



DATA SHEET

CISCO IOS XR SOFTWARE RELEASE 3.0

The Cisco[®] CRS-1 Carrier Routing System is the industry's first carrier router that offers continuous system operation, unprecedented service flexibility, and system longevity. The Cisco CRS-1 is powered by Cisco IOS[®] XR Software—a unique self-healing, distributed operating system designed for always-on operation while scaling system capacity up to 92 Tbps. The innovative system architecture combines the Cisco Silicon Packet Processor, the first programmable 40-Gbps application-specific integrated circuit (ASIC), with the Cisco Service Separation Architecture for unprecedented service flexibility and speed to service. The Cisco CRS-1 marks a new era in carrier IP Communications by powering the foundation for network and service convergence today while protecting investments for decades to come.

This data sheet provides detailed product specifications for the Cisco IOS XR Software Release 3.0. For more information about the Cisco CRS-1 or about other interfaces available for the Cisco CRS-1, visit: <http://www.cisco.com/go/crs>.

PRODUCT SPECIFICATIONS

Table 1. Product Specifications of Cisco IOS XR Software Release 3.0

Software compatibility	<ul style="list-style-type: none">• Release 3.0 interoperates with Cisco CRS-1 products running Cisco IOS XR Software Release 2.0 in the network and with other Cisco products running Cisco IOS operating systems.
Modular software design	<ul style="list-style-type: none">• Cisco IOS XR Software is a continuation of the Cisco networking leadership in helping customers realize the power of their networks and the Internet. Cisco IOS XR Software provides unprecedented routing-system scalability, high availability, service isolation, and manageability to meet the mission-critical requirements of next-generation networks.
Features and benefits	<ul style="list-style-type: none">• Ethernet support New features in this release include support for the 10-Gigabit Ethernet interface and Ethernet features including IEEE 802.1Q VLAN encapsulation and Layer 2 MAC accounting.• IP and routing Cisco IOS XR Software supports a wide range of IPv4 and IPv6 services and routing protocols, including Border Gateway Protocol (BGP), Intermediate System-to-Intermediate System (IS-IS), Open Shortest Path First (OSPF), static, IPv4 Multicast, Routing Policy Language (RPL), and Hot Standby Router Protocol (HSRP)/Virtual Router Redundancy Protocol (VRRP) features. New features in this release include support for BGP attributes-based policy accounting.• Multiprotocol Label Switching (MPLS) Cisco IOS XR Software supports MPLS protocols such as Traffic Engineering/Fast Reroute (TE-FRR), Resource Reservation Protocol (RSVP), and Label Distribution Protocol (LDP). These features interoperate with Cisco IOS Software. In Release 3.0, the FRR performance is independent of the number of tunnels or prefixes that are rerouted.• Multicast Cisco IOS XR Software provides comprehensive IP Multicast software, including Source Specific Multicast

	<p>(SSM) and Bidirectional Protocol Independent Multicast-Protocol Independent Multicast (BIDIR-PIM) support. The multicast protocols interoperate with Cisco IOS Software.</p> <ul style="list-style-type: none"> • Quality of service (QoS) <p>Cisco IOS XR Software supports a rich variety of QoS mechanisms, including policing, marking, queuing, dropping, and shaping. Additionally, the operating systems support Modular QoS CLI (MQC). Modular CLI is used to configure various QoS features on various Cisco Systems® platforms.</p> • Manageability <p>Cisco IOS XR Software manageability provides industry-standard management interfaces, including modular command-line interface (CLI), Simple Network Management Protocol (SNMP), and native Extensible Markup Language (XML) interfaces.</p> • Security <p>Cisco IOS XR Software provides comprehensive network security features, including access control lists (ACLs), routing authentications, authentication, authorization, and accounting (AAA)/TACACS+, IP Security (IPSec), Secure Shell (SSH) Protocol, SNMPv3, and leading Routing Policy Language (RPL) support. Control-plane protection continues to be distributed into line-card ASICs such as the generalized TTL security mechanism (GTSM), RFC 3682, and dynamic control-plane protection.</p> • Availability <p>Cisco IOS XR Software supports rich availability features such as fault containment, fault tolerance, fast switchover, and nonstop forwarding (NSF).</p> • Scalability <p>Cisco IOS XR Software provides complete distributed processing of routing protocols, data forwarding plane, management plane, and infrastructure services to support 90-Tbps multishef carrier-class router systems.</p> • Cisco In Service Software Upgrade (ISSU) <p>Cisco IOS XR Software supports a modular packaging-based release model in order to minimize the impact of upgrades and also support Cisco ISSU with NSF where possible.</p>
<p>Supported hardware components</p>	<ul style="list-style-type: none"> • Cisco CRS-1 16-Slot Single-Shelf System and Cisco CRS-1 16-Slot Line-Card Chassis Route Processor • Cisco CRS-1 8-Slot Single-Shelf System and Cisco CRS-1 8-Slot Line-Card Chassis Route Processor • Cisco CRS-1 1-Port OC-768c/STMc-256 Packet over SONET (POS) Interface Module, short reach (SR) • Cisco CRS-1 4-Port OC-192c/STM-64c POS/Dynamic Packet Transport (DPT) Interface Module, very short (VS), short reach (SR), intermediate reach (IR), and long reach (LR) • Cisco CRS-1 16-Port OC-48c/STM-16c POS/DPT Interface Module <ul style="list-style-type: none"> – Pluggable optic module, 1310 nm SM-SR-LC – Pluggable optic module, 1550 nm SM-LR2-LC • Cisco CRS-1 8-Port 10-Gigabit Ethernet Interface Module, LR • Cisco CRS-1 Modular Services Card • Fan trays

ORDERING INFORMATION

To place an order, visit:

Cisco Ordering Home Page at http://www.cisco.com/en/US/ordering/or13/or8/order_customer_help_how_to_order_listing.html or refer to Table 2.

Table 2. Ordering Information

Product Name	Product Part Number
Cisco IOS XR Control Plane Software	XC-RP-03.00
Cisco IOS XR Control Plane Software with encryption	XC-RPK9-03.00
Cisco IOS XR Data Plane Software Base	XC-LCBase-03.00

TO DOWNLOAD THE SOFTWARE

Visit the Cisco Software Center at <http://www.cisco.com/en/US/partner/products/ps5763/index.html> to download Cisco IOS XR Software.

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FOR MORE INFORMATION

For more information about the single-shelf configuration of the Cisco CRS-1 and Cisco IOS XR Software, visit Cisco at <http://www.cisco.com/go/crs> or contact your local Cisco account representative.

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