

N5850-48S6Q Cumulus Linux Switch

IDEAL FOR DATA CENTER NETWORKS AND HIGH-END CAMPUS NETWORKS

N5850-48S6Q Cumulus Linux switch is designed for data center networks and high-end campus networks, providing stable, reliable and secure Layer 2/Layer 3 switching services.



Overview

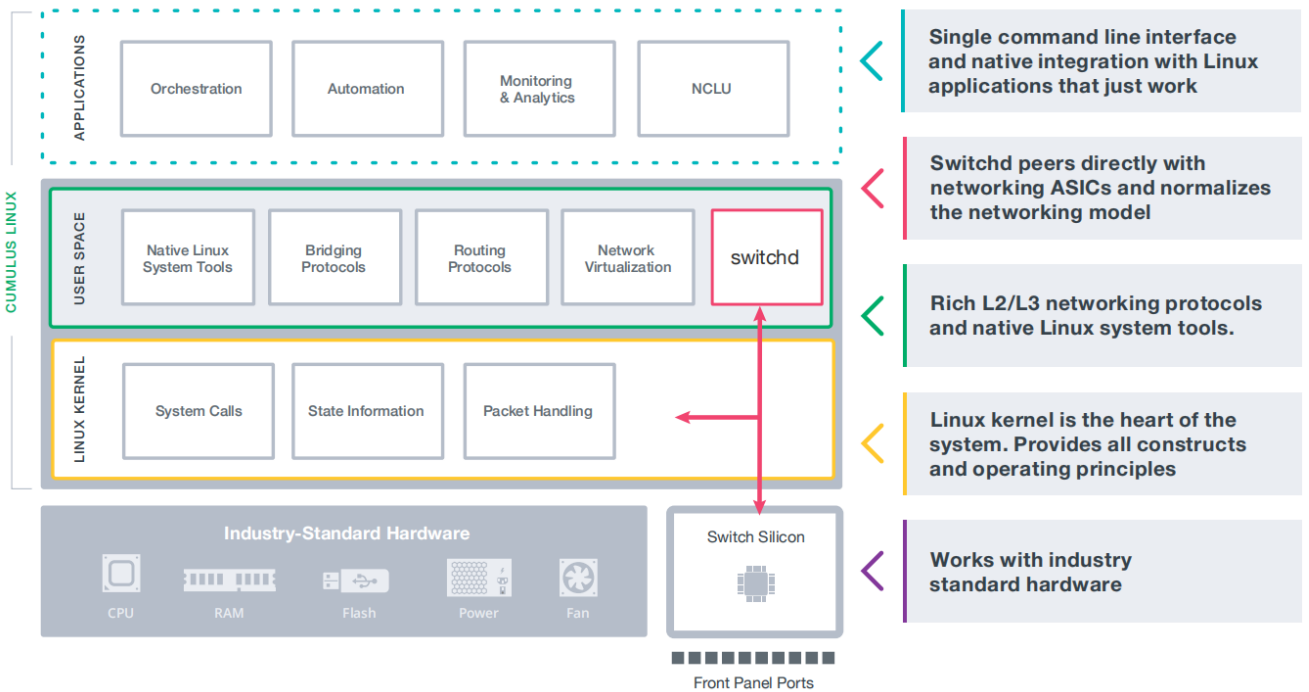
N5850-48S6Q switch delivers the high performance and port density with a complete chassis and fabric management solution enabling converged data centers to operate at any scale while reducing operational costs and infrastructure complexity. N5850-48S6Q is a 48-port 10GbE switch with 6 40GbE uplinks designed for carrier/enterprise aggregation, data center top-of-rack, and SDN-enabled networks. It has a comprehensive Cumulus Linux feature set, including MLAG, VXLAN, SFLOW, BGP, OSPF, etc.

Cumulus Linux enables modern data center architectures while providing a transition path for traditional data center architectures, with support for layer 2, layer 3 and overlay architectures.

Benefits

- Ethernet Virtual Private Networks (EVPN)
- Network Command Line Utility (NCLU)
- OSPF Unnumbered
- BGP Unnumbered
- Redistribute Neighbor
- Prescriptive Topology Manager (PTM)
- Virtual Routing and Forwarding
- Lightweight Network Virtualization (LNV)

Cumulus Linux Architecture



Key Features



ETHERNET VIRTUAL PRIVATE NETWORKS (EVPN)

Get freedom from layer 2 complexities with this modern, standards-based, interoperable technology that allows legacy layer 2 applications to operate over next-generation layer 3 networks.



REDISTRIBUTE NEIGHBOR

Get VM and host mobility by plugging your server into any redistribute neighbor-enabled switch, making it layer 3 discoverable on the fabric. If you have to move the server, there's no need to reconfigure.



NETWORK COMMAND LINE UTILITY (NCLU)

Use the rich and simple command line for easy network configuration and operation.



OSPF UNNUMBERED

Create configs faster and simplify automation by no longer depending on unique IP addresses.



PRESCRIPTIVE TOPOLOGY MANAGER (PTM)

Efficiently go from whiteboard to physical cable. With PTM, you can program your data center to verify connections and resolve issues faster.



VIRTUAL ROUTING AND FORWARDING

Run multiple network paths without the need for multiple switches, giving you traffic isolation and network segmentation for multiple devices.



BGP UNNUMBERED

Automation gets even easier with this simplified IP approach. All you need is one IP template for leaf nodes and one for the spine nodes.



LIGHTWEIGHT NETWORK VIRTUALIZATION (LNV)

Accelerate VXLAN deployments with a controllerless solution.

Technical Specification

N5850-48S6Q comes with the industry-standard hardware and pre-installed Cumulus Linux operating system. Here's a look at the details...

CHARACTERISTICS

N5850-48S6Q	
Port	
Switch Ports	48x SFP+ and 6x QSFP+
Management Ports	1x Serial Console, 1x MGMT and 1x USB Type A storage port
Operating System	
OS	Cumulus Linux
Key Components	
Switch Chip	Trident 2+ BCM56864
CPU	Intel Rangeley C2538 2.4Ghz 4-core
Performance	
Switch Class	Layer 3
Switching Capacity	1.44Tbps full-duplex
Forwarding Performance	1Bpps
MAC Addresses	32K min/288K max
Packet Buffer	16M shared buffer pool
DRAM	8GB SO-DIMM DDR3 RAM with ECC
VLAN IDs	4K
Jumbo Frames	9KB
L3 Routes	IPv4 16K min/112K max IPv6 8K min/56K max
DDM	Support
Power	
Input Voltage	90-264VAC, 50/60Hz, 6A
Max. Power Consumption	282W
Physical and Environmental	
Dimensions (HxWxD)	1.71"x17.4"x18.6" (43.4x443x473mm)
Rack Space	1U
Hot-swappable Power Supplies	2 (1+1 Redundant)

CHARACTERISTICS

		N5850-48S6Q
Physical and Environmental		
Hot-swappable Fans		5 (N+1 Redundant)
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		5% to 95% Non-condensing
Weight		19.73 lbs (8.95 kg) with two installed PSU module

FEATURES

Functionality	Description
Layer 2 Features	Flow control: IEEE 802.3x for full duplex mode
	Jumbo frames: 9KB
	Storm Control
	Broadcast
	Multicast
	Unknown Unicast
	Spanning Tree Protocol
	IEEE 802.1D STP
	IEEE 802.1w RSTP
	IEEE 802.1s MSTP (32 instances)
	BPDU Guard/BPDU Filtering
	Root Guard
	Loopback detection
	VLAN
	Supports 4k VLANs
Port-Based VLAN	
IEEE 802.1Q VLAN	
Traffic Segmentation (Port Isolated)	
Link Aggregation	
Static Trunk	
802.3ad LACP	
Trunk group: 16	
Load balance based on MAC SA/DA, SIP, DIP, TCP/UDP Port	

FEATURES

Functionality	Description
Layer 2 Features	IGMP Snooping IGMP v1/v2/v3 Snooping IGMP querier support IGMP Immediate Leave IGMP Filtering/Throttling IGMP Snooping Proxy (V1/V2/V3) IPv6 MLD Snooping UDLD Digital Diagnostic Monitoring (DDM) L2 Virtual Private Network QinQ
OAM	IEEE 802.1ag Connectivity Fault Management Connectivity check Loopback Linktrace ITU-T Y.1731 Performance and Throughput Management Frame Delay Frame Delay variation
QoS Features	8 Priority queues per port Traffic Scheduling: Strict Priority WRR (Weighted Round Robin) Hybrid (WRR + Strict) Traffic Classification (CoS) 802.1p based CoS/port IP ToS precedence based IP DSCP based CoS TCP/UDP Port based CoS PHB (Per Hop Behavior – internal priority) Drop precedence (color aware) Port based default priority DiffServ SRTCM (1 rate 3 color) color aware/color blind TRTCM (2 rate 3 color) color aware/color blind Ingress policy map Egress policy map Rate limiting (Egress only)

FEATURES

Functionality	Description
IPv6 QoS Features	DiffServ: SrcIPv6/DstIPv6
Security Features	<ul style="list-style-type: none"> Port Security DHCP Snooping IP Source Guard DHCP Snooping option 82 Dynamic ARP Inspection 802.1x Port-based/MAC-based Authentication: <ul style="list-style-type: none"> Dynamic VLAN assignment Dynamic QoS MAC Authentication Web Authentication MAC Filtering ACL <ul style="list-style-type: none"> Number of ACL (SW): 1K rules Number of ACE per ACL (SW): 100 Auto compress ACE L2/L3/L4 Ingress Egress Statistics Username/Password Authentication <ul style="list-style-type: none"> Authenticate management access Local Authentication Remote Authentication via RADIUS Remote Authentication via TACACS+ HTTPS and SSL (Secured Web) SSH 1.5/V2.0 (Secured Telnet Session) Management Interface Access Filtering (SNMP, Web, Telnet)
IPv6 Security Features	<ul style="list-style-type: none"> DHCPv6 Snooping IPv6 Source Guard IPv6 ND Snooping IPv6 RA Guard IPv6 ACL <ul style="list-style-type: none"> Number of ACE (SW): 4K (Compressed) L2/L3/L4: SrcIPv6/DstIPv6

FEATURES

Functionality	Description
IPv6 Features	IPv4/IPv6 Dual Protocol Stack IPv6 Address Type Unicast Multicast ICMPv6 ICMPv6 Redirect (Host) IPv6 Path MTU Discovery IPv6 Neighbor Discovery Duplicate Address Static Cache Entry Address Resolution Unreachable Neighbor Detection Manual Configuration SNMP over IPv6 HTTP over IPv6 SSH over IPv6 IPv6 Telnet Support IPv6 Syslog Support IPv6 SNTP Support IPv6 TFTP Support Remote IPv6 Ping Trace route over IPv6 IPv6 sFlow DHCPv6 Client Relay
L3 Features IPv4	Multi-netting CIDR (Classless Inter-Domain Routing) Unicast Routing Static Routes (1K) Floating Route, Null route RIPv1/v2 OSPFv2 (include RFC2328 PDC Encryption, RFC1370 Virtual Link, RFC3101 Route Aggregation, RFC1365 Route Filtering) BGP4+ Equal Cost multipath routing (ECMP)

FEATURES

Functionality	Description
L3 Features IPv4	Multicast Routing PIM-DM PIM-SM IGMP v1/v2/v3 IGMP v2/v3 Proxy IP Redundancy: VRR RFC3768 DHCP Relay
L3 Features IPv6	IPv6 Unicast Routing Static Routes (1 K) OSPFv3 MLD v12 Equal Cost multipath routing (ECMP) IPv6 Multicast Routing PIM6-DM PIM6-SM DHCPv6 Relay
Management Features	Switch Management CLI via console port or Telnet Web management SNMP v1, v2c, v3 Terminal Setting Multiple Management IP Interface Software Download/Upgrade TFTP, Xmodem/Ymodem (Boot code only), FTP, HTTP Dual Images Configuration Download/Upload: TFTP, HTTP, FTP Auto Upgrade (Zero Touch Configuration, DHCP option 66/67) RMON RMON1 (1,2,3,9 group) RMON2 (partly) DHCP Client Relay Port Mirroring RSPAN

FEATURES

Functionality	Description
Management Features	Event/Error Logging
	Syslog (local Flash)
	Remote log (RFC3164)
	Remote Ping
	SNTPv4 (FRC2030)
	NTP
	LLDP (802.1ab)
	Link Layer Discovery Protocol
	LLDP-MED (VoIP related)
	sFlow (V4/V5)
	Delay reload
	Port Utilization (kbitsec.Pktsec, %Util in recent 300 secs)
	Historical data (15 min, 24 hr)
	IPv6 Management (Telnet Server/ICMP v6)
	Monitor Environment
	Power Status
	FAN
	Thermal monitor
	Fan speed control
	Show temperature
	Send trap
	Fan Failure Detection: Send trap
	Partial config
FTP	
TFTP	
Craft port	
Trace Route	
MAC learning	
HW/SW watchdog	
Restore and configure from USB	
USB port management	
Data Center Features	802.1Qbb (PFC)
	802.1Qau (ECN)
	802.1Qaz (ETS)
	DCBx
	MLAG
VxLAN	

FEATURES

Functionality	Description
Data Center Features	<p>ONIE</p> <p>OpenFlow 1.3</p> <p>OF-DPA 1.0</p> <p>VLAN Flow Table: 131,008 entries (32 ports, 4094 VLANs per port)</p> <p>L2 Bridging Flow Table: 136K entries</p> <p>Unicast Routing Flow Table: 72K entries</p> <p>Multicast Routing Flow Table: 72K entries</p> <p>Compatible with OpenDaylight /Ryu</p> <p>OF-DPA 2.0</p> <p>Tunneling</p> <p>Supports multiple SDN controllers</p> <p>Supports 40G to 4x 10G breakout cables and 4x 10G port grouping</p>
Physical and Environmental	<p>Dimensions (HxWxD): 1.71"x17.4"x18.6" (43.4x443x473mm)</p> <p>Weight: 19.73 lbs (8.95 kg) with two installed PSU</p> <p>Fans: hot-swappable 5 (N+1 Redundant) fans</p> <p>Operating Temperature: 32°F to 104°F (0°C to 40°C)</p> <p>Storage Temperature: -40°F to 158°F (-40°C to 70°C)</p> <p>Operating Humidity: 5% to 95% Non-condensing</p> <p>Operating Altitude: up to 3048 m (10,000 ft)</p>
Power	<p>PSUs: 2 redundant, load-sharing, hot-swappable AC or -48VDC</p> <p>Input Voltage: 90 to 264VAC at 50/60Hz. -48 to -72VDC</p> <p>Input Current: Max 6A @100/120VAC, 3A @200/240VAC, 10A @-72VDC</p> <p>PSU Efficiency: Up to 93% for AC PSUs</p> <p>12 VDC power input options</p>

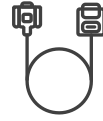
Accessories



Power Cords*2



Rack Mounting Kit*1



Console Cable*1



User Manual*1

Get started today

Getting started with FS N-series switches is easy. In fact, you can explore and test them without spending too much time. Try FS N-series switches, they will lower the total cost of your ownership, and bring your network with high scalability and agility as well.



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