Techroutes NETWORK

DATASHEET

# TR-S3930-P Switch

## 10G Layer 3 POE Switch

### Product Overview:

Techroutes TR-S3930-P is a new generation of aggregation 10G switches introduced by Techroutes Network Pvt Ltd. 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 TROS™ – software platform with Techroutes 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. It supports up to 24 gigabit ports and 6 10GE ports.

### Product Characteristics:

#### Carrier-Level QoS Policies

Supports priority retagging 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 and SP+WRR.

#### TVSS (Techroutes Virtual Switch System):

Virtualize multiple physical devices into one. The performance, reliability and management of the virtual system are superior to the physical ones.

**Improved Performance:** TRVSS 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: TRVSS realizes single IP management, greatly improving the networking efficiency and lowering the operating cost.

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### Versatile IPv6 Solution

TR-S3930-P supports the IPv6 protocol suite, IPv6 neighbour discovery, ICMPv6, path MTU discovery, DHCPv6, etc.; TR-S3930-P supports Ping, Traceroute, Telnet, SSH, ACL based on IPv6; TR-S3930-P supports MLD, MLD Snooping, IPv6 static routing, RIPng, OSPFv3 and BGP4+, etc.; Supports IPv6 tunnel: manual tunnel, automatic tunnel, GRE tunnel, 6to4 tunnel, ISATAP; TR-S3930-P supports IPv4 transiting to IPv6: IPv6 manual tunnel, automatic tunnel, 6 to 4 tunnel, ISATAP tunnel.

### 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.

### 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 TRTacacs+ 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 TR-S3930-P supports real-time monitoring the device and the slow-start. It is also power-saving. Intelligent fan management system: The fan systems of TR-S3930-P 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 ort, 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).

## Intelligent PoE+

TR-S3930-P supports IEEE 802.3af/at PoE standard, and power mapping scales up to a maximum of 380W of PoE+ power; TR-S3930-P supports PoE non-stop power supply. The PoE+ power is maintained during a switch reload; TR-S3930-P supports manual and dynamic PoE power allocation; TR-S3930-P supports up to 6KV thunder-proof of the PoE port and power supply;

## Technical Specification

| Item | | **TR-S3930-P** |
|---|---|---|
| Interface | | 24xGE TX POE ports,6x10GE/GE SFP+ ports |
| Console | | 1 RJ45 console |
| Backplane | | 216 Gbps |
| Forwarding rate | | 126 Mpps |
| Chassis Dimensions | (WxDxH)(mm) | 442x3335x44 |
| Package Dimensions | (WxDxH)(mm) | 576x448x94 |
| Power consumption | Full Load | ≤1000W(POE) W |
| Power supply (hot-swap) | AC: 100V-240V,50Hz±10% | Redundant Support |
| Total output BTU (1000BTU/H=293W) | | 3412.96 |
| Noise@25°C（dBA) | | 45 |
| MTBF(H) | | >200,000 |
| Forwarding mode | | Store-forward |
| Flash (MB) | | 64 |
| DRAM (MB) | | 512 |
| MAC | | 32K |
| Buffer Size (MB) | | 2 |
| Jumbo frame | | 9K |
| Routing table | IPv4 | 12K |
| | IPv6 | 4K |
| ARP table | IPv4 | 8K |
| | IPv6 | 2K |
| Total SVI | | 1K |
| VLAN | | 4K Active VLAN, QinQ & Selective QinQ, GVRP, 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 Fast Leave, 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 neighbour discovery, Path MTU discovery |
| | MLD V1/V2, MLD snooping |
| | IPv6 Static Routing, RIPng, OSPFv3, BGP4+ |
| | Manual tunnel, ISATAP tunnel, 6 to 4 tunnels |
| MCE | Multi-VRF |
| 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 |
| | 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 |
| | TRVSS 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 |
| Environment | Operating temperature/humidity: 0℃-50℃, 10%-90% non-condensing |
| | Storage temperature/humidity: -20℃ -70℃, 5%-95% non-condensing |

## Order Information:

| Item | Description |
|---|---|
| **TR-S3930-P** | Ethernet routing switch with 24 GE POE and 6 10GE ports (1 RJ45 console port, 24 GE POE 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) |
| **PWR-500-AC** | Hot-swap power supply of TR-S3930-P POE (500W max power, 380W max POE power, AC100~240V input, the isolated cooling fan) |



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