

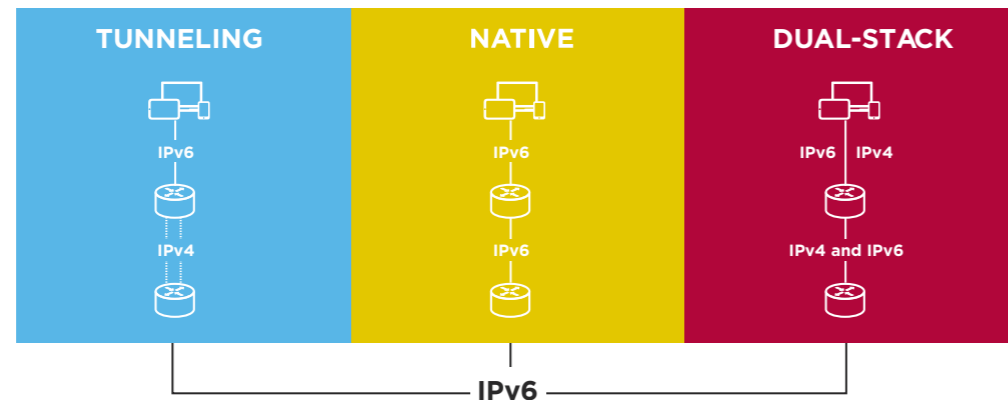


IPv6 SOLUTIONS FOR SERVICE PROVIDERS

Due to IPv4 address scarcity and increasing growth in the segment of connected devices the need for new address allocation has increased the requirement for service providers (SP) to offer IPv6 connectivity to subscribers. As the content available over IPv6 is increasingly growing a SP needs to upgrade its existing infrastructure to support the protocol.

IPv6 ENABLED NETWORKS

While the need to deploy an IPv6 enabled network is apparent there are several implementation strategies, which can be used to offer subscribers connectivity via IPv6: Tunneling, Native and Dual Stack IPv6.



IPv6 BENEFITS:

End-to-end connective integrity

Unconstrained address abundance

Integrated interoperability and mobility

TUNNELING

Requiring a **quick deployment** a SP may be faced with **strict time limitations** in which to offer IPv6 connectivity to its subscribers while not having to upgrade its existing core infrastructure to transport the data. Several **tunneling mechanisms** have been developed to offer ease of transition of which the most advantageous is 6rd which technically resembles 6to4, however offer the SP to include its own IPv6 prefix. **Cisco ASR1000** supports implementation of several different tunneling mechanisms including 6rd.

NATIVE IPv6

Whereas some SP's have to ability to integrate IPv6 into their existing infrastructure, some are faced to create a native IPv6 network without the ability to provide any kind of IPv4 addressing to their subscriber due to total **IPv4 exhaustion**. These subscriber have the requirement to access both IPv6 and IPv4 content, however with only IPv6 addressing is available. Introduction of a **NAT64** and **DNS64** elements provides the ability to allow subscriber access to both IPv4 and IPv6 content respectively while not requiring to implement dual stack across the whole infrastructure.

DUAL STACK

Building a **separate logical network** using the same physical infrastructure allows for a **full deployment of IPv6** across all network elements and **should be the long-term vision for implementing IPv6**. With several benefits the dual stack approach requires rigorous assessment process understanding the requirements to deploy IPv6.

NIL VALUE PROPOSITION

NIL has comprehensive knowledge in planning, designing, implementing, installing, operating and educating on all types of WDM networks all over the world. In last decade optical networks became much more complex as just connecting two terminal nodes. Team of NIL engineers is constantly updating their knowledge with latest technologies offered from leading vendors like Cisco Systems. Engineers are capable to engage into Enterprise or SP networks with their specific designs and provide suitable support and service for the customer.

TUNNELING

Ease of implementation

Network core unaffected

NATIVE IPv6

One logical network

No dual stack required

DUAL STACK

Supporting for both IP protocols

Long term strategy

For more information, please contact us via sales@nil.com or find our local office.