GFS

FSOS and Cumulus OS for N Series Switches Competitive Comparison



Product Comparison Models

Switches with FSOS :

N5850-48S6Q

N8550-48B8C

N8550-32C

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- Product Software Function
- Product Reliability

Product Software Function

The switches with Cumulus OS are mainly based on EVPN VXLAN and M-LAG functions. The switches with FSOS are mainly based on complete Layer 3 IPv4 and IPv6 routing protocol, VXLAN, etc. Here's a look at the details.

Operating System	FSOS(N5850 and N8550 Series)	Cumulus OS
Layer 2Features	 STP, RSTP, MSTP, root protection, loop protection, BPDU-guard, TC-BPDU protection and BPDU-filter VLANs, VLAN trunks (IEEE 802.1q), LACP (IEEE 802.3ad), LACP bypass, unicast/broadcast storm control, LLDP, CDP, IPv6 neighbor discovery, IPv6 route advertisement MLAG IGMPv2/v3 snooping VRRP, BFD for VRRP Support MVRP/compatible GVRP Private VLAN Proxy ARP Resilient link and Monitor link G.8032 UDLD 	 Bridge management with STP (IEEE 802.1d), RSTP (IEEE 802.1w), PVRST, PVST, bridge assurance, BPDU guard, BPDU filter VLANs, VLAN trunks (IEEE 802.1q), LACP (IEEE 802.3ad), LACP bypass, unicast/broadcast storm control, LLDP, CDP, IPv6 neighbor discovery, IPv6 route advertisement MLAG (clagd daemon) IGMPv2/v3 snooping, MLDv1/v2 snooping VRR - active-active first hop redundancy protocol
Layer 3 Features	 EVPN OSPFv2/OSPFv3 BGPv4/BGPv6 ECMP and ECMP resilient hashing for IPv4 and IPv6 traffic Support BFD for BGP/IS-IS/OSPF PIM, PIM-SM, PIM-SSM Route-policy RIP IS-IS 	 EVPN OSPFv2/OSPFv3 BGPv4/BGPv6 Virtual Routing and Forwarding (VRF) ECMP and ECMP resilient hashing for IPv4 and IPv6 traffic BFD across all platform & interface types, IPv4 and IPv6, BGP and OSPF, VXLAN PIM, PIM-SM, PIM-SSM Policy-based routing
Network Virtualization	 VXLAN VXLAN Routing - symmetric and asymmetric VXLAN head end replication VXLAN with M-LAG 	 VXLAN VXLAN Routing - symmetric and asymmetric L2 gateway services integration with VMwareNSX VXLAN head end replication VXLAN active-active bridging withMLAG Controller-less Network virtualization with EVPN and LNV

Product Software Function

Operating System	FSOS	Cumulus OS
Management	CLI access via console, telnet and SSH Upload and download files through FTP/TFTP client DHCPv4, DHCP relay NTP RADIUS and TACACS authentication for login users Interface configuration management (ifupdown2) Configure backup	 Single command line tool to configure and operate the switch (NCLU) Native Linux management tools suchas OpenSSH, SCP, FTPS Automated install and provisioning: zero touch install and zero touch provisioning, Management VRF DHCP, v4/v6 DHCP relays Authentication with LDAP, authorization with sudo NTP Interface configuration management (ifupdown2) Advanced management/orchestration through third party add-on packages Snapshot and rollback of the entire system to eliminate the risk from system upgrades
Monitoring and Troubleshooting	SNMPv1/v2c/v3, Switched port analyzer (SPAN) User operation logs RMON	 Monitor traffic patterns and preemptive capacity planning with buffer monitoring Traditional monitoring with SNMPv2 and network-specific MIBs, hardware monitoring via watchdog, analytics with SPAN, ERSPAN, ACL-based counters, DOM optics data, thermal sensors, real time queue-depth and buffer utilization reporting Troubleshooting with dnsutils, syslog, reachability tools, hardware inventory, log files, server-style filesystem, and merchant silicon-specific commands Advanced troubleshooting and ease of use with Prescriptive Topology Manager
Security	ACLs L2-L4 classification through IP/EPtables, CPU protection through hardware enforced ACL-based rate limiting DoS control IP source guard Port isolation	 ACLs L2-L4 classification through IP/EPtables, CPU protection through hardware enforced ACL-based rate limiting DoS control Authenticate and authorize attached devices with 802.1X

Product Software Function

Operating System	FSOS	Cumulus OS
QoS	 Queuing algorithms, such as PQ, RR, WRR, DRR, PQ + WRR, and PQ + DRR ACLs and actions such as Committed Access Rate (CAR), re-marking, and scheduling 	 Link PAUSE Classification based on Class of Service (CoS) (IEEE 802.1p) or DSCP (queuing, scheduling (DWRR and Strict Priority), buffer allocation) Ingress ACL-based classification/policing Priority flow control and explicit congestion notification (ECN)

Product Reliability

Compared with switches with Cumulus OS, the switches with FSOS have greatly improved reliability. It can ensure the normal operation of services and security of the switch by supporting functions such as BFD for VRRP, Rlink, G.8032, etc.

- Support BFD for VRRP. When the BFD session detects a fault, it notifies the VRRP group that the priority of the backup needs to be increased. Then an active/standby switchover is triggered immediately. This millisecond-level switchover reducestraffic loss.
- Support Rlink Resilient link and Monitor link. As a two-layer link protection protocol, RLINK
 realizes redundant backup and fast migration of primary and secondary links for double
 uplink networking. It has the advantages of low overhead, simple configuration and
 millisecond level protection switchover mechanism.
- Support G.8032. G.8032 (ERPS), a standard ITU-T protocol, prevent loops on ring networks. It
 optimizes detection and performs fast convergence. ERPS allows all ERPS-capable devices on
 a ring network to communicate, which can work for unidirectional failure and multiple link
 failure scenarios in a ring topology.

Operating System	FSOS	Cumulus OS
BFD for VRRP	Yes	No
Rlink	Yes	No
G.8032	Yes	No



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