Huawei NetEngine AR6100 Series Enterprise Routers

Huawei NetEngine AR6100 series enterprise routers are 1U modular routers designed for use in headquarters of large-sized enterprises as well as headquarters and branches of small-and medium-sized enterprises (SMEs), providing the industry's most diversified service slot types. The NetEngine AR6100 integrates various service features such as SD-WAN, routing, switching, and security, providing diversified services and high performance.

Product Overview

Huawei's next-generation NetEngine AR6100 series enterprise routers use ARM multi-core processors and a non-blocking switching structure, helping to deliver three times the industry average performance. The NetEngine AR6100 also integrates functions such as SD-WAN, routing, switching, VPN, security, and MPLS, ensuring diversified and cloud-based services are fully supported.

Huawei NetEngine AR6100 series enterprise routers can be deployed at enterprise headquarters or branches as required to provide enterprise network egress capabilities. The NetEngine AR6100 series consists of models such as AR6120, AR6140L-9G-2AC, which can meet networking requirements of enterprises of different scales.

Front and rear views of Huawei AR6120



Front and rear views of Huawei AR6140L-9G-2AC



(Reference, not real photo of device)

Features and Benefits

Features and Benefits

Service Requirement	Features and Benefits
High performance	• ARM multi-core processors and a non-blocking switching structure

Service Requirement	Features and Benefits
	• Three times the industry average performance, providing the lowest latency for key services
High reliability	• Hot-swappable cards, ensuring service reliability and stability • Link backup for enterprise services, improving reliability • Fault detection and determination in milliseconds, minimizing service interruption time
Easy O&M	Multiple management modes, including SD-WAN management, SNMP-based network management, and web-based network management, simplifying network deployment and reducing OPEX
Service convergence	Integration of functions such as routing, switching, VPN and security, meeting diversified enterprise service requirements, saving space, and reducing TCO
Security	Built-in firewall, IPS, URL filtering, and multiple VPN technologies, providing comprehensive security protection capabilities
SD-WAN Ready	• Built-in SD-WAN solution, building cost-effective and business-friendly connections over the Internet • ZTP (email-, URL-, USB-, and DHCP-based deployment), minimizing skill requirements and provisioning devices in minutes • First packet identification (FPI) for SaaS applications and service awareness for complex applications, identifying over 90% of applications • Traffic steering based on bandwidth and link quality, ensuring experience of key applications and improving bandwidth utilization to up to 90%

Architecture Highlights

Architecture Feature	Benefits
Multi-core processor	• High-performance multi-core processors, supporting high-speed WAN connections, powerful route calculation capabilities, and enhanced L4-L7 service processing
Extensive network interfaces	Extensive flexible interface cards such as LAN and WAN.

Product Specifications

System Parameters

Item	AR6120	AR6140L-9G-2AC
Processor	ARM64	ARM64
Forwarding Performance (LAN - > WAN + WAN - > LAN, NAT + ACL + QoS, IMIX)	2 Gbps	2 Gbps
IPsec performance (IMIX)	2 Gbps	2 Gbps
Fixed WAN ports	WAN: 1 x GE combo + 1 x GE RJ45 + 1 x 10GE SFP+ (compatible with GE SFP) LAN: 8 x GE RJ45 (can be configured as WAN)	WAN: 2 x GE RJ45 + 2 x 10GE SFP+ (compatible with GE optical ports) LAN: 2 x GE SFP + 3 x GE RJ45 (can be configured as WAN)

Item	AR6120	AR6140L-9G-2AC
SIC slots	2	4
WSIC slots	0 (default)/ 1 (maximum)	0 (default)/ 2 (maximum)
XSIC slots	-	0 (default)/ 1 (maximum)
USB port	1 x USB 3.0 (compatible with USB 2.0) + 1 x USB 2.0	1 x USB3.0 (compatible with USB 2.0)
Auxiliary or console port	1 x RJ45 console port	1 x RJ45 console port
Memory	2 GB	2 GB
Flash memory	1 GB	1 GB
Hot swapping	Supported	Supported

Dimensions and Weight

Item	AR6120	AR6140L-9G-2AC
Router dimensions (H x W x D)	With no mounting bracket installed: 44.5 mm x 390 mm x 232.5 mm With mounting brackets installed: 44.5 mm x 482.6 mm x 232.5 mm	With no mounting bracket installed: 44.5 mm x 442 mm x 420 mm With mounting brackets installed: 44.5 mm x 482.6 mm x 572.5 mm
Packaging dimensions (H x W x D)	125 mm x 373 mm x 510 mm	225 mm x 530 mm x 550 mm
Rack	IEC	IEC
Occupied rack space	1U	1U

Power Specifications, Power Consumption, and Heat Dissipation

Item	AR6120	AR6140L-9G-2AC
Rated input voltage range (AC)	100 V to 240 V	100 V to 240 V
Rated input frequency (AC)	50 Hz/60 Hz	50 Hz/60 Hz
Maximum input voltage range (AC)	90 V to 264 V	90 V to 264 V
Maximum input current (AC)	2 A	3A
Maximum output power (AC)	60 W	150W
Power supply redundancy	-	Support
Fan module	Built-in unpluggable fan modules	Built-in unpluggable fan modules
Airflow	Left to right	Left to right

Environment Parameters

Item	AR6120	AR6140L-9G-2AC
Operating temperature	0ºC to 45ºC	0ºC to 45ºC
Operating humidity	5% to 95% (non-condensing)	5% to 95% (non-condensing)
Operating altitude	< 5000 m (16404.2 ft.)	< 5000 m (16404.2 ft.)
Storage temperature	–40ºC to +70ºC	–40ºC to +70ºC
Storage altitude	< 5000 m (16404.2 ft.)	< 5000 m (16404.2 ft.)

Software Features and Protocols

Item	AR6120	AR6140L-9G-2AC
Basic function	DHCP server/client/relay, PPPoE server/client, NAT, and sub-interface management	
LAN	IEEE 802.1p, IEEE 802.1Q, IEEE 802.3, VLAN management, VLAN aggregation, MAC management, STP/RSTPMSTP	
WLAN (AC)	AP management (AC discovery, AP access, and AP management), CAPWAP, WLAN user management, WLAN radio management (802.11a/b/g/n/ac), WLAN QoS (WMM), and WLAN security (WEP, WPA, WPA2, key management)	
IPv4 unicast routing	Routing policies, static routes, RIP, OSPF, IS-IS, BGP	
IPv6 unicast routing	Static routes, routing policies, RIPng, OSPFv3, IS-ISv6, BGP4+	
Basic IPv6 function	IPv6 ND, IPv6 PMTU, IPv6 FIB, IPv6 ACL, ICMPv6, DNSv6, DHCPv6	
IPv6 tunneling	Manual tunnel, automatic tunnel, GRE tunnel, IPv6 over IPv4 tunnel, 6 to 4 tunnel, ISATAP	
Multicast	IGMP v1/v2/v3, PIM-SM, PIM-DM, MSDP, MBGP, IPv6 PIM, MLD	
MPLS	LDP, MPLS L3 VPN, VLL, PWE3, static LSP, dynamic LSP, MPLS TE, IP FRR, LDP FRR, TE FRR	
VPN	IPsec VPN, GRE VPN, DSVPN, A2A VPN, L2TP VPN, L2TPv3 VPN, VxLAN	
QoS	DiffServ mode, MPLS QoS, priority mapping, traffic policing (CAR), traffic shaping, congestion avoidance, congestion management, MQC (traffic classifier, traffic behavior, and traffic policy), hierarchical QoS, Smart Application Control (SAC)	
Security	ACL (v4/v6), domain-based stateful firewall, 802.1X authentication, MAC address authentication, portal authentication, AAA authentication, RADIUS authentication, HWTACACS authentication, PKI, broadcast storm suppression, ARP security, ICMP attack defense, URPF, CPCAR, blacklist, attack source tracing, online behavior management, IPS, URL filtering	
Management and maintenance	Upgrade management, device management, web-based network management, GTL, SNMP (v1/v2c/v3), RMON, NTP, CWMP, Auto-Config, URL-based/USB-based/DHCP deployment, NETCONF/YANG, CLI, NetStream, IP FPM, TCP FPM, TWAMP, IP accounting, NQA	

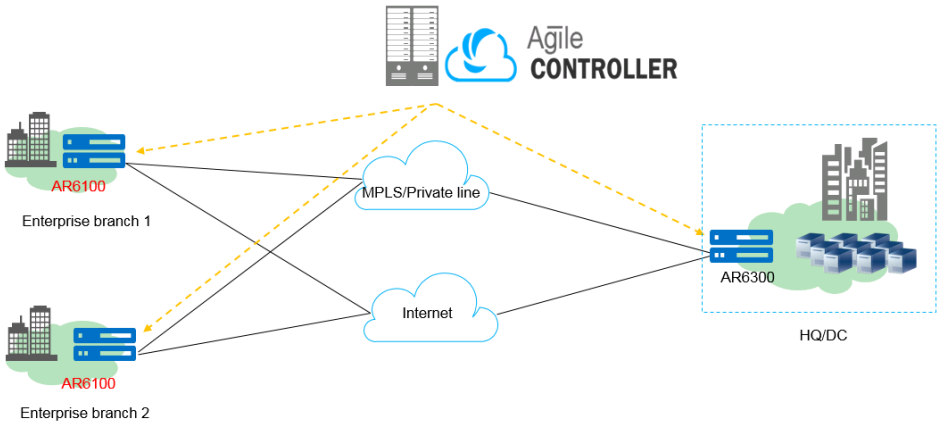
Item	AR6120	AR6140L-9G-2AC
EMC standards compliance	● CISPR32 Class A ● EN 55032 Class A ● CISPR24 ● EN 55024 ● ETSI EN 300 386 ● AS/NZS CISPR32 Class A ● FCC Part 15 Subpart B Class A ● ICES 003 Class A ● IEC 61000-3-2 ● EN 61000-3-2 ● IEC 61000-3-3 ● EN 61000-3-3 ● GB 9254 ● VCCI-CISPR32 Class A	
Environmental standards compliance	● RoHS ● REACH ● WEEE	
Safety standards compliance	● IEC 60950-1 ● EN 60950-1 ● UL 60950-1 ● CSA C22.2 No 60950-1 ● GB 4943.1	

Networking and Application

- **SD-WAN Using Hybrid Links**

  In the SD-WAN Solution, the NetEngine AR6100 functions as the hub of SMEs or gateway of branches and supports hybrid access using multiple physical links, such as MPLS private lines and Internet links. The solution also leverages Huawei's next-generation controller, the Agile Controller, which implements centralized and visualized management. The NetEngine AR6100 provides extensive SD-WAN features and delivers optimal service experience for enterprises through intelligent application identification, intelligent traffic steering, and intelligent acceleration. For details about Huawei SD-WAN Solution, visit https://e.huawei.com/en/solutions/business-needs/enterprise-network/sd-wan.

SD-WAN networking

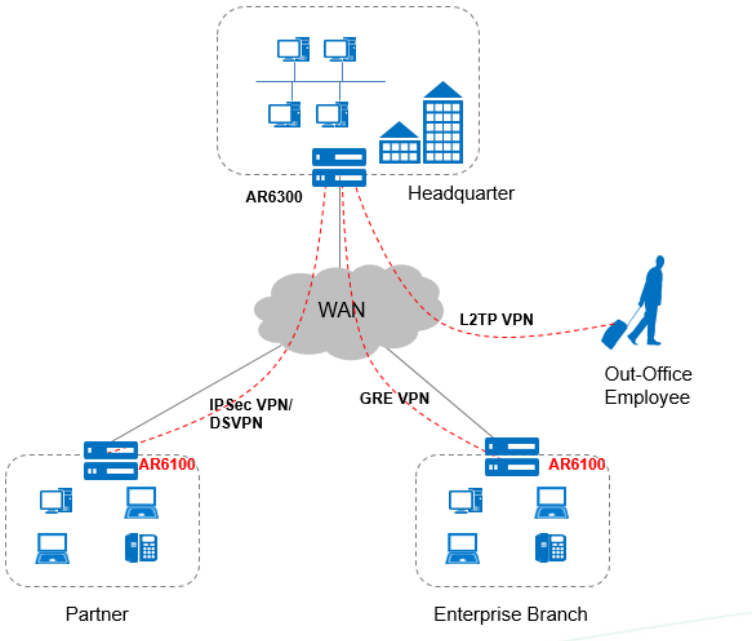


- **Building Different Types of VPNs by Leveraging Internet Resources**

  The NetEngine AR6100 provides various secure access functions for communication between enterprise branches and between branches and headquarters. These functions also allow an enterprise's partners to access its resources. Secure tunnels such as GRE VPN, IPSec VPN, DSVPN, L2TP VPN, and EVPN tunnels can be set up between the headquarters and branches for secure data access and transmission. The NetEngine AR6100 supports quick tunnel deployment and authentication for branches. Furthermore, partners authenticated and authorized by the NetEngine AR6100 can remotely access the enterprise resources over these tunnels.

  The NetEngine AR6100 supports a wide selection of cards and meets the extended service security requirements. Data encryption and decryption is hardware-based, greatly improving data encryption and decryption performance and providing E2E security assurance for customers.

VPN networking



More Information

For more information about Huawei next-generation AR enterprise routers, visit http://e.huawei.com or contact us in the following ways:

- Global service hotline: http://e.huawei.com/en/service-hotline
- Logging in to the Huawei Enterprise technical support website: http://support.huawei.com/enterprise/
- Sending an email to the customer service mailbox: support_e@huawei.com

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