SW2000-R SERIES Integrated Enterprise Routers

Product Overview

SW2000-R Series is a multi-service router series oriented for operator ICT, enterprise, e-government, public inspection and other WAN edge access scenarios.

SW2000-R Series builds a low-power, MIPS multi-core embedded platform and adopts the integration of routing and switching. It supports comprehensive Ethernet and various WAN link protocols, rich routing protocols and VPN. It also provides a variety of QoS policies, ensuring safety for key services and meeting the networking requirements of various complex scenarios.

SW2000-R Series router is equipped with BDROS operating system, of which SAGE has the independent intellectual property right. With SAGE 10 years of R&D experience, SW2000-R router is your trusted choice.

BDROS independent intellectual property rights

- MIPS multi-core architecture
- 350,000 NAT concurrent capability
- Load balancing
- GBSC flexible flow control
- Rich VPN features
- Security engine

Product Characteristics

High Performance

SW2OOO-R Series is driven by the 64-bit multi-core processor with specialized ASIC high-speed switching engine and FPGA components, which enables the whole hardware platform to run on the high-speed Ethernet frame.

This innovative design endows SW2OOO-R Series have ultra-high processing performance and efficiency, providing a powerful guarantee to handle large flow processing and improve stability.

Outstanding energy-saving advantage

SW2OOO-R Series adopts energy-saving chip with low power consumption. Compared with the mainstream devices in the industry, power consumption of the BSR router is reduced by 15% to 20%, which reduces the device maintenance cost and accords with the low-carbon idea.

Comprehensive routing protocol

SW2OOO-R Series supports rich Layer 2 link protocols (such as PPP, dot1q), static routing, dynamic routing (such as RIP, OSPF, BGP), and policy routing.

These routing protocols are well compatible with the devices manufactured by the mainstream vendors in the industry.

Besides, BSR2900 Series supports integration of multiple services such as routing, switching, safety and wireless, meeting the requirement of complicated network construction.

Rich network security features

SW2OOO-R Series supports selective ACL firewall filtration and NAT technology to protect the user network against potential threats from external networks.

SW2OOO-R Series supports multiple VPN technologies such as IPSec/L2TP/PPTP/GRE, which can provide a low cost solution for the user's dedicated network, and greatly enhance the data security.

SW2OOO-R Series supports multiple security technologies such as AAA, Radius, PAP/CHAP, and performs security authentication operations on the receiving users to further improve network security.

Practical traffic management policy

SW2OOO-R Series supports its self-developed traffic control and service management policy (GBSC) , which can better real-time detect the quality of the egress network and dynamically allocate bandwidth services to each user according to the currently available bandwidth. Meanwhile, GBSC can ensure the priority of key business and key users.

SW2OOO-R Series supports varied queue scheduling technologies and traffic management policies including FIFO, PQ, CQ, CBWFQ, LLQ, WFQ, DSCP, IP Precedence, RTS, RSVP, CAR, which allows more efficient use of network bandwidth.

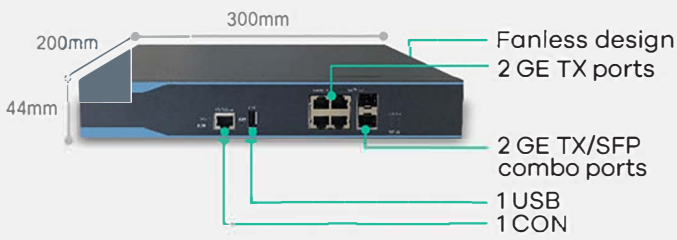
Advanced business integration

SW2OOO-R Series supports the MPLS VPN technology, which realizes the transparent Ethernet transmission service and the flexible enterprise interconnection.

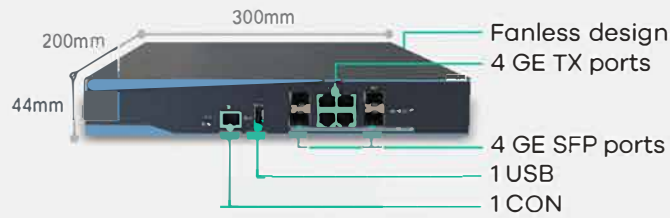
SW2OOO-R Series fully supports the IPv4/IPv6 dual stack protocol, ensuring the existing networks smoothly upgrade to IPv6.

Model lists

SW2920-R-C



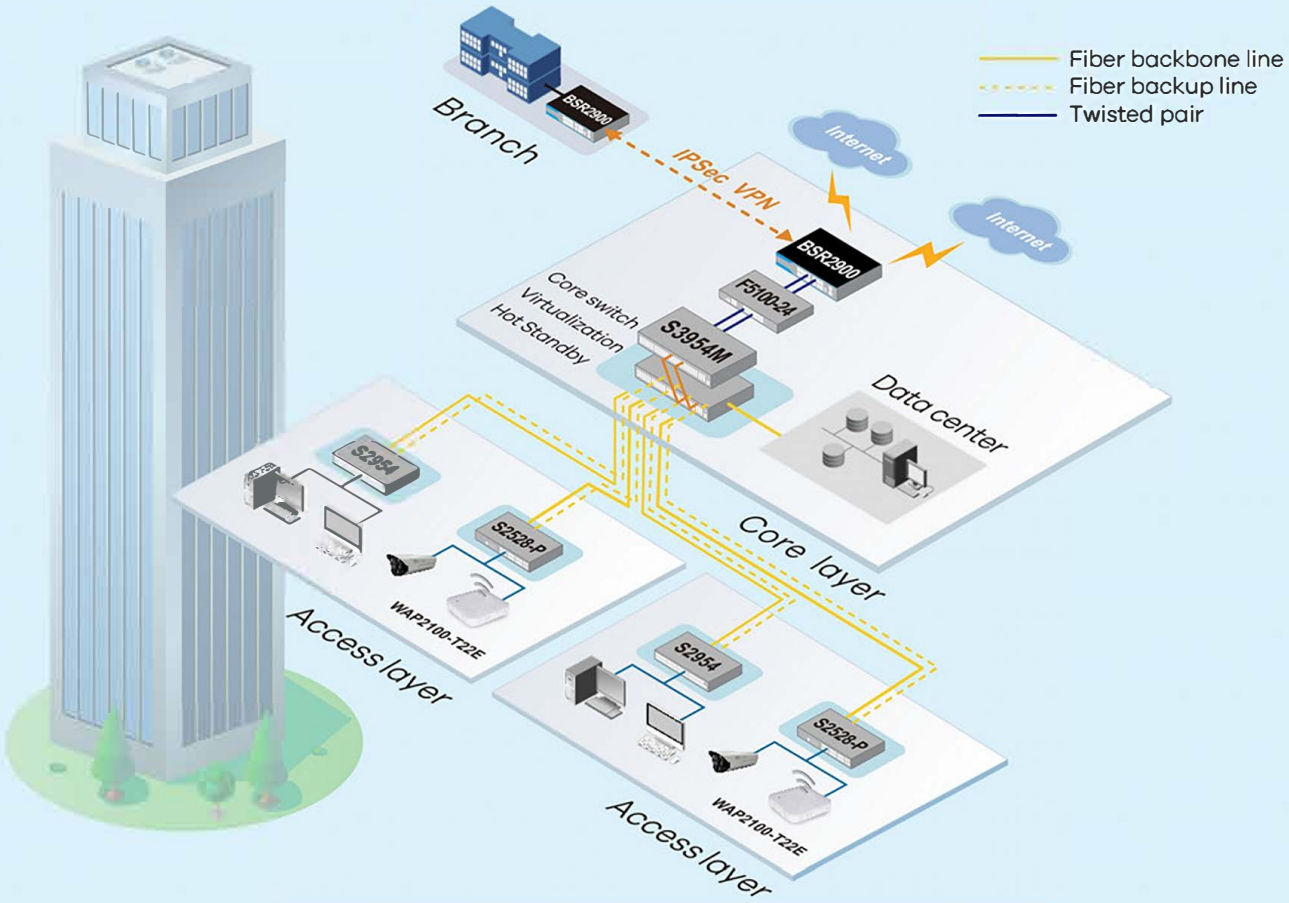
SW2940-R-C



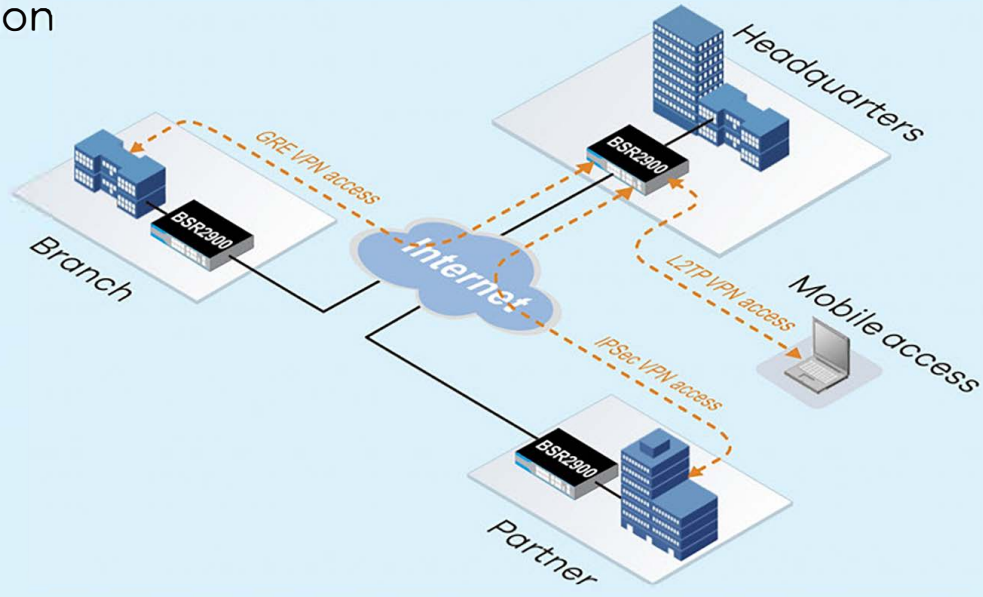
- Built-in dual standard power supply

Typical Application

Enterprise Network Solution



VPN Solution



Software Characteristics

Routing

LAN
- ARP, ARP proxy, Gratuitous ARP

WAN
- PPP, PPPoE (Client/Server)

Routing
- Static route, default route
- RIPv1/v2, OSPFv2, BGPv4
- Fast Switch, Load-Balance
- PBR

Multicast
- IGMP
- PIM-DM, PIM-SM

IPv6
- IPv6 ND, IPv6 PMTU, IPv6 FIB, IPv6 ACL, IPv6 (authenticate through IPv6 Phaseⅱ)
- IPv6 QoS
- IPv6 transition: NAT-PT, IPv6 tunnel, 4over6
- IPv6 tunnel: IPSec v6, GRE, 6to4, ISATAP
- IPv6 route: IPv6 static route, RIPng, OSPFv3, BGP4+

Switching

Switching
- 802.1p CoS, 802.1Q VLAN
- Keep alive, port mirror, broadcast/ multicast storm control

Network safety

AAA
- Authentication, Authorization, Accounting
- Enable, local, Radius, Tacacs+
- PAP, CHAP, MS-CHAP

MPLS
- VPLS, VRF
- L2VPN, L3VPN

IP service
- 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
- Helper-Address, UDP Helper
- DDR
- Keep alive, PDP (compatible with CISCO CDP), LLDP
- NetFlow, IP SLA
- TFTP Client/Serv, FTP Client
- SNTP, job/schedule
- PNP
- ALIAS
- Reverse telnet, VTY binding

Network Security

Firewall
- ASPF state detection
- SYN flood, UDP flood or ICMP flood ptotection
- ARP attack protection, ARP-SCAN and DHCP-Snooping
- Prevention of Ping of Death, Tear-drop, Land-Based, Win Nuke, Ping Sweep, ARP attack and IP-Spoofing

VPN
- IKE, IPSec, DMVPN, EZVPN
- L2TP, PPTP, GRE, EoGRE
- VPN stacking

Reliability

Backup function
- Interface backup
- 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

QoS

Congestion management
- FIFO, PQ, CQ, WFQ, CBWFQ

Congestion avoidance
- WRED/RED

Traffic shaping
- GTS (Generic Traffic Shaping)

Others
- GBSC, Layer7filter

Traffic classification
- ACL Flow Classification
- IP Precedence Flow Classification
- DSCP flow classification
- MAC address classification
- 802.1P classification

4G
- TD-LTE, FDD-LTE(via 4G USB dongle)

Management
- SNMP, MIB, SYSLOG, RMON
- Console/Telnet/VTY/SSH/HTTP

Application Scenarios

Product Specifications

Items		SW2920-R-C	SW2940-R-C
Interface			
CON		1	1
USB		1	1
Ports		2 GE TX/SFP	4 GE SFP
		2 GE TX	4 GE TX
Reset		1	1
Encryption engine		Built-in	Built-in
Performance			
Throughput		3Mpps	5Mpps
Flash		32MB	32MB
DRAM		1GB	1GB
NAT concurrent session		<250K	<350K
Appearance			
Consumption	**No-load**	≤6W	≤10W
	Full-load	≤10W	≤15W
Total output BTU (note: 1000 BTU/hr = 293W)		34.13	51.19
Chassis	**Dimensions mm (WxDxH)**	300x200x44	300x200x44
	Weight (kg,empty)	1.7	1.9
Package	**Dimensions mm (WxDxH)**	454×287×96	454×287×96
	Weight(kg)	2.7	2.9
Operating	**temperature**	-10℃ ~ 50℃	-10℃ ~ 50℃
	humidity	5%~95% (non-condensing)	5%~95% (non-condensing)
Storage	**temperature**	-40℃ ~ 85℃	-40℃ ~ 85℃
	humidity	5%~95% (non-condensing)	5%~95% (non-condensing)
Fan		/	/
Noise@25°C (dBA)		0	0
Power supply		100~240V AC	100-240V AC(Dual power supply)
Accessory		Console cable, power adaptor	Console cable, power adaptor

Ordering Information

Model	Description
SAGE SW2920-R-C	SW2920-R-C Integrated Enterprise Router (1 Console port, 1 USB2.0, 2 GE Combo ports, 2 GE TX ports, AC power supply)
SAGE SW2920-R-C-DC	FSW2920-R-C-DC Integrated Enterprise Router (1 Console port, 1 USB2.0, 2 GE Combo ports, 2 GE TX ports, DC power supply)
SAGE SW2940-R-C	FSW2940-R-C Integrated Enterprise Router (1 Console port, 1 USB2.0, 4 GE SFP ports, 4 GE TX ports, Dual AC power supply)
SAGE SW2940-R-C-DC	FSW2940-R-C-DC Integrated Enterprise Router (1 Console port, 1 USB2.0, 4 GE SFP ports, 4 GE TX ports, Dual DC power supply)

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