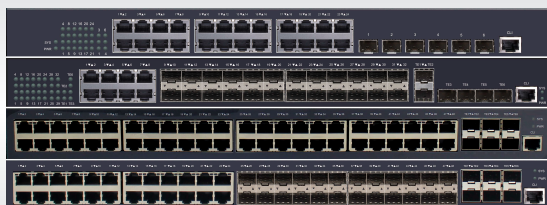


## PRODIGY ETHERNET ROUTING SWITCH



### PD1-S31-9xxx Series

#### New Generation of Aggregation 10G Switches

#### OVERVIEW

- PD1-S31-9xxx Series is a new generation of aggregation 10G switches 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 security based on L2/L3/L4 wire-speed switching service. It also supports nonstop upgrade, continuous forwarding, graceful restarting and redundancy protection.
- PD1-S31-9xxx Series has 4 models: PD1-S31-9301, PD1-S31-9381F, PD1-S31-9541, PD1-S31-9541M. It supports up to 48 gigabit ports and 6 10GE ports.

#### PRODUCT CHARACTERISTICS

##### Carrier-Level QoS Policies

- Supports priority tagging and complicated flow classification based on VLAN, MAC, source address, destination address, IP or priority to better streamline carrier's services. Supports flexible bandwidth control policies and supports port-/flow-based flow limit, and ensuring the line speed forwarding of each port to make sure the high quality of video, audio and data services.
- Supports 8 priority queues by each port. Supports multiple queue schedule algorithms such as SP, WRR, or "P plus WRR".

##### Varied Service Characteristics

- Supports layer-2 and layer-3 multicast routing protocol, which enable the device can access to IPTV, HD video surveillance and HD video conference.
- Supports layer-3 routing protocol and super-large routing table capacity, which enables the device is available in large campus networks, enterprise networks and industry networks.
- Supports MPLS multi-VRF and layer-2 VPN.

##### Versatile IPv6 Solution

- Supports the IPv6 protocol suite, IPv6 neighbor discovery, ICMPv6, path MTU discovery, DHCPv6, etc. Supports Ping, Traceroute, Telnet, SSH, ACL. Supports MLD, MLD Snooping, IPv6 static routing, RIPng, OSPFv3 and BGP4+, etc.
- Supports IPv6 tunnel: manual tunnel, automatic tunnel, GRE tunnel, 6to4, ISATAP. Supports IPv4 transits to IPv6: IPv6 manual tunnel, automatic tunnel, 6 to 4 tunnel, ISATAP tunnel.

##### Industrial Ethernet Ring with Zero Delay and Zero Packet Loss

- Supports industry-level EAPS and ERPS, and their protection recovery time is less than 50ms. Their high reliability is represented by the null packet loss, which has been proved by many years of application in the Grid, rail transportation and defense systems.

##### Complete Security Mechanism

- Equipment-Level Security: 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. Security Authentication Mechanism: IEEE 802.1x, Radius and Tacacs+Enhanced Service Security Mechanism: supports the plaintext or MD5 authentication of relevant routing protocol, URPF, deep inspection of hardware packet, control packet and data packet and filtering technology.

##### Innovative Energy-Saving Design

- Intelligent power management: The power system of PD1-S31-9xxx series supports real-time monitoring the device and the slow-start. It is also power-saving.
- Intelligent fan management system: The fan system of PD1-S31-9xxx series supports automatic speed regulation, which efficiently slow the fan speed and mitigate the noise. Complies with the international standard IEEE 802.3a

##### Flexible and Convenient Management and Maintenance

- Supports management modes such as the console port, Telnet, SSH, etc.
- Supports the WEB management mode, which is easy and efficient so that it makes installation and debugging convenient.
- Supports TFTP-patterned file upload/download management.
- Supports ISSU (In-Service Software Upgrade). Supports SNMP and NMS smart network management platform to realize automatic equipment discovery, network topology management, equipment configuration management, performance data statistics and analysis and trouble management.

For enquires, please email to [info@terrabitnetworks.com](mailto:info@terrabitnetworks.com)

# PRODIGY ETHERNET ROUTING SWITCH

## TECHNICAL SPECIFICATIONS

Item	PD1-S31-9301	PD1-S31-9381F	PD1-S31-9541	PD1-S31-9541M
<b>TX</b>	24	8	48	24
<b>GE interface SFP</b>	/	24	/	24
<b>10GE interface SFP+</b>	6 10GE/GE			
<b>Console</b>	1 RJ45 port			
<b>Backplane</b>	216 Gbps			
<b>Forwarding rate</b>	126 Mpps	138 Mpps	162 Mpps	162 Mpps
<b>Physical Specifications</b>				
<b>Chassis Dimensions (WxDxH mm)</b>	440x350x44			
<b>Package Dimensions (WxDxH mm)</b>	576x448x94			
<b>Power</b>				
<b>Power supply AC:100V-240V (hot-swap) 50Hz±10%</b>	75W	75W	75W	150W
<b>Total output BTU (1000BTU/H = 293W)</b>	255.97	255.97	255.97	511.94
<b>Noise@25°C(dBA)</b>	45			
<b>MTBF(H)</b>	>100,000			
<b>Forwarding mode</b>	Store-forward			
<b>Flash (MB)</b>	32			
<b>DRAM (MB)</b>	256			
<b>MAC</b>	32K			
<b>Buffer size(MB)</b>	2			
<b>Jumbo frame</b>	9K			
<b>Routing table IPv4</b>	12K			
<b>IPv6</b>	6K			
<b>ARP table IPv4</b>	12K			
<b>IPv6</b>	2K			
<b>Total SVI</b>	1K			

## FEATURES

### VLAN

- 4K Active VLAN.
- QinQ & Selective QinQ.
- GVRP.
- Voice-VLAN.

### Spanning Tree

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

### Multicast

- PIM-SM, PIM-DM, IGMP v1/v2/v3.
- IGMP Snooping, IGMP Fast Leave.
- MVR, IGMP filter.

### IPv4

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

### DHCP

- DHCP server/relay/client.
- DHCP snooping/option82.

### MPLS

- LDP protocol, Multi-VRF.

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## 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.

## QoS

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

## Security

- Port isolation, Port security, and "IP+MAC+port" binding, MAC sticky, 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, ups to 16 units per stack.
- EAPS and ERPS.
- URPF, LLDP.
- ISSU.
- VRRP.
- 1+1 power backup, Dying gasp.

## Management

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

## 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.

## OPTIONAL ACCESSORIES

For Optional Fiber Module, please refer to Spectrum Terrabit Transceiver.

## ORDERING INFORMATION

Model	Description
PD1-S31-9301	Ethernet routing switch with 24 GE and 6 10GE ports (1 RJ45 console port, 24 GE TX ports, 6 10GE/GE SFP+ ports; 2 power slots with 1 hot-swap AC220V power supply; the cooling fan, 1U, standard 19-inch rack-mounted installation).
PD1-S31-9381F	Ethernet routing switch with 32 GE and 6 10GE ports (1 RJ45 console port, 24 100M/ 1000M SFP ports, 8 GE TX ports, 6 10GE/GE SFP+ ports; 2 power slots with 1 hot-swap AC220V power supply; the cooling fan, 1U, standard 19-inch rack-mounted installation).
PD1-S31-9541	Ethernet routing switch with 48 GE and 6 10GE ports (1 RJ45 console port, 48 GE TX ports, 6 10GE/GE SFP+ ports; 2 power slots with 1 hot-swap AC220V power supply; the cooling fan, 1U, standard 19-inch rack-mounted installation).
PD1-S31-9541M	Ethernet routing switch with 48 GE and 6 10GE ports (1 RJ45 console port, 24 GE TX ports, 24 100M/1000M SFP ports, 6 10GE/GE SFP+ ports; 2 power slots with 1 hot-swap AC220V power supply; the cooling fan, 1U, standard 19-inch rack-mounted installation).

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