Cisco NCS 5011 Router Data Sheet

Cisco helps service providers capture the digitization opportunity with cloud-scale software and hardware innovations that deliver unprecedented automation, visibility and control, and software modularity.

Product Overview

The Cisco® NCS 5000 platform series is an extension to Cisco's routing platform portfolio enabling MPLS enabled data center architectures to offer elastic networks with improved business agility and simplified operations to deliver high-bandwidth mobile, video, and cloud services.

The Cisco NCS 5011 (Figure 1) is a small form-factor, dense 10GE/25GE/40GE/50GE/100GE system. Powered by industry-leading routing operation system Cisco IOS® XR Software, the system also offers rich functions such as third-party application hosting, machine-to-machine interface, telemetry, and flexible package delivery.

Figure 1. Cisco NCS 5011

Features and Benefits

Table 1 describes features and benefits.

Table 1. Features and Benefits of Cisco NCS 5011 (Cisco IOS XR Software 6.1.0 or Beyond)

Feature	Benefit
Integrated Interface	32 ports of 100 Gigabit Ethernet (GE)/32 ports of 40 GE/128 ports of 25 GE/128 port of 10GE
Cisco IOS XR Software, a carrier-class operating system with high memory capacity	Visibility and telemetry Machine-to-machine interface Application hosting Flexible platform and packaging Modularity Automation
Performance	Up to 3.2 Tbps throughput
Integrated route processor with 16 GB RAM	Runs Cisco IOS XR Software
Management ports	Provides easy access to system console
External USB port	Helps simplify image and file management
Embedded USB (eUSB) storage (32 GB)	Flash memory devices for software image, configuration, logging, and recovery
Power consumption and form factor	Ultralow power and footprint
Power supply	Redundant AC or DC power supplies Redundant fan

Product Specifications

Table 2 gives specifications of the Cisco NCS 5011.

Table 2. Product Specifications

Category	NCS 5011
Integrated interfaces	32 ports of 100 GE/32 ports of 40 GE/128 ports of 25 GE/128 port of 10GE
Performance	Up to 3.2 Tbps throughput
Storage	64 GB mSATA
Memory	16 GB DRAM
Physical specifications	Height: 1.72 in (4.3688 cm) Width: 17.3 in (43.942 cm) Depth: 22.5 in (57.15 cm) Weight of chassis: 22.2 lb (10.06 kg)
Power inputs	Worldwide ranging AC (100–240V) Worldwide ranging DC (–48V to – 60V)
Power consumption	Typical: 228W Maximum: 508W
Operating temperature (nominal)	0–40°C
Operating temperature (short term)	0–55°C
Operating humidity (nominal) (relative humidity)	5% to 95% noncondensing
Operating humidity (short term)	5–93% not to exceed 0.026 kg water/kg of dry air
Storage temperature	–40°C to 70°C
Storage (relative humidity)	93% at 40C per NEBS GR-63-Core
Operating altitude	0–10,000 ft (0–3000m)
Air flow	Front to back Back to front
Network Equipment Building Standards (NEBS)	Designed to meet GR-63-CORE and GR-1089-CORE
EMC standards	47 CFR Part 15 CISPR22: Edition 6.0: 2008 CNS13438: 2006 EN 300 386 V1.6.1 EN 55022:2010 EN61000-3-2: 2014 EN61000-3-3: 2008 ICES-003 Issue 5: 2012 KN 22: 2009 TCVN 7189: 2009 V-3/2015.04
Immunity	CISPR24: 2010 EN 300 386 V1.6.1 EN55024: 2010 KN24: 2011 TCVN 7317: 2003

Table 3 describes software feature support.

Table 3. Software Feature Support on NCS 5011 in Cisco IOS XR Software 6.1.0 Release or Beyond

Description	Specification
Layer 2	• Layer 2 switch ports and VLAN trunks • IEEE 802.1Q VLAN encapsulation/Q-in-Q encapsulation • IEEE 802.1ad • Cisco Bundle Ethernet technology (up to 32 ports per Ethernet Bundle) • Link Aggregation Control Protocol (LACP): IEEE 802.3ad • Jumbo frames on all ports (up to 9216 bytes) • L2 ingress access control list (ACL) • L2 AC-AC cross-connect • Integrated routing and bridging (IRB)
Layer 3	• IPv4 and IPv6 unicast • Layer 3 interfaces: physical and subinterfaces • Routing protocols: static, Open Shortest Path First (OSPFv2), OSPFv3, Intermediate System to Intermediate System (ISIS), ISISv6, and Border Gateway Protocol (BGP) • 32-way equal-cost multipath (ECMP) • L3 ingress IPv4 ACL and IPv6 ACL • Bidirectional forwarding detection (BFD) • Cisco Bundle Ethernet technology (up to 32 ports per Ethernet Bundle) • Link Aggregation Control Protocol (LACP): IEEE 802.3ad • Jumbo frame support (up to 9216 bytes) • Hot Standby Router Protocol (HSRP)/Virtual Router Redundancy Protocol (VRRP) • Layer 3 Virtual Private Network (L3VPN)
Multicast	• Protocol Independent Multicast Sparse Mode (PIM-SM), PIM Source-Specific Multicast (PIM-SSM) • Internet Group Management Protocol (IGMP) Versions 2 and 3
MPLS	• Label switching • LDP • Ethernet over MPLS (EoMPLS)
Segment routing (SR)	• Segment routing–based transport • ISIS extensions to segment routing • OSPF extensions to segment routing • BGP egress peering engineering • Segment Routing Traffic Engineering (SR-TE)
Quality of service (QoS)	• Classification can be based on class of service (L2), IP differentiated service code point (L3), IP ACL (L3/L4), IP precedence (type of service) (L3), IP Real-Time Transport Protocol (L4 user data protocol ports) • DSCP marking • 8 number of queues for user traffic • Support for priority queuing
Automation	• Zero-touch provisioning (ZTP), iPXE • Configuration management • Network Configuration Protocol (NETCONG/YANG)
Security	• Provides comprehensive network security features, including ACLs; control-plane protection; management plane protection; routing authentications; authentication, authorization, and accounting (AAA) and Terminal Access Controller Access-Control System Plus (TACACS+); Secure Shell (SSH) Protocol; SNMPv3; and RPL support • Layer 2 ingress ACLs • Layer 3 ingress ACLs
Management	• MIB, XML, JSON, GPB, and SNMP • MPLS OAM (label switched path [LSP] ping, LSP traceroute) • Ethernet OAM

Table 4 describes optics support.

Table 4. Optics Support (Cisco IOS XR Software 6.1.0 or Beyond)

Part Number	Product Description
QSFP-100G-SR4-S	100GBASE SR4 QSFP transceiver, MPO, 100m, enterprise class
QSFP-100G-LR4-S	100GBASE LR4 QSFP transceiver, LC, 10km, enterprise class
QSFP-100G-CWDM4-S	100GBASE CWDM4 QSFP transceiver, LC, 2km over SMF
QSFP-100G-AOCxM	QSFP active optical breakout cables (length x - 1m to 30m)
QSFP-100G-CUxM	QSFP passive copper cable (length x - 1m to 5m)
QSFP-40G-SR4	40GBASE-SR4, 4 lanes, 850 nm MMF
QSFP-40G-SR4-S	40GBASE-SR4, 4 lanes, 850 nm MMF
QSFP-40G-CSR4	40GBASE-CSR4, 4 lanes, 850 nm MMF
QSFP-40G-LR4	40GBASE-LR4, 1310 nm, SMF with OTU3 data-rate support
QSFP-40G-LR4-S	40GBASE-LR4, 1310 nm, SMF
QSFP-40G-ER4	40GBASE-ER4, 1310 nm, SMF with OTU3 data-rate support
QSFP-40G-SR-BD	40GBASE-SR-BiDi, duplex MMF
QSFP-40GE-LR4	40GBASE-LR4, 1310 nm, SMF
QSFP-H40G-AOCxM	QSFP active optical breakout cables (length x - 1m to 15m)
QSFP-H40G-CUxM	QSFP to QSFP copper direct-attach cables (length x- 1m to 5m)
QSFP-H10G-ACUxM	QSFP to QSFP copper direct-attach cables (length x- 7m, 10m)
QSFP-4x10G-LR-S	4x10GBASE-LR
QSFP-4SFP10G-CUxM	QSFP to 4 SFP+ copper break-out cables (length x- 1m to 5m)
QSFP-4X10G-ACxM	QSFP to 4 SFP+ copper break-out cables (length x - 7m, 10m)
QSFP-4X10G-AOCxM	QSFP active optical breakout cables (length x - 1m to 10m)

Ordering Information

Table 5 provides ordering information.

Table 5. Ordering Information

Product Name	Part Number
Chassis	
NCS-5011	Cisco NCS 5011 Routing System
Software	
XR-NC50-P-06.00	Cisco NCS 5011 Routing System Cisco IOS XR Software
Software Licenses	
NC5011-ADV-LIC	Cisco NCS 5011 Advanced License (L2 VPN + L3 VPN Combined)

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For More Information

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