Twoja Infrastruktura IT netf.pl

NETF, specjalizujemysię w sprzedaży zaawansowanej infrastruktury IT. Znajdą tu Państwo szeroki asortyment produktów od czołowych światowych producentów sprzętu i oprogramowania IT, w tym H3C, Huawei, Cisco, Juniper, Fortinet, a także Dell, IBM, CommVault i ESET. Dzięki współpracy z tymi renomowanymi partnerami, NETF zapewnia swoim klientom dostęp do najnowocześniejszych rozwiązań technologicznych.

Bezpieczeństwo,
Efektywność,
Optymalizacja

Grupa **NETF**, Netfront, Infopower, Agropower
Sukces poprzez profesjonalizm i doskonałość

H3C SR6600-M Intelligent Aggregation Router Series

Full-Scenarios Aggregation Router

Release Date: March, 2024

Product overview

Recent years have seen fast development of emerging network services such as Internet technologies, cloud-network integration, and SD-WAN solutions, which drives an increasingly intense demand for highly reliable, high-performance full-scenarios aggregation routing products. Based on years of accumulation in network technology knowledge and expertise, H3C has launched a new-generation full-scenarios aggregation router with high performance SR6600-M.

The SR6600-M high-end router provides the following benefits:

- **New intelligent network architecture**—Equipped with the Comware 9 cloud-native operating system and intelligent service acceleration engine, the router, driven by these two engines, greatly improves service performance.

- **All-scenario deployment**—A built-in high-speed encryption and DPI intelligent identification engine in conjunction with the SRv6, iFIT, telemetry enable the router to address the needs of various deployment scenarios, for example, large-scale branch aggregation and high-performance east-west networking scenarios.

- **All-round green, energy-saving designs**—Highly compact electromechanical architecture reduces the system power consumption. Front-rear air aisles and intelligent fan speed regulation improves heat dissipation efficiency. Compliance with RoHS and lifecycle carbon footprint analysis make the router meet the dual carbon policy requirements.

- **Lifecycle intelligent management**—In collaboration with the AD-WAN controller and AI analyzer, the router allows lifecycle orchestration and management from service deployment, network O&M, quality visualization, fault diagnosis, to service simulation.

With powerful data processing capability, multiple types of interfaces, rich software features, full compatibility with SDN solutions, in conjunction with green, energy-saving designs, the router can address various needs of users for future business scaling and can keep pace with the development trends of operators and various industries and empower development across industries and businesses including government, power, finance, and education as well as operators and enterprises.

SR6600-M router series includes only one model: SR6608-M.

SR6608-M front and rear panels

Features and benefits

Cloud-native operating system

With the cutting-edge containerized network operating system and powerful computing capability, the router can provide cloud computing and edge computing services in high performance.

- Equipped with the Comware 9 cloud-native operating system and intelligent service acceleration engine, the router, driven by these two engines, significantly improves service performance.

- Pre-definition of forwarding paths, structure optimization of forwarding entries, and high-performance concurrency processing algorithms greatly improve high-concurrency forwarding performance.

- With rich network features as well as routing, QoS, MPLS, multicast, VPN, and security features, the router is suitable for various business scenarios and can address the needs for business scaling.

- Open use environment and programmable, containerized, and scalable system enable the router to easily adapt to new business scenarios and customer needs.

Fully compatible with SDN

- With full support for AD-WAN carrier and branch solutions, the router, in collaboration with H3C controller and analyzer, allows intelligent network orchestration and visualized management.

- Advanced features such as SR/SRv6, iFIT, EVPN, and telemetry provide the basis for intelligent network management and detailed analytics solutions.

- Channelized bandwidth configuration for subinterfaces in Kbps and 100G/50G/10G FlexE interface channelization in small granularity with a minimum granularity of 10 Mbps enable the router to provide isolation and bandwidth guarantee for critical network services.

Carrier-class high availability

- With high availability designs in hardware, including redundant MPU forwarding, N+M power supply redundancy, and fan tray redundancy, the router enhances system availability. Support for hotfix in software allows smooth software upgrade and ensures service continuity during software upgrade.

- The highly reliable, resilient dual-machine virtualization technology which is first in the industry greatly improves the dual-machine system reliability and promises flexible network business scalability.

- BFD association with FRR, NSR, and GR enables 50 ms-level link switchover in the event of a link failure.

Industry-leading SD-WAN performance

- The physical SD-WAN service acceleration card that provides intelligent distributed traffic processing breaks through the bottleneck of the traditional forwarding model, and enables the router to provide industry-leading SD-WAN performance and high-concurrency data aggregation capability.

- The router delivers rich VPN networking solutions, including IPSec, L2TP, GRE, ADVPN, and MPLS VPN, and supports overlapping of multiple VPN technologies.

All-round network security protection

- Portal, and PPPoE access authentication methods provide access control based on combinations of username, password, IP address, or MAC address. In collaboration with the H3C EAD solution, the router ensures all-round access control for endpoints.

- Integration of a high-speed encryption engine, the router delivers high-performance encryption capability.

- The built-in firewall delivers packet filtering and DoS attack prevention features, which protect the router from malformed packet attacks, flooding attacks, and scanning attacks.

- With deep packet inspection (DPI) and intrusion prevention system (IPS) features, the router provides deep network security protection.

Innovative electromechanical designs, energy efficient and environmental friendly

- The router meets the RoHS standard, complies with the carbon neutrality strategy, and supports carbon emission management. A lifecycle carbon footprint analysis has been conducted for the router according to the ISO14040 Life Cycle Assessment (LCA) method and ISO14067 requirements and guidelines for product carbon footprint quantification, and a carbon emission report has been issued.

- Front-rear cut-through air aisles improve heat dissipation efficiency. With intelligent fan speed regulation, the system can adjust the fan speed based on the internal temperature, which not only reduces fan noise but also reduces energy consumption.

- Innovative electromechanical designs such as cabling from a single side and hot swapping of power supplies, fan trays, and service modules facilitate maintenance and operation.

Product specifications

Hardware specifications

Item	SR6608-M
RFU	2 (1:1 redundancy)
HMIC	8
Forwarding Performance In Service (IMIX)	RFU-560-G: 50Gbps
	RFU-360-G: 15Gbps
IPSec throughput	RFU-560-G: 15Gbps
	RFU-360-G: 6Gbps
IPSec tunnel	RFU-560-G: 50,000

	RFU-360-G: 30,000
Heat dissipation	Front-rear, cut-through air aisles
Fan tray	2, operating in redundancy
Power system	4 power supplies, N+M redundancy
	Rated AC input range: 100 to 240 VAC @ 50/60 Hz
	Rated DC input range: –48 to –60 VDC
Dimensions (H × W × D)	175 × 440 × 330 mm (6.89 × 17.32 × 12.99 in), 4 U
Operating temperature	0°C to 45°C (32°F to 113°F)
Ambient relative humidity	5 % to 95 %
Operating altitude	–60 to +5000 m (–96.85 to +16404.20 ft)
System power consumption	610W
Weight (fully configured)	22.7Kg
Interface type	FE, GE, 10GE, 25GE, 40GE, 50GE, 100GE interfaces
	155M POS, 622M POS interfaces
	E1-F/E1 interface

Software specifications

Item	Specification
Ethernet	ARP
	QinQ
	Link aggregation, including dynamic aggregation and static aggregation
	Aggregation of interface with different rates
	Port mirroring, flow mirroring
	FlexE
	Interface channelization
IP service	NAT, NAT444, NAT multi-instance, VPN NAT, NAT logging
	NetStream v5/v8/v9 packet format, IPv4/IPv6/MPLS packet statistics
	Network Quality Analyzer (NQA)
	DNS, DNS proxy
	DHCP server, DHCP relay, DHCP client
	UDP helper
IPv6	IPv6 ND, IPv6 PMTU, dual-stack forwarding

Unicast routing	IPv6 ACL
	DHCPv6 server/client
	DNS AAA request, proxy
	IPv6 tunneling: Manual IPv6 tunneling, IPv6-over-IPv4 tunneling, GRE tunneling, automatic IPv4-compatible IPv6 tunneling, 6to4 tunneling, ISATAP tunneling
	6PE, 6VPE (IPv6 MPLS L3VPN)
	NAT64, NAT46
	NATPT, NPTv6
	IPv4 and IPv6 dual-stack
	Static routing, RIP, RIPng, OSPF, OSPFv3, IS-IS, IS-ISv6, BGP, BGP4+
	VRRP, VRRPv3
	IPv4 to IPv6 transition
	ECMP, UCMP
	Policy-based routing
	Routing policy
	Static routing, FRR, OSPF FRR, ISIS FRR, BGP FRR
Mulitcast	PIM-DM, PIM-SM, PIM-SSM, MSDP, MBGP, anycast-RP
	IGMPv1/v2/v3
	PIM6-DM, PIM6-SM, PIM6-SSM
	Multicast Listener Discovery (MLDv1/v2)
	Multicast policy and multicast QoS
MPLS VPN	MPLS label distribution protocol including LDP and RSVP-TE
	P/PE, compliant with RFC2547bis
	Inter-AS MPLS VPN options (Option A/Option B/Option C)
	HoPE
	Multi-role host
	Layer 2 VPN, Layer 3 VPN, inter-AS Layer 2 VPN, inter-AS Layer 3 VPN
	MPLS TE FRR, LDP FRR
	6PE, 6vPE
	Multicast VPN
	MPLS VPN failure location, MPLS ping/traceroute
	L2VPN access to L3VPN
SDN	VXLAN, EVPN
	PCEP
	Network information collection protocol including BGP-LS

High availability	NETCONF, YANG
	MPLS SR, SRv6
	CBTS
	OpenFlow
	BGP FlowSpec
	Telemetry
	Traffic switchover from SRv6 TE to SRv6 BE
	SRv6 policy tuning based on latency/bandwidth/packet loss ratio
	Redundancy designs for key components including MPUs, power supplies, and fan trays
	Intelligent fan tray speed regulation
	NSR, GR
	BFD (association with other protocols supported)
	Fast route convergence
	iFIT, which can detect network failures in real time, locate network failures quickly, and implement visible management of performance data
ACL	IPv4 and IPv6 ACL and extended ACLs
	Layer 2, Layer 3 and Layer 4 ACLs
	Inbound and outbound packet filtering ACLs
QoS	Traffic classification based on port, MAC address, IP address, IP priority, DSCP priority, TCP/UDP port number, or protocol type
	Traffic policing: CAR
	Source address or destination address-based rate limit (subnet-based rate limit supported)
	GTS
	Priority marking/remarking
	Queue scheduling mechanisms: FIFO, PQ, CQ, WFQ, RTPQ, CBWFQ
	Congestion avoidance algorithms: Tail-drop, WRED
	Rate limit
	MPLS QoS
	IPv6 QoS
	Hierarchical QoS (HQoS)
	QoS Policy Propagation on BGP (QPPB)
Security	Hierarchical user management and password protection, password control
	AAA (RADIUS authentication, TACACS+ authentication)

|	
	Portal authentication (support for association with EAS and portal bypass)
	ACL, ACL acceleration, time-based access control
	Packet filtering firewall, ASPF
	Attack defense on the control plane
	Attack detection and prevention
	URPF
	PKI certificates
	SSH 1.5/2.0
	IPSec, IPSec multi-instance, IKE
	Encryption algorithm: SM1, SM2, SM3, SM4
VPN	GRE tunneling (point-to-multipoint mode supported)
	IPSec tunneling
	L2TP tunneling
	ADVPN tunneling
	GDVPN tunneling
	SSL VPN tunneling
System management	In-band network management and out-of-band network management
	CLI configuration from the console port or over Telnet or SSH2.0
	File download and upload over FTP, TFTP, XMODEM, or SFTP
	SNMPv1/v2/v3
	RMONv1/v2 (groups 1, 2, 3, and 9)
	NTP
	Failure alarming
	Syslog
	Traceroute
	Multi-user line access to the device via Telnet

Application scenarios

AD-WAN headquarter-branch network

The SR6608-M router supports the H3C AD-WAN branch solution. You can deploy SR6608-M routers as core nodes at the headquarters on an AD-WAN headquarter-branch network. With an AD-WAN encryption performance accelerator card, the router can converge traffic from massive branch nodes to the headquarters. The routers, in collaboration with the AD-WAN solution, can use intelligent routing to select optimal links for different applications based on the link quality, which will greatly improve the user experience on the WAN network.
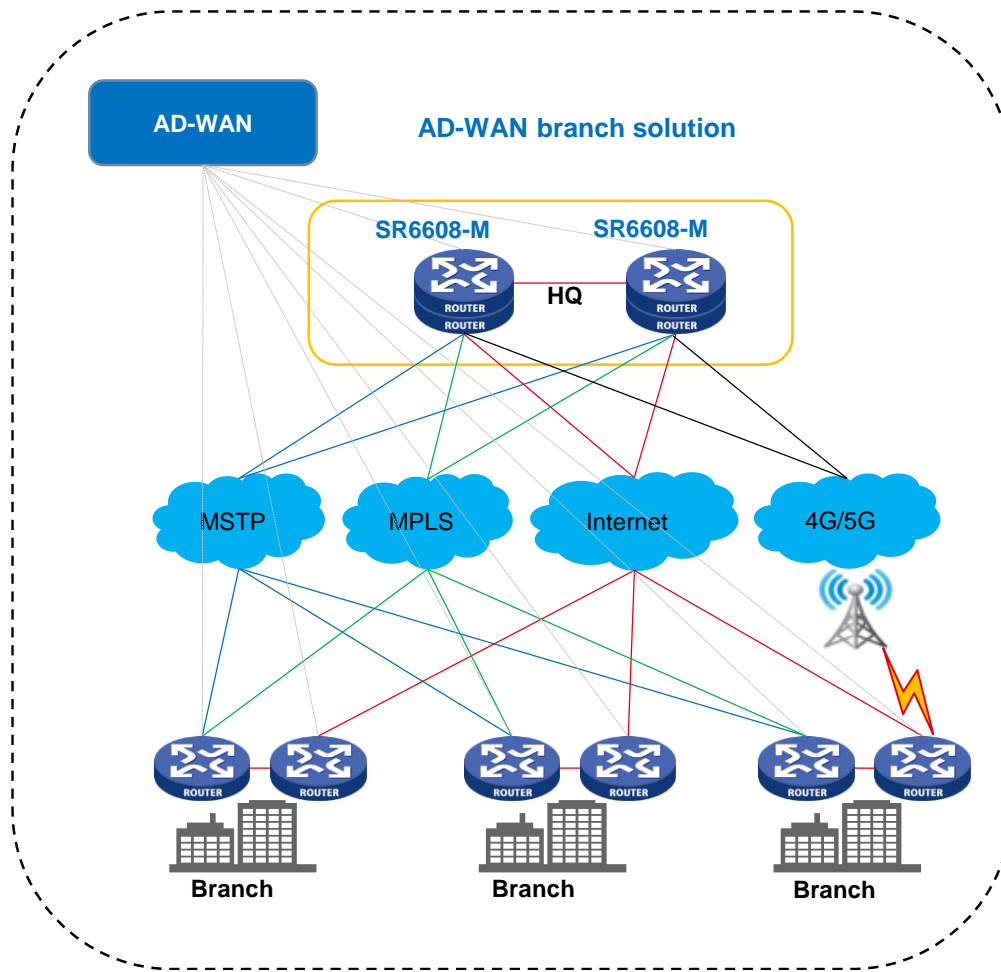
AD-WAN headquarter-branch network

AD-WAN carrier network
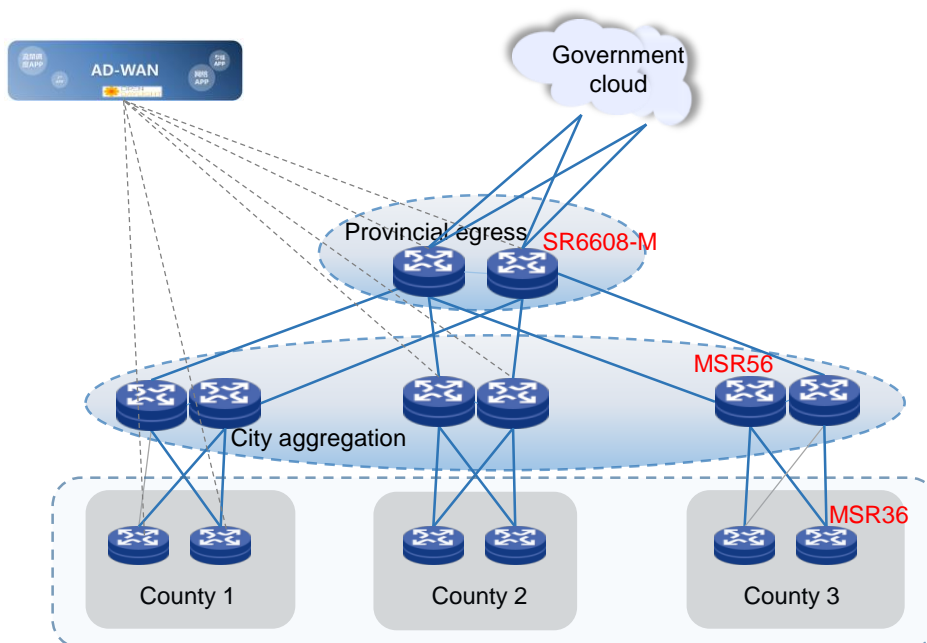
The SR6608-M router supports the H3C AD-WAN carrier network solution, and can be deployed as the core egress node at the provincial and municipal tier on the AD-WAN carrier network. With advanced features such as SR/SRv6, iFIT, EVPN, and telemetry, the router, in collaboration with the AD-WAN carrier network solution, can provide customers with a variety of value-added services such as automated service deployment, network optimization, multi-dimensional visualization, and intelligent analysis and bring superior user experience.

Finance north-south network
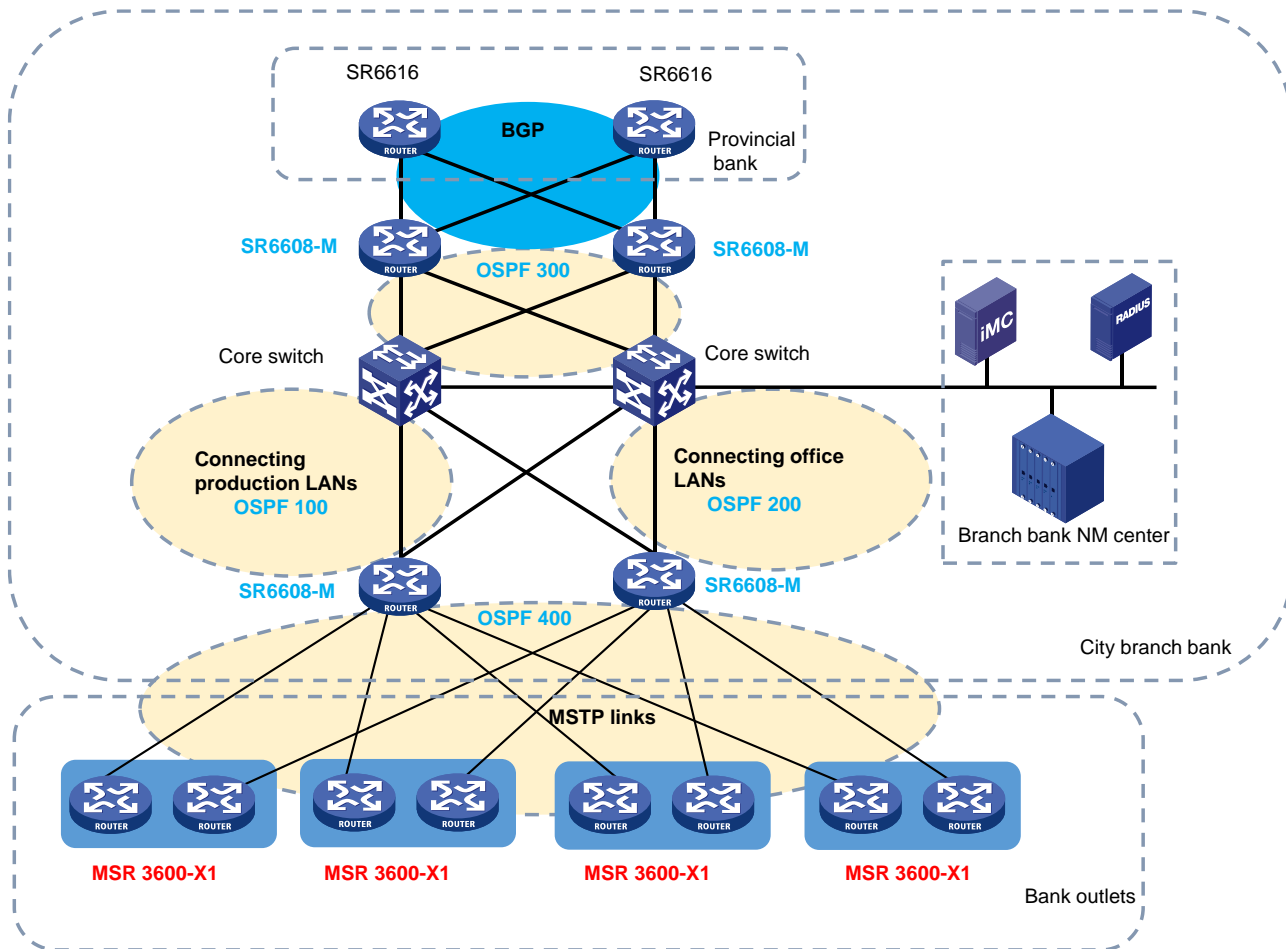
This is a typical north-south network solution in the finance industry. As shown in the figure, two SR6608-M routers at the city branch bank are used as the upstream convergence routers of bank outlets, and two SR6608-M routers send aggregated traffic to the provincial bank. At the city branch bank, the SR6608-M on the left is mainly used for production services, and the SR6608-M on the right is mainly used for office services. The two SR6608-M routers backup each other.

To solve the issue that MSTP link failure cannot be perceived, this solution deploys BFD between SR6608-Ms and the outlet routes, and associates BFD with OSPF. In the event of an MSTP link failure, the routers at the two ends can quickly perceive and trigger OSPF protocol convergence to achieve rapid service switching.

Ordering Information

• Product ID	• Description
RT-SR6608-M	H3C SR6608-M Router Chassis
RT-RFU-560-G	H3C RFU-560-G Routing and Forwarding Unit
RT-RFU-360-G	H3C RFU-360-G Routing and Forwarding Unit
RT-HMIC-GT8	8-Port 100/1000BASE-T-RJ45 L3 Interface HMIC Module
RT-HMIC-GP10	10-Port 100/1000BASE-X-SFP L3 Interface HMIC Module
RT-HMIC-GP20	20-Port 100/1000BASE-X-CSFP or 10-Port 100/1000BASE-X-SFP L3 Interface HMIC Module
RT-HMIC-XP4	4-Port 10GBASE-R-SFP+ L3 Interface HMIC Module
RT-HMIC-XP10	10-Port 10GBASE-R-SFP+ L3 Interface HMIC Module
RT-HMIC-SP4	4-Port OC-3c/STM-1c-SFP or 1-Port OC-12c/STM-4c-SFP Interface HMIC Module
RT-HMIC-CQ1F	1-Port 50/100GBASE-R-QSFP28 FlexE or 1-Port 40GBASE-R-QSFP+ Interface HMIC Module
RT-HMIC-ET16	16-Port Fractional E1 (E1-F) -HM96 or Channelized E1 (CE1/PRI) -HM96 Interface HMIC Module
RT-HMIC-ESPA	Enhanced Service Processing HMIC Module
PSR450-12A-A	450W AC Power Supply Module (Power Panel Side Intake Airflow)
PSR450-12D-F	450W DC Power Supply Module (Power Panel Side Intake Airflow)

Datasheet history

Description	Location	Date
Change to Intelligent Aggregation Router for All Scenarios	Title	March 20, 2024

New H3C Technologies Co., Limited

Beijing Headquarters

Tower 1, LSH Center, 8 Guangshun South Street, Chaoyang

District, Beijing, China

Zip: 100102

Hangzhou Headquarters

No.466 Changhe Road, Binjiang District, Hangzhou, Zhejiang,

China

Zip: 310052

Tel: +86-571-86760000

The Leader in Digital Solutions

http://www.h3c.com