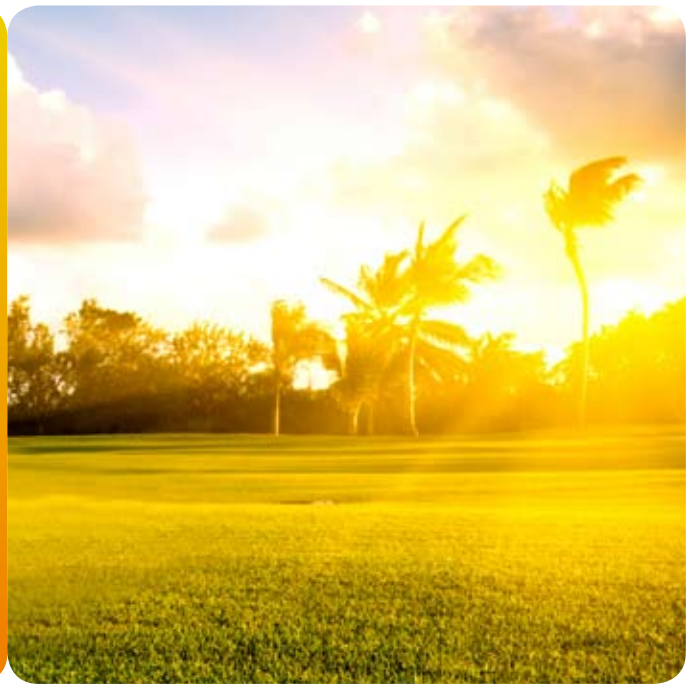
AR1200 Series Enterprise Routers
Brochure



HUAWEI TECHNOLOGIES CO., LTD.

HUAWEI

AR1200 Series Enterprise Routers

Brochure

AR1200 Series Enterprise Routers

Huawei AR1200 series enterprise routers (AR1200 for short) are next-generation enterprise-class routers based on the Huawei proprietary Versatile Routing Platform (VRP), which take advantage of Huawei long-term accumulation in data communication, wireless, access network, and core network fields. The AR1200 integrates routing, switching, 3G, WLAN, voice, and security functions. It uses the multi-core CPU and non-blocking switching structure and provides industry-leading system performance and extensibility, meeting service development requirements in the future. The AR1200 provides an integrated solution for enterprise networks, speeds up multi-service provision, and protects customers' investments.

Product Overview

The AR1200 uses the embedded hardware encryption technique and supports the voice Digital Signal Processor (DSP). It supports firewall functions, call processing, voice mail, and various application programs. The AR1200 supports various wired and wireless access modes, such as E1/T1, xDSL, WiFi, 3G, etc. The AR1220V, AR1220W and AR1220VW provide the PoE function by using fixed 100M Ethernet interfaces.

The AR1200 provides four models: AR1220, AR1220V, AR1220W and AR1220VW.

AR1220

- Forwarding capacity: 350 Kpps
- WAN speed with services: 25Mbps
- Fixed port: 8*FE, 2*GE
- Slot: 2*SIC
- Dimensions (WxDxH): 390 mm x 220 mm x 44.5mm

AR1220V

- Forwarding capacity: 350 Kpps
- WAN speed with services: 25Mbps
- Fixed port: 8*FE(four FE ports support PoE), 2*GE
- PoE: compliance with IEEE 802.3af and 802.3at
- DSP: 32 channels supported
- Slot: 2*SIC
- Dimensions (WxDxH): 390 mm x 220 mm x 44.5mm

AR1220W

- Forwarding capacity: 350 Kpps
- WAN speed with services: 25Mbps
- Fixed port: 8*FE (four FE ports support PoE), 2*GE
- PoE: compliance with IEEE 802.3af and 802.3at
- Slot: 2*SIC
- WiFi: compliance with 802.11b/g/n
- Dimensions (WxDxH): 390 mm x 220 mm x 44.5mm

AR1220VW

- Forwarding capacity: 350 Kpps
- WAN speed with services: 25Mbps
- Fixed port: 8*FE (four FE ports support PoE), 2*GE
- PoE: compliance with IEEE 802.3af and 802.3at
- DSP: 32 channels supported
- Slot: 2*SIC
- WiFi: compliance with 802.11b/g/n
- Dimensions (WxDxH): 390 mm x 220 mm x 44.5mm

The AR1200 supports various interface cards, including Ethernet interface cards, E1/T1/PRI/VE1/VT1 interface cards, synchronous/asynchronous interface cards, ADSL2+/G.SHDSL interface cards, FXS/FXO voice cards and ISDN interface cards. These cards are classified into SIC (Smart Interface Card) cards and WSIC (Double-Width SIC) cards depending on slot type. The following are the appearances and description of main interface cards.

WSIC card

L2/L3 Ethernet interface card

- Interfaces work in 10/100 Mbit/s or 10/100/1000 Mbit/s auto-sensing mode.
- Provides the Layer 2 and Layer 3 Ethernet switching function, and enables the AR1200 to communicate with other devices in a LAN network.

SIC card

Channelized E1/T1/PRI/VE1/VT1 multifunctional interface card

- Sends, receives, and processes E1/T1 data traffic.
- Provides channelized E1/T1 access, and groups and binds channels.
- Provides the VoIP function over the E1/T1 line.
- Provides the ISDN PRI function.
- Provides the local and remote loopback functions for test and troubleshooting.

SIC card

FXS/FXO voice card

- Supports access and processing of AT0 loop trunk of analog phone, fax, and telephone exchange.
- Transmits voice signals over IP network.

Features and Benefits

1 3rd Generation AR with Industry-Leading Performance

The AR1200 uses the multi-core CPU and non-blocking switching structure and provides industry-leading system performance, meeting network extension requirements and service development requirements of enterprises.

- Multi-core CPU

  The multi-core CPU improves the speed of concurrent processing of data and voice services, which makes it possible to deploy a large number of services.
- Non-blocking switching
- Independent protocol management, service processing, and data switching, ensuring high performance and improving service reliability
- Integrated routing and switching functions

  This feature improves the data switching efficiency between interface cards and simplifies device configurations and maintenance.
- Hot swappable interface cards and redundant components such as fan modules, ensuring service reliability and stability

❷ Dual-Mode Network, Supporting Flexible Access

1) Wireless Mode

Access Mode	Description
WLAN	• Compliance with 802.11n and compatible with 802.11b/g, saving investment • Multiple-input and multiple-output (MIMO), increasing bandwidth and improving user experience • Authentication technologies such as WEP, WPA, WAPI, and 802.1x, ensuring security
3G	• Compliance with 3G standards, including CDMA2000 EV-DO, WCDMA, and TD-SCDMA, providing flexible network access • NQA, monitoring the link real-time status and ensuring SLA • Link backup for enterprise services, improving reliability • Security VPN over 3G links, ensuring reliable service transmission
LTE	• Switching from 3G networks to LTE networks supported in future, protecting customers' investments

2) Wired Mode

Access Mode	Description
Fiber	• Support for GigabitEthernet optical interfaces, allowing flexible network access • 1 Gbit/s bandwidth or higher bandwidth, meeting transmission requirements of bandwidth-thirsty services such as voice services
Copper cable	• Support for various interfaces, including xDSL interfaces, E1/T1 interfaces, serial ports, and ISDN interfaces, to protect customers' investments • Uplink access rates ranging from 64 kbit/s to 1 Gbit/s, which can be selected by customers • PoE support on Ethernet interfaces, providing power for powered devices over twisted pair cables and facilitating installation of powered devices

3 Services Integrated on One Router

The AR1200 integrates routing, switching, 3G, WLAN, voice, and security functions.

Open Service Platform

The AR1200 interconnects with the third-party IT systems by using the Open Service Platform (OSP) to provide a unified communication solution for enterprise users. The customers, agents, third-party vendors, and manufacturers can develop and use the AR1200 as required.

- Fast service integration and customization, meeting customized requirements
- Service integration without deploying dedicated servers, saving investments and simplifying management
- Services synchronized with cloud-side services, and local services processed locally, which improves service quality and efficiency.

Outstanding Voice Experience

The AR1200 provides various voice functions for enterprise data networks, enabling the enterprises to communicate flexibly and efficiently.

- Basic voice functions provided by the built-in PBX, SIP server, and SIP access gateway
- Value-added voice services, including multi-party communication, IVR automatic connection, ring-back-tone, parallel ringing, sequential ringing, one number link you (ONLY), bill management, and subscriber management
- Intelligent call routing, ensuring high reliability of voice services
- Interconnection with the NGN/IMS/PBX/terminal of mainstream vendors
- QoE, detecting voice service quality in real time
- Jitter buffer, echo cancellation, and packet loss compensation, improving customer experiences

Secure Service Access

During service provision, the AR1200 ensures security of enterprise networks. It provides a complete security protection mechanism including user access control, packet detection, and active attack defense. This mechanism protects customers' investments.

- Built-in firewall
- Authentication technologies on ports, such as 802.1x authentication, MAC address authentication, and portal authentication
- Authentication methods, including RADIUS and HWTACACS
- VPN technologies, including IPSec VPN and GRE VPN

Intelligent Service Deployment

As the enterprise scale increases, enterprise users have high requirements on service deployment. The AR1200 provides the following service deployment functions:

- The AR1200 provides a mini-USB port. By using the mini-USB, users can configure the devices through GUI.
- Users can use the USB disk to deploy devices, and the devices are plug-and-play.
- The AR1200 supports the auto-config function. The auto-config function enables the AR1200 to automatically obtain configurations.

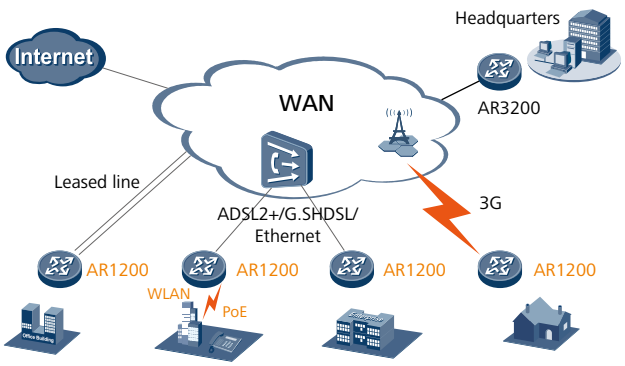
Simplified Service Management

Enterprise users require simply service management. The AR1200 provides the following functions to simplify service management:

- The AR1200 works with the iTec network management system to simplify device management.
- The AR1200 provides the NQA function to monitor links in real time.
- By using the NetStream function provided by the AR1200, users can view traffic characteristics and statistics clearly, which is basis for network optimization.

Typical Application

1, WAN Access

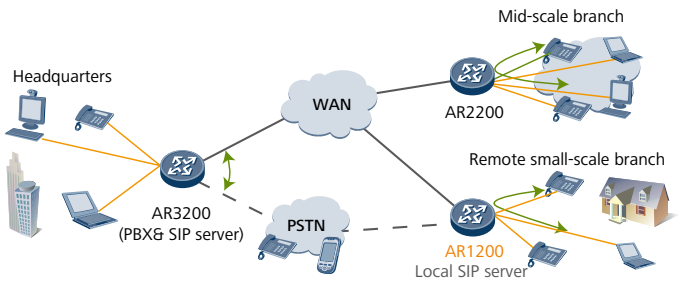


The AR1200s function as the egress routers of enterprise branches and provide flexible access methods to support remote network connections. An AR1200 meets various access requirements, including leased line, Ethernet, xDSL, 3G, and WLAN. This saves deployment and maintenance costs and provides a large value to customers. The fixed 100M Ethernet interfaces of AR1220V, AR1220W and AR1220VW support the PoE function in compliance with IEEE 802.3af and 802.3at; therefore, the AR1220V, AR1220W and AR1220VW can provide power for powered devices (PDs), such as IP phones. An 802.3at interface provides more than 30 W power, ensuring power for large-power PDs.

2, High-Quality Voice Service

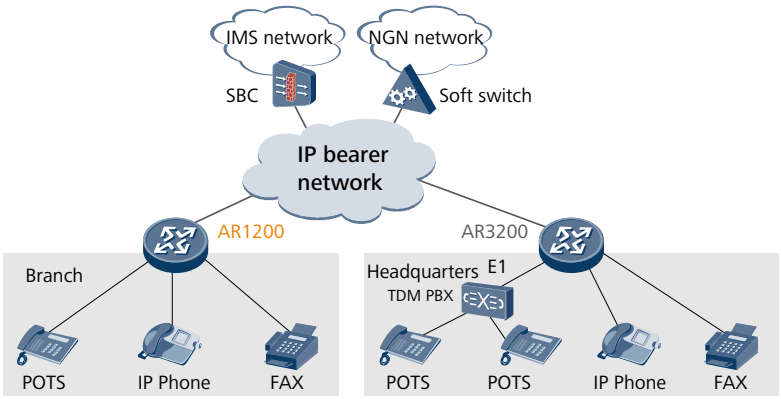
As a voice gateway for enterprise networks, the AR1200 can function as an IP PBX or SIP gateway.

IP PBX application



The AR routers have built-in PBX, which supports the enterprise main number, IVR, and bill query functions to enhance corporate image and improve enterprise communication efficiency. The AR1200 is located in a branch to provide the intelligent dialing function. When a fault occurs on the WAN, the PSTN network is used as a backup for calls. When the SIP server at the headquarters is unreachable, the built-in local SIP server of the AR1200 implements communication between branches and communication between branch and PSTN network. This ensures reliability of the voice service.

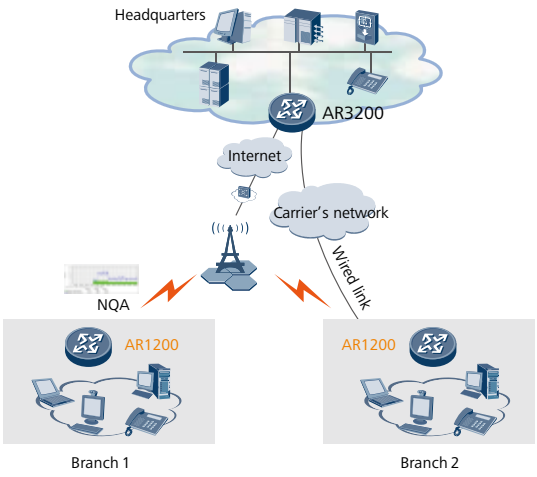
SIP gateway application



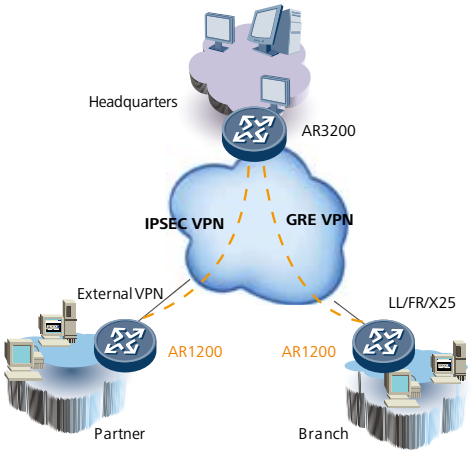
The AR1200 integrates voice, fax, and IP services. When providing voice services for enterprise users, the AR1200 functions as the SIP access gateway of a branch to transform phone signals into VoIP signals. The AR1200 uplink interfaces are connected to the IMS/NGN network to allow any media including phones, handsets, and computers to communicate at any time.

3, 3G Wireless Access in Branch

The AR1200 complies with 3G standards including CDMA2000 EV-DO, WCDMA, and TD-SCDMA, meeting the wireless communication requirements between branches and the headquarters. Users can use a 3G USB disk to deploy 3G services on the AR1200, saving service card slots. In addition, the 3G 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. The AR1200 provides the NQA function to detect 3G link quality, ensuring the SLA.



4, VPN in Branch



The AR1200 provides various secure access functions to implement communication between enterprise branches and between branches and the headquarters, and to enable partners to access enterprise resources. Tunnels such as GRE VPN and IPSEC VPN are set up between the headquarters and branches to implement secure data access and transmission. The AR1200 implements fast tunnel deployment and authentication for branches. Using a tunnel, partners can access and share enterprise resources.

Technical Specifications

Item	AR1220	AR1220V	AR1220W	AR1220VW
Hardware				
Forwarding capacity	350Kpps	350Kpps	350 Kpps	350 Kpps
WAN speed with services	25Mbps	25Mbps	25Mbps	25Mbps
Device switching capacity	8Gbps	8Gbps	8Gbps	8Gbps
Slot switching bandwidth	SIC & WSIC slots 2Gbps			
Fixed WAN ports	2*GE	2*GE	2*GE	2*GE
Fixed LAN ports	8*FE	8*FE	8*FE	8*FE
SIC slots	2	2	2	2
WSIC slots (default/max)	0/1	0/1	0/1	0/1
DSP slots	-	32 channels supported by default	-	32 channels supported by default
WiFi	-	-	802.11 b/g/n	802.11 b/g/n
USB 2.0 ports	2	2	2	2
Mini-USB ports	1	1	1	1
Serial auxiliary/ console port	1	1	1	1
Memory	512 MB	512 MB	512 MB	512 MB
Flash	256 MB	256 MB	256 MB	256 MB
Max. power	54W	54W	60 W	60 W
PoE power	-	External 100W	External 100W	External 100W
AC power	100 V-240 V	100 V-240 V	100 V-240 V	100 V-240 V
Frequency	50 Hz/60 Hz	50 Hz/60 Hz	50 Hz/60 Hz	50 Hz/60 Hz
Dimensions (width x depth x height)	390 mm x 220 mm x 44.5 mm	390 mm x 220 mm x 44.5 mm	390 mm x 220 mm x 44.5 mm	390 mm x 220 mm x 44.5 mm
Weight	2.9KG	2.9KG (without interface cards)	2.9KG (without interface cards)	2.9KG (without interface cards)
Ambient temperature	0°C-40°C	0°C-40°C	0°C-40°C	0°C-40°C
Relative humidity	5-90% (non-condensing)	5-90% (non-condensing)	5-90% (non-condensing)	5-90% (non-condensing)

Software	
Voice	RTP, SIP, SIP AG, IP PBX/TDM PBX, FXO/FXS, VoIP/conference call
WLAN	AP management, WLAN QoS (WMM), WLAN security (WEP/WPA/WPA2/key management), WLAN radio management (802.11b/g/n), WLAN user management
3G	CDMA 2000 EV-DO Rev A, WCDMA, TD-SCDMA, individual 3G uplink/backup link
LAN	IEEE 802.1, IEEE 802.3, VLAN management, MAC address management, MSTP
IPv4 unicast routing	Routing policy, static route, RIP, OSPF, IS-IS, BGP
Multicast	IGMP version1/2/3, PIM SM, PIM DM, MSDP
MPLS	LDP, MPLS L3 VPN, static LSP, dynamic LSP
VPN	IPSec VPN, GRE VPN
QoS	MPLS QoS, 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 classifier, traffic behavior, and traffic policy), H-QoS, WLAN QoS, FR QoS
Security	ACL, firewall, 802.1x authentication, MAC address authentication, Web authentication, AAA authentication, RADIUS authentication, HWTACACS authentication, broadcast storm suppression, ARP security, ICMP attack defense, URPF, IP Source Guard, DHCP snooping, CPCAR, blacklist, IP source tracing
Management and maintenance	Upgrade management, device management, Web network management system, GTL, SNMP, RMON, RMON2, NTP, CWMP, Auto-Config, deployment using USB disk, NetConf

**Note: The maximum number of slots includes the number of combined slots.

How to Configure

Before choosing an AR1200, determine the device model, cards, and software configurations.

- Device model

The device model is determined by the slot quantity and forwarding capacity that you require.

- Card

The interface cards, including SIC cards and WSIC cards, are inserted into service card slots. Two SIC slots can be combined into one WSIC slot by removing the guide rail.

- Software

The basic software and licensed software are available. The basic software provides basic functions such as routing, switching, voice, and security. The licensed software provides additional functions such as PBX.

Ordering Information

Model	Description
Host Configuration	
AR0M0012BA00	AR1220 Basic Configuration (Includes AR1220 Chassis, with Basic Software and Document), 2GE WAN,8FE LAN,2 USB Interfaces,2 SIC Slots
AR0M012VBA00	AR1220V Basic Configuration(Includes AR1220 Chassis,32-Channel DSP, with Basic Software and Document),2GE WAN,8FE LAN,2 USB Interfaces,2 SIC Slots
AR0M012ABA00	AR1220 Basic Configuration bundle with ADSL2+ interface(Includes AR1220 Chassis, with Basic Software and Document), 2GE WAN,8FE LAN, 1 ADSL2+ Card, 2 USB Interfaces,2 SIC Slots
SIC Interface Module	
AR0MSDME1A00	1-Port Channelized E1/T1/PRI/VE1 Multiflex Trunk Interface Card
AR0MSDME2A00	2-Port Channelized E1/T1/PRI/VE1 Multiflex Trunk Interface Card
AR0MSDSA1A00	1-Port Sync/Async Serial WAN Interface Card
AR0MSEF2TA00	2-Port FE WAN Interface Card
AR0MSVA4B1A0	4-Port FXS and 1-Port FXO Voice Interface Card
AR0MSLA1XA00	1-port ADSL2+ ANNEX A/M WAN Interface Module
AR0MSLB1XA00	1-Port ADSL2+ ANNEX B WAN Interface Module
AR0MSLS1XA00	1-Port 4 Pair G.SHDSL WAN Interface Module
Software	
AR0S000PBX00	PBX License Charge for AR1220
SD Card & USB Disk	
NUSBDSK01	Storage USB DISK,4GB,USB 2.0
Power Module	
AR0MPSAP1000	Adapter,0degC,40degC,90V,264V,+48V/2.08A

For more information, visit www.huawei.com or contact Huawei local sales office.

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