Configuring and Evaluating IPv6 Transition Technologies

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Diagram Exercise 3

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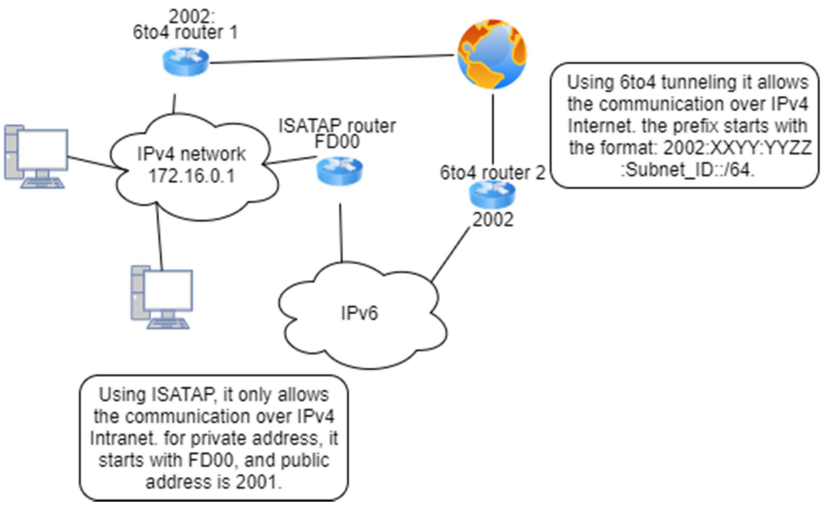
IPv4 and IPv6 can coexist in Windows Server 2016 using transition technologies. There are some considerations to plan for IPv6 environment. The admin should configure DHCP by configuring scopes and DNS by configuring reverse lookup zones. Also, the organizations should have supports for OS, routers, network devices, and applications.

In the lab, the administrators considered two different technologies. ISATAP allows IPv6 communication over an IPv4 intranet, not the Internet. It is suitable only within a private network. In the address format, the IPv4 address is a part of the IPv6 address. For example, if IPv4 address is 192.168.137.133, then IPv6 address is FD00::0:5EFE:192.137.133. For the ISATAP router, the admin configured IPv6 dynamically because DHCPv6 and DNSv6 are configured in the system by default in Windows Server 2016. The 6to4 tunneling allows the connectivity over IPv4 Internet. It is not suitable for a NAT environment. Also, it works between sites or from host to site. In the lab, there are three different locations.


2002:
6to4 router 1
IPv4 network
172.16.0.1
ISATAP router
FD00
6to4 router 2
2002
IPv6
Using 6to4 tunneling it allows the communication over IPv4 Internet. the prefix starts with the format: 2002:XXYY:YYZZ :Subnet_ID::/64.
Using ISATAP, it only allows the communication over IPv4 Intranet. for private address, it starts with FD00, and public address is 2001.