Techroutes
NETWORK

DATASHEET

TR-S5856

40G/100G Data Center Switch

Product Overview:

TR-S5856 series data center switch is a new generation data center Ethernet switching product with high performance, flexible service and rich features, which is developed for the next generation data centers by adopting the new generation of high-end switching chips and other core key devices. This series of products is green and energy-saving, saves space, meets the requirements of high-performance forwarding, can respond to the challenges of upgrading the 25G-100G networking scheme for industry data centers, and can meet the requirements of the next-generation data centers for the deployment of SDN, virtualization, cloud computing, big data, and artificial intelligence.

TR-S5856 series provides a full range of safe, controllable, stable and reliable high-performance switching services from chip to hardware to software for financial, party and government, carrier, energy, transportation, education, medical and other industries.

TR-S5856 series switch is new-generation GE/10GE/25G/40G/100GE green and energy-saving Ethernet switches, providing flexible GE/10GE/25G access interfaces and 10GE/25G/40GE/100GE uplink interface. The switch is based on high-performance hardware platforms and the new-generation switching.

Control plane, management plane dual-plane security encryption, effectively guarantee network security

Switch configuration file encryption to prevent equipment from being cracked and accessed, as well as management data from being stolen and leaked, realizing the security and reliability of the switch management plane. Commonly used control protocols, such as MSTP, RIP and OSPF, support encryption of protocol messages to ensure that network topology protocols are not leaked. Supports trusted device authentication, judging the legitimacy of the access device through 802.1X authentication of the switching device accessing the network, eliminating illegal imitation devices from accessing the network, and realizing the security and reliability of the control plane of the switch.

Meets Next-Generation 25G-100G Networking Requirements

TR-S5856 series data center TOR switch meets high-performance, high-density, low-latency 10G/25G data center access requirements, provides high-performance 100G uplink ports, and supports up to 48 25G access and 8 100G uplink ports for data center network. It meets the demand for high-speed interconnection in data centers, eliminates bandwidth bottlenecks, and meets the demand for network upgrades in the next 3~5 years.

Supports RoCE and builds end-to-end zero-jitter delay network

TR-S5856 series data center TOR switch supports lossless Ethernet DCB (Data Center Bridging) technology, which solves the problem of traditional Ethernet congestion and packet loss, and provides a lossless network environment with zero packet loss, low latency, and high throughput to meet the RoCEv2 high-performance application requirements. RoCEv2 high-performance applications.

Based on ECN, which is a congestion control technology, the total amount of data entering the network is controlled through ETS two-level scheduling to avoid network congestion. Together with RoCE network card to support end-to-end RoCE, it improves data transmission throughput, reduces network delay, lowers CPU load, and builds an end-to-end lossless Ethernet network with zero jitter delay, which is able to meet the requirements of data centers for the deployment of cloud computing, big data, AI, supercomputing, and so on.

Rich Data Center Features

TR-S5856 series supports ZTP protocol, it can automatically upgrade the version from the file server and automatically load the configuration file, so that the device can realize automatic opening, reduce manpower and improve deployment efficiency. Support hot patch upgrade and stacking support ISSU upgrade, fully data center on the need for highly reliable equipment.

TR-S5856 series supports cross-equipment link aggregation MLAG, realize inter-device link aggregation, provide rich networking model, support VLAN/VXLAN dual-quadrant access, MLAG equipment can realize uninterrupted service upgrades, and the upgrade process is not perceived by the user. MAC-in-UDP technology is adopted to encapsulate the data messages sent by VMs in UDP messages, which are transmitted in the underlay network, and then decapsulate VXLAN after reaching the destination VTEP to forward the inner layer data to VMs, which can effectively solve the problems of large Layer 2 network of dual-active data centers as well as the migration of VMs across geographical regions.

Technical Specification

Product		TR-S5856
Interfaces		48xGE/10GE/25G SFP28 interfaces
		8x40G/100G QSFP28 interfaces
Management interface		1 USB Console interface, 1 SNMP out-of-band interface
Switching capacity		4000Gbps
Packet forwarding rate		2976Mpps
Flash		8G
RAM		4G
MAC address table		224K
Jumbo Frame		12K
Buffer Size		36MB
Routing table	IPv4	294K
	IPv6	94K
ARP table	IPv4	56K
	IPv6	56K
Total SVI		4K
Total output BTU (1000BTU/H=293W)		294
Noise@25°C(dBA)		≤76dBA
FAN		5
MTBF(H)		＞200,000
Dimensions (mm) (W×D×H)		442 x 420 x 44
Weight (KG)		9.06
Power supply		AC/AC, AC/DC, DC/DC, option
Input voltage		AC: 220 V; rated voltage range: 100–240 V; 50–60 Hz
		DC: -48 V; rated voltage range: -36 to -72V
Maximum power consumption		150W
Environment requirements		Operating temperature: -10 to 50ºC
		Relative humidity: 10%–90% (non-condensing)
Energy-saving and environmental protection		IEEE802.3az Ethernet EEE energy-saving Smart fan
MAC		Static, dynamic, and blackhole MAC addresses
		MAC address flapping management
		Port security MAC and MAC address limit
VLAN		4K VLANs
		VLAN based on MAC/protocol/IP subnet/interface
		QinQ
		Flexible QinQ
		VLAN mapping (1:1/N:1)
		GVRP
VXLAN		VxLAN gateway, VxLAN Layer 2 switching, VxLAN routing switching
		MP-BGP EVPN VXLAN centralized as well as distributed control

	planes
	IPv4 Over IPv4, IPv6 Over IPv4, IPv6 Over IPv6 features
	Automatic establishment of VXLAN tunnels via EVPN, Automatic association of VXLAN tunnels and VNIs through EVPN
	Security isolation based on IP addresses of overlay network servers, etc
Multicast	PIM-DM, PIM-SM, PIM-SSM, MSDP, Any-RP
	IGMP V1/V2/V3, IGMP V1/V2/V3 Snooping, IGMP Snooping Proxy
	PIM6-SM, PIM6-SSM
	MLD V1/V2, MLD V1/V2 Snooping
QoS/ACL	Rate limiting based on the ingress direction and egress Direction of interfaces, HCAR
	Each interface supports 8 queues and priority mapping
	Traffic classification and traffic policy
	SP, WRR, DRR, SP+WRR, and SP+DRR queue scheduling modes
	Congestion control WRED
	Interface/queue shaping
Reliability	Manual aggregation and static LACP
	ERPS (ITU-T G.8032)
	STP/RSTP/MSTP and spanning tree protection functions: BPDU Guard, root Guard, loop protection, TC protection/suppression
	Loop Detection Protection (LBD)
	Interface backup and interface isolation
L2/L3 OAM	Ethernet OAM IEEE802.3ah
	L2CP
	End-to-end CFM (IEEE802.1ag)/ITU-T Y.1731
	Interface loopback
	VRRPv2/VRRPv3
	MAD for stacking
	BFD/Linktrace for static route
	Link-state tracking
IP routing	IPv4 and IPv6 static route
	ECMP and policy routing
	RIP, OSPF, ISIS, BGP IPv4 routing
	RIPng, OSPFv3, ISISv6, BGP4+ IPv6 routing
MPLS	TCP MD5
	Load balancing
	GR
	LSP Ping
	LSP traceroute
	MPLS/BGP VPN (L3 VPN)
	MPLS VPN cross the domain A, B
	DSCP in IP packet mapping in MPLS EXP

	DiffServ LSRs forwarding
	DiffServ Tunnel
	E-LSP
	MPLS TE redundancy
Security	AAA user domain-based management, 802.1x authentication, MAC address authentication, and bypass authentication
	Guest VLAN and Voice VLAN
	Interface-based and VLAN-based storm control
	The whitelist, port security MAC, and MAC address limit
	IP attack prevents and ARP attack prevention: IPv4/v6 Source Guard and IPv6 prefix Snooping*; DAI and ND Snooping
	SSHv2.0, SFTP, and HTTPS
	CPU protection
	802.1X RADIUS
	DOS protection
	ICMP protection
DHCP	DHCPv4/v6 Client/Server.
	DHCPv4/v6 Snooping.
	DHCP v4/v6 Relay.
	DHCP v4/v6 Server.
	DHCPv4 option61, option82, DHCPv6, Option18, option37
IPv6	IPv6 Dual stacks
	IPv6 Ping, IPv6 Tracert, IPv6 Telnet, IPv6 SSH, IPV6
	FTP/TFTP/SFTP
	IPv6 SNMP and IPv6 network management for the
	IPV6 RADIUS, IPV6 TACACS+, IPV6 NTP and SNTP
	DHCPv6 Client/Server/Snooping/Delay/Option18/Option37
	IPv6 Source Guard and IPv6 prefix Snooping*;
	ND Snooping
	IPv6 Path MTU
	VRRPv3
SDN	Multi-table pipeline (OPENFLOW standard)
	Group table
	Hierarchical binding technology (OpenStack standard)
	Cloud-network integration docking
	Multi-Controller
Management and maintenance	Diversified management methods, such as CLI
	SNMPv1/v2c/v3, Web network management
	Telnet, and SSHv2.0
	LLDP/LLDP MED
	Local and remote port mirroring. Support traffic
	Mirroring
	System logs and hierarchical alarms
	Power Dying Gasp

	RMON
	Optical module DDM
	Virtual Cable Test (VCT) and UDLD
	Clock management, SNTP, NTP
	IPv4/v6 ZTP
	Dual systems
	Buffer management
	CPU/Memory/Flash monitoring
	Hardware monitoring (temperature/power/fan)

Product Order Information:

Item	Description
TR-S5856	1 console port, 1 out-band port, 48xGE/10GE/25G SFP28 ports, 8x40G/100G QSFP28 ports, 2 power slots with 220VAC power supply; 1U, 19-inch rack-mounted installation)

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