIM

This change affects all models of the following hardware on the Cisco CRS-3 router:

- Cisco 1-Port 100GE OTU4 IPoDWDM PLIM
- Cisco 4-Port 40-GE OTU3 OTN/LAN PLIM
- Cisco 2-Port 40-GE OTU3 OTN/LAN PLIM

The **g709 fec high-gain** and **g709 fec long-haul** commands are added under DWDM configuration to configure the new high-gain FEC mode and long-haul FEC mode for Cisco 1-Port 100GE OTU4 IPoDWDM PLIM.

The following is an example of configuring the **g709 fec high-gain** command under DWDM configuration to configure the new high-gain FEC mode:

```
RP/0/RP0/CPU0:router# configure
RP/0/RP0/CPU0:router(config)# controller dwdm <>
RP/0/RP0/CPU0:router(config)# g709 fec high-gain
RP/0/RP0/CPU0:router(config)# commit
```

The following is an example of configuring the **g709 fec long-haul** command under DWDM configuration to configure the new long-haul FEC mode:

```
RP/0/RP0/CPU0:router# configure
RP/0/RP0/CPU0:router(config)# g709 fec long-haul
```

```
RP/0/RP0/CPU0:router(config)# commit
```

Important DWDM Changes in Cisco IOS XR Software Release 3.9.0 and Later Releases

- The **laser off** and **shutdown (DWDM)** commands are replaced by the **admin-state-out-of-service** command.
- The default state of the laser has changed from "On" to "Off" for all PLIMs. Therefore, the laser for all DWDM controllers must explicitly be turned on using the **admin-state in-service** command in DWDM configuration mode

Configuration Examples in Cisco IOS XR Software Release 3.9.0 and Later Releases

This section provides configuration examples for turning on and off the laser on a DWDM PLIM.

Turning On the Laser: Example



Note

This is a required configuration beginning in Cisco IOS XR Software Release 3.9.0. The DWDM PLIMs will not operate without this configuration.

The following example shows how to turn on the laser and place a DWDM port in In Service (IS) state:

```
RP/0/RP0/CPU0:router# configure
RP/0/RP0/CPU0:router(config)# controller dwdm 0/1/0/1
RP/0/RP0/CPU0:router(config-dwdm)# admin-state in-service
RP/0/RP0/CPU0:router(config-dwdm)# commit
```

Turning Off the Laser: Example



Note

This configuration replaces the **laser off** and **shutdown (DWDM)** configuration commands.

The following example shows how to turn off the laser, stop all traffic and place a DWDM port in Out of Service (OOS) state:

```
RP/0/RP0/CPU0:router# configure
RP/0/RP0/CPU0:router(config)# controller dwdm 0/1/0/1
RP/0/RP0/CPU0:router(config-dwdm)# admin-state out-of-service
RP/0/RP0/CPU0:router(config-dwdm)# commit
```

Caveats

Caveats describe unexpected behavior in Cisco IOS XR Software releases. Severity-1 caveats are the most critical caveats; severity-2 caveats are less critical.

This section contains caveats that are generic to the Cisco IOS XR Software Release and those specific to the Cisco CRS-1 router and the Cisco CRS-3 router.

Cisco IOS XR Caveats

The following open caveats apply to Cisco IOS XR Software Release and are not platform specific:

Caveats Specific to the Cisco CRS-1 Router

The following open caveats are specific to the Cisco CRS-1 router:

- **CSCuq81362**

Basic Description:

BOB flaps for 15m at boot up - BOB extension flag missing drops in ucode

Symptom

Upon router reload or upgrade to 522 with pre-configuration on router, we see BFD Over Bundle Flap multiple times for first 15 mins after config restoration.

Conditions:

The issue is only seen if a Bundle has any CRS-MS-40 interfaces as members.

The issue is suspected to be due to slight delay in UIDB update on the LC. which causes BFD packet Drops on the Ingress side of the LC.

Workaround:

Disable BFD Over Bundle if CRS-MS-40 interfaces are part of the Bundle.

- **CSCur17747**

Basic Description:

BOB Flap on all Cisco CRS Modular Services Line Card interfaces due to bad queue limit on I-PSE

Symptom

BFD over Bundle (BOB) flaps on CRS Modular Services LCs during router reload. BFD flaps because of control timer expiry during the time. Drop due to bad queue limit seen in the ingress pse drops on the affected LC.

Conditions:

Seen on 522, with router reload on Cisco CRS Modular Services Line Card.

Workaround:

Usually recovers by 15-30 minutes. Disable BFD on bundles during LC reload, then enable BFD after the Bundles are UP.

Caveats Specific to the Cisco CRS-3 Router

There are no open caveats that are specific to the Cisco CRS-3 platform.

Upgrading Cisco IOS XR Software

Cisco IOS XR Software is installed and activated from modular packages, allowing specific features or software patches to be installed, upgraded, or downgraded without affecting unrelated processes. Software packages can be upgraded or downgraded on all supported card types, or on a single card (node).

Software packages are installed from package installation envelope (PIE) files that contain one or more software components.

The following URL contains links to information about how to upgrade Cisco IOS XR Software:

http://www.cisco.com/web/Cisco_IOS_XR_Software/index.html

Migrating Cisco CRS-1 to CRS-3

For information about migrating from a Cisco CRS-1 to a Cisco CRS-3 chassis, refer to the *Cisco CRS-1 Carrier Routing System to Cisco CRS-3 Carrier Routing System Migration Guide* at the URL http://www.cisco.com/en/US/products/ps5763/prod_installation_guides_list.html

Troubleshooting

For information on troubleshooting Cisco IOS XR Software, see the *Cisco IOS XR Troubleshooting Guide for the Cisco CRS router* and the *Cisco IOS XR Getting Started Guide for the Cisco CRS router*

Related Documentation

The most current Cisco CRS router hardware documentation is located at the following URL:

<https://www.cisco.com/c/en/us/support/routers/carrier-routing-system/products-installation-guides-list.html>

The Cisco IOS XR Software documentation set includes the Cisco IOS XR software configuration guides and command references. These documents are located at this URL:

<https://www.cisco.com/c/en/us/support/routers/carrier-routing-system/tsd-products-support-series-home.html>

The document containing Cisco IOS XR System Error Messages (SEM) is located at this URL:

https://www.cisco.com/c/en/us/td/docs/ios_xr_sw/error/message/ios-xr-sem-guide.html

Production Software Maintenance Updates (SMUs)

A production SMU is a SMU that is formally requested, developed, tested, and released. Production SMUs are intended for use in a live network environment and are formally supported by the Cisco TAC and the relevant development teams. Software bugs identified through software recommendations or Bug Search Tools are not a basis for production SMU requests.

For information on production SMU types, refer the [Production SMU Types](#) section of the *IOS XR Software Maintenance Updates (SMUs)* guide.

Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, using the Cisco Bug Search Tool (BST), submitting a service request, and gathering additional information, see [What's New in Cisco Product Documentation](#).

To receive new and revised Cisco technical content directly to your desktop, you can subscribe to the [What's New in Cisco Product Documentation RSS feed](#). RSS feeds are a free service.

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