

PRODIGY

ETHERNET ROUTING SWITCH



PD1-S51-6121

Hi-performance 10Gigabit Ethernet Switch

Product Overview

PD1-S51-6121 is a new generation of aggregation 10GE switch introduced by Terrabit Networks. It is targeted at the IP MAN (metropolitan area network), campus networks and enterprise networks. It is developed on the basis of high-performance hardware and TerOS - a software platform with Terrabit own independent intellectual property rights. It supports multiple services like IPv6, MPLS, VPN and network protect based on L2/L3/L4 wire-speed switching service. It also supports non-stop upgrade, continuous forwarding, graceful restarting and redundancy protection. It supports 8 GE ports and 12 10GE ports.

Carrier-Level Aggregation Layer-3 Ethernet Switch Innovative BVSS (Terrabit Virtual Switch System):

PD1-S51-6121 can virtualize multiple physical devices into one. The performance, reliability and management of the virtual system are superior to the physical ones.

Improved Performance:

BVSS makes full use of each link in the physical devices, which avoids STP blocking the link and protects the original link to the maximum extent.

High Reliability:

Based on the advanced distribution mechanism and efficient cross-physical link aggregation link function, the logic control plane, service control plane and service data plane are separated. Thus, the device can support continuous layer3 routing forwarding, avoiding service interruption as a result of a single point of failure.

Easy Management:

BVSS realizes single IP management, greatly improving the networking efficiency and lowering the operating cost.

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Product Characteristics

Carrier-level High Reliability

PD1-S51-6121 supports STP/RSTP/MSTP, VRRP protocol, Ethernet ring protection, dual master-slave uplink protection and LACP link aggregation.

PD1-S51-6121 supports ISSU (In-Service Software Upgrade).

PD1-S51-6121 supports BFD mechanism.

PD1-S51-6121 supports Ethernet OAM mechanism, 802.3ah, 802.1ag and ITU-Y.1731.

High reliability (99.999%): MTTR of PD1-S51-6121 is 50ms, meeting the requirement of the carrier-level service.

Varied Service Features

PD1-S51-6121 supports layer2 and layer3 multicast routing protocol, which enable the device can access to IPTV, HD video surveillance and HD video conference.

PD1-S51-6121 supports layer3 routing protocol and super-large routing table capacity, which enables the device is available in large campus networks, enterprise networks and industry networks.

PD1-S51-6121 supports layer2 MPLS VPN.

Protection+

Equipment-level protect: The advanced hardware infrastructure design realizes the level-based packet schedule and packet protection, prevents DoS-/TCP-related SYN Flood, UDP Flood, Broadcast Storm or large traffic attacks, and supports level-based command line protection, endowing different levels of users with different management permissions.

Perfect protect authentication mechanisms:

IEEE802.1x, Radius and Tacacs+.

PD1-S51-6121 supports storm/multicast/unicast limit, ensuring the normal running of equipment in harsh network conditions.

PD1-S51-6121 supports perfect ring detection mechanism, ensuring the long-term stable running of network.

PD1-S51-6121 supports port isolation within the same VLAN, DHCP-Snooping, and IP + MAC + Port binding.

Versatile IPv6 Solution

PD1-S51-6121 supports the IPv6 protocol suite, IPv6 neighbor discovery, ICMPv6, path MTU discovery, DHCPv6, etc.

PD1-S51-6121 supports Ping, Traceroute, Telnet, SSH, ACL based on IPv6.

PD1-S51-6121 supports MLD, MLD Snooping, IPv6 static routing, RIPng, OSPFv3 and BGP4+, etc. PD1-S51-6121 supports IPv6 tunnel: manual tunnel, automatic tunnel, GRE tunnel, 6to4 tunnel, ISATAP. PD1-S51-6121 supports IPv4 transiting to IPv6: IPv6 manual tunnel, automatic tunnel, 6 to 4 tunnel, ISATAP tunnel.

Innovative Energy-saving Design

Intelligent power management: The power system of PD1-S51-6121 supports real-time monitoring the device and the slow-start. It is also power-saving. Configuration with previously stored configurations and perform rollback if needed. The system has the capability to store up to 128 versions of saved configurations.

Intelligent fan management system: The fan system of PD1-S51-6121 automatic speed regulation, which efficiently slow the fan speed and mitigate the noise. Comply with the international standard IEEE 802.3az

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Product Specifications

Item	PD1-S51-6121	
Interface	8GE TX ports, 12 10GE/GE SFP+ ports	
Console	1 RJ45 port	
Backplane	768 Gbps	
Forwarding rate	1128Mpps	
Chassis	Dimensions(WxDxH)(mm)	440x315x44
Package	Weight(KG)(empty)	3.6
	Dimensions(WxDxH)(mm)	576x448x94
Power consumption	Weight(KG)	4.8
	no-load	< 35W
Power supply	FULL-LOAD	50W
	AC: 100V-240V,50Hz±10%	Single AC, (optional for Dual Power)
Total output BTU (1000BTU/H=293W)		170.65
Fan Slots		5
Noise@25°C (dBA)		57
MTBF(H)		>190,000
Forwarding mode		Store-forward
Flash (MB)		16
DRAM (MB)		512
MAC		320K
Buffer size(MB)		3
Jumbo frame		9K
Routing table	IPv4	32K
	IPv6	8K
ARP table	IPv4	10K
	IPv6	5K
Total SVI		1K

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Product Specifications

VLAN

4K Active VLAN, QinQ & Selective QinQ, GVRP, Private VLAN, Voice-VLAN

Spanning Tree

802.1D (STP), 802.1W (RSTP) and 802.1S (MSTP) BPDU guard, root guard and loopback guard

Multicast

PIM-SM, PIM-DM, IGMP v1/v2/v3, IGMP Snooping, IGMP FastLeave, MVR, IGMP filter

IPv4

Static routing, RIP v1/v2, OSPF, BGP, PBR, ECMP BFD for OSPF, BGP

IPv6

ICMPv6, DHCPv6, ACLv6 and IPv6 Telnet IPv6 neighbor discovery, Path MTU discovery, MLD V1/V2, MLD snooping, IPv6 Static Routing, RIPng, OSPFv3, BGP4+, Manual tunnel, ISATAP tunnel, 6 to 4 tunnel.

MPLS

LDP protocol, Multi-VRF, MPLS L2 VPN

QoS

CAR, HQoS, MAC/IP/TCP/UDP/LAN/COS/DSCP/TOS based QoS, 802.1P/DSCP priority re-labeling, SP, WRR, and "SP+WRR", Tail-Drop, WRED, flow monitoring and traffic shaping

Protection

Port isolation, Port protect, and "IP+ MAC+ port" binding, MAC sticky DHCP Snooping and option 82, DAI & IP source guard, PPPoE+, IEEE 802.1x, Radius and Tacacs+.

L2/L3/L4 ACL flow identification and filtration, Anti-attack from DDoS, TCP's SYN Flood, UDP Flood, etc.

Broadcast/multicast/unknown unicast storm-control, MD5, SHA-256, RSA-1024, AES256, etc.

Reliability

Static/LACP link aggregation, Interface backup, BVSS virtual-stacking, EAPS and ERPS, URPF, LLDP, ISSU, VRRP, 1+1 power backup

Management

Console, Telnet, SSH v1/2, HTTP, HTTPS, SNMP v1/v2/v3, RMON, TFTP, FTP, SFTP, NTP, SPAN, RSPAN, sFlow.

OS :TerOS

Accessories

Power cord, rackmount kits, console cable

Environment

Operating temperature/humidity: 0°C - 50°C, 10%-90% non-condensing, Storage temperature/humidity: -20°C -70°C, 5%-95% non-condensing

Certification

CE, FCC, ROHS

Ordering Information

Item	Description
PD1-S51-6121	Full 10GE Ethernet Routing Switch with 12 10GE ports and 8 GE ports (1 Console port, 12 10G/GE SFP+ ports, 8 GE TX ports; AC220V dual power supply; the cooling fan, 1U, 19-inch rack-mounted installation)