ZXR10 5900E Series MPLS Easy-Maintenance Routing Switch

Overview

ZXR10 5900E series MPLS easy-maintenance switches are box-like layer 3 MPLS routing switches that deliver superior integrated network services for space-constrained environments in Enterprise networks. It can serve as an aggregation switch in enterprise networks and campus networks, or act as a gigabit access TOR switch in IDC.

Powered by European standard hardware architecture, state-of-the-art software platform, the industry's first "Easy-maintenance" design philosophy, and industry-leading MPLS capability, ZXR10 5900E is a milestone switch presented by ZTE Corporation. With ZXR10 5900E, you can build highly reliable, secure and scalable networks, while ensuring terrific user experiences.

ZXR10 5900E offers the following switch types: 5916E, 5928E, 5928E-FI and 5952E. The interfaces offered by these switches are listed below:

5916E: 12*GE RJ45 + 1* expansion card slot

5928E: 24*GE RJ45 + 1* expansion card slot

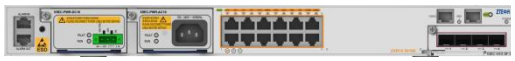
5928E-FI: 24*GE SFP+ 1* expansion card slot

5952E: 16*GE RJ45/SFP+4*subcard slots+ 1*expansion card slot

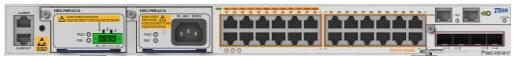
The subcard slot can be equipped with the following types of subcards:

8 GE RJ45 /8 GE SFP

ZXR10 5900E Series MPLS Easy-mainteance Switch



ZXR10 5916E



ZXR10 5928E

ZXR10 5928E-FI

ZXR10 5952E

The expansion card slot can be equipped with the following types of expansion cards:

4 GE RJ45 /4 GE SFP /4 10GE SFP+ /2 10GE SFP+

Features

ZXR10 5900E series switches fully support all the leading L2/L3/MPLS features and provide big switching capacity, high density GE ports and flexible GE/10GE uplink ports, and therefore are suitable to be placed at campus networks.

Modular Design Brings Scalability

ZXR10 5952E is able to provide ultimate flexible electrical/optical interface combinations for users:

5952E is a 2U-high switch. Each of its four subcard slots can be equipped with 8*GE RJ45 cards or 8*GE SFP cards;

5900E supports dual modular power supply, while 5952E in addition supports field-replaceable fan-tray.

Modular design brings ultimate flexibility for users to control investment and upgrade their network continuously.

Full Service Support

ZXR10 5900E supports diversified VLAN features, including Port-based VLAN, Subnet VLAN, Protocol-based VLAN, Selective QinQ and VLAN translation, in order to separate/distinguish different Enterprise users' services.

Multicast-based technologies like video-surveillance and videoconference are becoming more and more popular these days. ZXR10 5900E fully supports L2/L3 multicast, including IGMP snooping, Filtering, Proxy and Fastleave, MVR (Multicast VLAN Registration) and PIM-SM to facilitate deployment of these services.

ZXR10 5900E supports voice VLAN (which means the automatic assignment of dedicated VLAN and QoS strategy to voice equipment), thus enabling the voice traffic to enjoy high priority.

ZXR10 5900E fully supports MPLS L2/L3 VPN technology, providing an economical reliable VPN solution for Enterprise campus or branch office leased line service.

ZXR10 5900E also supports MCE, enabling it to run multiple VPN instances without running MPLS and relieving the pressure on PE (provider edge) equipment.

VSC Flexibility Extend

ZXR10 5900E supports virtual switch clustering, a working stack can accept new members or delete existing ones without service interruption. Network extensibility is enhanced for user can freely increase the capacity of a single logical network node. N+1 redundancy for the master switch help avoid single-point failure and reduces service breakdown.

Multiple kind of stacking patterns are supported, including bus connection, and daisy-chain connection, bringing more flexibility for the user.

Access interfaces from different member switches can be used to form a logical smart-group, fully leveraging the capacity of each single switch member, and increasing the flexibility of network design.

The 80KM interconnection capability makes it possible to implement remote switch , no dedicated sub-card for VSC, decrease user’s capital expenditures.

MAE Speedup

ZXR10 5900E is equipped with a new-generation MAE(multi-service Accelerating Engine) processor, which greatly improves processing efficiency.

MAE processor greatly enhances the processing capability for data, voice, video and complex data communication protocols. Virtual multi-process technology and parallel multi-service processing architecture improve control plane performance and control system reliability.

Easy-Maintenance

With innovative "easy-maintenance" concept incorporated in every detail of the design, ZXR10 5900E brings ultimate efficiency and simplicity for the maintenance routines, cutting down the operating costs of the network through simple yet efficient methods.

GVRP VLAN Registration Protocol can help network administrators reduce network configuration workload and easily deploy large amounts of VLANs in complicated networking environments. ZXR10 5900E series switches support the implementation, distribution, registration and transmission of VLAN attributes in dynamic GVRP pattern, which can simplify VLAN configuration management, and reduce network interconnection problems caused by inconsistent configuration.

Thanks to ZXR10 5900E's 220mm depth, it costs users little space to install the switch. All the hardware components, including the power supply, all the access interfaces and uplink interfaces, fan modules (only 5952E supports replaceable fan module) are front accessible, making it convenient to administrate the switches in space-constrained environments.

The innovative M-Button function enables the manager to fetch important equipment information including port/memory/CPU status in case of network problems by reading the interface indicators, enabling instant trouble-shooting, and thus reducing OPEX to the utmost extent by shrinking network downtime. M-button adds no more investments; only extra meanings are endowed to the status of the interface indicators.

ZXR10 5900E supports Zero Configuration, which means the switch can automatically download software images and start-up configurations. Zero configuration truly enables plug and play and reduces the requirement for experienced engineers.

Comprehensive IPv6 Features

ZXR10 8900E supports comprehensive IPv6 features, to facilitate the migration to IPv6 network. For example, ZXR10 8900E supports all basic IPv6 features such as ICMPv6, ND, SNMPv6 and RADIUSv6; It also supports IPv6 routing protocols such as OSPFv3, IS-ISv6, BGP4+, PIM-SM for IPv6 and MLD snooping; Multiple tunnel technologies are also supported including 6to4 tunnel, ISATAP tunnel, 6vPE and 6PE.

Green

Following green and eco-friendly design philosophy, ZXR10 5900E helps the customers save energy and reduce power consumption from all the aspects of design:

ZXR10 5900E adopts the advanced chip technology, so the power consumption of the main chip can be dramatically reduced.

ZXR10 5900E fully supports IEEE 802.3az, which means it can set the port to idle state dynamically when there's no traffic transmission over the port. In this way, electricity can be saved, and the power consumption of a single port can be reduced by 70%.

ZXR10 5900E has applied the latest energy-saving techniques, such as dynamically adjusting port power according to cable length.

The materials used during the life span of 5900E completely meet RoHS and WEEE standards.

Enhanced Security

ZXR10 5900E supports diversified mechanisms to guarantee the security of the network:

CPU DDOS protection capability helps the equipment to mitigate the influence caused by attacks, while the equipment itself won't be brought down, which ensures high network stability.

DAI (Dynamic ARP inspection) function and IP/MAC binding help prevent against DOS (Denial of Service) attacks.

802.1X can be used for authentication purpose. Working together with a policy server, the user control policy can be applied to 5900E after the authentication is done. Bandwidth limit/Qos strategy can thus be implemented automatically.

Enhanced routing protocol communications, including simple password test and MD5 authentication can be used to prevent the alteration of routing protocol interactions.

Traffic mirroring/analyzing functions like RMON (remote monitoring), SPAN (switched port analyzer), RSPAN (remote switched port analyzer) and sFlow help analyze real-time network condition.

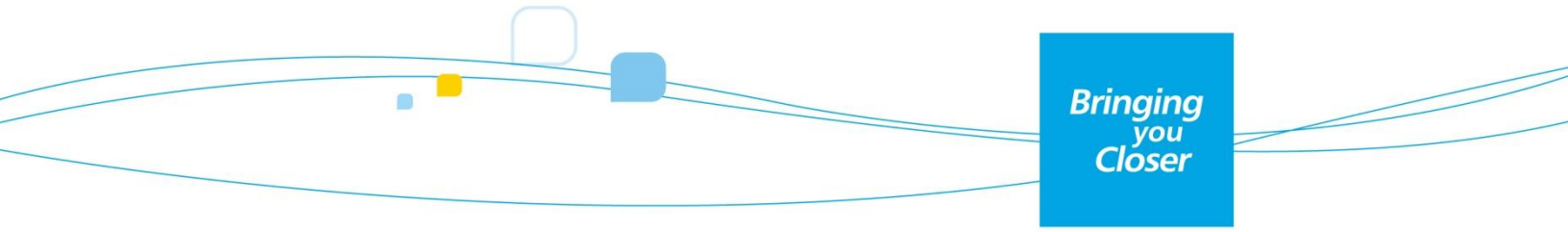
Technical Specification

Function and Parameters		5916E	5928E	5928E-FI	5952E
Interface Combination	Fixed interfaces	12 GE RJ45 ports	24 GE RJ45 ports	24 GE SFP ports	-
	Control card (Number of Control slots*Type of control card)	-			1*16 GE RJ45 ports/1*16 GE SFP ports
	Sub card (Number of subcard slots*Type of subcard)	-			4*8 GE RJ45 ports/4*8 GE SFP ports
	Expansion card (Number	1*4 GE RJ45 ports/1*4 GE SFP ports/1*4 10GE SFP+ ports/1*2 10GE SFP+ ports			

Function and Parameters		5916E	5928E	5928E-FI	5952E
	of expansion card slots*Type of expansion card)				
Basic Parameters	Backplane Capacity	240Gbps	240Gbps	240Gbps	320Gbps
	Switching Capacity	104Gbps	128Gbps	128Gbps	176Gbps
	Packet Forwarding Rate	78Mpps	96Mpps	96Mpps	132Mpps
	Route table Depth(host route number +subnet route number)	16K+12K			
	MAC table Depth	32K			
Features	L2 Features	IEEE 802.1q VLAN,IEEE 802.1p,IEEE 802.3ad, STP,RSTP,MSTP, Selective QinQ, VLAN translation, PVLAN,DHCP Snooping,802.1x			
	L3 Features	Static routing, RIP, OSPF, ISIS, BGP,MCE			
	MPLS	LDP,MPLS TE,VPLS,VPWS,H-VPLS,MPLS L3 VPN,CE Dual-homing Protection			
	Multicast	Administratively scoped multicast/IPTV, MVR, IGMP,IGMP Snooping, Filtering ,Proxy and Fast Leave, PIM-SM,MSDP			
	QoS	Marking, modification of Qos priority and mapping between 802.1p, IP DSCP. 8 hardware-based queues per port, SP,WRR,SP+WRR queue scheduling mechanisms, Policing/shaping based on port/flow, Congestion avoidance mechanisms including WRED and Tail-Drop			
	Security	CPU anti-attack, CPU overload protection, Broadcast/Multicast/unknown Unicast suppression, STP Root Guard, BPDU guard, uRPF, RIP/OSPF/BGP MD5 encryption checking, IP source Guard, DAI, Bidirectional ACL			
	Reliability	LACP,ZESS,ZESR/ZESR+,VRRPE,BFD			
	Enhanced Features	VSC,MFF,M-BUTTON, EEE, Zero-Configuration			
Equipment Management	Equipment Management	RS232 Console (RJ45),Ethernet management port, CLI, Telnet, SSH, Local and remote(Radius/Tacacs+)authentication of user, Web management, SNMP, NetNumen U31,Cluster Management(ZGMP)			
Physical Parameters	Dimensions (H*W*D)	43.6mm*442mm*220mm	43.6mm*442mm*220mm	43.6mm*442mm*220mm	88.1mm*442mm*220mm
	Maximum Weight	4.8kg	4.8kg	4.8kg	10kg
	DC power supply	-48V	-48V	-48V	-48V
	AC power supply	100V~240V, 50Hz~60Hz	100V~240V, 50Hz~60Hz	100V~240V, 50Hz~60Hz	100V~240V, 50Hz~60Hz
	Maximum	68W	76W	64W	122W

ZTE中兴

Function and Parameters		5916E	5928E	5928E-FI	5952E
	power consumption				
	Typical power consumption	36W	42W	49W	63W
	Power redundancy pattern	Two independent and swappable power supply modules			
	Heat dissipation pattern	Fan cooling	Fan cooling	Fan cooling	Fan cooling
	Heat dissipation	190 BTU/h	213 BTU/h	180 BTU/h	341 BTU/h
	Temperature, humidity	Working temperature:-5°C~+50°C ,humidity:10%~90%			
	Working altitude	<3000 meters			
	MTBF/MTTR	> 200000 hours/ < 30 minutes			



ZTE中兴 ZTE CORPORATION

No. 55, Hi-tech Road South, ShenZhen, P.R.China

Postcode: 518057

Website: www.zte.com.cn

Tel: +86-755-26770000

Fax: +86-755-26771999