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TECHNOLOGY

DH-S6500-48XF2QF

L3 Managed S65 Series Switch with 48-Port SFP+ and 2-Port QSFP

- IRF2 intelligent resilient architecture.
- 10 Gbps uplink and all-gigabit ports.
- Great security functions.
- Management through the web client and CLI.
- Supports functions such as port aggregation, Layer-2 VLAN, ACL, and QoS.

System Overview

Easy to deploy and cost effective, S6500 Switch Series provides a network-access switching solution. This 10G high-density switch has a high switching capacity, multiple 10G and 40G ports, dual fans and a variety of layer 3 features. It also supports pluggable dual power supplies.

Scene

Suitable for scenes such as SMEs, chain businesses, branches, government structures, schools, and hotels.

Functions

Abundant Service Performance

Supports jumbo frame, IEEE 802.1X, MAC Certification, port security, LACP protocol, 4K VLANs, 16K MAC address table, Black Hole for MAC, port-based layer 2 and layer 3 prior automatic mapping, port mirroring, broadcast redirection, port isolation, Access Control List (ACL). It also limits port speed and offers a variety of IPv6 functions.

Complete Security Control Strategy

Multiple ARP (Address Resolution Protocol) defense functions are supported by the switch, such as ARP broadcast message and the rate limiting of ARP packets. It also verifies users with ARP detection and prevents a large number of ARP broadcast messages from impacting the CPU. The switch supports many types of authentication methods, such as IEEE 802.1X authentication and centralized MAC address authentication. It also easily adapts to the requirements of multiple authentication methods in the network environment.

Intelligent Resilient Framework 2 (IRF2)

IRF2 is the stacking technology used in conjunction with the spare ports on the panel. It offers the flexibility to stack over longer distances, such as hundreds of meters across buildings or several kilometers between sites, using long-range transceivers.

MACsec Hardware Encryption

MACsec is a link layer security protocol that is very suitable for Ethernet Hop by Hop. It has the following 3 functions:
1) Message encryption: Through the encryption algorithm and key, plaintext is turned into ciphertext, which is difficult to decrypt even if it is eavesdropped on.
2) Anti-replay attack: Prevents hackers from intercepting messages received by the destination host, for example it stops hackers from finishing the identity authentication process.
3) Anti-tampering: Prevents hackers from tampering with the original content of the message.
There are 2 MACsec modes:
1) Host-oriented mode: Used for the first hop protection when the terminal accesses the network.
2) Device-oriented mode: Protection of interconnected links between devices.
The hardware of the switch supports the MACsec security encryption function.

VXLAN

Supports VXLAN (Virtual Extensible LAN). VXLAN encapsulates the data packets sent by the virtual machine in UDP, and uses the IP/MAC of the physical network as the outer-header to be encapsulated in the physical IP network Transmission. After arriving at the destination, the tunnel endpoint will decapsulate and send the data to the target virtual machine. VXLAN solves the problem of long-distance virtual machine migration between geographically dispersed data centers. EVPN mode is supported.

Technical Specification

Hardware

Included Power Adapter	Yes
PoE	No
CPU Clock Speed	1600 MHz
Memory Size	2048 MB
Flash Size	1024 MB
Optical Port	48
Optical Port Speed	10 Gbps
Optical Port Uplink Speed	40 Gbps
Description of Function Slots	Port 1-48: 24 × SFP+ 1/10 Gbps; Port 49-50: 2 × QSFP+ 40 Gbps; 2 × slot
Debugging	1 × Console port 1 × MGT port 1 × micro usb console 1 × usb
Hot Plug	Yes
Power Supply	Support dual power supply 100–240 VAC, 50/60 Hz
Operating Temperature	−5 °C to 45 °C (23 °F to 113 °F)
Operating Humidity	5%–95% (RH), non-condensing
Storage Temperature	−40 °C to +70 °C (−40 °F to +158 °F)
Storage Humidity	5%–95% (RH), non-condensing
FAN	2
Power Consumption	Idling: 44 W Full load: 234 W

Performance

Layer	Layer 3
Management Type	Yes
Switching Capacity	1460 Gbps
Packet Forwarding Rate	1050 Mpps
Packet Buffer Size	10Mbytes
Jumbo Frame	10K
MAC Table Size	128K
VLAN Number	4K
VLAN Interface	1K
IPv4 Routes	64K
Dynamic ARP	64K
Communication Standard	IEEE 802.3; IEEE 802.3u; IEEE 802.3X; IEEE 802.3ab; IEEE 802.3z; IEEE 802.3ad; IEEE 802.3ae

Features

VLAN Function	Port-based VLAN MAC-based VLAN Protocol-based VLAN IP subnet based VLAN QinQ and flexible QinQ VLAN mapping
VxLAN	Yes
Ring network protocol	STP/RSTP/MSTP/PVST STP Root Guard BPDU Guard G.8032 ERPS
DHCP Function	DHCP Client DHCP Snooping DHCP Relay DHCP Server DHCP Snooping option82 DHCP Relay option82 DHCP Snooping Trust DHCP Snooping entry backup
Link Aggregation	10GE/40GE port aggregation Dynamic aggregation Static aggregation Multi-chassis link aggregation
Routing	Static routing IPV6 policied routing RIPv1/v2/ng OSPFv2/v3 IS-ISv4/v6 BGP4/4+ ECMP Policy based routing
IEEE 802.3x Flow Control	Yes
IPV6	Neighbor Discovery (ND) PMTU IPv6-Ping, IPv6-Tracert, IPv6-Telnet, and IPv6-TFTP IPv6 portal
Mirroring	Flow mirroring N:4 port mirroring Local port mirroring and remote port mirroring
Multicast	IGMP snooping v1/v2/v3 and MLD snooping v1/v2 PIM snooping MLD proxy Multicast VLAN IGMP v1/v2/v3 and MLD v1/v2 PIM-DM, PIM-SM, and PIM-SSM MSDP and MSDP for IPv6 MBGP and MBGP for IPv6
Reliability	IRF VRRP DLDP LLDP VCT
ARP	Dynamic ARP Inspection ARP anti-attack ARP source suppression

Security	Hierarchical user management and password protection AAA authentication support RADIUS authentication HWTACACS SSH2.0 Port isolation 802.1X authentication, centralized MAC authentication Port security IP Source Guard HTTPs Hierarchical user management and password protection 802.1X authentication and centralized MAC address authentication Guest VLAN RADIUS authentication SSH 2.0 Port isolation Port security Portal authentication DHCP snooping Dynamic ARP detection BPDU guard and root guard uRPF IP/Port/MAC binding Plaintext authentication and MD5 authentication for OSPF and RIPv2 packets Public Key Infrastructure (PKI)
System Maintenance	Debugging information output Ping, Tracert Telnet remote maintenance NQA DLDP Virtual cable test
QoS/ACL	The flexible queue scheduling algorithm includes SP, WDRR, and SP + WDRR (can be set based on the port and queue at the same time) Two-way ACL policy (ingress and egress)
IPv6	ICMPv6 TRACEROUTE V6 TELNET V6 SSH2 V6 ND/ND snooping/ND proxy/ND detection SAVI IPV6 PORTAL PMTU DNS CLINET FOR IPV6 SNMP FOR IPV6 RIPng/OSPF V3/IS-ISv6/BGP4+ IPV6 policy-based routing MLD SNOOPING v1/v2 IPv6 PIM DM/PIM SM/PIM SSM VRRP V3 DHCPv6 snooping/DHCPv6 client/DHCPv6 relay/DHCPv6 server IPv6 port binding BFD for IPV6 (static routing, OSFPv3, BGP+)
Equipment Management	Load update files and update using FTP Configure through CLI, Telnet, Console port SNMPv1/v2/v3 System logs, multi-level alarms, and debug information; NTP Power supply, fan, and temperature alarms Ping and Tracert LLDP Port loopback detection

General

Lighting Protection	Common mode: 2 kV Differential mode: 1 kV
Net Weight	≤4.65 kg (10.25 lb)

Product Dimensions	440 mm × 360 mm × 43.6 mm (17.32" × 14.17" × 1.72")
Packaging Dimensions	572 mm × 554 mm × 115 mm (22.52" × 21.81" × 4.53")
Certifications	CE EMC: FCC

Ordering Information

Type	Model	Description
SFP Module	GSFP-1310-20-SMF	1.25G 1310nm, 20km, LC, Single-mode
	GSFP-1310R-20-SMF	1.25G 1550/1310 nm, 20 km, LC, Single-mode
	GSFP-1310T-20-SMF	1.25G 1310/1550 nm, 20 km, LC, Single-mode
	TSFP-1270T-20-SMF	10G 1270/1330 nm, 20 km, LC, Single-mode
	TSFP-1270R-20-SMF	10G 1330/1270 nm, 20 km, LC, Single-mode
	GSFP-850-MMF	1.25G 850 nm, 500 m, LC, Multi-mode
	TSFP-850-MMF	10G 850 nm, 300m, LC, Multi-mode
	QSFP-40G-CSR4-MM850	40G 850 nm, 300m, CSR4, Multi-mode

Dimensions (mm [inch])