100G Data Center Switch

Variants

HSGQ 9032 - 32×QSFP28

Details

Product Overview

The HSGQ-9032 is a high-performance, high-density data center Ethernet switch designed for cloud data centers and computing networks. It supports 32 100G slots and the spine-leaf network architecture. The switch features 1+1 hot-swappable redundant power and 4+1 hot-swappable redundant fans with intelligent, adjustable speeds.

Hardware Specifications

Parameter	Specification
Interface	32-100GE QSFP28 Slots
Management Ports	1 MGMT Port, 1 Console Port

Parameter	Specification
USB Port	1 USB Port (meets USB 2.0 standard)
Transmission Mode	Store-forward and cut-through mode
Forwarding Speed	2800 Mpps
Switching Capacity	6.4 T
Dimensions (LWH)	440mm (W) x 470mm (D) x 44mm (H) (1U height)
Full Weight	About 11 kg
Fan	Five hot-swappable fan modules for front and rear ventilation
Power Supply	Dual module power supply
AC Input	Rated voltage range: 100-240V; Maximum voltage range: 90-264V; Fr

Parameter	Specification
DC Input	Input voltage range: 180-310V
Power Consumption	Static (Dual AC): 173W; Maximum (Dual AC): 512W
Operating Temperature	0?C?40?C
Storage Temperature	?40?C?+70?C
Operating Humidity	10%-90% non-condensing
Storage Humidity	5%-90% non-condensing

Key Features

- **High-Performance Data Center Network**: Supports high-density 100G/40G ports for data centers. The 100G ports are backward compatible with 40G.

- **Data Center Overlay Network**: Supports **VXLAN** to address the issue of insufficient VLAN numbers in traditional data centers. It also supports the

- **EVPN** protocol for automatic discovery and authentication of VTEPs, which simplifies VXLAN deployment.

- **M-LAG Architecture**: Utilizes **M-LAG (Multi-chassis Link Aggregation Group)** to virtualize two physical devices into one at the forwarding layer, enhancing device-level reliability.

- **Hardware-Based Traffic Visualization**: Uses hardware capabilities to provide end-to-end traffic visualization. Protocols like **RSPAN** and **sFlow** send real-time network information to a management platform for analysis, fault troubleshooting, and risk warnings.

- **Carrier-Grade Reliability**: Features multiple protection mechanisms including over-current, over-voltage, and over-heat protection. Redundant, hot-swappable power and fan modules are built-in. Fan speed adjusts automatically based on temperature. It also supports link reliability technologies like **ERPS**, **MRPP**, and **BFD** for fast forwarding detection.

- **IPv4/IPv6 Dual Stack**: Supports hardware-based IPv4/IPv6 dual-stack multi-layer line-speed switching. It can differentiate and process IPv4 and IPv6 packets and supports various tunnel technologies. The device supports **IPv4 routing protocols** like static routes, RIP, OSPF, IS-IS, and BGP, as well as **IPv6 routing protocols** such as static routes, RIPng, OSPFv3, and BGP4+.

- **Comprehensive Security**: Includes mechanisms to prevent DoS attacks and check ARP packet validity. It supports various **Hardware ACL policies** including inbound, outbound, and VLAN-based ACLs. Other security features include port security, multi-group binding, and bandwidth limiting.

- **Management**: Provides management interfaces such as a Console port, MGMT port, and USB port. It supports **SNMPv1/v2/v3**, CLI, Web NMS, and TELNET. Secure management is supported through encryption modes like **SSH2.0** and **SSL**.

- **Flexible Duct Orientation**: Offers flexible air duct options to match data center designs. Users can choose different fan modules to adjust the air direction.

Software Specifications

- VLAN
- GVRP
- PVLAN
- Voice VLAN
- Protocol-based VLANs
- VLAN Translation
- Q-in-Q
- MAC-based VLAN
- Subnet based VLANs

MAC Address

- Source MAC address filtering
- Auto learning and aging

- Learning restrictions
- Dynamic, static, and black hole MAC address table entries

Multicast

- Multicast VLAN
- MLD Snooping v1/v2
- PIM-DM, PIM-SM, PIM-SSM
- IGMP Snooping v1/v2/v3
- Multicast Traffic Suppression

QoS

- Port-based and stream-based rate limiting
- Prioritization algorithms: WRR, SP

- Congestion avoidance mechanisms like WRED, tail drop
- DSCP & CoS mapping

Security

- Port Security
- Port Isolation
- IEEE802.1x AAA
- IPv4/v6 ACL
- DDoS Attack Prevention
- Broadcast storm suppression
- Dynamic ARP protection
- IP source protection (IP MAC port binding)

Protocols

- IPv4: OSPF V2, ISIS, BGP4, RIP V1/V2, Static routes

- IPv6: IPv6 ND, RIPng, OSPFv3, BGP4+, Static Routing
- Data Center: VxLAN Bridging/Routing, MPLS, VPLS, EVPN VXLAN, M-LAG, ECMP, VRRP, ROCE v2, PFC, ECN
- Reliability: STP, RSTP, MSTP, BFD Detection, VSF, BPDU Guard, Ethernet OAM, ULDP, Loop Protection, Loop Detection, STP Root Guard

Management

- DDMI
- DHCP Client/Relay SNMP (v1, v2, v3)
- RMON (1, 2, 3 & 9) NTP/SNTP
- LLDP (IEEE802.1A
- System Log
- Traceroute,
- Ping
- Firmware Upgrade

- Port Mirror