Huawei NetEngine AR6700V Datasheet

Huawei NetEngine AR6700v is a cloud-native router developed by Huawei to cope with the trend of migrating traditional networks to the cloud. Based on the cloud-native architecture, the AR6700V can be deployed in a public or private cloud environment. It can function as the cloud gateway for enterprise

Trends and Challenges

As enterprise services become more and more abundant, more and more enterprises migrate applications to private or public clouds to quickly roll out and adjust services flexibly. According to statistics, 90% enterprise applications will be deployed on the cloud in the future. With the continuous development of service cloudification, the number of applications and traffic increase rapidly. Traditional enterprise WAN networks cannot meet the interconnection requirements of enterprise infrastructure and cloud-based enterprise services. Traditional enterprise WAN networks are facing many challenges:

- Traditional private lines are used by branches to access cloud applications, which in low service provisioning efficiency and slow provisioning.

- Enterprise service cloudification brings higher WAN bandwidth requirements, and cloud gateway performance becomes a bottleneck.

- Multi-tenant cloud access capabilities cannot be provided.

- Traditional enterprise WAN network status cannot be sensed, and visualized management and O&M cannot be intuitive.

To solve the preceding problems and adapt to the development trend of enterprise applications moving to the cloud, Huawei launches the NetEngine AR6700V cloud-native router, which inherits Huawei's industry-leading and continuously evolving IP and security capabilities. Cloud-native technologies, such as resource pooling, mixed slicing, and multi-copy data management, are used to build a comprehensive and reliable multi-tenant operation solution. The solution can be flexibly deployed in heterogeneous environments, providing customers with more flexible business models, stronger service capabilities, and more cost-effective SD-WAN gateway solutions. It has become an important part of the transformation from traditional enterprise WAN networks to SD-WAN networks.

Huawei NetEngine AR6700V can be deployed in the following two scenarios:

POP GW scenario:

Carriers, MSPs, and head financial customers build POPs by themselves. The POP GW is used to connect multiple branches of tenants to form an integrated network solution. The POP GW to be deployed on VMs has to meet elastic network scaling requirements.

Cloud GW scenario:

This solution is intended for MSPs, pan-government, finance, and enterprise customers. If services are deployed on public or private clouds, cloud gateways are deployed to interconnect services on and off the cloud.

Product Overview

Figure 1 shows the system architecture of the NetEngine AR6700V.
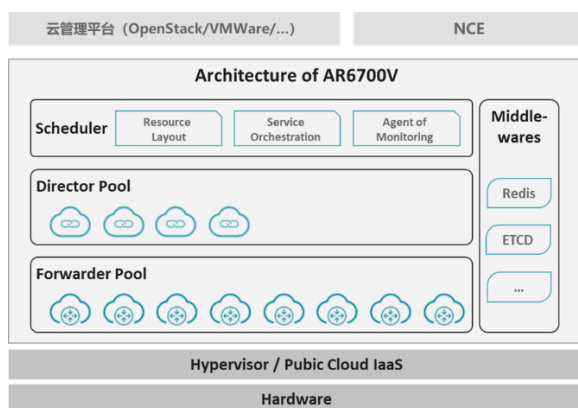

Figure 1 NetEngine AR6700V system architecture

The NetEngine AR6700V adopts the cloud-native architecture, which eliminates the limitations of traditional routers. The main technologies of this architecture are as follows:

- Layered deployment of the control plane and data plane, isolation of faults between layers, and reduction of fault domains

- Resource pooling, that is, distributed resources, further isolating fault domains

- The NSR technology is used on the control plane, and the N-Way multi-channel redundancy technology is used on the data plane, improving system and tenant reliability.

- Tenant mixed slicing, multiple copies of tenant data, and random hash deployment enhances tenant service isolation and reliability.

- Fast fault detection and load balancing among tenants, improving tenant service reliability

Key Features and Benefits

Leading architecture and superb performance

- Based on the cloud-native architecture, the system supports elastic capacity expansion and provides up to 200 Gbit/s SD-WAN performance.

- Supports multiple tenants. A maximum of 2000 tenants are supported.

- Supports running in public and private clouds and extending enterprise networks to the cloud.

- Quick and flexible deployment to PoPs and cloud environments, enabling enterprise branches to access the cloud in one hop.

Customer Benefits of AR6700V Elasticity

- Avoid service migration and service interruption caused by scale-up capacity expansion, simplifying capacity expansion, and not affecting existing services.

- Supports ultra-large capacity and bandwidth, breaking the upper limit of the capacity and bandwidth of a single device.

- On-demand capacity expansion and small-granularity capacity expansion prevent resource utilization from decreasing after traditional capacity expansion.

Cloud on ramp for enterprise branches

- Supports multiple tunnel technologies, such as VXLAN and SD-WAN, to quickly connect branches to the cloud through VPN tunnels.

- Provides application-based intelligent traffic steering and accelerated flexible cloud access, improving cloud application experience for enterprise customers.

- iMaster-NCE provides unified management, refined control, and visualized O&M, simplifying service deployment and reducing network maintenance costs.

- Automatically orchestrates overlay tunnels between enterprise sites to quickly establish secure and reliable network interconnections.

Typical Application

In the SD-WAN solution, Huawei NetEngine AR6700V can be deployed in the cloud and POP to interconnect with enterprise branches and clouds.. The NetEngine AR6700V features high forwarding performance, good scalability, and rich functions. It provides secure and reliable network services for enterprise customers and reduces network investment.
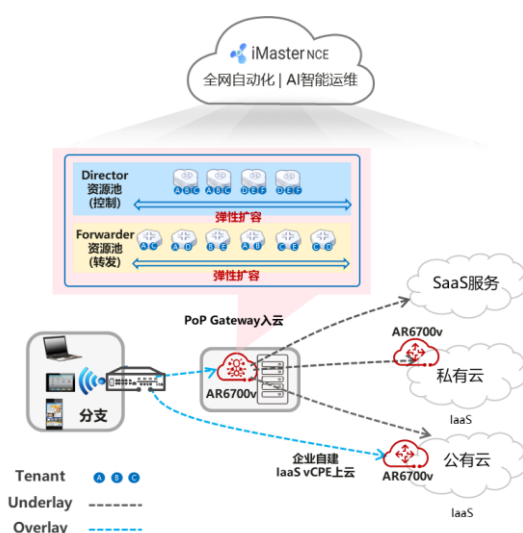

Figure 2 Typical network of the AR6700V

SD-WAN PoP Scenario

The NetEngine AR6700V functions as a PoP node and provides powerful multi-tenant capabilities. A maximum of 2000 enterprises or departments can share one PoP node. Resources between tenants are isolated from each other. PoPs and multiple clouds are pre-streamlined. Branches can be migrated to the cloud through only PoPs, greatly reducing the complexity of cloud migration.

SD-WAN GW Scenario

The NetEngine AR6700V functions as the cloud gateway. Its deployed on the public or private cloud VMs, the AR6700V quickly establishes VPN connections between branches and enterprise IaaS services, helping enterprises quickly implement secure and fast multi-cloud access.

More information

For more information, please visit the Huawei website. http://enterprise.huawei.com/cn/or theContact us by:

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Huawei NetEngine AR6700V Virtual Router Brochure