DPtech LSW6600 Series Switch

Overview

DPtech LSW6600 series are next generation high-density Gigabit Ethernet switch products released by DPtech for data centers. LSW6600 series adopt DPtech leading high performance hardware architecture and ConPlat operation system, along with rich data center features and virtualization technologies.

LSW6600 series provide upto 48 wire-speed 10GE interfaces with 1U height, provides industry's highest 10GE port density and takes the lead in supporting 40GE uplink ports, thus to meet demands of high-density 10GE access under TOR deployment and 40G/100G uplink for next-generation data center networks. In addition to be deployed at access layer of data center and cloud computing network, LSW6600 can also be used as core or convergence devices in campus network or metropolitan area network.

Series

DPtech LSW6600 series switch includes following model:

- LSW6600-48XGS4QXP: 48 10GE SFP+ ports, 4 40GE QSFP+ ports.

LSW6600-48XGS4QXP Front Panel   LSW6600-48XGS4QXP Rear Panel

Features

Terabit Performance and High-Density10GE Interface

- LSW6600 are the industry's highest performance 1U stackable data center switch, featuring with 1.28Tbps switching capacity, 960Mpps forwarding performance and non-block switching architecture.
- LSW6600 supports 48 10GE SFP+ ports and four 40GE QSFP+ ports. Each 40G ports can operate in 40G mode or in mode of four 10G ports, provide maximum of 64 10GE ports in one device, to satisfy demands of data center high-density and high-bandwidth access.

Rich Data Center Features

- LSW6600 support TRILL (Transparent Interconnection of Lots of Links), which can build a large scale of Layer 2 network with more than 500 nodes. TRILL is a layer 2 multi-path technology used to replace STP protocol, which enforces ISIS routing mechanism calculating forwarding path to solve single-path

forwarding and loops problems of layer 2 network, and upgrade bandwidth utilization ratio up to 100%, greatly improving network stability and speeding up network convergence.

- LSW6600 support FCOE, which allows FC SAN service flow to transmit on Ethernet, provides high degree integration of traditional front-end server network with back-end storage network, and eventually providing technologies for flat and converged large Layer 2 data center network.

Multi-Services Capability

- LSW6600 support Multi-VPN-Instance CE (MCE), which can isolate different VPN users on a same device through creating and maintaining independent Multi-VRF for each VPN, to effectively solve contradictions between user data security and network costs caused by multi-VPN network.

- LSW6600 support protocols such as IGMP, IGMP Snooping, GMRP and PIM. It supports large-scale L2~3 multicast entries and controllable multicast in order to satisfy demands of video monitoring and other multicast services.

- LSW6600 support Fast Ring Recovery Protocol (FRRP) and Fast Link Recovery Protocol (FLRP), which can empower high-performance network fault recovery mechanism in less than 50ms under loss-sensitive application environments.

VSM (Virtual Switching Matrix) Technology

- LSW6600 series of switches support VSM (Virtual Switching Matrix) technology, which can virtualize multiple physical devices into a single logical device. Enable unified configuration and management.

- Simplify management: VSM technology allows user to login unified logical devices through any ports of any devices, ensuring unified management for all member devices under virtual switching matrix. Instead of having separate configuration and management through physically connecting to each member device.

- Simplify services: VSM is compatible with various kinds of L2~3 protocols. Cross-device link aggregation technology replaces traditional spanning tree protocol, eliminate large amounts of protocol packets interactions between devices hence reduce network convergence time.

- Flexible expansion: "Hot swap" can be achieved when new devices join or leave VSM virtual groups, which will not affect normal operation of other devices, ensuring flexible on-demand network expansion.

Enhanced Environment Adaptability

- LSW6600 use low-power consumption hardware component and cooling thermal dissipation design to control overall energy consumption. Meanwhile, LSW6600 enable monitoring of equipment running status and environment, adjusting the status of fan and ports based on environment temperature, time, and port status hence reduce energy consumption.LSW6600 support outputs of status alarms, including environment alarm, power supply and fan alarm, ports, and CPU status, ensuring green environment intelligence integrating hardware and software.

Rich IPv6 Features

- LSW6600 support IPv4/IPv6 dual stack and IPv6 over IPv4 tunnels (including manual Tunnel, 6to4 Tunnel, ISATAP Tunnel), featuring with wire speed L3 forwarding, thus can be deployed in pure IPv4/IPv6 network or IPv4 and IPv6 coexistence network. It enables flexible networking which satisfies demands of current network to transit from IPv4 to IPv6.

Management

- LSW6600 support SNMPv1/v2/v3, UMC Management platform and third-party management platform.
- Support CLI, Web GUI management, Telnet, and etc.

Specification

Item	LSW6600-48XGS4QXP
Performance Index	
Switching Capacity	1280Gbps
Forwarding Rate	960Mpps
Latency	<6us
MAC address	128K
VLAN	4K
Maximum Frame Length	13K
Hardware Feature	
Physical Dimensions (W×D×H)	440*690*44 mm
10GE ports (SFP+)	48
40GE ports (QSFP+)	4
Management Interface	Console
Maximum Power Consumption	250W
Power Supply	Redundant AC/DC Power Supply
Working Environment	0~45℃
Software Feature	
MAC Address Table	• Support black-hole MAC addresses • Support setting the maximum number of MAC addresses that can be learned at a port
Traffic Management	• Support IEEE 802.3x (full duplex) • Support IEEE 802.3u (auto negotiation) • Support storm suppression based on port rate

	percentage • Support storm suppression based on PPS
Port Aggregation	• Support LACP • Support manual aggregation • Support 128 aggregation groups, each supporting at most 8 GE ports
Port Mirror	• Support flow mirroring • Support port mirroring and remote port mirroring
VLAN	• Support port-based VLAN (4000 VLANs) • Support MAC-based VLAN • Support protocol-base VLAN • Support QinQ, flexable QinQ • Support VLAN Mapping • Support Voice VLAN • Support GVRP
IP Service	• IPv4 and IPv6 Dual Stack • ARP • Domain Name Resolution (DNS) • IP UNNUMBERED • DHCP Trunk • DHCP Server • DHCP Client
IP Routing	• Support up to 16K route entries • Support static route • Support RIP v1/v2, OSPF v1/v2, IS-IS, BGP • RIPng, OSPF v3, BGP4+, IS-ISv6 • Support ECMP • Support routing policies • Support VRRP,VRRPv3 • Support Policy Based Routing
IPv6	• Support Neighbor Discovery (ND) • Support PMTU • Support IPv6 Ping and IPv6 Tracert

	• Support IPv6 Telnet, TFTP • Support manual configuration of tunnels • Support 6to4 tunnels • Support ISATAP tunnels
Multicast	• Support IGMP Snooping v1/v2/v3, MLD Snooping v1/v2 • Support IGMP v1/v2/v3, MLD v1/v2 • Support PIM-DM, PIM-SM, PIM-SSM, MSDP
ACL	• Standard and Extended ACL • Support L2 ~ L4 packet filtering and provide flow classification based on the source MAC address, destination MAC address, source IP address (IPv4/IPv6), destination IP address (IPv4/IPv6), port, protocol or VLAN • Support time range
QoS	• Support CAR (Committed Access Rate) • Support 8 output queues at each port • Support Weighted Fair Queuing • Support Queue scheduling modes: Strict Priority (SP), Weighted Round Robin (WRR) and SP+WRR • Support RED and WRED • Support packet redirection. • Support re-labeling the 802.1p and DSCP priorities of a packet.
Security	• Support hierarchical management and password protection of users • Support Portal, MAC address-based authentication • Support AAA, Radius authentication • Support binding of IP+MAC+port • Support dynamic ARP detection • Support Port Isolation and PVLAN • Support Port Security • Broadcast Suppression • STP Root Guard • BPDU Guard • DHCP Snooping

	• IP Source Guard • IEEE 802.1X • Support PKI • Support SSH 2.0 • Support HTTPS/SSL
MPLS	• Multiple CE (MCE), Layer 2 VPN and Layer 3 MPLS VPN
High Reliability	• Support STP/RSTP/MSTP • Support STP Root Guard • Support BPDU Guard • Support FLRP • Support FRRP • Support VSM
Management and Maintenance	• Support loading and upgrade via the XModem, File Transfer Protocol (FTP), and Trivial File Transfer Protocol (TFTP) • Support configuration via CLI, Telnet, and Console port • Support SNMPv1/v2/v3, RMON, MIB • Support WEB management • Support the DPtech UMC system to perform equipment management • Support NTP • Support power alarms • Support fan and temperature alarms • Support Device Link Detection Protocol (DLDP)

Part Number	Model Description	Remarks
02050176	DPtech LSW6600-48XGS4QXP Host	Required
02010075	SFP+ 10-GigaBit Optical Module, Multi-mode,(850nm,0.3km,LC)	Optional
02010078	SFP+ 10-GigaBit Optical Module, Single Mode,(1310nm,10km,LC)	Optional
02010005	1000BASE-SX SFP Transceiver, Multi-Mode (850nm, 550m, LC)	Optional
02010004	1000BASE-LX SFP Transceiver, Single Mode (1310nm, 10km, LC)	Optional
02000013	1000BASE-LH40 SFP Transceiver, Single Mode (1310nm, 40km, LC)	Optional
02010014	1000BASE-LH40 SFP Transceiver, Single Mode (1550nm, 40km, LC)	Optional