

Cisco IOS XR Software Release 5.0.1 for Cisco NCS 6000 Series Routers

PB730958

Cisco[®] Network Convergence System (NCS) 6000 Series Routers offer exceptional network agility, packet optical convergence, and petabit-per-second system scale. The Cisco NCS 6000 Series also facilitates the buildout of the next-generation core to support scalable capacity at a low TCO and to deliver high-bandwidth mobile, video, and cloud services.

Using the industry-leading Cisco IOS[®] XR operating system, running in a virtualized environment, the Cisco NCS 6000 Series advances the concept of distributed routing and virtualization. With this virtualized OS, the Cisco NCS 6000 Series brings new levels of programmability and virtualization to increase application service offerings, accelerate provisioning, and help make the network more cost effective.

The Cisco NCS 6000 Series is powered by Cisco nPower Network Processor Units (NPUs). Cisco nPower devices are state-of-the-art programmable forwarding application-specific integrated circuits (ASICs), designed to deliver the industry's first zero-packet loss (ZPL) and zero-topology loss (ZTL) software upgrade capability. The Cisco NCS 6000 Series is engineered for environmental efficiency by offering an adaptable power-consumption model for its ASICs and through the use of revolutionary complementary metal oxide semiconductor (CMOS) photonics technology. Together, these technologies allow the Cisco NCS 6000 Series to offer the most power-efficient footprints for service provider routing applications.

New Hardware Features

Cisco IOS XR Software Release 5.0.1 introduces support for two new line cards, Cisco NCS 6000 Series 60-Port 10Gbps Label Switch Router (LSR) line card and Cisco NCS 6000 Series 60-Port 10Gbps Multiservice Line Card.

Cisco NCS 6000 Series 60-Port 10Gbps Label Switch Router line card is industry-leading solution that allows service providers to offer very high throughput over 60 ports with 10-Gbps interfaces. Optimized for high-speed Multi-Protocol Label Switching (MPLS) applications, it provides forwarding scale and associated per-port quality of service (QoS) at wire rate.

Cisco NCS 6000 Series 60-Port 10Gbps Multiservice Line Card is optimized for high-speed IP and MPLS forwarding applications, providing forwarding scale and QoS at wire rate.

Cisco NCS 6000 Series 60-port 10Gbps LSR and Multiservice Line Cards use the state-of-the-art Cisco nPowerX1 and nPowerX1e intelligent network processor family. Using the enhanced small form-factor pluggable (SFP+) 10 Gigabit Ethernet modules, these cards support a variety of optical fibers and reach capabilities.

Cisco IOS-XR Software Release 5.0.1 also supports the Cisco 100GE optics CPAK-100G-SR10 Transceiver module for Cisco NCS 6000 10-port 100Gbps Label Switch Router Line Card and the Cisco NCS 6000 10-port 100Gbps Multi-Service Line Card.

Table 1. New Hardware Supported on Cisco NCS 6000 in Cisco IOS XR Software Release 5.0.1

Product Part Number	Product Description
NC6-60x10GE-M-S	Cisco NCS 6000 Series 60 Port 10Gigabit Ethernet Multiservice Line Card SFP+ Optics
NC6-60x10GE-L-S	Cisco NCS 6000 Series 60 Port 10Gigabit Ethernet Label Switch Router (LSR) Line Card SFP+ Optics
CPAK-100G-SR10=	CPAK100G-SR10 Transceiver module, 100m OM3 MMF

New Software Features

Table 2. New Software Features Supported on Cisco NCS 6000 in Cisco IOS XR Software Release 5.0.1

Feature	Description
100 Gigabit Ethernet physical layer (PHY) monitoring	The IEEE 802.3ba standard provides the ability to actively monitor the bit error rate (BER) of each 100 Gigabit Ethernet and 40 Gigabit Ethernet link at the receiving PHY. The two additional configurable BER thresholds are Signal Degrade (SD) and Signal Fail (SF) for each link which can both be configured to generate an alarm when the threshold is crossed. Additionally, Signal Fail can be configured to signal Remote Fault (RF) to the other end and bring the link down when the threshold is crossed.
Border Gateway Protocol (BGP) policy accounting	BGP policy accounting uses traffic indices that are set on BGP routes to track various counters.
Bidirectional Forwarding Detection (BFD) over member links on link bundles	Supports BFD sessions on individual physical bundle member links to monitor Layer 3 connectivity on those links, rather than just at a single bundle member.
IPv6 VPN Provider Edge	IPv6 VPN Provider Edge (6PE) uses the existing MPLS IPv4 core infrastructure for IPv6 transport. 6PE allows IPv6 sites to communicate with each other over an MPLS IPv4 core network using MPLS label switched paths (LSPs).
Reverse path forwarding (strict and loose)	Unicast IPv4 and IPv6 Reverse Path Forwarding (uRPF), both strict and loose modes, help mitigate problems caused by the introduction of malformed or spoofed IP source addresses into a network by discarding IP packets that lack a verifiable IP source address. Unicast RPF does this by doing a reverse lookup in the Cisco Express Forwarding (CEF) table. Therefore, unicast reverse path forwarding is possible only if Cisco Express Forwarding is available and supported on the router.
Green-mode operations with line card slice shutdown	It is possible to shut down unused slices of line cards to conserve power and troubleshooting. The slice is shut down using the hw-module location rack/slot/CPU slice slice_number shutdown command in the XR Config mode.
FTP and secure FTP (SFTP) support	The FTP and SFTP transfer protocols are for file transfer while using the install add command.
Creating bootable USB drive	The bootable USB drive can now be created by copying the compressed boot file to the USB drive and unzipping it.
Install verify packages	The install verify packages command checks the installed packages for anomalies and inconsistencies.
Install prepare option	The install prepare command can be run on ISO images while performing system upgrade.

Ordering Information

Table 3 lists ordering information for Cisco IOS XR Software Release 5.0.1 for Cisco NCS 6000 Series Routers. When future rebuilds of Cisco IOS XR Software Release 5.0.1 are available, the latest release is automatically shipped when this product is ordered.

Table 3. Ordering Information for Cisco IOS XR Software Release 5.0.1 for Cisco NCS 6000 Series Routers

Product Name	Part Number
Cisco IOS-XR IP/MPLS Core Software	XR-NC6-P-05.00
Cisco IOS-XR IP/MPLS Core Software 3DES	XR-NC6-PK9-05.00

Release 5.0.1 Lifecycle

The Cisco IOS XR Software release strategy is time-based, with a fixed release date and lifecycle, rather than being a feature-based release strategy with a variable release date. Table 4 lists the major milestones of Cisco IOS XR Software Release 5.0.1 and later.

Table 4. Major Milestones for Cisco IOS XR Software Release 5.0.1 and Later

Milestone	Definition	Date
Availability date	The date that the Cisco IOS XR Software Release 5.0.1 information is published on Cisco.com and becomes available to the general public.	Jan 30, 2014
End-of-life announcement date	The date that the official end-of-life document that announces the end of sale and end of life of Cisco IOS XR Software 5.0.1 is distributed to the general public.	Dec 30, 2015
End-of-sale date	The last date to order Cisco IOS XR Software 5.0.1 through Cisco point-of-sale mechanisms. The product is no longer for sale after this date.	Dec 30, 2015
Last ship date: OS software	The last-possible ship date that can be requested of Cisco and/or its contract manufacturers. Actual ship date is dependent on lead time.	March 30, 2016
End of software maintenance releases date: OS software	The last date that Cisco Engineering may release any final software maintenance releases or bug fixes. After this date, Cisco Engineering will no longer develop, repair, maintain, or test the product software.	Sept 30, 2017
End of vulnerability and security support: OS software	The last date that Cisco Engineering may release a planned maintenance release or scheduled software remedy for a security vulnerability problem.	Sept 30, 2019
Last date of support	The last date to receive applicable service and support for the product as entitled by active service contracts or by warranty terms and conditions. After this date, all support services for the product are unavailable and the product becomes obsolete.	Sept 30, 2020

For official end-of-life and end-of-sale announcements for Cisco IOS XR Software, please visit: http://www.cisco.com/en/US/products/ps5845/prod_eol_notices_list.html or contact your local Cisco account representative.

For More Information

For more information about the Cisco NCS 6000 Series or Cisco IOS XR Software, visit <http://www.cisco.com/> or contact your local Cisco account representative.



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