Huawei NetEngine AR8000 Series Enterprise Router Data Sheet

NetEngine AR8000 series enterprise routers are fixed-form-factor routers developed by Huawei for enterprise headquarters and data centers (DCs) and are mainly applied in SD-WAN solutions to deliver high performance required by enterprise customers.

Overview

NetEngine AR8000 series routers — Huawei's next-generation routers — use the ARM multi-core processor and non-blocking switching architecture. The AR8000 series routers are mainly used in SD-WAN solutions to deliver high performance required by enterprise customers.

 NetEngine AR8140-12G10XG	• Fixed WAN ports: 8 x GE combo, 4 x GE electrical, 10 x 10GE optical, (All WAN ports can be configured as LAN) • Dimensions (H x W x D): 44.4 mm x 442.0 mm x 420.0 mm
 NetEngine AR8140-T-12G10XG	• Fixed WAN ports: 8 x GE combo, 4 x GE electrical, 10 x 10GE optical, (All WAN ports can be configured as LAN) • Dimensions (H x W x D): 44.4 mm x 442.0 mm x 420.0 mm

Features and Highlights

Features and Highlights of NetEngine AR8000

Service Requirement	Features and Highlights
High performance	• ARM multi-core processor and non-blocking switching architecture • Industry-leading performance, providing low latency required by key services
High reliability	• Link backup for enterprise services, improving reliability • Fault detection and locating within milliseconds, reducing service downtime
Easy O&M	• Multiple management modes such as management through iMaster NCE-WAN and SNMP, simplifying network deployment and reducing OPEX

Service Requirement	Features and Highlights
SD-WAN Ready	• Built-in SD-WAN solution, building cost-effective and business-friendly connections over the Internet • Application identification and link quality-based intelligent traffic steering, ensuring key application experience • Multi-link traffic steering and dual-hub flexible networking • End-to-end IPsec encryption, ensuring secure service transmission

Architecture Highlights of Huawei NetEngine AR8000

Highlight	Benefits
Multi-core processor	High-speed WAN connections and powerful routing and computing capabilities, improving L4-L7 service processing efficiency
Non-blocking switching architecture	The bus bandwidth of a single slot can reach up to 10 Gbps, eliminating service forwarding performance bottlenecks.
High-density network ports	Fixed WAN ports: 8 x GE combo, 4 x GE electrical, 10 x 10GE optical, (All WAN ports can be configured as LAN)

Product Specifications

Specifications	NetEngine AR8140-12G10XG	NetEngine AR8140-T-12G10XG
System parameters		
SD-WAN service performance[1] (IMIX)	20Gbps	
SD-WAN service performance[1] (1400 Bytes)	50Gbps	
Fixed WAN ports	8 x GE combo, 4 x GE electrical, 10 x 10GE optical, (All WAN ports can be configured as LAN)	
SIC slots	4	
WSIC slots (default/maximum[2])	0/2	
Auxiliary or console port	1 x RJ45 console port	
USB port	1 x USB 3.0 (compatible with USB 2.0)	
Memory	16 GB	
Flash	4 GB	
TPM	Not Supported	Supported
Hot swapping	Supported	
Dimensions and Weight		

Specifications	NetEngine AR8140-12G10XG	NetEngine AR8140-T-12G10XG
Dimensions without mounting brackets (H x W x D)	44.4 mm x 442.0 mm x 420.0 mm	
Dimensions with mounting brackets (H x W x D)	44.4 mm x 442.0 mm x 470.0 mm	
Packaging dimensions (H x W x D)	175.0 mm x 550.0 mm x 650.0 mm	
Weight (unconfigured)	5.8 kg	
Rack	IEC	
Occupied rack space	1U	
Power specifications, power consumption, and heat dissipation		
Rated input voltage (AC)	100 V to 240 V	
Rated input frequency (AC)	50 Hz/60 Hz	
Maximum input voltage (AC)	90 V to 264 V	
Maximum input current (AC)	5.5 A	
Maximum output power (AC)	350 W	
Power supply redundancy	Dual power modules, hot swap	
Typical power consumption	168 W	
Maximum power consumption	191 W	
Fan modules	Built-in unpluggable fan modules	
Airflow	Left to right	
Noise	57.6 dB	
Environmental specifications		
Operating temperature	0°C to 45°C	
Operating humidity	5% to 95% (non-condensing)	
Operating altitude	< 5000 m	
Storage temperature	–40°C to + 70°C	
Storage altitude	< 5000 m	

1: The SD-WAN performance model is EVPN+IPsec+QoS, with the performance data being the sum of bidirectional flows.

2: The maximum number of slots includes the number of combined slots.

Software Features and Protocols

Item	NetEngine AR8000 Series
Basic function	DHCP server/client/relay, NAT, and sub-interface management
LAN	IEEE 802.1P, IEEE 802.1Q, IEEE 802.3, VLAN management, MAC management, STP/RSTP/MSTP
IPv4 unicast routing	Routing policies, static routes, RIP, OSPF, IS-IS, BGP, IP FRR
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
Tunneling	GRE tunnel, NAT STUN
VPN	GRE VPN,SD-WAN EVPN
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), NGFW, AAA authentication, RADIUS authentication, HWTACACS authentication, PKI, broadcast storm suppression, ARP security, ICMP attack defense, URPF, CPCAR, attack source tracing, AV, IPS, URL filtering
Management and maintenance	Upgrade management, device management, GTL, SNMP (v1/v2c/v3), RMON, NTP, Auto-Config, USB-based/DHCP deployment, NETCONF/YANG, CLI, TCP FPM, NQA

Safety and Regulatory Standards

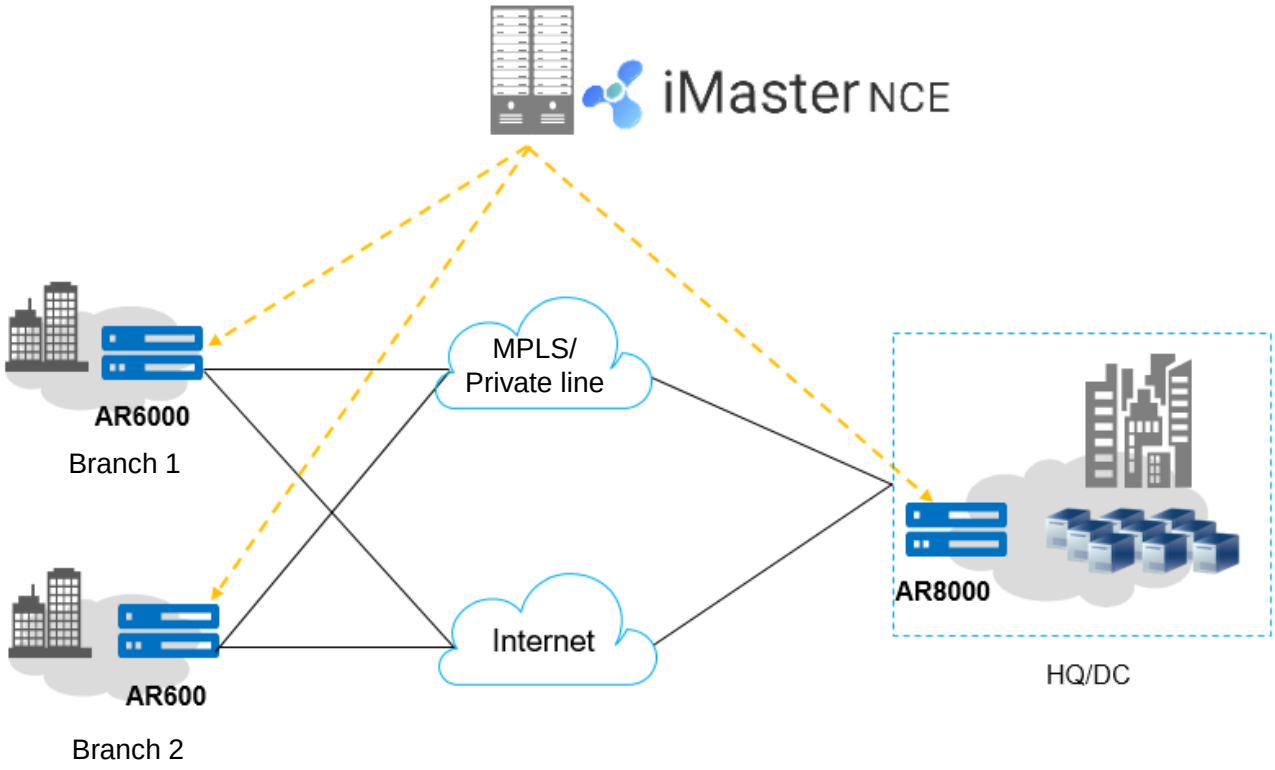
Item	NetEngine AR8000 Series
EMC standards compliance	•CISPR32 Class A •EN 55032 Class A •CISPR24 •EN 55024 •ETSI EN 300 386 •AS/NZS CISPR32 Class A •FCC Part 15 Subpart B Class A •ICES 003 Class A •IEC 61000-3-2 •EN 61000-3-2 •IEC 61000-3-3 •EN 61000-3-3 •GB 9254 •VCCI-CISPR32 Class A
Environmental standards compliance	•RoHS •REACH •WEEE
Security standards compliance	•IEC 60950-1 •EN 60950-1 •UL 60950-1

Item	NetEngine AR8000 Series
	•CSA C22.2 No 60950-1 •GB 4943.1

Application Scenarios

In the SD-WAN solution, the AR8000 functions as the gateway of the enterprise headquarters or DC and supports extensive physical links, such as MPLS and Internet links. iMaster NCE-WAN provides visualized management for the AR8000. The AR8000 integrates a wide range of SD-WAN features such as intelligent application identification and intelligent traffic steering, delivering better service experience to enterprises. For details about Huawei SD-WAN Solution, visit https://e.huawei.com/en/solutions/business-needs/enterprise-network/sd-wan.

SD-WAN networking



Ordering Information

The configuration of the NetEngine AR8000 series includes host selection and software configuration.

- Host

  Select the device model according to the uplink interface type and service requirements.

- Software

  NetEngine AR8000 series routers use the SD-WAN N1 model.

Host	Ordering Information
NetEngine AR8140-12G10XG	AR8140-12G10XG,10*10GE(SFP+),8*GE Combo,4*GE Copper,1*USB3.0,4*SIC
NetEngine AR8140-T-12G10XG	AR8140-T-12G10XG,10*10GE(SFP+),8*GE Combo,4*GE Copper,1*USB3.0,4*SIC
Power supply unit	**Ordering Information**
PAC350S12-CR	350 W AC Power Module
License	**Ordering Information**
N1-SDWAN-F-AR8100	N1 SD-WAN Foundation,AR8100,Per Device
N1-SDWAN-F-AR8100-SNS	Subscription And Support,N1 SD-WAN Foundation,AR8100,Per Device(Annual fee validity period : 3 years from " PO signed plus 90 days ")

More Information

For more information, visit https://e.huawei.com/en/ 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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