

Коммутатор Cisco Nexus N3K-C3048TP-1GE

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Описание

Комплектация коммутатора

Обзор продукта

Коммутаторы серии Cisco Nexus C3048, поставляются с широким набором возможностей и дополнительных функций. Это оборудование успешно зарекомендовало себя в тысячах центрах обработки данных по всему миру. Идеально подходит для обработки большого объема данных, требующих Gigabit Ethernet ToR с локальной коммутацией. Набор функций программного обеспечения Cisco NX-OS.

Основные особенности

- 48 портов 10/100/1000Base-T RJ-45
- 4 порта ап-linkа 1/10 Гбит/с SFP+
- Пропускная способность 176 Гбит/с
- Передача до 132 миллионов пакетов в секунду (Mpps)
- Таблица MAC 128000
- Буфер 9 МВ
- Память DRAM 4 GB
- Boot flash память 2 GB
- MTU до 9216 байт (jumbo frames)
- 2 блока питания

Тип коммутатора

Тип коммутатора	Управляемый L3
Линейка Cisco	Nexus 3000

Интерфейсы

Тип основных портов	GigabitEthernet RJ45
Интерфейсы 10GBase-X SFP+	4
Консольный порт	RS232
Количество основных портов	4

Тип Uplink портов

40GigabitEthernet QSFP+

Питание

Напряжение питания

~220V AC

Допустимое напряжение питания

100-240V AC

L2 функционал

Количество VLAN

4096

Размер таблицы MAC адресов

128000

Количество правил ACL

2000

Агрегирование портов

LACP

L3 функционал

Размер таблицы маршрутизации

16000

Протоколы маршрутизации

RIP; OSPF; BGP; PIM; EIGRP

Общие

Размещение

Монтируемые в стойку

Доп. описание

Product specifications	Software features
<p>Physical</p> <ul style="list-style-type: none"> 1RU fixed form-factor switch 48 10/100/1000-Mbps RJ-45 ports 4 1/10 Gbps SFP+ uplink ports 2 redundant power supplies 1 fan tray with redundant fans 1 I/O module with management, console, and USB flash memory ports <p>Performance</p> <ul style="list-style-type: none"> 176-Gbps switching capacity Forwarding rate of 132 mpps Line-rate traffic throughput (both Layer 2 and 3) on all ports Configurable Maximum Transmission Units (MTUs) of up to 9216 bytes (jumbo frames) <p>Hardware tables and scalability</p> <ul style="list-style-type: none"> MAC addresses: 128,000 Number of VLANs: 4096 Spanning-tree instances: RSTP: 512, MSTP: 64 	<p>Layer 2</p> <ul style="list-style-type: none"> Layer 2 switch ports and VLAN trunks IEEE 802.1Q VLAN encapsulation Support for up to 4096 VLANs Rapid per-VLAN Spanning Tree Plus (PVRST+) (IEEE 802.1w compatible) MSTP (IEEE 802.1s): 64 instances Spanning Tree PortFast Spanning Tree Root Guard Spanning Tree Bridge Assurance vPC Cisco EtherChannel technology (up to 16 ports per EtherChannel) LACP: IEEE 802.3ad Advanced PortChannel hashing based on Layer 2, 3, and 4 information Jumbo frames on all ports (up to 9216 bytes) Storm control (unicast, multicast, and broadcast) PVLANS <p>Layer 3</p>



Spanning tree instances: RSTP, STP, MSTP, OT
ACL entries: 2000 ingress, 1000 egress
Routing table: 16,000 prefixes and 16,000 host entries, 8000 multicast routes
Number of EtherChannels: 52 (with vPC)
Number of ports per EtherChannel: 16
Buffers 9 MB shared
Boot flash memory 2 GB

Power

Number of power supplies: 2 (redundant)
Typical operating power: 120 watts (W) (48p of 1G and 4p of 10G/SR at 100% load, with 2 Power Supply Units [PSUs])
Maximum power: 124W
AC PSUs: Input voltage 100 to 240 VAC, Frequency 50 to 60 Hz, Efficiency 89 to 91% at 220V
DC PSUs: Input voltage -40 to -72 VDC, Maximum current 33A, Efficiency 85 to 88%
Typical heat dissipation: 409 BTU/hr (48p of 1G and 4p of 10G/SR at 100% load, with 2 PSUs)
Maximum heat dissipation: 423 BTU/hr

Cooling

Forward and reversed airflow schemes
Forward airflow: Port-side exhaust (air enters through fan-tray and power supplies and exits through ports)
Reversed airflow: Port-side intake (air enters through ports and exits through fan tray and power supplies)
Single fan tray with redundant fans
Hot swappable (must swap within 1 minute)

Sound

Measured sound power (maximum):
Fan speed: 40% duty cycle - 63.9 dBA
Fan speed: 60% duty cycle - 64.7 dBA
Fan speed: 100% duty cycle - 66.4 dBA

Environment

Dimensions (height x width x depth): 1.72 x 17.3 x 19.7 in. (4.4 x 43.9 x 50.5 cm)
Weight 20.5 lb (9.3 kg)
Operating temperature 32 to 104°F (0 to 40°C)
Storage temperature -40 to 158°F (-40 to 70°C)
Operating relative humidity: 10 to 85% noncondensing Up to 5 days at maximum (85%) humidity, Recommend ASHRAE data center environment
Storage relative humidity: 5 to 95% noncondensing
Altitude: to 10,000 ft (0 to 3000m)

Layer 3

Layer 3 interfaces: Routed ports on interfaces, Switch Virtual Interfaces (SVIs), PortChannels, and subinterfaces (total = 1024)
32-way ECMP
2000 ingress and 1000 egress ACL entries
Routing protocols: Static, RIP v2, EIGRP, OSPFv2, and BGP
Bidirectional Flow Detection (BFD) for BGP
HSRP and VRRP
ACL: Routed ACL with Layer 3 and 4 options to match ingress and egress ACLs
VRF: VRF-lite (IP VPN), VRF-aware unicast (BGP, OSPF, and RIP), and VRF-aware multicast uRPF with ACL; strict and loose modes
Jumbo frame support (up to 9216 bytes)

Multicast

Multicast: PIM-SM Version 2 and SSM
Bootstrap Router (BSR), Automatic Rendezvous Point (Auto-RP), and Static RP
MSDP and Anycast-RP
Internet Group Management Protocol (IGMP) Versions 2, and 3

Quality of Service (QoS)

Layer 2 IEEE 802.1p (Class of Service [CoS])
8 hardware queues per port
Per-port QoS configuration
CoS trust
Port-based CoS assignment
Modular QoS CLI (MQC) compliance
ACL-based QoS classification (Layers 2, 3, and 4)
MQC CoS marking
Differentiated Services Code Point (DSCP) marking
Weighted Random Early Detection (WRED)
CoS-based egress queuing
Egress strict-priority queuing
Egress port-based scheduling: Weighted Round-Robin (WRR)
Explicit Congestion Notification (ECN)

Security

Ingress ACLs (standard and extended) on Ethernet
Standard and extended Layer 3 to 4 ACLs: IPv4, Internet Control Message Protocol (ICMP), TCP, User Datagram Protocol (UDP), etc.
VLAN-based ACLs (VACLs)
Port-based ACLs (PACLs)
Named ACLs
ACLs on virtual terminals (vty)
DHCP snooping with Option 82
Port number in DHCP Option 82



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DHCP relay
Dynamic Address Resolution Protocol (ARP)
inspection
CoPP

Cisco Nexus Data Broker

Topology support for tap and SPAN aggregation
Support for QinQ to tag input source tap and SPAN
ports
Traffic load balancing to multiple monitoring tools
Traffic filtering based on Layer 1 through Layer 4
header information
Traffic replication and forwarding to multiple
monitoring tools
Robust RBAC
Northbound Representational State Transfer (REST)
API for all programmability support

Management

Switch management using 10/100/1000-Mbps
management or console ports
CLI-based console to provide detailed out-of-band
management
In-band switch management
Locator and beacon LEDs
Port-based locator and beacon LEDs
Configuration rollback
SSHv2
Telnet
AAA
AAA with RBAC
RADIUS
TACACS+
Syslog
Syslog generation on system resources (for
example, FIB tables)
Embedded packet analyzer
SNMP v1, v2, and v3
Enhanced SNMP MIB support
XML (NETCONF) support
Remote Monitoring (RMON)
Advanced Encryption Standard (AES) for
management traffic
Unified username and passwords across CLI and
SNMP
Microsoft Challenge Handshake Authentication
Protocol (MS-CHAP)
Digital certificates for management between switch
and RADIUS server
Cisco Discovery Protocol Versions 1 and 2
RBAC
Cisco Switched Port Analyzer (SPAN) on physical,
PortChannel and VLAN interfaces
Encapsulated Remote Switched Port Analyzer



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(ERSPAN)

Ingress and egress packet counters per interface

PTP (IEEE1588) boundary clock

Network Time Protocol (NTP)

Cisco OHMS

Comprehensive bootup diagnostic tests

Cisco Call Home

Cisco DCNM

Advanced buffer monitoring