AR 150, AR 160 and AR 200 Series Enterprise Routers Brochure

HUAWEI TECHNOLOGIES CO., LTD.

HUAWEI

AR 150, AR 160 and AR 200 Series Enterprise Routers

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Huawei' s next-generation routers, the AR 150, AR160 and AR 200 series are designed for enterprise branch offices and small businesses, delivering a comprehensive set of services, including routing, switching, voice, security, and wireless access.

Product Overview

The AR 150, AR160 and AR 200 series are fixed interface routers that provide a comprehensive platform for a variety of network topologies, including IMS, NGN, WAN and PSTN. The AR 150, AR160 and AR 200 also employ embedded hardware encryption for security as well as a voice Digital Signal Processor (DSP) for voice services.

The AR 150, AR160 and AR 200 series are mature, stable and quiet routers that offer high performance functionality for small networks, enabling small businesses to greatly increase productivity at a lower cost.

AR 150s, AR160s and AR 200s are easy to deploy, configure and customize, greatly reducing cost of deployment and maintenance, while offering maximum value to customers. These models allow network administrators to expand their networks easily and quickly, saving time and costs. Both models support firewalls, call processing, and application program functionalities.

The AR150, AR160 and AR200 series includes the following models: AR151, AR151G-HSPA+7, AR151G-C, AR151W-P, AR156, AR156W, AR157, AR157G-HSPA+7, AR157VW, AR157W, AR158E, AR158EVW, AR161F, AR161FG-L, AR161FGW-L, AR161FW-P-M5, AR162F, AR168F, AR169F, AR169FVW, AR169FGW-L, AR169FGVW-L, AR201, AR207, AR207G-HSPA+7, AR207V, AR207V-P and AR208E.The specifications for these models are shown in the following table.

Table 1: AR150 and AR200 Models

AR151	
	• WAN speed with services (IMIX): 100 Mbps
	• Fixed ports: 4 x FE LAN, 1 x FE WAN
	• Dimensions (H x W x D): 44.5 mm x 300 mm x 220 mm (1.75 in. x 11.8 in. x 8.66 in.)

AR151G-HSPA+7	
	• WAN speed with services (IMIX): 100 Mbps
	• Fixed ports: 4 x FE LAN, 1 x FE WAN, WCDMA HSPA+7
	• Dimensions (H x W x D): 44.5 mm x 300 mm x 220 mm (1.75 in. x 11.8 in. x 8.66 in.)

AR151G-C	
	• WAN speed with services (IMIX): 100 Mbps
	• Fixed ports: 4 x FE LAN, 1 x ADSL2+ Annex A/M, CDMA2000 EVDO
	• Dimensions (H x W x D): 44.5 mm x 300 mm x 220 mm (1.75 in. x 11.8 in. x 8.66 in.)

AR151W-P

- WAN speed with services (IMIX): 100 Mbps
- Fixed ports: 4 x FE LAN(PoE), 1 x FE WAN, 802.11 b/g/n
- Dimensions (H x W x D): 44.5 mm x 300 mm x 220 mm (1.75 in. x 11.8 in. x 8.66 in.)

AR156

- WAN speed with services (IMIX): 100 Mbps
- Fixed ports: 4 x FE LAN, 1 x ADSL2+ Annex J
- Dimensions (H x W x D): 44.5 mm x 300 mm x 220 mm (1.75 in. x 11.8 in. x 8.66 in.)

AR156W

- WAN speed with services (IMIX): 100 Mbps
- Fixed ports: 4 x FE LAN, 1 x ADSL2+ Annex J, , 802.11 b/g/n
- Dimensions (H x W x D): 44.5 mm x 300 mm x 220 mm (1.75 in. x 11.8 in. x 8.66 in.)

AR157

- WAN speed with services (IMIX): 100 Mbps
- Fixed ports: 4 x FE LAN, 1 x ADSL2+ Annex A/M
- Dimensions (H x W x D): 44.5 mm x 300 mm x 220 mm (1.75 in. x 11.8 in. x 8.66 in.)

AR157G-HSPA+7

- WAN speed with services (IMIX): 100 Mbps
- Fixed ports: 4 x FE LAN, 1 x ADSL2+ Annex A/M, WCDMA HSPA+7
- Dimensions (H x W x D): 44.5 mm x 300 mm x 220 mm (1.75 in. x 11.8 in. x 8.66 in.)

AR157VW

- WAN speed with services (IMIX): 100 Mbps
- Fixed ports: 4 x FE LAN, 1 x ADSL2+ Annex A/M, 802.11 b/g/n
- Fixed Voice ports: 4 x FXS, 1 x FXO
- Dimensions (H x W x D): 44.5 mm x 300 mm x 220 mm (1.75 in. x 11.8 in. x 8.66 in.)

AR157W

- WAN speed with services (IMIX): 100 Mbps
- Fixed ports: 4 x FE LAN, 1 x ADSL2+ Annex A/M, 802.11 b/g/n
- Dimensions (H x W x D): 44.5 mm x 300 mm x 220 mm (1.75 in. x 11.8 in. x 8.66 in.)

AR158E

- WAN speed with services (IMIX): 100 Mbps
- Fixed ports: 4 x FE LAN, 1 x G.SHDSL 8-wire,
- Dimensions (H x W x D): 44.5 mm x 300 mm x 220 mm (1.75 in. x 11.8 in. x 8.66 in.)

AR158EVW

- WAN speed with services (IMIX): 100 Mbps
- Fixed ports: 4 x FE LAN, 1 x G.SHDSL 8-wire, 802.11 b/g/n
- Fixed Voice ports: 4 x FXS, 1 x FXO
- Dimensions (H x W x D): 44.5 mm x 300 mm x 220 mm (1.75 in. x 11.8 in. x 8.66 in.)

AR161F

- WAN speed with services (IMIX): 150 Mbps
- Fixed ports: 4 x GE LAN, 1 x GE Combo WAN
- Dimensions (H x W x D): 44.5 mm x 300 mm x 220 mm (1.75 in. x 11.8 in. x 8.66 in.)
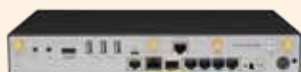
AR161FG-L

- WAN speed with services (IMIX): 150 Mbps
- Fixed ports: 4 x GE LAN, 1 x GE Combo WAN, FDD LTE
- Dimensions (H x W x D): 44.5 mm x 300 mm x 220 mm (1.75 in. x 11.8 in. x 8.66 in.)

AR161FGW-L

- WAN speed with services (IMIX): 150 Mbps
- Fixed ports: 4 x GE LAN, 1 x GE Combo WAN, FDD LTE, 802.11 b/g/n
- Dimensions (H x W x D): 44.5 mm x 300 mm x 220 mm (1.75 in. x 11.8 in. x 8.66 in.)

AR161FW-P-M5

- WAN speed with services (IMIX): 150 Mbps
- Fixed ports:
  4 x GE LAN(PoE),
  1 x GE Combo WAN
  1 x RS485/RS232/RS422
  1 x USB OTG + 3 x USB 2.0 HOST
  1 x HDMI
  1 x 3.5mm Audio Output (Earphone)
  1 x 3.5mm Audio input(MIC)
  1 x Bluetooth
  1 x Zigbee
- 802.11 b/g/n
- Dimensions (H x W x D): 44.5 mm x 300 mm x 220 mm (1.75 in. x 11.8 in. x 8.66 in.)

AR162F

- WAN speed with services (IMIX): 150 Mbps
- Fixed ports: 4 x GE LAN, 1 x GE Combo WAN, 1 x SA
- Dimensions (H x W x D): 44.5 mm x 300 mm x 220 mm (1.75 in. x 11.8 in. x 8.66 in.)

AR168F

- WAN speed with services (IMIX): 150 Mbps
- Fixed ports: 4 x GE LAN, 1 x G.SHDSL 8-wire, 1 x GE Combo WAN
- Dimensions (H x W x D): 44.5 mm x 300 mm x 220 mm (1.75 in. x 11.8 in. x 8.66 in.)

AR169F

- WAN speed with services (IMIX): 150 Mbps
- Fixed ports: 4 x GE LAN, 1 x VDSL2, 1 x GE Combo WAN
- Dimensions (H x W x D): 44.5 mm x 300 mm x 220 mm (1.75 in. x 11.8 in. x 8.66 in.)

AR169FVW

- WAN speed with services (IMIX): 150 Mbps
- Fixed ports: 4 x GE LAN, 1 x GE Combo WAN, 1 x VDSL2 2-pairs , 802.11 b/g/n
- Fixed Voice ports: 4 x FXS, 1 x FXO
- Dimensions (H x W x D): 44.5 mm x 300 mm x 220 mm (1.75 in. x 11.8 in. x 8.66 in.)

AR169FGW-L

- WAN speed with services (IMIX): 150 Mbps
- Fixed ports: 4 x GE LAN, 1 x GE Combo WAN, 1 x VDSL2 2-pairs , LTE FDD, 802.11 b/g/n
- Dimensions (H x W x D): 44.5 mm x 300 mm x 220 mm (1.75 in. x 11.8 in. x 8.66 in.)

AR169FGVW-L

- WAN speed with services (IMIX): 150 Mbps
- Fixed ports: 4 x GE LAN, 1 x GE Combo WAN, 1 x VDSL2 2-pairs , LTE FDD, 802.11 b/g/n
- Fixed Voice ports: 4 x FXS, 1 x FXO
- Dimensions (H x W x D): 44.5 mm x 300 mm x 220 mm (1.75 in. x 11.8 in. x 8.66 in.)

AR201

- WAN speed with services (IMIX): 150 Mbps
- Fixed ports: 8 x FE LAN, 1 x FE WAN
- Dimensions (H x W x D): 44.5 mm x 300 mm x 220 mm (1.75 in. x 11.8 in. x 8.66 in.)

AR207

- WAN speed with services (IMIX): 150 Mbps
- Fixed ports: 8 x FE LAN, 1 x ADSL2+ Annex A/M
- Dimensions (H x W x D): 44.5 mm x 300 mm x 220 mm (1.75 in. x 11.8 in. x 8.66 in.)

AR207G-HSPA+7

- WAN speed with services (IMIX): 150 Mbps
- Fixed ports: 8 x FE LAN, WCDMA HSPA+7,
- 1 x ADSL2+ Annex A/M
- Dimensions (H x W x D): 44.5 mm x 300 mm x 220 mm (1.75 in. x 11.8 in. x 8.66 in.)

AR207V

- WAN speed with services (IMIX): 150 Mbps
- Fixed ports: 8 x FE LAN, 1 x ADSL2+ Annex A/M
- Fixed Voice ports: 4 x FXS, 1 x FXO
- Dimensions (H x W x D): 44.5 mm x 300 mm x 220 mm (1.75 in. x 11.8 in. x 8.66 in.)

AR207V-P

- WAN speed with services (IMIX): 150 Mbps
- Fixed ports: 8 x FE LAN(PoE), 1 x ADSL2+ Annex A/M
- Fixed Voice ports: 4 x FXS, 1 x FXO
- Dimensions (H x W x D): 44.5 mm x 300 mm x 220 mm (1.75 in. x 11.8 in. x 8.66 in.)

AR208E

- WAN speed with services (IMIX): 150 Mbps
- Fixed ports: 8 x FE LAN, 1 x G.SHDSL 8-wire
- Dimensions (H x W x D): 44.5 mm x 300 mm x 220 mm (1.75 in. x 11.8 in. x 8.66 in.)

Product Features and Benefits

① Small Size and High Performance

- More applications: Huawei series routers use the dual-core processor that isolates the control plane from the forwarding plane and processes more enterprise applications. Huawei series routers improve user experience for multimedia service when streams overlap.
- Higher performance: The AR 150s, AR160s and AR 200s can process various enterprise applications, and its service processing capability is four times that in the industry.
- Greater potential: Huawei series routers provide the capability to migrate services to the 3G and LTE networks.

❷ Low Investment with High Returns

- Easy to construct: The AR 150s, AR160s and AR 200s supports plug-and-play, intelligent configuration, and deployment using the USB flash drive. It can function immediately after being installed. Users do not need to configure an IP address manually. The PPP and VPN indicators show the status of corresponding services. The AR 150s, AR160s and AR 200s helps to quickly construct an enterprise IT network.

- Simplified solution: Huawei provides an all-around solution that integrates the routing, switching, voice, security, and wireless services. Customers can customize solutions as required.

- Easy to expand: Huawei series routers have eight FE ports(except AR150s and AR160s), can access more employee for small enterprises. The two uplink WAN ports implement load balancing and link protection, maximizing the return on investments.

❸ Small footprint on a Comprehensive Platform

- Maturity and Stableness: The AR 150s, AR160s and AR 200s uses the Huawei VRP operating system and VSP voice platform. In addition, the AR 150s, AR160s and AR 200s uses modularized hardware design, which brings good user experience.

- Low-noise office: Huawei series routers have no fan, which brings low noise and good user experience.

- Secure environment: The lightning failure rate of AR 150s, AR160s and AR 200s is only 3% of industry average. The AR 150s, AR160s and AR 200s can be applied in the harsh environment.

- Unlimited expansion: Built-in open multi-service platform (AR160 Series M5 models) can provide All-in-one solutions integrated multiple services and applications to the customers
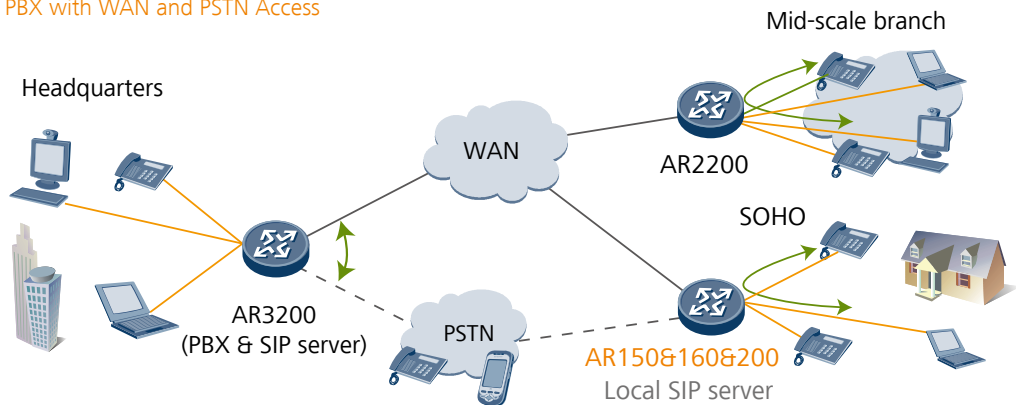
Sample Deployments

WAN Access

Example deployment in branch networks for WAN access. In this example, the AR150s , AR160s and AR 200s function as the egress routers on enterprise branch networks and provide multiple access methods, including Ethernet, xDSL, 3G, LTE and WLAN.
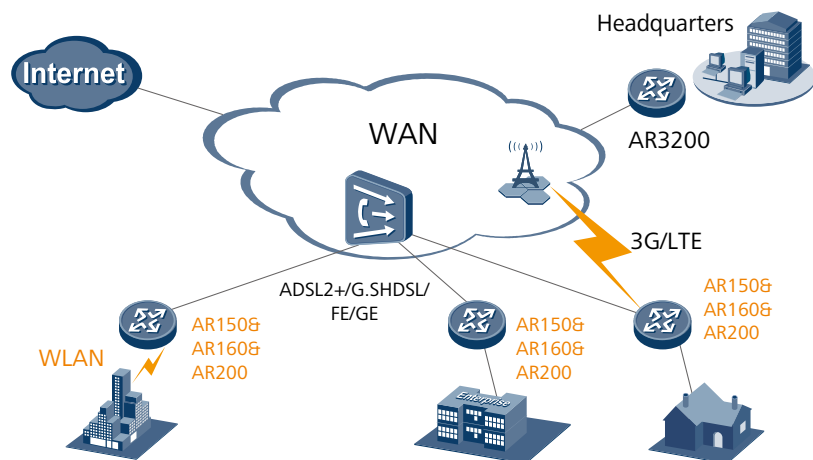
Enterprise Voice Services Deployment

IP PBX with WAN and PSTN Access

This illustration shows an AR 150, AR160 and AR 200 series router deployed at an enterprise branch with access to a WAN and a PSTN. If a fault occurs on the WAN, the PSTN acts as a backup to the WAN and ensures that call services remain uninterrupted. AR 150s, AR160s and AR 200s are deployed at enterprise branch offices to provide intelligent, integrated dialing across the network. When deployed as voice service gateways, AR 150s, AR160s and AR 200s can function as IP PBX boxes and SIP access gateways.

IP PBX. AR 150s, AR160s and AR 200s have a built-in PBX, which supports the enterprise main number, interactive voice response (IVR), and billing query functions. These features help enhance the corporate image of small businesses by allowing them to look more professional to their customers, while simultaneously improving the efficiency of their enterprise communications.

SIP Server. AR 150s, AR160s and AR 200s have a built-in SIP server that ensures reliability of voice services. If the SIP server at the headquarters office becomes unreachable, the local built-in SIP server at the branch office ensures that communication remains uninterrupted between branch offices and the PSTN network.

SIP Access Gateway
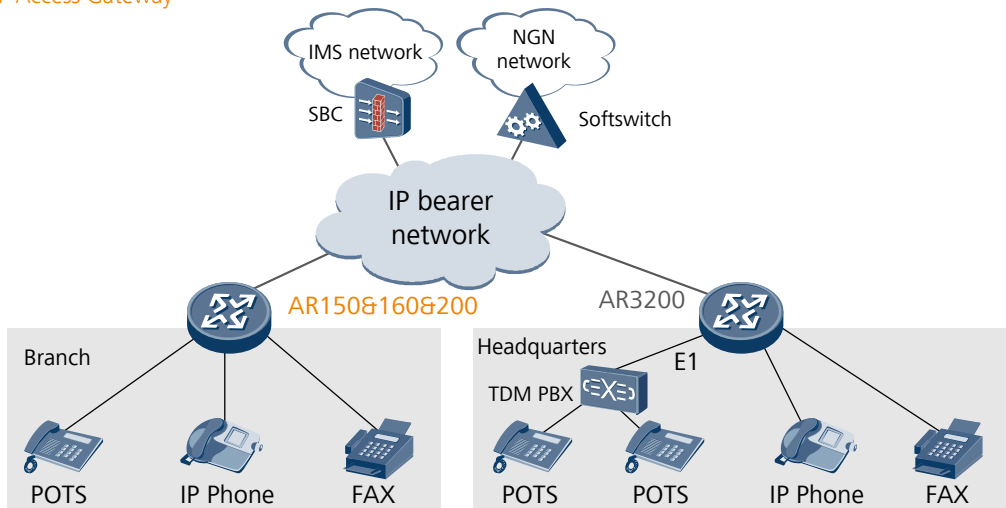
The AR 150, AR160 and AR 200 series routers provide integrated voice, fax, and IP services. The AR 150s, AR160s and AR 200s can function as SIP access gateways for enterprise branch offices that transform traditional phone signals into Voice over IP (VoIP). Typically, AR 150s, AR160s and AR 200s are connected upstream from the IMS and NGN networks to enable anytime voice communication on any media, such as phones, handsets, and computers.

VPN Deployment for Secure Enterprise Communications

VPNs Connecting Branches and Partners to Headquarters

This illustration shows how to deploy AR 150s, AR 160s and AR 200s using VPNs to connect branches and partners to headquarters.

AR 150s, AR 160s and AR 200s provide various VPN tunnel protocols to ensure secure communications between:

- Enterprise branches and other branch offices
- Enterprise branches and headquarters
- Partners and enterprise resources

AR 150s, AR 160s and AR 200s support the following VPN tunnel protocols:

- GRE VPN
- IPSEC VPN
- DSVPN
- L2TP VPN
- SSL VPN

AR 150s, AR 160s and AR 200s support fast tunnel set-up and authentication.
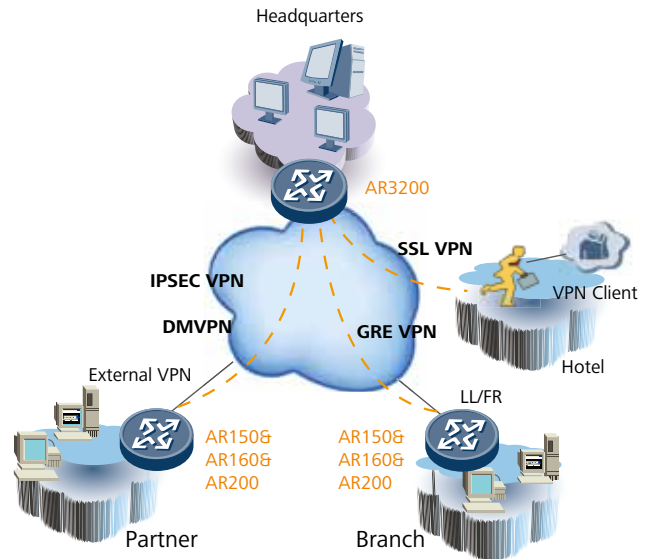
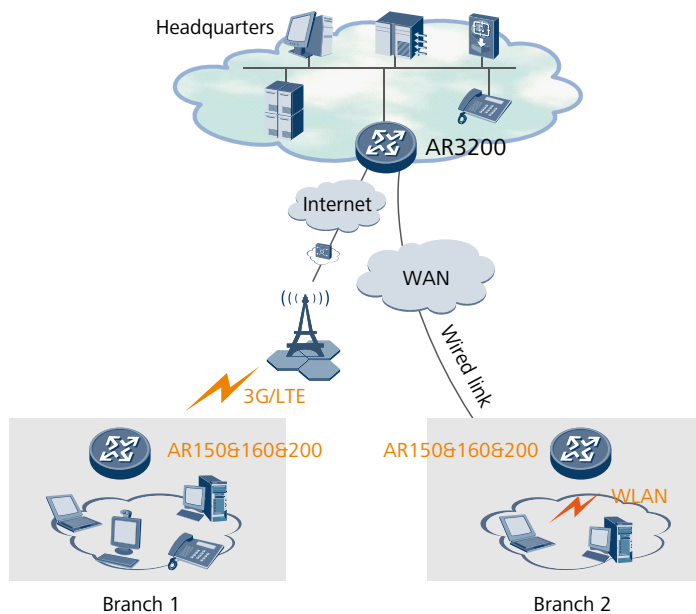## Wireless Access and Management in Branch

3G/LTE and Wi-Fi Wireless Access application

The AR 150s, AR 160s and AR 200s routers complied with 3G and LTE standards including HSPA+ and FDD LTE, meeting the wireless communication requirements between branches and the headquarters. In addition, the 3G or LTE data link can be used as a backup for wired link to protect the xDSL, FE/GE, and ISDN uplinks. The backup link improves network stability and reduces network construction costs.

Some models of AR160s routers are dual SIM devices, providing dual SIM standby. The customers can switch the SIM card manually according to 3G/LTE network standards. In addition, the device can switch to the backup SIM card when signal is weak to avoid link interruption

The AR 150s, AR160s and AR 200s routers integrated WLAN wireless access capabilities, support 802.11a/b/g/n standard communication, Built-in AC function make the deployment and management more conveniently. Its wireless features can meet users' demand for wireless access, and help enterprises to build a branch network flexibly.

Wireless AC Management application

The AR 150s, AR 160s and AR 200s routers integrated AC (Access Controller, a wireless controller) functionality, which can manage the wireless AP (Access Point, Access Point) in wireless LAN. AR supported rich certification and flexible user access control, which can provide security access guarantee for Wi-Fi users. The rich wireless capabilities integrated in one device, this can realize centralized management of wired and wireless networks, meet the customers' requirements of building different scale enterprises networks.
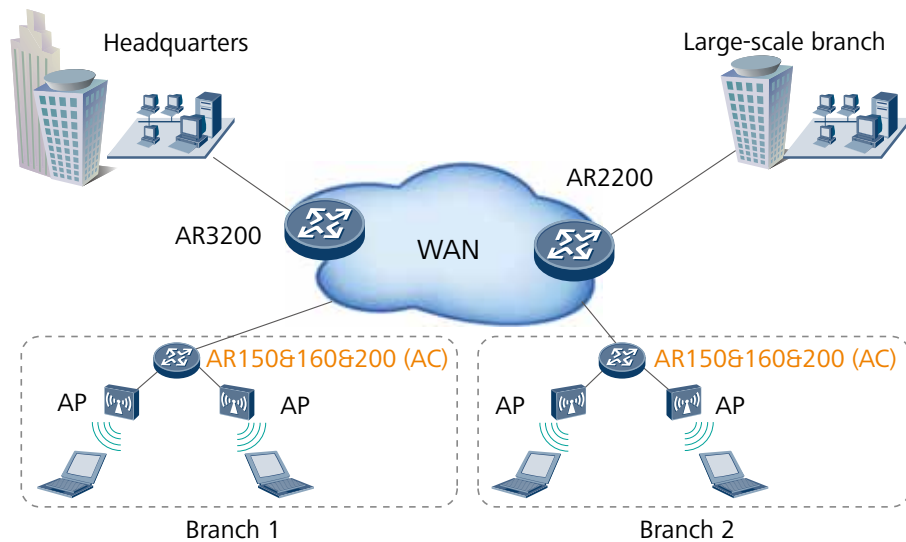
Copper and Fiber integration Access Solution

Huawei new generation AR160 routers integrated 4 GE LAN and 1 GE WAN ports, some models support VDSL2 access, which can provide 100M access bandwidth (800 meters). This new box device can bring a high bandwidth experience to the enterprise and carrier customers.

In the future, if the customers have optical access requirements, they don't need to replace the devices. As the GE WAN port supports Combo switch. The one box solution can meet the customers' requirements perfectly, thereby protect their investments.
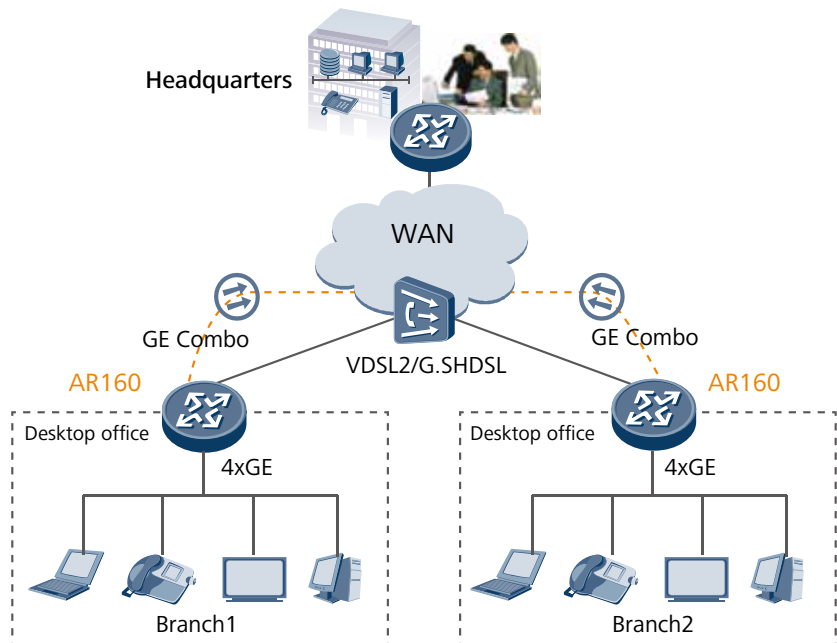
Integrated, open and all-in-one solution

iClassroom(intelligent Classroom)Solution

The AR160s (M5 series) routers integrated OSP(Open Service Platform), adopt high-performance CPU and Android OS, provide rich outer interfaces and function, which can provide multi-services and applications, open and all-in-one solutions to the customers, such as BEMS Solution, Intelligent Education Solution. The AR160s (M5 series) routers can meet the customers' energy management and all-in-one requirements.
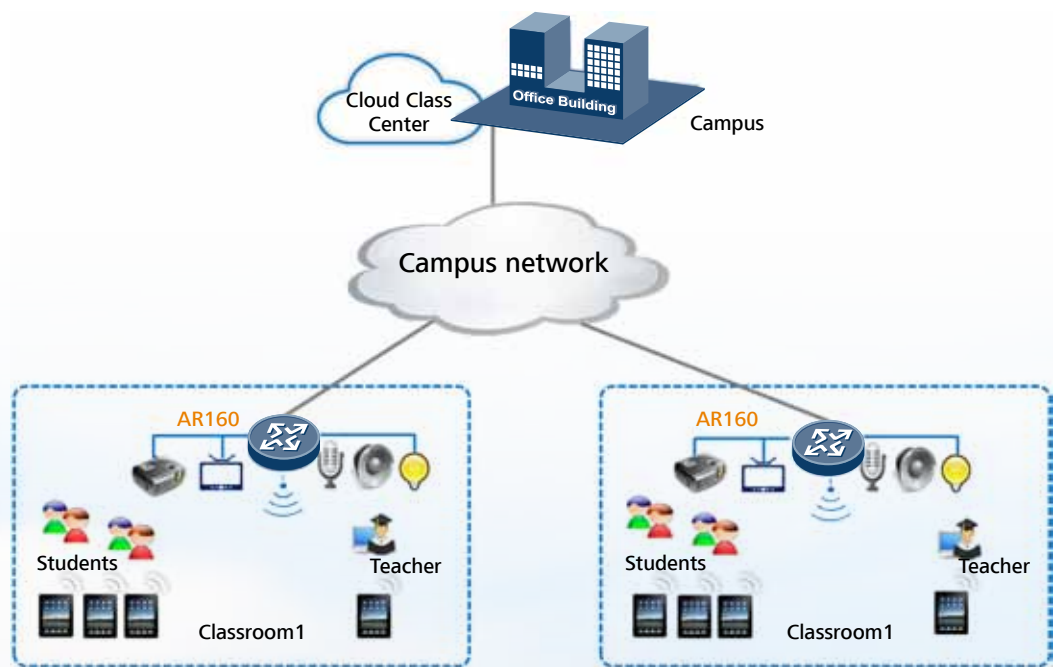
The AR160s (M5 series) routers have rich IoT interfaces, such as HDMI Video, Audio, Zigbee, Bluetooth,RS232/485,Wi-Fi and so on, which can adapt to many kinds of terminal access. The routers integrated computer, network connection and center control function in one device, which can save space and deployment cost for the customers.

This illustration shows that the AR160s routers can be deployed as CCE (Classroom Cloud Edge, the classroom cloud boundary) devices, to realize unified connection, centralized management, security accessing and intelligent controlling equipment in the classrooms, the routers can support remote teaching, immediate feedback and other teaching applications.

BEMS(Building Energy/Efficiency Management System)Solution

Platform & APP System	Energy-efficiency Management
WAN	WAN
Buildings	AR160 — Cable: RS485, PLC, Ethernrt — Wireless: ZigBee, RF, WiFi

Light sensor · Socket · Light Switch · Meter · Air Conditioner · Temperature& humidity sensor · ... ...
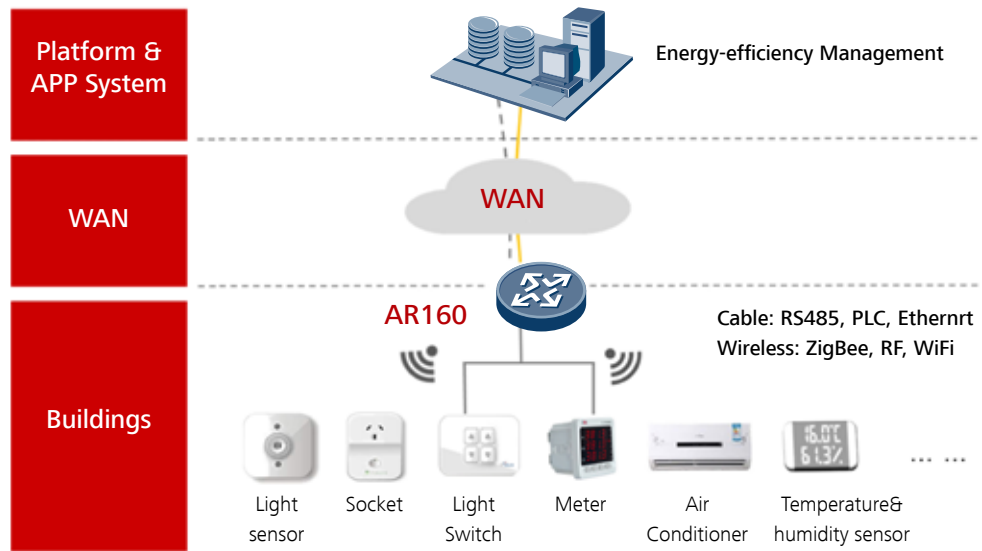
As IoT Gateways, this illustration shows that the AR160s routers can connect many kinds of intelligent terminal equipments, such as lighting, air conditioning system meter device, sensor, controller meter in the buildings, to implement unified access, intelligent control and centralized management. The customers can experience intelligence building lighting, air conditioning environment and save energy cost.
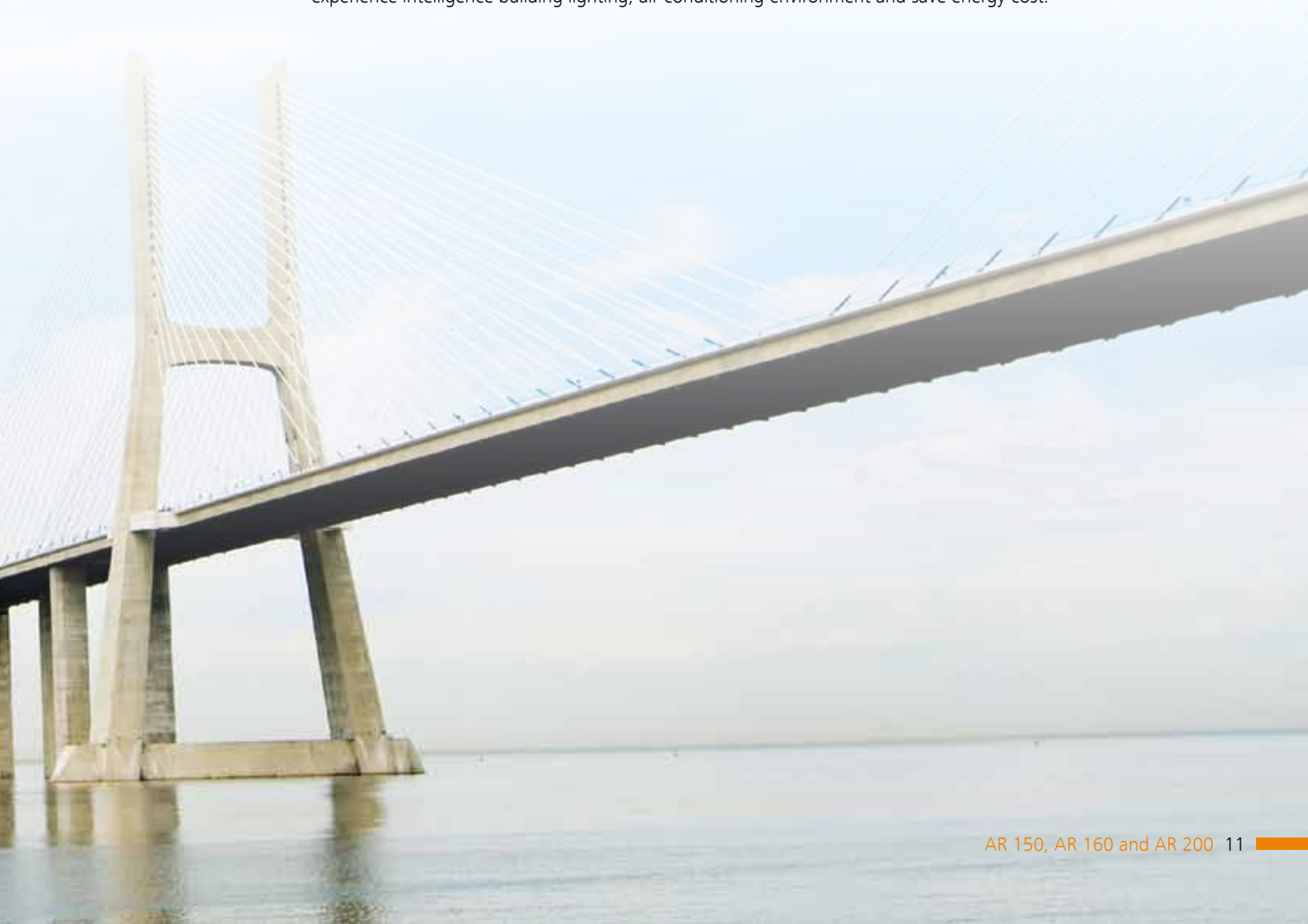
Technical Specifications

Table 2: Technical Specifications

Item	AR201/ AR151	AR156/ AR156W	AR207/ AR157	AR207V	AR207V-P	AR207G-HSPA+7/ AR157G-HSPA+7	AR208E/ AR158E
Hardware							
WAN speed with services (IMIX)	150 Mbps/ 100 Mbps	100 Mbps	150 Mbps/ 100 Mbps	150 Mbps	150 Mbps	150 Mbps/ 100 Mbps	150 Mbps/ 100 Mbps
Fixed WAN ports	2 x FE (the interface LAN 0 of which can be used as one WAN interface)	1 x ADSL2+ Annex J, 1 x FE (the interface LAN 0 of which can be used as one WAN interface)	1 x ADSL2+ Annex A/M, 1 x FE (the interface LAN 0 of which can be used as one WAN interface)	1 x ADSL2+ Annex A/M, 1 x FE (the interface LAN 0 of which can be used as one WAN interface)	1 x ADSL2+ Annex A/M, 1 x FE (the interface LAN 0 of which can be used as one WAN interface)	1 x ADSL2+ Annex A/M, 1 x FE (the interface LAN 0 of which can be used as one WAN interface)	1 x G.SHDSL 8-wire, 1 x FE (the interface LAN 0 of which can be used as one WAN interface)
Fixed Ethernet switching ports	8 x FE/ 4 x FE	4 x FE	8 x FE/ 4 x FE	8 x FE	8 x FE (PoE)	8 x FE/ 4 x FE	8 x FE/ 4 x FE
Fixed voice ports	—	—	—	4 x FXS, 1 x FXO	4 x FXS, 1 x FXO	—	—
Integrated 3G	—	—	—	—	—	WCDMA HSPA+7	—
USB 2.0 ports	1	1	1	1	1	1	1
Serial auxiliary/ console ports	1	1	1	1	1	1	1
Memory size	512 MB	512 MB	512 MB	512 MB	512 MB	512 MB	512 MB
Flash memory	512 MB	512 MB	512 MB	512 MB	512 MB	512 MB	512 MB
PoE power	—	—	—	—	External 100	—	—
Maximum power	36 W / 24 W	24W	36 W / 24 W	60 W	60 W	36 W / 24 W	36 W / 24 W
Power supply (AC)	100 V to 240 V	100V to 240V	100V to 240V	100V to 240V	100 V to 240 V	100V to 240V	100V to 240V
Frequency	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60Hz	50/60Hz	50/60 Hz
Dimensions (H x W x D)	44.5 mm x 300 mm x 220 mm (1.75 in. x 11.8 in. x 8.66 in.)	44.5 mm x 300 mm x 220 mm (1.75 in. x 11.8 in. x 8.66 in.)	44.5 mm x 300 mm x 220 mm (1.75 in. x 11.8 in. x 8.66 in.)	44.5 mm x 300 mm x 220 mm (1.75 in. x 11.8 in. x 8.66 in.)	44.5 mm x 300 mm x 220 mm (1.75 in. x 11.8 in. x 8.66 in.)	44.5 mm x 300 mm x 220 mm (1.75 in. x 11.8 in. x 8.66 in.)	44.5 mm x 300 mm x 220 mm (1.75 in. x 11.8 in. x 8.66 in.)
Operating temperature	0°C to 45°C	0°C to 45°C	0°C to 45°C	0°C to 45°C	0°C to 45°C	0°C to 45°C	0°C to 45°C

Item	AR201/ AR151	AR156/ AR156W	AR207/ AR157	AR207V	AR207V-P	AR207G-HSPA+7/ AR157G-HSPA+7	AR208E/ AR158E
Relative humidity	5% to 95% (non-condensing)	5% to 95% (non-condensing)	5% to 95% (non-condensing)	5% to 95% (non-condensing)	5% to 95% (non-condensing)	5% to 95% (non-condensing)	5% to 95% (non-condensing)
Software							
Basic features	DHCP server/client, PPPoE server/client, PPPoA server/client, PPPoEoA server/client, NAT, Sub interface management						
Voice	RTP, SIP, SIP AG, IP PBX/TDM PBX, FXO/FXS, VoIP, BEST, DISA, SBC, H.323 gatekeeper (Only voice models support voice features)						
WLAN(AP)	AP management, WLAN QoS, WLAN security, WLAN radio management, WLAN user management(Only WLAN models support WLAN AP features)						
WLAN(AC)	AP management(AC discovery/AP access/AP management),CAPWAP,WLAN user management , WLAN radio management(802.11a/b/g/n),WLAN QoS(WMM), WLAN security(WEP/WPA/WPA2/Key management)						
LAN	IEEE 802.1P, IEEE 802.1Q, IEEE 802.3, VLAN management, MAC address management, MSTP, etc.						
IPv4 unicast routing	Routing policy, static route, RIP, OSPF, IS-IS, BGP						
IPv6 unicast routing	Routing policy, static route, RIPng, OSPFv3, IS-ISv6, BGP4+						
Multicast	IGMP version1/2/3, PIM SM, PIM DM, MSDP						
VPN	IPSec VPN, GRE VPN, DSVPN, SSL VPN, L2TP VPN, Smart VPN						
QoS	Diffserv mode, Priority mapping, traffic policing (CAR), traffic shaping, congestion avoidance (based on IP precedence/DSCP WRED), congestion management (LAN interface: SP/WRR/SP+WRR; WAN interface: PQ/CBWFQ), MQC (traffic classification, traffic behavior, and traffic policy), Hierarchical QoS, Smart Application Control (SAC)						
Security	ACL, firewall, 802.1x authentication, AAA authentication, RADIUS authentication, HWTACACS authentication, broadcast storm suppression, ARP security, ICMP attack defense, URPF, CPCAR, blacklist, IP source tracing, PKI						
Management and maintenance	Upgrade management, device management, web-based GUI, GTL, SNMP(v1/v2c/v3), RMON, NTP, CWMP, Auto-Config, site deployment using USB disk, NetConf, CLI						

Table 3: Technical Specifications

Item	AR151G-HSPA+7/ AR151G-C	AR151W-P	AR157VW	AR157W	AR158EVW
Hardware					
WAN speed with services (IMIX)	100 Mbps	100 Mbps	100 Mbps	100 Mbps	100 Mbps
Fixed WAN ports	2 x FE (the interface LAN 0 of which can be used as one WAN interface)	2 x FE (the interface LAN 0 of which can be used as one WAN interface)	1 x ADSL2+ Annex A/M, 1 x FE (the interface LAN 0 of which can be used as one WAN interface)	1 x ADSL2+ Annex A/M, 1 x FE (the interface LAN 0 of which can be used as one WAN interface)	1 x G.SHDSL 8-wire, 1 x FE (the interface LAN 0 of which can be used as one WAN interface)

Item	AR151G-HSPA+7/ AR151G-C	AR151W-P	AR157VW	AR157W	AR158EVW
Fixed Ethernet switching ports	4 x FE	4 x FE	4 x FE	4 x FE	4 x FE
Fixed voice ports	—	—	4 x FXS, 1 x FXO	—	4 x FXS, 1 x FXO
Integrated 3G	WCDMA HSPA+7/ CDMA2000 EVDO	—	—	—	—
USB 2.0 ports	1	1	1	1	1
Serial auxiliary/ console ports	1	1	1	1	1
Memory size	512 MB	512 MB	512 MB	512 MB	512 MB
Flash memory	512 MB	512 MB	512 MB	512 MB	512 MB
PoE power	—	External 100	—	—	—
Maximum power	24 W	24 W	60 W	24 W	60 W
Power supply (AC)	100V to 240V	100V to 240V	100V to 240V	100V to 240V	100V to 240V
Frequency	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60Hz
Dimensions (H x W x D)	44.5 mm x 300 mm x 220 mm (1.75 in. x 11.8 in. x 8.66 in.)	44.5 mm x 300 mm x 220 mm (1.75 in. x 11.8 in. x 8.66 in.)	44.5 mm x 300 mm x 220 mm (1.75 in. x 11.8 in. x 8.66 in.)	44.5 mm x 300 mm x 220 mm (1.75 in. x 11.8 in. x 8.66 in.)	44.5 mm x 300 mm x 220 mm (1.75 in. x 11.8 in. x 8.66 in.)
Operating temperature	0℃ to 45℃	0℃ to 45℃	0℃ to 45℃	0℃ to 45℃	0℃ to 45℃
Relative humidity	5% to 95% (non-condensing)	5% to 95% (non-condensing)	5% to 95% (non-condensing)	5% to 95% (non-condensing)	5% to 95% (non-condensing)

Software

Basic features	DHCP server/client, PPPoE server/client, PPPoA server/client, PPPoEoA server/client, NAT, Sub interface management
Voice	RTP, SIP, SIP AG, IP PBX/TDM PBX, FXO/FXS, VoIP, BEST, DISA, SBC, H.323 gatekeeper (Only voice models support voice features)
WLAN(AP)	AP management, WLAN QoS, WLAN security, WLAN radio management, WLAN user management (Only WLAN models support WLAN AP features)
WLAN(AC)	AP management(AC discovery/AP access/AP management),CAPWAP,WLAN user management , WLAN radio management（802.11a/b/g/n）,WLAN QoS（WMM), WLAN security（WEP/WPA/WPA2/Key management）
LAN	IEEE 802.1P, IEEE 802.1Q, IEEE 802.3, VLAN management, MAC address management, MSTP, etc.
IPv4 unicast routing	Routing policy, static route, RIP, OSPF, IS-IS, BGP

Item	AR151G-HSPA+7/AR151G-C	AR151W-P	AR157VW	AR157W	AR158EVW
IPv6 unicast routing	Routing policy, static route, RIPng, OSPFv3, IS-ISv6, BGP4+				
Multicast	IGMP version1/2/3, PIM SM, PIM DM, MSDP				
VPN	IPSec VPN, GRE VPN, DSVPN, SSL VPN, L2TP VPN, Smart VPN				
QoS	Diffserv mode, Priority mapping, traffic policing (CAR), traffic shaping, congestion avoidance (based on IP precedence/DSCP WRED), congestion management (LAN interface: SP/WRR/SP+WRR; WAN interface: PQ/CBWFQ), MQC (traffic classification, traffic behavior, and traffic policy), Hierarchical QoS, Smart Application Control (SAC)				
Security	ACL, firewall, 802.1x authentication, AAA authentication, RADIUS authentication, HWTACACS authentication, broadcast storm suppression, ARP security, ICMP attack defense, URPF, CPCAR, blacklist, IP source tracing, PKI				
Management and maintenance	Upgrade management, device management, web-based GUI, GTL, SNMP(v1/v2c/v3), RMON, NTP, CWMP, Auto-Config, site deployment using USB disk, NetConf, CLI				

Table 4: Technical Specifications

Item	AR161F	AR161FG-L	AR161FGW-L	AR162F
Hardware				
WAN speed with services(IMIX)	150 Mbps	150 Mbps	150 Mbps	150 Mbps
Fixed WAN ports	2 x GE (1x GE Combo, the interface LAN 0 of which can be used as one WAN interface)	2 x GE (1x GE Combo, the interface LAN 0 of which can be used as one WAN interface)	2 x GE (1x GE Combo, the interface LAN 0 of which can be used as one WAN interface)	1 x SA, 2 x GE (1x GE Combo, the interface LAN 0 of which can be used as one WAN interface)
Fixed Ethernet switching ports	4 x GE	4 x GE	4 x GE	4 x GE
Fixed voice ports	—	—	—	—
Integrated 3G	—	—	—	—
Integrated LTE	—	FDD LTE	FDD LTE	—
USB 2.0 ports	1	1	1	1
Serial auxiliary /console ports	1	1	1	1
Memory size	512 MB	512 MB	512 MB	512 MB
Flash memory	512 MB	512 MB	512 MB	512 MB
PoE power	—	—	—	—

Item	AR161F	AR161FG-L	AR161FGW-L	AR162F
Maximum power	24W	24W	24W	36W
Power supply (AC)	100 V to 240 V			
Frequency	50/60 Hz			
Dimensions (H x W x D)	44.5 mm x 300 mm x 220 mm (1.75 in. x 11.8 in. x 8.66 in.)			
Operating temperature	0°C to 45°C			
Relative humidity	5% to 95% (noncondensing)			

Software	
Basic feature	DHCP server/client, PPPoE server/client, PPPoA server/client, PPPoEoA server/client, NAT, Sub interface management
Voice	RTP, SIP, SIP AG, IP PBX/TDM PBX, FXO/FXS, VoIP, BEST, DISA, SBC, H.323 gatekeeper (Voice models only support voice features)
WLAN(AP)	AP management, WLAN QoS, WLAN security, WLAN radio management, WLAN user management(Only WLAN models support WLAN AP features)
WLAN(AC)	AP management((AC discovery /AP access /AP management)),CAPWAP,WLAN user management , WLAN radio management(802.11a/b/g/n),WLAN QoS(WMM), WLAN security(WEP/WPA/WPA2/Key management)
LAN	IEEE 802.1P, IEEE 802.1Q, IEEE 802.3, VLAN management, MAC address management, MSTP, etc.
IPv4 unicast routing	Routing policy, static route, RIP, OSPF, IS-IS, BGP
IPv6 unicast routing	Routing policy, static route, RIPng, OSPFv3, IS-ISv6, BGP4+
Multicast	IGMP version1/2/3, PIM SM, PIM DM, MSDP
VPN	IPSec VPN, GRE VPN, DSVPN, SSL VPN, L2TP VPN, Smart VPN
QoS	Diffserv mode, Priority mapping, traffic policing (CAR), traffic shaping, congestion avoidance (based on IP precedence/DSCP WRED), congestion management (LAN interface: SP/WRR/SP+WRR; WAN interface: PQ/CBWFQ), MQC (traffic classification, traffic behavior, and traffic policy), Hierarchical QoS, Smart Application Control (SAC)
Security	ACL, firewall, 802.1x authentication, AAA authentication, RADIUS authentication, HWTACACS authentication, broadcast storm suppression, ARP security, ICMP attack defense, URPF, CPCAR, blacklist, IP source tracing, PKI,
Management and maintenance	Upgrade management, device management, web-based GUI, GTL, SNMP(v1/v2c/v3), RMON, NTP, CWMP, Auto-Config, site deployment using USB disk, NetConf, CLI

Table 5: Technical Specifications

Item	AR168F	AR169F	AR169FVW	AR169FGW-L	AR169FGVW-L
Hardware					
WAN speed with services(IMIX)	150 Mbps	150 Mbps	150 Mbps	150 Mbps	150 Mbps
Fixed WAN ports	1 x G.SHDSL 8-wire, 2 x GE (1x GE Combo, the interface LAN 0 of which can be used as one WAN interface)	1 x VDSL2, 2 x GE (1x GE Combo, the interface LAN 0 of which can be used as one WAN interface)	1 x VDSL2 2-pairs, 2 x GE (1x GE Combo, the interface LAN 0 of which can be used as one WAN interface)	1 x VDSL2 2-pairs, 2 x GE (1x GE Combo, the interface LAN 0 of which can be used as one WAN interface)	1 x VDSL2 2-pairs, 2 x GE (1x GE Combo, the interface LAN 0 of which can be used as one WAN interface)
Fixed Ethernet switching ports	4 x GE	4 x GE	4 x GE	4 x GE	4 x GE
Fixed voice ports	—	—	4 x FXS, 1 x FXO	—	4 x FXS, 1 x FXO
Integrated 3G	—	—	—	—	—
Integrated LTE	—	—	—	FDD LTE	FDD LTE
USB 2.0 ports	1	1	1	1	1
Serial auxiliary /console ports	1	1	1	1	1
Memory size	512 MB	512 MB	1G MB	1GB	1G MB
Flash memory	512 MB	512 MB	512 MB	512 MB	512 MB
PoE power	—	—	—	—	—
Maximum power	24W	24W	24W	24 W	24W
Power supply (AC)	100 V to 240 V				
Frequency	50/60 Hz				
Dimensions (H x W x D)	44.5 mm x 300 mm x 220 mm (1.75 in. x 11.8 in. x 8.66 in.)				
Operating temperature	0°C to 45°C				
Relative humidity	5% to 95% (noncondensing)				

Item	AR168F	AR169F	AR169FVW	AR169FGW-L	AR169FGVW-L
			Software		
Basic feature	DHCP server/client, PPPoE server/client, PPPoA server/client, PPPoEoA server/client, NAT, Sub interface management				
Voice	RTP, SIP, SIP AG, IP PBX/TDM PBX, FXO/FXS, VoIP, BEST, DISA, SBC, H.323 gatekeeper (Voice models only support voice features)				
WLAN(AP)	AP management, WLAN QoS, WLAN security, WLAN radio management, WLAN user management(Only WLAN models support WLAN AP features)				
WLAN(AC)	AP management((AC discovery /AP access /AP management)),CAPWAP,WLAN user management , WLAN radio management(802.11a/b/g/n),WLAN QoS(WMM), WLAN security(WEP/WPA/WPA2/Key management)				
LAN	IEEE 802.1P, IEEE 802.1Q, IEEE 802.3, VLAN management, MAC address management, MSTP, etc.				
IPv4 unicast routing	Routing policy, static route, RIP, OSPF, IS-IS, BGP				
IPv6 unicast routing	Routing policy, static route, RIPng, OSPFv3, IS-ISv6, BGP4+				
Multicast	IGMP version1/2/3, PIM SM, PIM DM, MSDP				
VPN	IPSec VPN, GRE VPN, DSVPN, SSL VPN, L2TP VPN, Smart VPN				
QoS	Diffserv mode, Priority mapping, traffic policing (CAR), traffic shaping, congestion avoidance (based on IP precedence/DSCP WRED), congestion management (LAN interface: SP/WRR/SP+WRR; WAN interface: PQ/CBWFQ), MQC (traffic classification, traffic behavior, and traffic policy), Hierarchical QoS, Smart Application Control (SAC)				
Security	ACL, firewall, 802.1x authentication, AAA authentication, RADIUS authentication, HWTACACS authentication, broadcast storm suppression, ARP security, ICMP attack defense, URPF, CPCAR, blacklist, IP source tracing, PKI,				
Manage-ment and maint-enance	Upgrade management, device management, web-based GUI, GTL, SNMP(v1/v2c/v3), RMON, NTP, CWMP, Auto-Config, site deployment using USB disk, NetConf, CLI				

Table 6: Technical Specifications

Item	AR161FW-P-M5
Hardware	
WAN speed with services (IMIX)	150 Mbps
Fixed WAN ports	2 x GE (1x GE Combo, the interface LAN 0 of which can be used as one WAN interface)
Fixed Ethernet switching ports	4 x GE
USB 2.0 ports	1
Serial auxiliary/console ports	1
Video ports	1 x HDMI
USB ports(OSP System)	1 x USB OTG + 3 x USB 2.0 HOST
Audio ports	1 x 3.5mm audio output (Earphone), 1 x 3.5mm audio input (MIC)
Bluetooth ports	1
RS485 ports	1 x RS485/RS232/RS422
ZigBee ports	1
Memory size (Main control system)	512 MB
Flash memory	512 MB
Memory size (OSP System)	4GB
Audio ports	1 x 3.5mm audio output (Earphone), 1 x 3.5mm audio input (MIC)
Flash(OSP System)	2GB
EMMC(OSP System)	32GB
PoE power	External 100
Maximum power	60W
Power supply (AC)	100 V to 240 V
Frequency	50/60 Hz
Dimensions (H x W x D)	44.5 mm x 300 mm x 220 mm (1.75 in. x 11.8 in. x 8.66 in.)
Operating temperature	0°C to 45°C
Relative humidity	5% to 95% (noncondensing)
Software	
Basic features	DHCP server/client, PPPoE server/client, PPPoA server/client, PPPoEoA server/client, NAT, Sub interface management
WLAN(AP)	AP management, WLAN QoS, WLAN security, WLAN radio management, WLAN user management(Only WLAN models support WLAN AP features)

Item	AR161FW-P-M5
WLAN(AC)	AP management(AC discovery/AP access/AP management),CAPWAP,WLAN user management , WLAN radio management（802.11a/b/g/n）,WLAN QoS（WMM), WLAN security（WEP/WPA/WPA2/Key management）
LAN	IEEE 802.1P, IEEE 802.1Q, IEEE 802.3, VLAN management, MAC address management, MSTP, etc.
IPv4 unicast routing	Routing policy, static route, RIP, OSPF, IS-IS, BGP
IPv6 unicast routing	Routing policy, static route, RIPng, OSPFv3, IS-ISv6, BGP4+
Multicast	IGMP version1/2/3, PIM SM, PIM DM, MSDP
VPN	IPSec VPN, GRE VPN, DSVPN, SSL VPN, L2TP VPN, Smart VPN
QoS	Diffserv mode, Priority mapping, traffic policing (CAR), traffic shaping, congestion avoidance (based on IP precedence/DSCP WRED), congestion management (LAN interface: SP/WRR/SP+WRR; WAN interface: PQ/CBWFQ), MQC (traffic classification, traffic behavior, and traffic policy), Hierarchical QoS, Smart Application Control (SAC)
Security	ACL, firewall, 802.1x authentication, AAA authentication, RADIUS authentication, HWTACACS authentication, broadcast storm suppression, ARP security, ICMP attack defense, URPF, CPCAR, blacklist, IP source tracing, PKI,
Management and maintenance	Upgrade management, device management, web-based GUI, GTL, SNMP(v1/v2c/v3), RMON, NTP, CWMP, Auto-Config, site deployment using USB disk, NetConf, CLI

How to Configure the Modular AR150, AR 160 and AR200 Routers

The AR 150, AR160 and AR 200 series routers require 2 types of configuration modules:

- Basic software configuration

- Software license configuration

The basic software configuration modules provide functions such as routing, switching, voice, and security. The software license configuration modules provide additional functions such as AC.

Ordering Information

The AR 150, AR 160 and AR 200 series routers are configured by selecting and installing the appropriate configuration module. The configuration module ordering information and descriptions are shown in the following table5-8.

Table 5: Chassis Options

Chassis Configuration	Description
AR0M0001BA00	AR201,1FE WAN,8FE LAN,1USB
AR0M0007BA00	AR207,ADSL2+ ANNEX A/M WAN,8FE LAN,1USB
AR0M007VBA00	AR207V,ADSL2+ ANNEX A/M WAN,8FE LAN,4FXS+1FXO,1USB
AR0M2073BA	AR207V-P,ADSL2+ ANNEX A/M WAN,8FE LAN(POE),4FXS+1FXO,1USB,PoE Power Adapter
AR0M2074BA	AR207G-HSPA+7,WCDMA HSPA+7,ADSL2+ ANNEX A/M WAN,8FE LAN,1USB
AR0M008EBA00	AR208E,4 copper pair G.SHDSL WAN,8FE LAN,1USB
AR0M1510BA00	AR151,1FE WAN,4FE LAN,1USB
AR0M1513BA00	AR151G-HSPA+7,1FE WAN,WCDMA HSPA+7,4FE LAN,1 USB
AR0M1515BA00	AR151W-P,1FE WAN,4FE LAN(PoE),802.11b/g/n AP,1 USB
AR0M1560BA	AR156,ADSL2+ ANNEX J WAN,4FE LAN,1USB
AR156W	AR156W,ADSL2+ ANNEX B/J WAN,4FE LAN,802.11b/g/n AP,1 USB
AR0M1570BA00	AR157,ADSL2+ ANNEX A/M WAN,4FE LAN,1USB
AR0M1576BA00	AR157W,ADSL2+ ANNEX A/M WAN,4FE LAN,802.11b/g/n AP,1 USB
AR0M1577BA00	AR157VW,ADSL2+ ANNEX A/M WAN,4FE LAN,802.11b/g/n AP,4FXS+1FXO,1 USB

Chassis Configuration	Description
AR0M1574BA00	AR157G-HSPA+7,ADSL2+ ANNEX A/M WAN,WCDMA HSPA+7,4FE LAN,1 USB
AR151G-C	AR151G-C, 1FE WAN,CDMA 3G Wireless Interface,4FE LAN,1 USB
AR0M1580BA	AR158E,4 copper pair G.SHDSL WAN,4FE LAN,1USB
AR0M1582BA00	AR158EVW,4 copper pair G.SHDSL WAN,4FE LAN,802.11b/g/n AP,4FXS+1FXO,1 USB
AR161F	AR161F,1GE COMB WAN,4GE LAN,1 USB
AR161FG-L	AR161FG-L,1GE COMB WAN,LTE FDD,4GE LAN,1 USB
AR161FGW-L	AR161FGW-L,1GE COMB WAN,LTE FDD,4GE LAN,802.11b/g/n AP,1 USB
AR161FW-P-M5	AR161FW-P-M5,Multimedia Card,1GE COMB WAN,4GE LAN,1 USB
AR162F	AR162F,1SA,1GE COMBO WAN,4GE LAN,1 USB
AR168F	AR168F,4 copper pair G.SHDSL WAN,1GE COMB WAN,4GE LAN,1 USB
AR169F	AR169F,VDSL over POTS with bonding WAN,1GE COMB WAN,4GE LAN,1 USB
AR169FVW	AR169FVW,1GE COMBO WAN,4GE LAN,1 USB,4 FXS,1FXO,1 WLAN
AR169FGW-L	AR169FGW-L,1GE COMBO WAN,4GE LAN,1 USB,4 1 WLAN
AR169FGVW-L	AR169FGVW-L,1GE COMBO WAN,4GE LAN,1 USB,4 FXS,1FXO,1 WLAN

Table 6: Power Module Options

Power Module	Description
AR0MPSAP1000	100W POE Power Module
W0ACPSE03	Adapter,0degC,40degC,90V,264V,12V/3A,C8/4pin

Table 7: License Options

License	Description
LAR0DATAE01	AR150&160&200 Value-Added Data Package
LAR0AC01	AR150&160&200 AC Express License
LAR0VOICEE01	AR150&200 Value-Added Voice Package

License	Description
LAR0CMBEST01	AR CM&BEST License-5 telephones
LAR0CMBEST02	AR CM&BEST License-25 telephones
LAR0CT01	AR CT(Call Trunk) License-5 sessions
LAR0CT02	AR CT(Call Trunk) License-25 sessions
LAR0IVR01	AR IVR(Interactive Voice Response) License-1 session
LAR0SECE01	AR150&160&200 Value-Added Security Package
LAR0DSVPN01	AR150&160&200 DSVPN(Dynamic Smart VPN) Function
AR0SSSLVPN01	AR SSLVPN License-Access 10 users
LAR0URLF01	AR150&160&200 URL Filtering Update Service Subscribe 1 Year

Table 8: SD Card and USB Disk Options

SD Cards & USB Disks	Description
NUSBDSK01	Storage USB DISK,4GB,USB 2.0

For more information, visit http://enterprise.huawei.com/en/ or contact the Huawei local sales office.

Professional Service and Support

Huawei Professional Services provides expert network design and service optimization tasks, helping customers design and deploy a high-performance network that is reliable and secure, maximizing return on investment as well as reducing operational expenses.

Company Addendum

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