

# H3C MSR 900 SERIES MULTI-SERVICE ROUTERS



H3C MSR 900



H3C MSR 920

## OVERVIEW

Featuring advanced software and an industry-leading hardware platform, H3C® MSR 900 Series Multi-Service Routers deliver on the H3C promise of low TCO by Design™. They provide small and medium-sized enterprises (SMEs) with integrated wireless LAN (WLAN) solutions based on the latest technology at a price that won't significantly impact their network infrastructure budgets.

H3C MSR 900 Series routers deliver concurrent, integrated services—data security and wireless (Wi-Fi®/3G)—in a single module. This creates operational efficiencies, reduces a network's total cost of ownership and power consumption, and maximizes valuable rack space. Furthermore, by delivering the functionality of multiple devices and appliances in a single platform, these routers streamline network architecture and administration, and reduce maintenance, management and powering costs.

Intuitive, graphics-based Web management tools that simplify maintenance and configuration of devices on the network provide additional value, as does support for Simple Network Management Protocol (SNMP) and TR-069 management protocols, which facilitate control of remote devices. These routers also offer an easy-to-use command-line interface (CLI) function that can be securely accessed locally or remotely for comprehensive configuration and management. Additionally, both MSR 900 Series routers—the MSR 900 and the MSR 920—are also fully manageable via the

H3C Intelligent Management Center (IMC) platform, which provides unified, modular device, user and service management in one intuitive interface.

Enhanced performance, security, and reliability make the MSR 900 Series the perfect appliance for delivering converged networks, including data, voice, and video. IPv6 support and robust quality of service (QoS) ensure that these routers can not only handle the enterprise networking applications of today, but will be able to handle future connectivity and capacity demands as well. Plus, a standards-based design ensures complete interoperability in multi-vendor environments.

These routers' Ethernet ports provide high-speed Layer 2 forwarding that expedites traffic across the network, and eliminates bottlenecks, dropped calls, and jitter. In addition, it provides 3G uplinks through USB 3G modems.

Meanwhile, Wi-Fi support provides companies with WLAN access and user authentication. These advanced, embedded security functions provide multiple hardware encryption options to ensure the highest levels of security without sacrificing throughput performance. These routers provide firewall and VPN functions, including packet filtering firewall, status-based firewall, P2P-based application control, distributed denial-of-service (DDoS) anti-attack and IPSec VPN.

## KEY FEATURES

### POWERFUL SECURITY

H3C MSR 900 Series Multi-Service Routers are integrated with powerful security features to fulfill major roles in network defense. In addition to common access control and stateful firewall, MSR 900 routers also provide anti-attack, security log functions, and P2P application control functions such as BT/QQ. Both the MSR 900 and the MSR 920 support the following enhanced security features and functions:

- › Various defense technologies for attacks by Land, Smurf, Fraggle, WinNuke, Ping of Death, Tear Drop, IP spoofing, SYN flood, IGMP flood, UDP flood, and ARP spoofing attacks, avoiding attacks to the network
- › Security control for P2P applications such as BT/QQ, which is implemented on the basis of application code to ensure flexibility and effective real-time processing
- › Defenses against Address Resolution Protocol (ARP) attacks, including static ARP, gratuitous ARP, authorized ARP, ARP packet acknowledgement, and ARP flooding attacks
- › Various security logs including real-time attack logs, address binding logs, traffic alarm logs, and session logs for network administrators to monitor in real time the running and security status of networks
- › These routers—in conjunction with other components—contribute to a full Endpoint Admission Defense (EAD) solution

### DIVERSIFIED VPN SERVICES

The following types of VPN services are supported on MSR 900 Series routers:

- › L2TP
- › GRE
- › IPSec VPN
- › SSL VPN
- › Dynamic VPN (DVPN)

### ROUTING AND SWITCHING INTEGRATED DATA SERVICES

Depending on the model, H3C MSR 900 Series routers offer either four or eight fixed Ethernet switching interfaces that deliver diversified Layer 2 switching functions. Spanning Tree Protocol (STP), 802.1X and VLAN isolation provide integrated data switching and forwarding, security access, and authentication protocols.

### WLAN ACCESS

These routers support 802.11b/g standards which enable high-speed access and wide coverage, and greatly increase the router's capacity.

### 3G ACCESS

Both the H3C MSR 900 and the MSR 920 provide wireless 3G access through an external USB 3G modem, which can be based on CDMA2000, WCDMA or TD-SCDMA technology. This 3G interface is designed to serve as either the primary or backup upstream link in a network.

On these routers, the 3G interface is actually integrated into a standard IP interface that also accommodates Ethernet, serial and E-1 interfaces, among others. This shielded 3G interface supports all service and functional features above the IP layer, including interface backup, traffic statistics and network attack defenses.

Furthermore, this 3G interface operates in two modes—permanent online and dial-on-demand—to provide users with the flexibility to choose between either, depending on their accounting methods and to most efficiently allocate 3G communication resources.

### SIMPLE MANAGEMENT TOOLS, MULTIPLE OPTIONS

H3C MSR 900 Series Multi-Service Routers provide a variety of maintenance and management functions via command lines, Web, SNMP, and TR-069 protocols and interfaces; this enables both local and remote device configuration and maintenance. Additionally, complete alarming, testing, diagnosis, tracking, and log functions are provided to facilitate network maintenance and reduce overall operational expenses.

Meanwhile, user-friendly Web configuration enhances device availability. By following the installation guide and simple graphical interfaces, network administrators can readily configure and maintain these routers. This reduces time spent training IT staff, expedites deployment, and facilitates the operation of complex networks.

## KEY FEATURES (continued)



MSR 900 Multi-Service Router



MSR 920 Multi-Service Router



## SERVICE AND SUPPORT

H3C Global Services offers the resources and talents of a major corporation plus more than two decades of experience in resolving network challenges and delivering business benefits to enterprises around the world.

Global support with a personalized, local focus in the local language helps drive productivity and minimize expenses. Because H3C understands both the technology and the business, we're the partner you need to remain strong and competitive.

### Suggested Service, Support and Training Offerings

H3C Guardian <sup>SM</sup> Maintenance Service	This service provides comprehensive on-site support and includes advance hardware replacement, expedited telephone technical support and software upgrades
H3C Express <sup>SM</sup> Maintenance Service	This service provides speedy access to H3C shipment of advance hardware replacements (including a four-hour option), expedited telephone technical support and software upgrades
Network Health Check	An activity-auditing service focused on improving network performance and productivity  Includes traffic monitoring, utilization analysis, problem identification, and asset deployment recommendations  Extensive report provides blueprint for action
Network Installation and Implementation Services	Experts set up and configure equipment and integrate technologies to maximize functionality and minimize business disruption  For large and complex sites, implementation services include personalized configuration, project management, extended testing and coaching on network administration
Project Management	Provides extra focus and resources that special projects demand  H3C engineers manage entire process from initial specifications to post-project review  Using structured methodology, requirements are identified, projects planned and progress of implementation activities tracked
Global Education and Training	Self-paced and instructor-led technology and product courses, plus certification programs

For additional information, please visit [www.h3cnetworks.com/services](http://www.h3cnetworks.com/services)

## PRODUCT WARRANTY

The H3C MSR 900 Series Multi-Service Routers have a 1-year hardware warranty.

## SPECIFICATIONS

Features	MSR 900	MSR 900W	MSR 920	MSR 920W
Processor	RISC 266MHz	RISC 266MHz	RISC 333MHz	RISC 333MHz
Forwarding capacity	70 Kpps	70 Kpps	100 Kpps	100 Kpps
Memory	256 MB (DDR)	256 MB (DDR)	256 MB (DDR)	256 MB (DDR)
Flash	256 MB	256 MB	256 MB	256 MB
USB	1	1	1	1
CON	1	1	1	1
Ports on-board	2 FE WAN 4 FE LAN	2 FE WAN 4 FE LAN	2 FE WAN 8 FE LAN	2 FE WAN 8 FE LAN
WLAN	N/A	Supported (802.1b/g)	N/A	Supported (802.1b/g)
WLAN antenna	N/A	1	N/A	2
Maximum power consumption	12 W	12 W	12 W	12 W
Power supply	Rated range (external) 100 to 240 V 50 or 60 Hz	Rated range (external) 100 to 240 V 50 or 60 Hz	Rated range (external) 100 to 240 V 50 or 60 Hz	Rated range (external) 100 to 240 V 50 or 60 Hz
Dimensions (W × D × H)	230 mm × 160 mm × 44.2 mm (9.1in×6.3in×1.7in)	230 mm × 160 mm × 44.2 mm (9.1in×6.3in×1.7in)	230 mm × 160 mm × 44.2 mm (9.1in×6.3in×1.7in)	230 mm × 160 mm × 44.2 mm (9.1in×6.3in×1.7in)
Weight (full configuration)	≤ 1.8 kG (4.0lb)	≤ 1.8 kG (4.0lb)	≤ 1.8 kG (4.0lb)	≤ 1.8 kG (4.0lb)
Environment temperature	0 to 40	0 to 40	0 to 40	0 to 40
Relative humidity	5 to 90% (non-condensing)	5 to 90% (non-condensing)	5 to 90% (non-condensing)	5 to 90% (non-condensing)

## SPECIFICATIONS (continued)

Attribute	Description
<b>Network Interworking</b>	
LAN	ARP Ethernet, Ethernet II, VLAN (VLAN-based port VLAN, voice VLAN, guest VLAN), 802.3x, 802.1p, 802.1Q, 802.1x STP (802.1D), RSTP (802.1W), MSTP (802.1S) IGMP snooping, GVRP Port loopback, port multicast suppression, port mirroring
WAN	PPP, PPPoE client, PPPoE server
<b>Network Protocols</b>	
IP services	Fast forwarding (unicast or multicast) TCP, UDP, IP Option, IP unnumber Policy-based routes (unicast or multicast) Netstream, sFlow
IP applications	Ping, Trace DHCP server / DHCP relay / DHCP client, DHCP snooping DNS client/DNS static, DNS proxy, DDNS IP accounting, UDP Helper, NTP Telnet, TFTP client/FTP client/FTP server Web page push
Deeper Application Recognition (DAR)	Protocol recognition Supports the defining of user-defined port number types and identification of corresponding services Supports the self definition of renaming protocol types and names Identifies multiple known services Identifies the special attributes of RTP (classifies data streams based on the load balancing type of RTP packets) Others Collects the statistics about the identified packets
IP routes	Static routing Dynamic routing protocols: RIP/RIPing, OSPF, OSPFv3, BGP, IS-IS Multicast routing protocols: IGMP, PIM-DM, PIM-SM, MGBP, MSDP Routing policies
IPv6	Basic IPv6 functions: IPv6 ND, IPv6 PMTU, IPv6 FIB, IPv6 ACL (authentication through IPv6 Ready PhaseII) IPv6 transition technologies: NAT-PT, IPv6 tunnels, 6PE IPv6 tunnels: manual tunnels, automatic tunnels, GRE tunnels, 6to4, ISATAP IPv6 routes IPv6 static routes (including multicast static routes) Dynamic routing protocols: RIPng, OSPFv3, IS-ISv6, BGP4+ Multicast routing protocols: MLD v1/v2, IGMPv3, PIM-DM, PIM-SM, PIM-SSM

## SPECIFICATIONS (continued)

Attribute	Description
<b>Network Security</b>	
Port security	PPPoE client & server, PORTAL, 802.1x
AAA	Local authentication, Radius, Tacacs
Firewall	ASPF, ACL, Filter
Data security	IKE, IPSec
Other security technologies	L2TP, NAT/NAPT, PKI, RSA, SSH v1.5/2.0, SSL (SSL VPN), URPF, GRE Supports the filtering and restriction of DAR service identification packets Supports P2P application control functions based on characteristic codes Supports the defense against DDoS attacks Supports the defense against ARP attacks Supports the EAD function (including the inter-WAN mode)
<b>Reliability</b>	
Backup function	Supports the interface backup mode Supports VRRP and VRRPv3 Supports the load balancing and backup based on bandwidth Supports the load balancing and backup based on user IP addresses
NQA association mechanism	Supports the association of NQA with static routes, policy-based routes, VRRP, or interface backup to implement the auto-detection and backup function on end-to-end links
BFD association mechanism	Supports rapid link detection through BFD that can be associated with RIP, OSPF, BGP, MPLS, or VRRP, thereby enabling rapid switchover between routes and links
<b>QoS</b>	
Layer 2 QoS	SP LR Port-based mirroring Priority mapping Port Trust Mode, Port priority FlowControl & Backpressure
Traffic policing	Supports the Committed Access Rate (CAR) Supports the Line Rate (LR)
Congestion management	FIFO, PQ, CQ, WFQ, CBQ, RTPQ
Congestion avoidance	W RED/RED
Traffic shaping	Supports Generic Traffic Shaping (GTS)

## Ordering Information

SKU No.	Product Name	Description
0235A0BX	H3C MSR 900 Router	2 FE WAN, 4 FE LAN 256DDR
0235A0C0	H3C MSR 920 Router	2 FE WAN, 8 FE LAN 256DDR
0235A0C2	H3C MSR 900 Router with 802.11b/g	2 FE WAN, 4 FE LAN 256DDR
0235A0C4	H3C MSR 920 Router with 802.11b/g	2 FE WAN, 8 FE LAN 256DDR

Visit [www.H3Cnetworks.com](http://www.H3Cnetworks.com) for more information about H3C enterprise solutions.