

H3C IPv6 Solution

I. Background

Today the IPv4 protocol is an Internet protocol widely deployed. Along with the development of the Internet, however, the IPv4 protocol exhibits inherent design defects and numerous restrictions after over 20 years' application. These defects and restrictions form a bottleneck that hinders the application and future development of the IP technology.

As the basis for the next generation network (NGN), the IPv6 protocol is widely recognized for its distinctive technical advantages and creates service development opportunities:

- The IPv6 technology has essentially solved the address shortage issue.
- The IPv6 technology provides quicker deployment (plug-and-play).
- The IPv6 technology supports flow label ability, which facilitates QoS implementation.
- The IPv6 technology integrates security features.
- IPv6 packets have better header structure, which brings improved processing performance.
- IPv4 networks can smoothly transit to IPv6 networks. The two types of networks can access each other.

II. Solution

As a world-leading supplier of network equipment and solutions, H3C regards the IPv6 technology as a strategic development goal, relies on its own powerful technical strength, and closely keeps up with the development of the IPv6 technology. Till now, H3C has launched a complete series of IPv6 routers and switches ranging from core layer devices to access layer devices, from high-end devices to low-end devices, and from wireless devices to wired devices to construct user-required solutions.

H3C has developed the core router SR8800 and the core/convergence switch S9500 based on the characteristics of

network traffic. IPv4 networks can smoothly evolve to dual-stack (IPv6/IPv4) networks by deploying dual stacks in the core layer and combining the design of carrier-class device reliability and network reliability.

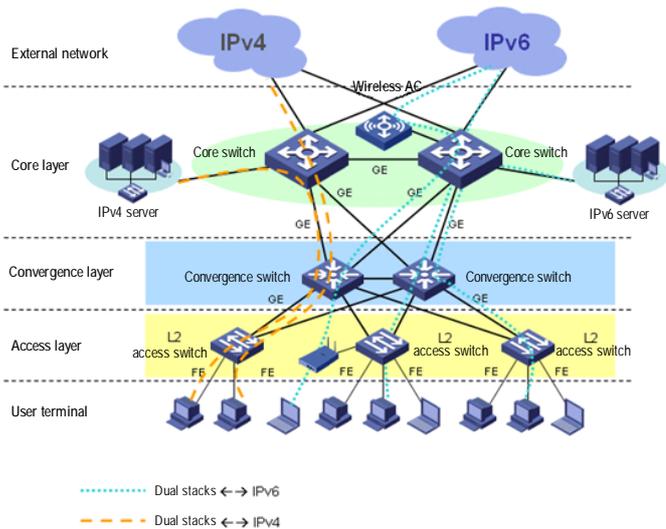
H3C provides the S7500E as convergence equipment for IPv6 deployment in large-scale campus networks, and provides the R6600 as convergence equipment for IPv6 deployment in WANs. The S7500E and the SR6600 provide IPv6 service flow convergence. In addition, the S7500E and the SR6600 can serve as core layer devices in medium-scale networks.

H3C provides a series of access layer switches and routers to adapt to complex access layer network structure. These switches and routers can be used in IPv6 network deployment to provide L2 and L3 access. They support multiple networking modes, including 100M/1000M to the desktop and 10GE uplink, and provide abundant access means. When used in IPv6 branch deployment of WANs, the MSR series routers can meet the egress node requirements of networks in different scales.

As a flexible access mode, the wireless series products comprehensively support IPv6, including IPv4 packet flows over IPv6 tunnels and IPv6 data transmission over APs. Wireless subscribers can normally access IPv6 networks and IPv6 services via the IPv6 protocol. Fit APs can register via the IPv6 network to the AC and establish CAPWAP tunnels. The CAPWAP is the communication protocol between the wireless AC and the AP. The comprehensive support guarantees the seamless support for IPv6 during the integration of wireless and wired services, and offers an IPv6 networking solution integrating wireless and wired products.

The transition from IPv4 to IPv6 is a progressive process. In this process, IPv4 and IPv6 will coexist for a long period of time. H3C IPv6 solution supports technologies for transition from IPv4 to IPv6, implements the interconnection of isolated IPv6 sites across the IPv4 network, and effectively supports the access of IPv6/IPv4 users and the mutual access between IPv4 and IPv6

users.



III. Solution Features

Flexible deployment: H3C IPv6 solution can be applied to the construction of new IPv6 networks and the reconstruction of IPv4 networks. H3C provides the dual-stack solution and the ISATAP tunnel solution to meet the requirements of IPv6 deployment.

Comprehensive portfolio: H3C provides a complete series of IPv6 switches and routers with abundant specifications to efficiently and economically implement IPv6 networking and meet L2/L3 access requirements. The switches and routers support multiple networking modes, including 100M/1000M to the desktop and 10GE uplink.

Wireless support: H3C wireless products support IPv6 networking and provide IPv6 solutions integrating wired and wireless products.

High-speed: H3C IPv6 products support 10GE/GE/FE wire speed forwarding.

Extensible: H3C IPv6 platform Comware 5 is a unified IPv6/IPv4 OS platform independently developed by H3C with 100% intellectual property rights. It can better and more flexibly meet the IPv6 service deployment requirements of campuses.

Unified network management; H3C IPv6 solution can be deployed to completely meet IPv6 multicast, security control, QoS implementation, and network management requirements.

Certificates: Along with the continuous development of IPv6

networks and applications, H3C IPv6 products have been widely applied. While helping H3C accumulate plenty of application cases, these products have been recognized by numerous authoritative IPv6 certification organizations.

IPv6 network access test by the Ministry of Information Industry (MII), P. R. China



IPv6 Forum IPv6 Ready Phase 1/Phase 2 certification



Product certification by Tolly Group



User reports

