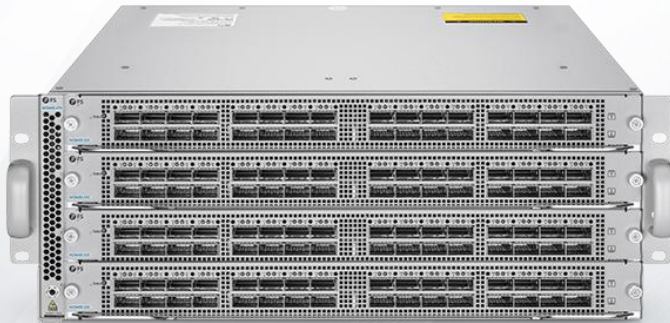


# NC8400 Series Switch

## HIGH-DENSITY DATA CENTER SWITCH CHASSIS AND 100G LINE CARDS

NC8400 series switch delivers high performance, high density, and low latency for large data centers, HPC, service provider, and cloud provider.



### Overview

The NC8400-4TH switch can be loaded with line card NC8400-32C and supports a maximum of 128x 40G/100G high-density full line rate ports. It's optimal for spine deployments in large data centers, HPC, service provider, and cloud provider.

The switch employs an advanced cache scheduling mechanism to maximize the device's cache capability. With PFC and ECN to implement the low-latency, zero packet loss, high throughput and service forwarding rate, ensuring non-blocking transmission in the increasingly demanding data center environment.

### Benefits

- Layer 3 Switch
- Broadcom BCM56980 Switch Chip
- Supports GR and BFD
- Low-latency, Zero Packet Loss with PFC/ECN
- IPv4/IPv6 Dual-stack Multi-layer Switching
- 2+2 Redundant Power Supplies
- 5+1 Redundant Fans
- CLI/SNMP v1/v2c/v3/Telnet

## Product Characteristics

### Next-Generation Data Center Network

The rapid development of AI, machine learning, and other applications drives the evolution of the next-generation data center network to 100G. The next-generation data center network requires higher performance and bandwidth of devices within a specific space. The NC8400-4TH switch can provide a maximum of 128x 40G/100G ports at 4U height, which better meets the evolution requirements of the next-generation data center network.

### High-Performance and Low-Delay Data Center Network

The NC8400-4TH switch can work with the N8560 Series to build E2E, lossless, and low-latency RDMA-based bearer networks based on PFC/ECN flow control and MMU optimization technologies. It can meet network deployment requirements in scenarios such as AI/machine learning, high-performance computing, and distributed storage big data.

### Carrier-Class Reliability Protection

The NC8400-4TH switch supports 2+2 power redundancy and 5+1 fan redundancy. All the power modules and fan modules are hot-pluggable to guarantee undisturbed switching operation. In addition, the switches support fault detection and automatic alarms for the power and fan modules. The rotation speed of the fans automatically adjusts to the ambient temperature. The switches further provide device-level and link-level reliability protection with the over-current, over-voltage, and overheating protection measures.

The NC8400-4TH switch also supports features like Graceful Restart (GR) and Bidirectional Forwarding (BFD) mechanisms. All the features ensure the network service is unaffected even when the network bears abundant services and heavy traffic, and therefore ensure normal operation.

### IPv4/IPv6 Dual-Stack Multi-Layer Switching

The hardware of the NC8400-4TH switch supports line-rate IPv4/IPv6 dual-stack multi-layer switching, and distinguishes and processes IPv4 and IPv6 protocol packets. The switches provide flexible IPv6 inter-network communication solutions to be realized according the requirement plan and status quo of the IPv6 networks. The switch is also applicable to an IPv4-only or IPv6-only network, or a hybrid of IPv4 and IPv6 network, fulfilling the transition requirements from IPv4 to IPv6 network.

The switch supports a wide range of IPv4 routing protocols including static routing, RIP, OSPF, IS-IS and BGP4, which can be selected flexibly according to the network environment. The switch also supports an abundant list of IPv6 routing protocols, such as static routing, RIPng, OSPFv3, and BGP4+, which can be selected flexibly either to upgrade the existing network to IPv6 network or to construct a new IPv6 network.

### Advanced Management

The NC8400-4TH switch supports a family of management ports such as Console, MGMT and USB. The switches also support SNMP v1/v2c/v3, a universal network management platform. In addition, the switch console port can be managed via Telnet / SSHv2, HTTP

or HTTPS. The switches enable Command Line Interface (CLI), Telnet, and cluster management, which simplify device management and provide various encryption modes such as SSH2.0 to enhance network security.

The switches support SPAN/RSPAN mirroring and multiple mirroring observation ports, offering users high visibility and transparency for easy maintenance. The switches also provide a wide range of network traffic reports to help users optimize network structure and adjust resources deployment accordingly.

## Technical Specification

NC8400 series switch come with advanced hardware architecture design and abundant L2 and L3 features. Here's a look at the details.

### CHARACTERISTICS

	NC8400-4TH
<b>Port</b>	
Number of Line Card Slots	4
Max. 100G Ports	128
Max. 40G Ports	128
RJ45 Management Port	1
Console Port	1
USB 2.0	1
<b>Operating System</b>	
OS	FSOS
<b>Key Components</b>	
Switch Chip	Broadcom BCM56980
CPU	Intel® Xeon D-1527 (Quad-core, 2.2 GHz)
SDRAM	8GB
<b>Performance</b>	
Layer Type	Layer 3
Switching Capacity	25.6 Tbps
Forwarding Rate	19.05 Bpps
MAC Address	8K
Packet Buffer	64MB
Flash Memory	64GB

## CHARACTERISTICS

### NC8400-4TH

#### Performance

**Port Latency** <1.2 us

**Number of VLANs** 4K

**Jumbo Frame** 9KB

**MTBF (Hours)** 390,000

**Status Indicators** SYS, BMC, FAN, PWR, ID, MGMT, Fan Module, Power Supply Module

**Remote Management Protocol** SNMP v1/v2c/v3, CLI, Telnet

#### Power

**Input Voltage** 100-240VAC, 50-60Hz, 12-7A

**Max. Power Consumption** <1950W

#### Physical and Environmental

**Dimensions (HxWxD)** 6.8"x 17.4"x 28.9" (173.6x442x735mm)

**Rack Space** 4U

**Fan Number** 6 (5+1 Redundancy)

**Hot-swappable Power Supplies** 4 (2+2 Redundancy)

**Airflow** Front-to-Back

**Weight** 95.9 lbs (43.5 kg), with four line cards, four power supplies and six fans

**Operating Temperature** 32°F to 104°F (0°C to 40°C)

**Storage Temperature** -40°F to 158°F (-40°C to 70°C)

**Operating Humidity** 10% to 90% (Non-condensing)

**Storage Humidity** 10% to 90% (Non-condensing)

## CHARACTERISTICS

	<b>NC8400-4TH</b>
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### Warranty

<b>Warranty</b>	5 Years
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## CHARACTERISTICS

### NC8400-32C

#### Port

**Ports** 32x 100G QSFP28

**Max. 100G Ports** 32

**Max. 40G Ports** 32

#### Power

**Max. Power Consumption** < 300W

#### Physical and Environmental

**Dimensions (Hx Wx D)** 1.65"x 16.54"x 8.01" (42x 420x 203.5mm)

**Weight** 4.63 lbs (2.1kg)

**Operating Temperature** 32°F to 104°F (0°C to 40°C)

**Storage Temperature** -40°F to 158°F (-40°C to 70°C)

**Operating Humidity** 10 to 90% (Non-condensing)

#### Warranty

**Warranty** 5 Years

## FEATURES

Functionality	Description
<b>Layer 2 Protocols</b>	IEEE802.3ae (10GBase) IEEE802.3ab IEEE802.3af IEEE802.1d IEEE802.3ad (link aggregation) IEEE802.1q IEEE802.1ba IEEE802.1D (STP) IEEE802.1w (RSTP) IEEE802.1s (MSTP) IGMP Snooping Jumbo Frame (9K bytes) IEEE802.1ad (QinQ and flexible QinQ) GVRP
<b>Layer 3 Protocols (IPv4)</b>	BGP4 OSPFv2 RIPv1 RIPv2 ECMP VRRP IGMP v1/v2/v3 DVMRP PIM-SSM/SM/DM MSDP
<b>IPv6 Basic Protocols</b>	Neighbor Discovery (ND) ICMPv6 Path MTU Discovery DNSv6 DHCPv6 ICMPv6 ICMPv6 redirection ACLv6 TCP/UDP for IPv6



## FEATURES

Functionality	Description
<b>IPv6 Basic Protocols</b>	SNMP v6 Ping/Traceroute v6 IPv6 RADIUS Telnet/SSH v6 FTP/TFTP v6 NTP v6 IPv6 MIB support for SNMP VRRP for IPv6 IPv6 QoS
<b>IPv6 Routing Protocols</b>	Static routing Equal-cost routing OSPFv3 RIPng BGP4+ MLDv1/v2 PIM-SMv6 Manual tunnel
<b>Data Center Features</b>	PFC ECN RDMA OpenFlow 1.3
<b>Visualization</b>	GRPC protocol sFLOW high-precision sampling
<b>QoS</b>	EXP priority mapping based on 802.1p, DSCP, TOS ACL traffic classification Priority marking/remarking Multiple queue scheduling mechanisms, such as SP, WRR, DRR, SP+WRR, and SP+DRR

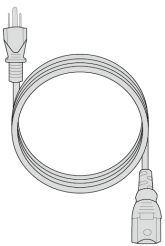
## FEATURES

Functionality	Description
<b>Reliability</b>	GR for RIP/OSPF/BGP BFD detection RLDP (Rapid Link Detection Protocol) 2+2 power redundancy 5+1 fan redundancy Hot-swappable fans and power modules
<b>Security</b>	Network Foundation Protection Policy (NFPP) CPU Protection (CPP) Detection of unauthorized data packets Data encryption RADIUS / TACACS+ IPv4/IPv6 ACL packet filtering based on standard or extended VLANs Plain text authentication and MD5 cipher-text authentication of OSPF, RIPv2, and BGPv4 packets Telnet login through limited IP addresses and the password mechanism u-RPF Broadcast packet suppression DHCP Snooping
<b>Manageability</b>	SNMP v1/v2c/v3 Telnet Console MGMT RMON SSHv1/v2 FTP/TFTP for file upload and download management Syslog SPAN/RSPAN/ERSPAN In-band Network Telemetry (INT) NETCONF
<b>Other Protocols</b>	DHCP Client DHCP Relay DHCP Server

## FEATURES

Functionality	Description
<p><b>Other Protocols</b></p>	<p>DNS Client                      UDP Relay                      ARP Proxy                      Syslog</p>
<p><b>Power Supply</b></p>	<p>AC input:                      Rated voltage range: 100-240VAC                      Max. voltage range: 90-264VAC                      Frequency: 50/60Hz</p> <p>HVDC input:                      Input voltage range: 192- 288V DC</p>

## Accessories



Power Cord x4



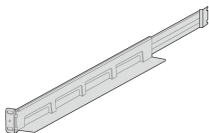
Grounding Cable x1



M6 Nut x12



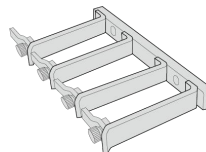
Blank Plate x4



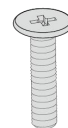
Guide Rail x2



M6\*16 Screw x12



Vertical Cable Manager x2



M6\*25 Screw\*4



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