

Huawei AR1000V Brochure



A photograph of a forest with tall, slender trees. The sun is low in the sky, creating long, dark shadows of the trees on the grassy ground. The light is warm and golden, suggesting early morning or late afternoon. An orange banner is overlaid on the top left of the image.

AR1000V Brochure

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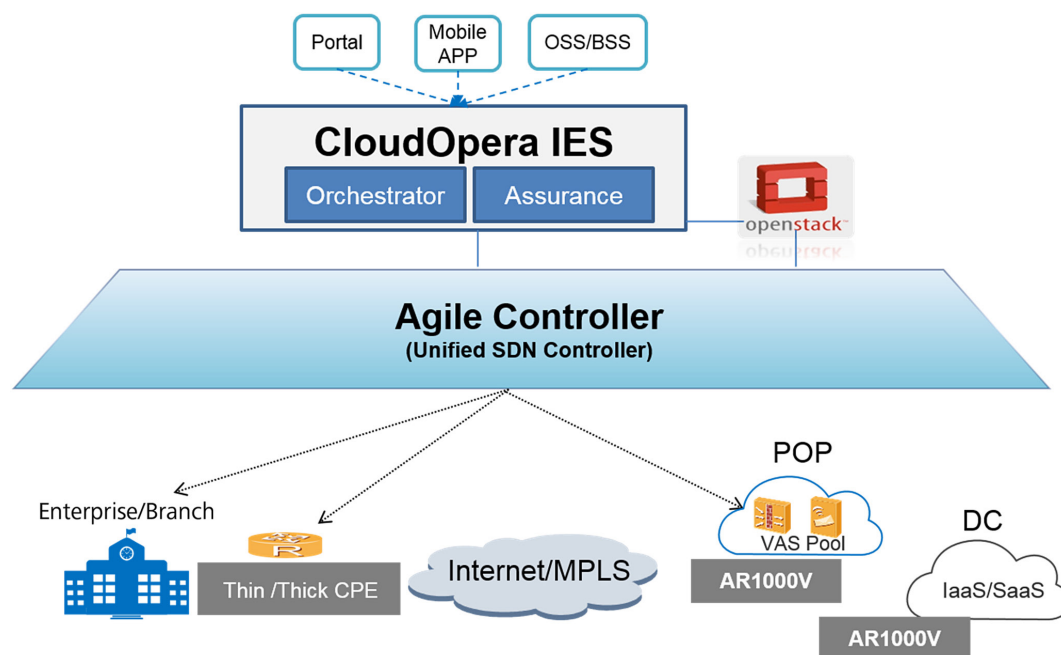
Huawei AR1000V is a virtual router based on Network Functions Virtualization (NFV). As a software product, the AR1000V uses the x86 server hardware platform and is deployed on a virtual machine (VM) instance created on the Hypervisor (virtualization platform). The AR1000V integrates routing, switching, security, VPN, QoS, and other functions. Based on Huawei-developed VRP platform, the AR1000V provides a leading performance and scalability. It functions as a virtual customer premise equipment (CloudCPE) and Supports E2E CloudVPN Solution to reshape Enterprise Interconnection.

Trends and Challenges

The gateway that is deployed at the enterprise network egress is called a CPE. On a traditional enterprise network that centers on hardware, the CPE needs to support DHCP, NAT, routing, security, and other functions, so a carrier has to assign a specified personnel to install, configure, and upgrade the CPE onsite. The long deployment time and low flexibility impede service development, so the transformation of enterprise networks is urgently needed. Increasing service needs and globalized deployment lead to difficulties in network management and policy distribution, and increase the OPEX and CAPEX.

Huawei proactively accelerates the commercial use of SDN/NFV on carrier networks. Through CPE virtualization on the enterprise side, Huawei not only provides the AR1000V virtual router to migrate the managed service to the cloud but also offers an innovative CloudVPN solution. The solution delivers a better service experience at low costs, flexibly and rapidly responds to devices, and provides diversified services, building centralized and quickly managed services for enterprises. The solution helps carriers in the evolution to future service architectures and transformation in enterprise markets.

Product Positioning



Huawei CloudVPN solution architecture

The AR1000V migrates service functions (for example, routing, switching, VPN, security, and QoS) from traditional physical devices to either the cloud or point-of-presence (POP). It completely decouples service applications from the hardware, and supports rapid NE function iteration and flexible deployment. Computing resources on the AR1000V are dynamically allocated by the Hypervisor, allowing you to tailor the AR1000V capacity based on the service scale.

The AR1000V, Thin CPE, Thick CPE, Agile Controller, and other components provide the end-to-end CloudVPN solution. A Huawei AR G3 series router often functions as a Thin CPE and is deployed on the enterprise side, providing basic connections and routing. The AR1000V is deployed either on the cloud or point-of-presence (POP). They replace a private device on a traditional network and is used with the AR1000V by establishing an overlay tunnel (VxLAN). Network services are deployed on the cloud and the Thin CPE is plug-and-play.

Product Features

Supports E2E CloudVPN Solution to reshape Enterprise Interconnection

The AR1000V is used with Huawei Agile Controller, ICT-O, MANO, Thin CPE, and Thick CPE to provide an NFV solution as well as an E2E CloudVPN solution. The solution helps carriers to implement one-stop delivery and O&M.

Software-defined and flexible service customization

The AR1000V uses the SDN/NFV architecture to flexibly implement software-defined network nodes. The AR1000V can also dynamically adjust VM resources and licenses, produce a high performance and various functions on demand, and implement flexible service customization and quick service delivery.

Strong platform compatibility and flexible service deployment

The AR1000V is compatible with the KVM/FusionSphere/Vmware virtual platform. Computing resources are dynamically distributed by the Hypervisor. The AR1000V can flexibly work at the POP or cloud data center and seamlessly adapt to a range of service deployment environments.

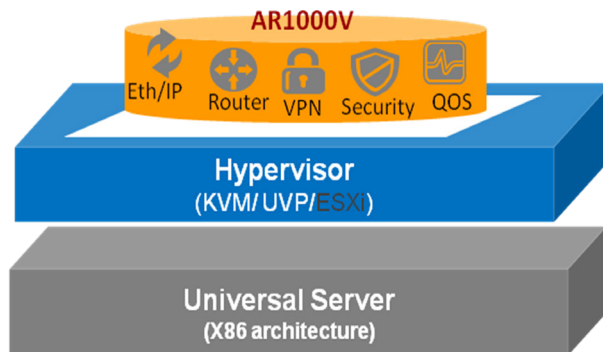
Leading structure and strong forwarding performance

Based on technical practices and experience accumulated by Huawei VRP platform, the AR1000V separates the control and forwarding planes (deployed in different VMs). An AR1000V can provide comprehensive, stable, and mutual network services.

Customer Value

Huawei's AR1000V resolves problems of traditional CPE, such as long service provisioning period, inflexible enterprise service delivery. The AR1000V reduces the average service provisioning period from several weeks to several minutes. Network functions and value-added services are migrated to the cloud, enabling flexible enterprise services. Integrated cloud and pipe services allow carriers to provide one-stop ICT services for enterprises. By virtue of rapid service provisioning, flexible service delivery, and one-stop ICT services, the AR1000V can better serve enterprise business, and create maximum commercial benefits for enterprise customers and carriers.

Product Specifications



Huawei AR1000v operating minimal environment:

Hardware operation

- Processor: 1 vCPU
- Memory: 1G
- Storage: 2G
- Network adapter: 2 vNIC

Software operation(NFVI)

- FusionSphere 5.1/6.0
- VMWare 5.5/6.0
- Linux KVM (kernel version > 3.10)

Feature	Description
Interface type	GigabitEthernet, Ethernet sub-interface
Ethernet	VLAN, MAC, Transparent bridge, VxLAN gateway
IP routing	Static routing, RIP, OSPF, ISIS, BGP, routing policy, PBR
Multicast	IGMP, PIM, MSDP
IP service	NAT, DHCP client/relay/server, DNS proxy/relay, DDNS, GRE, Netstream, ARP, SPR
IPv6	ND, DHCPv6 client/relay/server, DNS6, IPv6 over IPv4 Tunnel, IPv4 over IPv6 Tunnel, RIPng, OSPFv3, ISISv6, BGP4+, MLD, PIMv6
QoS	Traffic classification: IP address, TCP/UDP port number, and protocol type
	Traffic policing: CAR
	Traffic shaping: GTS
	Congestion management: FIFO, WFQ, Congestion avoidance: Tail drop, WRED
VPN	GRE, L2TP, VRF-Lite , MPLS L3VPN, IPsec VPN, DSVPN, SVPN, A2A VPN
Security	ACL, RADIUS, AAA, HWTACACS, PKI, Firewall, IPS, URL Filter, uRPF
Reliability	NQA, BFD, VRRP, IFRBackup
MPLS	LDP, VLL, VPLS, MPLS TE
Network management	Telnet/STelnet, FTP/SFTP, SSH, NTP, RMON, IP Accounting
	NBI: CLI, SNMP, NetConf
WLAN	WLAN AC



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