

# TSR-2900-40C



# Multiservice Switching Router

#### **Product Overview**

Techroutes TSR-2900-40C Series is the next-generation multi-functional switching router switching engine. It is a well-adapted router.

Techroutes TSR-2900-40C Series has supports the full switching function, USB2.0 expansion, service expansion and engineering maintenance.

Techroutes TSR-2900-40C Series is equipped with TROS operating system, of which Techroutes has the independent intellectual property right. Techroutes TSR-2900-40C Series builds a real multiservice broadband platform by providing rich software functions such as routing, switching, safety, VPN.

With its strong processing and expansion capability, rich software functions and hardware modules, Techroutes TSR-2900-40C Series meet requirements of the government, financial institutions, the defense system, operators and enterprises in network construction.

#### Main Characteristics

#### **Powerful Performance**

Techroutes TSR-2900-40C Series is driven by the 64-bit dual-core processor with specialized gigabit ASIC switching chip and FPGA components, which enables the whole hardware platform to run on the high-speed Ethernet frame. The innovative design endows TSR-2900-40C with a super processing capability, providing a guarantee for upper-layer software functions.



#### **High Expandability**

Because built on the basis of switching core, Techroutes TSR-2900-40C Series can expand their external interfaces, slots and modules without any limitation from the total CPU resources. The switching chip guarantees that the whole Techroutes TSR-2900-40C router is provided with sufficient and broadband internal channels, making the expansibility of Techroutes TSR-2900-40C routers exceed that of traditional modularized routers.

#### **Excellent Power-saving ability**

Techroutes TSR-2900-40C Series adopts the new-generation hardware chip in consideration of energy saving while guaranteeing its strong processing capacity. Compared with the mainstream devices in the industry, power consumption of the TSR router is reduced by 15% to 20%, which both reduces the device maintenance cost and accords with the low-carbon idea. Techroutes TSR-2900-40C Series is also equipped with the environment friendly maglev mute fan..

#### **Various Protocol Support**

Techroutes TSR-2900-40C Series supports Layer 2 link protocols including PPP and dot1q; static routing; policy routing; and dynamic routing such as RIP, OSPF and BGP. These routing protocols are well compatible with the devices manufactured by the mainstream vendors in the industry. Besides, TSR-2900-40C Series supports integration of multiple services such as routing, switching, voice, safety and wireless, which meets the requirement of complicated network construction.

#### **New Service**

Techroutes TSR-2900-40C Series supports the MPLS characteristics and the MPLS-based layer-2/layer-3 VPN technology, which realize the transparent Ethernet transmission service and the flexible enterprise interconnection. Techroutes TSR-2900-40C Series supports IPv6 data forwarding, routing protocols and multicast routing protocols; Techroutes TSR-2900-40C Series also supports the IPv4/IPv6 protocol stack and the interconnection technology, which makes the existing networks smoothly upgrade to IPv6.

#### **Secure Service Access**

Techroutes TSR-2900-40C Series supports selective ACL firewall filtration technology, NAT, VPNs such as IPSec/L 2TP/PPTP/GRE, and security technologies such as AAA, Radius, PAP/CHAP.

### Traffic management policy

Techroutes TSR-2900-40C Series supports varied queues including FIO, PQ, CQ, CBWFQ, LLQ, WFQ DSCP, IP Precedence, RTS, RSVP and CAR.

Techroutes TSR-2900-40C Series supports its self-developed traffic control and service management policy (GBSC) which can better real-time arrange and monitor your data traffic.



#### Flexible management and maintenance

Techroutes TSR-2900-40C Series is convenient in managing and monitoring the network by using the in-band and out-band management tools such as Console, Telnet, SSH and SNMP;

### **Complete Layer-2 Switching Capacity**

Techroutes TSR-2900-40C Series supports Layer-2 switching with the built-in high performance switching chip. It supports layer-2 protocols including STP/RSTP/MSTP, MAC learning and filter, anti-attack based on the chip, storm control and port mirroring.

## **Technical Specification**

Mod	el	TSR-2900-40C		
Interface				
Console		1		
USB2.0		1		
WAN		4xGE-TX & 4xGE SFP		
LAN		/		
POE		/		
SLOT		/		
RST		1		
Encryption Engine		Built-in		
Performance				
Throughput		5MPPS		
Flash		32MB		
DRAM		1GB		
NAT Concurrent Sessions		<350K		
Consumption	No Load	≤10W		
Consumption	Full Load	≤15W		
Total output BTU (note:1000 BTU/hr=293W)		51.19		
FAN		0		
Noise@25°C (dBA)		0		
Power Supply		100-240VAC (1+1) Power Backup		
Software Features				
LAN		ARP, ARP proxy, Gratuitous ARP		
WAN		PPP, PPPoE (Client/Server)		
Routing		Static route, default route		
		RIPv1/v2, OSPFv2, BGPv4,IS-IS		
		Fast Switch, Load-Balance		
		PBR (Policy Based Routing)		
Multicast		IGMP V1,V2,V3		



		PIM-DM, PIM-SM
		IPv6 ND, IPv6 PMTU, IPv6 FIB, IPv6 ACL, IPv6 (authenticate through IPv6 Phasell)
		IPv6 QoS
IPv6		IPv6 transition: NAT-PT, IPv6 tunnel, 4over6
		IPv6 tunnel: IPSec v6, GRE, 6to4,
		ISATAP
		IPv6 route: IPv6 static route, RIPng, OSPFv3, BGP4+
MPLS		VPLS, MP-BGP, VRF
		L2VPN, L3VPN
		ICMP, TCP, UDP, IP Option
		NAT, PAT, Port-MAP, Private- Service, ALG
		Ping, Trace Route, Nslookup
		IP ACL, IMP filter, Fast-Access
		DHCP Client/Serv/Relay
		DNS, DNS host, DNS Proxy, DDNS (Peanut
		Hull/DynDNS/CTC)
		Helper-Address, UDP Helper
IP Service		IP unnumber, DDR
		Keep alive, PDP (compatible with CISCO)
		NetFlow, IP Accounting, IP SLA
		TFTP Client/Serv, FTP Client
		SNTP/NTP, job/schedule
		PNP
		ALIAS
		Reverse telnet, VTY binding
		802.1p CoS, 802.IQ VLAN
		STP, RSTP
Switching		Keep alive, port mirror, broadcast/ multicast storm control
		PTP, IEEE1588v2 (Optional)
		Authentication, Authorization, Accounting
Network Safety	AAA	enable, local, Radius, Tacacs+
,	7.0.0.1	PAP, CHAP, MS-CHAP
		ACL, NAT
		ASPF state detection
Network Security	Firewall	SYN flood, UDP flood or ICMP flood
		ARP attack protection, ARP-SCAN and DHCP-Snooping
		Prevention of Ping of Death, Tear-drop, Land-Based,
		WinNuke, PingSweep, ARP attack and IP-Spoofing
	VPN	IKE, IPSec, DMVPN, EZVPN
		L2TP, PPTP, GRE, EoGRE
		VPN Stacking



	Backup Function	Interface backup		
Reliability		Route backup		
		E-Backup, Keep alive Ethernet remote monitoring		
		VRRP, HSRP		
		Bandwidth based load sharing and backup		
		Traffic based load balancing and backup		
	BFD	BFD for RIP, OSPF, BGP, MPLS and VRRP		
	Congestion management	FIFO, PQ, CQ, WFQ, CBWFQ		
	Congestion avoidance	WRED/RED		
	Traffic shaping	GTS (Generic Traffic Shaping)		
QOS	Others	GBSC, Layer7filter		
		ACL		
	Traffic	IP Precedence		
	classification	DSCP		
	Classification	MAC		
		802.1p		
Managamant		Console, Telnet, SSH,HTTP/HTTPS,SSL		
Management		SNMP V1/V2/V3, SYSLOG, RMON, ZTP		
Appearance				
Chassis	Dimensions mm (WxDxH)	300x200x44		
	Weight (kg,empty)	1.9		
Package	Dimensions mm (WxDxH)	454x287x96		
	Weight (kg)	2.9		
<b>Environmental Specificatio</b>	ns			
Operating	Temperature	-10°C~50°C		
Operating	Humidity	5%~95% (non-condensing)		
Storage	Temperature	-40°C~85°C		
	Humidity	5%~95% (non-condensing)		
Accessories				
Console cable, Rack mount kits, Manual				
Certificate				
CE, FCC, RoHS, ISO				



## **Order Information:**

	TSR-2900-40C	TSR-2900-40C Multi-service Router (1 Console, 1 USB2.0, 4xGE-TX, 4xGE SFP Ports,
	13R-2900-40C	built-in encryption engine, Dual AC power supply)
	TSR-2900-40C-DC	TSR-2900-40C-DC Multi-service Router (1 Console, 1 USB2.0, 4xGE-TX, 4xGE SFP
13K-2900-40C-DC	13K-2900-40C-DC	Ports, built-in encryption engine, Dual DC power supply)

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visit: www.techroutes.com Or contact sales@techroutes.com info@techroutes.com