

Huawei NetEngine AR651C Enterprise Routers

Huawei AR651C enterprise routers are 1U fixed routers designed for use in small- and medium-sized business (SMBs) and small-sized enterprise branches. The AR651C 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 AR651C enterprise routers use multi-core processors and a non-blocking switching structure, helping to deliver three times the industry average performance. The NetEngine AR651C also integrates functions such as SD-WAN, cloud management, routing, switching, VPN, WLAN, and security, ensuring diversified and cloud-based services are fully supported.



NetEngine AR651C

- Forwarding Performance: 1 Gbps
- Fixed WAN ports: 2*GE SFP, 2*GE RJ45
- Fixed LAN ports: 8*GE RJ45(can be configured as WAN)
- Dimensions (H x W x D): 43.6 mm x 250.0 mm x 210.0 mm

Features and Benefits

Features and Benefits

Service Requirement	Features and Benefits
High performance	<ul style="list-style-type: none"> • Multi-core processors and a non-blocking switching structure • Three times the industry average performance, providing the lowest latency for key services
High reliability	<ul style="list-style-type: none"> • 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, web-based network management, and cloud-based management, simplifying network deployment and reducing OPEX
Service convergence	Integration of functions such as routing, switching, VPN, security, and WLAN, meeting diversified enterprise service requirements, saving space, and reducing TCO
Security	Built-in firewall, URL filtering, and multiple VPN technologies, providing comprehensive security protection capabilities
SD-WAN Ready	<ul style="list-style-type: none"> • Built-in SD-WAN solution, building cost-effective and business-friendly connections over the Internet • ZTP (email-, USB-, and DHCP-based deployment), minimizing skill requirements and

Service Requirement	Features and Benefits
	provisioning devices in minutes <ul style="list-style-type: none"> • 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, WAN, and WLAN

Product Specifications

NetEngine AR651C Technical Specifications

Item	NetEngine AR651C
System Parameters	
Forwarding Performance (LAN - > WAN + WAN - > LAN, NAT + ACL + QoS, IMIX, Default)	1 Gbps
Forwarding Performance (LAN - > WAN + WAN - > LAN, NAT + ACL + QoS, IMIX, Boost License)	1.5 Gbps
IPsec performance (IMIX)	800 Mbps
Fixed WAN ports	2 x GE SFP, 2 x GE RJ45
Fixed LAN ports	8 x GE RJ45(can be configured as WAN)
USB port	1 x USB 3.0 (compatible with USB 2.0)
Auxiliary or console port	1 x RJ45 console port
Memory	1 GB
Flash memory	1 GB
Dimensions and Weight	
Router dimensions, With no mounting bracket installed (H x W x D)	43.6 mm x 250.0 mm x 210.0 mm
Packaging dimensions (H x W x D)	155 mm x 455 mm x 280 mm
Weight	1.75 kg
Form Factor	Rack
Power Specifications, Power Consumption, and Heat Dissipation	

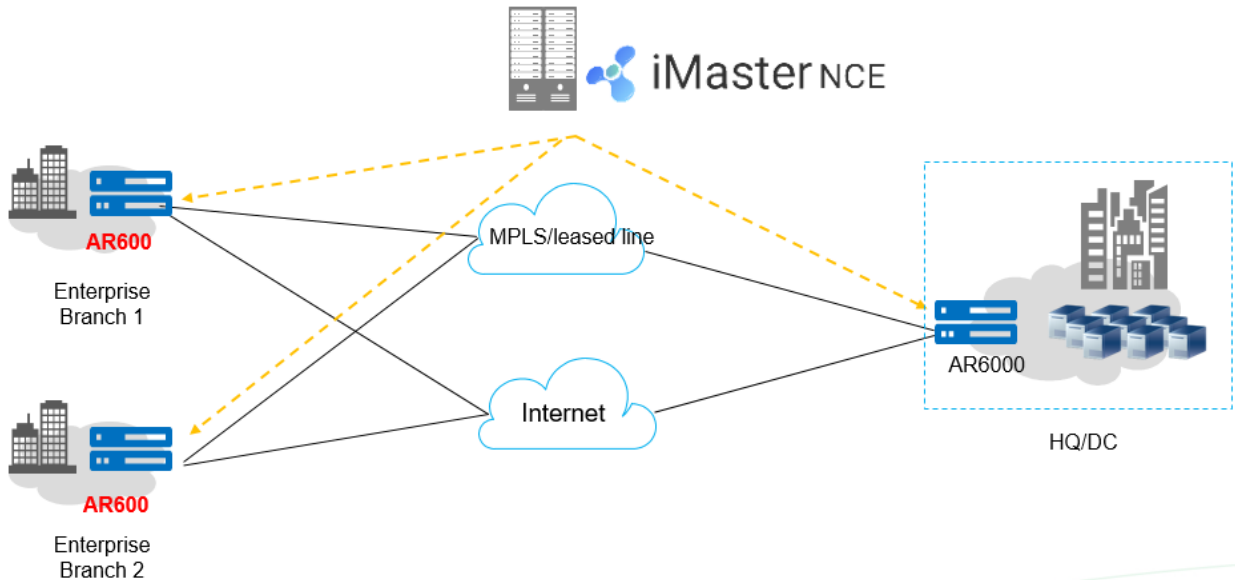
Item	NetEngine AR651C
Rated input voltage range (AC)	100 V to 240 V
Rated input frequency (AC)	50 Hz/60 Hz
Maximum input voltage range (AC)	90 V to 264 V
Maximum input current (AC)	3 A
Maximum output power (AC)	36 W
Typical power consumption	22.1 W
Maximum power consumption	25.2 W
Fan module	Natural heat dissipation, without fans
Environment Parameters	
Operating temperature	0°C to 45°C
Operating humidity	5% to 95% (non-condensing)
Operating altitude	< 5000 m (16404.2 ft.)
Storage temperature	-40°C to +70°C
Storage altitude	< 5000 m (16404.2 ft.)
Safety and Regulatory Standards	
EMC standards compliance	CISPR32 Class A EN 55032 Class A CISPR24 EN 55024 ETSI EN 300 386 ETSI EN 301 489-1 ETSI EN 301 489-17 ETSI EN 301 489-52
Environmental standards compliance	RoHS REACH WEEE
Safety standards compliance	IEC 60950-1 EN 60950-1
FCC standards compliance	FCC Part15
Features and Protocols	
Basic function	DHCP server/client/relay, PPPoE server/client, PPPoA server/client, PPPoEoA server/client, NAT, and sub-interface management
LAN	IEEE 802.1P, IEEE 802.1Q, IEEE 802.3, VLAN management, VLAN aggregation, MAC management, STP/RSTP
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)

Item	NetEngine AR651C
WLAN (AP)	AP management, WLAN QoS (WMM), WLAN security (WEP/WPA/WPA2/key management), WLAN radio management (802.11b/g/n/ac), and WLAN user 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
VPN	IPsec VPN, GRE VPN, DSVPN, A2A VPN, L2TP VPN, L2TPv3 VPN, VxLAN
QoS	DiffServ mode, priority mapping, traffic policing (CAR), traffic shaping, congestion avoidance, congestion management, MQC (traffic classifier, traffic behavior, and traffic policy), hierarchical QoS, WLAN QoS, FR 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, 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 Light, IP accounting, NQA

Networking and Application

- **SD-WAN Using Hybrid Links**

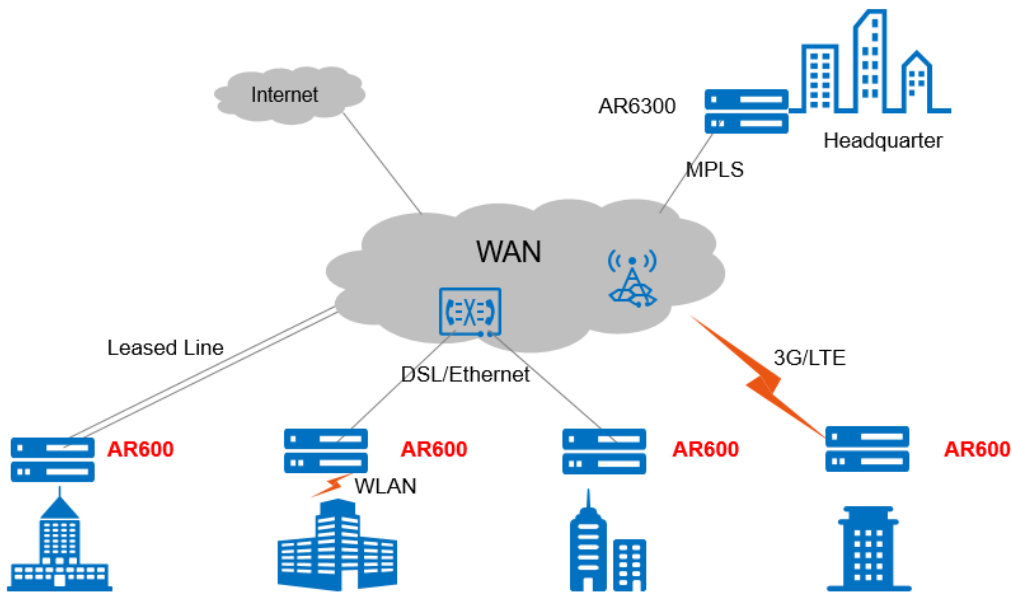
In the SD-WAN Solution, the NetEngine AR600 functions as the gateway of SMBs and small-sized enterprise branches and supports hybrid access using multiple physical links, such as Internet links, and LTE links. The solution also leverages Huawei's next-generation controller, the Agile Controller, which implements centralized and visualized management. The NetEngine AR600 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>.



• **WAN Interconnection Scenario**

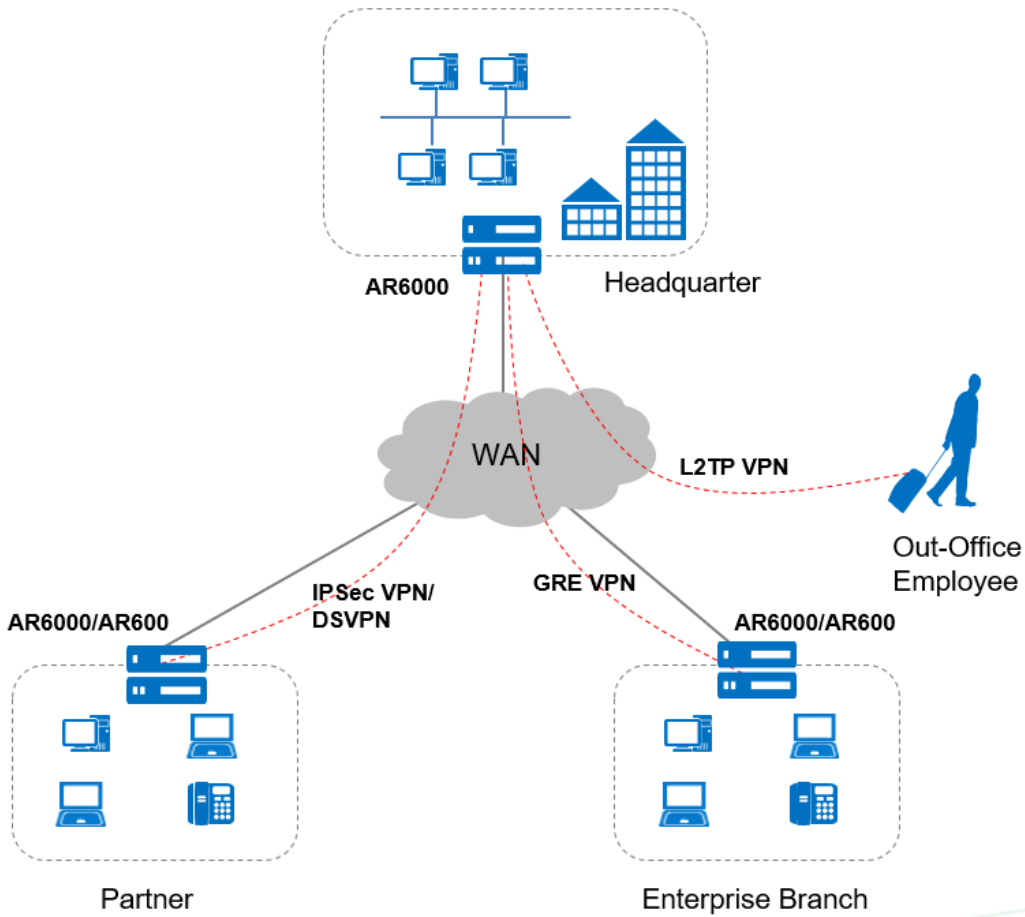
In this scenario, the NetEngine AR600 series routers are used as enterprise branch egresses and provide flexible WAN access methods to support remote network connections. A single NetEngine AR600 router can satisfy different access requirements, for example, for the private line, Ethernet, 3G, LTE, and WLAN access, helping the customer reduce deployment and maintenance costs while helping them extract much value.

WAN interconnection networking



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

The NetEngine AR600 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 AR600 supports quick tunnel deployment and authentication for branches. Furthermore, partners authenticated and authorized by the AR600 can remotely access the enterprise resources over these tunnels.



Ordering Information

The NetEngine AR600 series routers are configured by selecting and installing the appropriate configuration module. The configuration module ordering information and descriptions are shown in the following tables.

License function and description

License Name	Description
Value-Added Data Package	Smart Policy Routing (SPR) is included
Value-Added Security Package	Efficient VPN (EVPN), DSVPN, Smart Application Control (SAC), Any to Any VPN, and URL filtering are included.

Ordering components

Chassis Configuration	Description
NetEngine AR651C	AR651C AC host, 10*GE RJ45,2*GE SFP, 1*USB 3.0, with the AC/DC adapter
License	Description
LAR0DATAE08	AR600 Value-Added Data Package
LAR0SECE08	AR600 Value-Added Security Package

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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