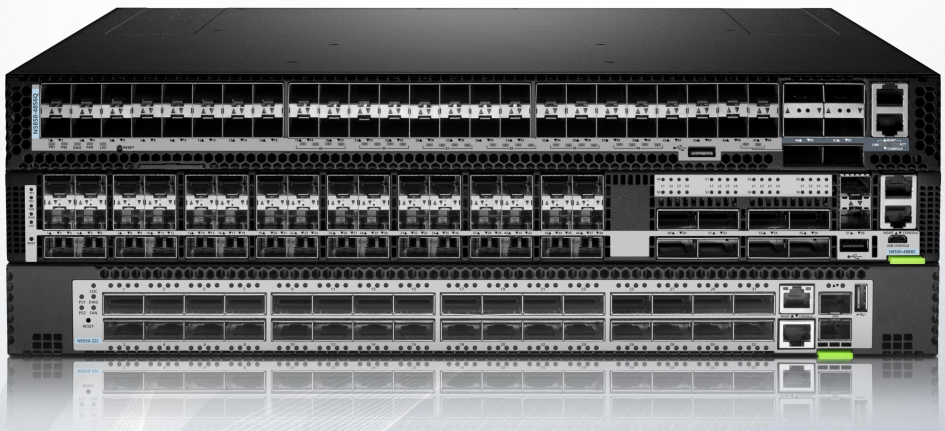
N Series Switches

IDEAL FOR DATA CENTER NETWORKS AND HIGH-END CAMPUS NETWORKS

Models: N5850-48S6Q; N8550-48B8C; N8550-32C



Overview

The N Series Data Center Switches are a series of high-performance switches that provide 10G/25G/40G/100G wirespeed connectivity for high-density availability and uplink options, designed to be deployed as Top-of Rack (ToR) or leaf-spine switches in data center applications.

Combined with self-developed extensible open networking operating system FSOS, the N series switches is packed with software features that support complete Layer 3 IPv4 and IPv6 routing protocol, VXLAN, M-LAG, etc.built for the small and medium data center, and the medium and large campus networks.

Benefits

- Broadcom Switch Chip
- Complete IPv4/IPv6 Dual Stack Protocol
- VXLAN Scales Data Center Capacity
- M-LAG, GR+BFD for VRRP Enhances Reliability
- CLI/ SNMPv1/v2/v3/Telnet
- 1+1 Redundant Power Supplies
- N+1 Redundant Fan Modules
- Open Network Install Environment (ONIE)

Key Features

Performance and Scalability

Support rich and complete Layer 2 switching and Layer 3 routing functions.
Support IPv4/IPv6 dual stack protocol.
Support VxLAN, MLAG,.
Support x86, ARM, PPC, MIPS and other architecture CPUs.
Support various switch chips from mainstream manufacturers.
Support flexible upgrade method, such as ONIE, USB, remote online upgrade.

Superior Network Management

Support varied management interfaces, such as Console, MGMT port, USB port.
Support SNMPv1/v2/v3.
Support Command Line Interface (CLI) and Telnet to make management more convenient.
Support SSH2.0, SSL to make management more secure.
Support user operation logs.

Quality of Service (QoS)

Support traffic classification based on Layer 2 headers, Layer 3 protocols, Layer 4 protocols, and 802.1p priority.
Support ACLs and actions such as Committed Access Rate (CAR), re-marking, and scheduling.
Support Queuing algorithms, such as PQ, RR, WRR, DRR, PQ+WRR, and PQ+DRR.
Support Layer 2/3/4 packet filtering, providing based on source MAC address, destination MAC address, source IP address, destination IP address, TCP/UDP port number, protocol type, VLAN traffic classification.

Security Control Features

Support RADIUS and TACACS authentication for login users.
Support command line hierarchical protection.
Support dynamic or static binding of user identification elements such as IP, MAC, VLAN, port, etc, to prevent illegal access by users.

Technical Specification

N series switches come with the industry-standard hardware and FSOS. Here's a look at the details.

CHARACTERISTICS

	N5850-48S6Q	N8550-48B8C	N8550-32C
Port			
Ports	48x 10G SFP+ and 6x 40G QSFP+	2x 10G, 48x 25G SFP28 and 8x 100G QSFP28	2x 10G and 32x 100G QSFP28
100G QSFP28	--	8	32
40G QSFP+	6	8	32
25G SFP28	--	48	--
10G SFP+	48	2	2
RJ45 Management Port	1	1	1
Console Port	1	1	1
USB Type A Storage Port	1	1	1
Operating System			
OS	FSOS	FSOS	FSOS
Key Components			
Switch Chip	Broadcom BCM56864 Trident II+	Broadcom BCM56873 Trident III	Broadcom BCM56870 Trident III
CPU	Intel Atom C2538 2.4Ghz quad-core 2.4GHz x86 processor	Intel® Xeon® D-1518 processor quad-core 2.2 GHz	Intel® Xeon® D-1518 processor quad-core 2.2 GHz
DRAM	8GB SO-DIMM DDR3 RAM with ECC	2x 8 GB SO-DIMM DDR4	2x 8GB DDR4 SO-DIMM
SPI Flash	16MB	2x 16MB	2x 16MB
SSD	32GB	64GB MLC	64GB MLC

CHARACTERISTICS

	N5850-48S6Q	N8550-48B8C	N8550-32C
Performance			
Layer Type	Layer 3	Layer 3	Layer 3
Switching Capacity	1.44 Tbps full duplex	4 Tbps full duplex	6.4 Tbps full duplex
Forwarding Rate	1 Bpps	2.9 Bpps	4.7 Bpps
MAC Addresses	64K	98K	98K
Packet Buffer	16MB integrated packet buffer	32MB integrated packet buffer	32MB integrated packet buffer
VLAN IDs	4K	4K	4K
Jumbo Frames	Up to 9216 Bytes	Up to 9216 Bytes	Up to 9216 Bytes
Status Indicators			
10G SFP+ Port LEDs	Link Speed, Link Status, Activity	--	--
25G SFP28 Port LEDs	--	Link Status, Activity, Rate	--
40G QSFP+ Port LEDs	Link Status, Activity	--	--
100G QSFP28 Port LEDs	--	Link Status, Activity, Rate	Link Status, Activity, Rate
Ethernet Management Port LED	Link Status, Activity	Link Status, Activity	Link Status, Activity
Console Port LED	Link Status	--	Link Status
System LEDs	PSU1, PSU2, Diagnostic, Fans, Locator	Diagnostic, Locator, PSU and Fan Status	Diagnostic, Locator, PSU and Fan Status
Power			
Input Voltage	100-240VAC, 50-60Hz, 6-3A	100-240VAC, 50-60Hz, 6A	100-240VAC, 50-60Hz, 6A max.
Max. Power Consumption	282W	550W	550W

CHARACTERISTICS

	N5850-48S6Q	N8550-48B8C	N8550-32C
Physical and Environmental			
Dimensions (HxWxD)	1.71"x17.26"x18.62" (43.4x438.4x473mm)	1.71"x17.26"x21.1" (43.5x438.4x536mm)	1.72"x17.26"x20.28" (43.8x438.4x515mm)
Rack Space	1U	1U	1U
Hot-swappable Power Supplies	2 (1+1 Redundancy)	2 (1+1 Redundancy)	2 (1+1 Redundancy)
Hot-swappable Fans	5 (4+1 Redundancy)	6 (5+1 Redundancy)	6 (5+1 Redundancy)
Airflow	Back-to-Front	Back-to-Front	Back-to-Front
Operating Temperature	32°F to 104°F (0°C to 40°C)	32°F to 104°F (0°C to 40°C)	32°F to 113°F (0°C to 45°C)
Storage Temperature	-40°F to 158°F (-40°C to 70°C)	-40°F to 158°F (-40°C to 70°C)	-40°F to 158°F (-40°C to 70°C)
Operating Humidity	5% to 95% (Non-condensing)	5% to 95% (Non-condensing)	5% to 95% (Non-condensing)
Weight	19.73 lbs (8.95 kg), with two installed PSUs	22.05 lbs (10kg), with two installed PSUs	23.96 lbs (10.87kg), with two installed PSUs
Warranty			
Hardware Warranty	5 Years	5 Years	5 Years
Software Warranty	5 Years	5 Years	5 Years

FEATURES

Functionality	Description
Layer 2 Features	Ethernet Features IEEE 802.3x for full duplex mode Port Statistics Port rate control MTU configuration of vlanif interface M-LAG Eth-Trunk LACP for link aggregation Port isolation Broadcast/Multicast/Unknown Unicast Storm Control Support loopback interface VLAN Features Access, trunk, and hybrid interface types 1:1 VLAN Mapping N:1 VLAN Mapping VLAN mapping based on 802.1p IEEE 802.1ad QinQ IPv4 address and IPv6 address for VLAN interface MVRP/compatible GVRP Private VLAN MAC Address Table Dynamic MAC address learning and aging Static, dynamic, and blackhole MAC address entries ARP Static ARP Dynamic ARP ARP entry aging Proxy ARP FLINK Flexible link and Monitor link VXLAN Static VXLAN EVPN VXLAN LLDP Link Layer Discovery Protocol (LLDP）

FEATURES

Functionality	Description
Layer 2 Features	UDLD MSTP Spanning Tree Protocol (STP) • Rapid Spanning Tree Protocol (RSTP) • Multiple Spanning Tree Protocol (MSTP) • Bridge Protocol Data Unit (BPDU), root protection, loop protection and TC-BPDU protection G.8032 • G.8032 Ethernet Ring Protection Switching (ERPS)
Layer 3 Features	IPv4 • Unicast static routing • IPv4 dynamic routing protocols: RIP, OSPF, IS-IS, and BGP • DHCP snooping • DHCP Server/Relay/client • Support BFD for BGP/IS-IS/OSPF • Route-policy • ECMP
IPv6	Neighbor Discovery Protocol (NDP) PINGv6 Trace route v6 IPV6TELNET Server IPV6TELNET Client IPv6 static routing ACLv6 OSPFv3 BGP4+
Multicast Features	Support IGMP v1/v2/v3 IGMP v1/v2/v3 snooping IGMP Snooping Proxy PIM-SM (ASM/SSM) Fast leave Multicast VLAN Multicast querier Multicast protocol packet suppression Multicast replication

FEATURES

Functionality	Description
Quality of Service (QoS)	Traffic Classification Traffic classification based on Layer 2 headers, Layer 3 protocols, Layer 4 protocols and 802.1p priority Traffic Action ACLs and actions, such as Committed Access Rate (CAR), re-marking, and scheduling Queuing Algorithms Queuing algorithms, such as PQ, RR, WRR, DRR, PQ+WRR, and PQ+DRR
Configuration and Maintenance	Terminal Services Command-Line Interface (CLI) access via console, Telnet and SSH File Transfer Upload and download files through FTP client Upload and download files through TFTP client and server Configuration and Maintenance User operation logs Switched port analyzer (SPAN) Network Time Protocol(NTP) Reliability VRRP BFD for VRRP Software Upgrade Open Network Install Environment (ONIE) USB Upgrade Online upgrade
Security	RADIUS and TACACS authentication for login users L2 ACL/IPv4 ACL/hybrid ACL/IPv6 ACL SSH v2.0 Port isolation CPU Protection (CPP) IP source guard Command line authority control based on user levels to prevent unauthorized users from using command configurations

FEATURES

Functionality	Description
Management	Simple Network Management Protocol (SNMP) v1/v2/v3 Command Line Interface (CLI) SSL Ping and traceroute RMON

Accessories


Console Cable*1


Power Cords*2


Rack Mount Kit Bracket*1


M4 Screws*20


Ear-locking Screws*2


User Manual*1

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