Cisco Press - Cisco Self-Study Implementing IPv6 Networks (IPV6)

With the proliferation of Internet devices that require a globally unique host address such as handhelds, 3G phones, and other wireless devices, the supply of Internet addresses available will soon be exhausted. Cisco Self-Study: Implementing Cisco IPv6 Networks (IPV6) shows you how to use Version 6 of the Internet Protocol to stay ahead of the curve, safeguard against running out of address space, avoid awkward address-expansion efforts, and apply the power of the new Internet to meet your needs over the coming decades.

Complete with practical examples that show the real-world application of IPv6, Cisco Self-Study: Implementing Cisco IPv6 Networks (IPV6) presents in-depth technical coverage of designing, configuring, deploying, and debugging IPv6 on Cisco routers. Within, you'll find strategies for management, integration, and international implications. To help you remember key concepts, each chapter ends with challenging review questions that test your knowledge of the subject matter. Whether you are searching for a comprehensive reference to the new version of the Internet Protocol or require a solutions-based implementation guide based on official Cisco content, Cisco Self-Study: Implementing Cisco IPv6 Networks (IPV6) is your complete networking resource for this valuable and inevitable technology.

Design, build, configure, and support networks based on Version 6 of the Internet Protocol

Coverage includes:

- Overview of history and motivations behind the new protocol, including the limitations of the IPv4 address space, Network Address Translation (NAT), fast growth of the Internet routing table, international issues, mobility, security, and many other topics
- Header format, addressing, Path MTU Discovery (PMTUD), IPv6 over link-layer technologies, Extended Unique Identifier-64-bit (EUI-64) format, Internet Control Message Protocol Version 6 (ICMPv6), autoconfiguration, neighbor discovery protocol, Duplicate Address Detection (DAD), and use of DNS with IPv6
- Comparison with BGP4+, RIPng, IS-IS for IPv6, and OSPFv3 with Cisco IOS(r) Software routing references and examples
- Transitioning from and co-existing with IPv4 using Dual Stack, configured tunnel, generic routing encapsulation (GRE), 6to4, 6to4 Relay, Intra-Site Automatic Tunnel Addressing Protocol (ISATAP), and Network Address Translation-Protocol Translation (NAT-PT) configurations
- Enabling, configuring, and operating a Cisco router with IPv6 addresses, prefixes, IPv6 ACLs, IPv6-enabled routing protocols, CEFv6, and several coexistence mechanisms
- Host-router interaction with Microsoft Windows, Solaris, FreeBSD, Linux, and Tru64 UNIX Preview of Internet IPv6 and address allocation on 6Bone

Deploying production IPv6 connectivity in enterprise networks using prefixes allocated by ARIN, RIPE, and APNIC