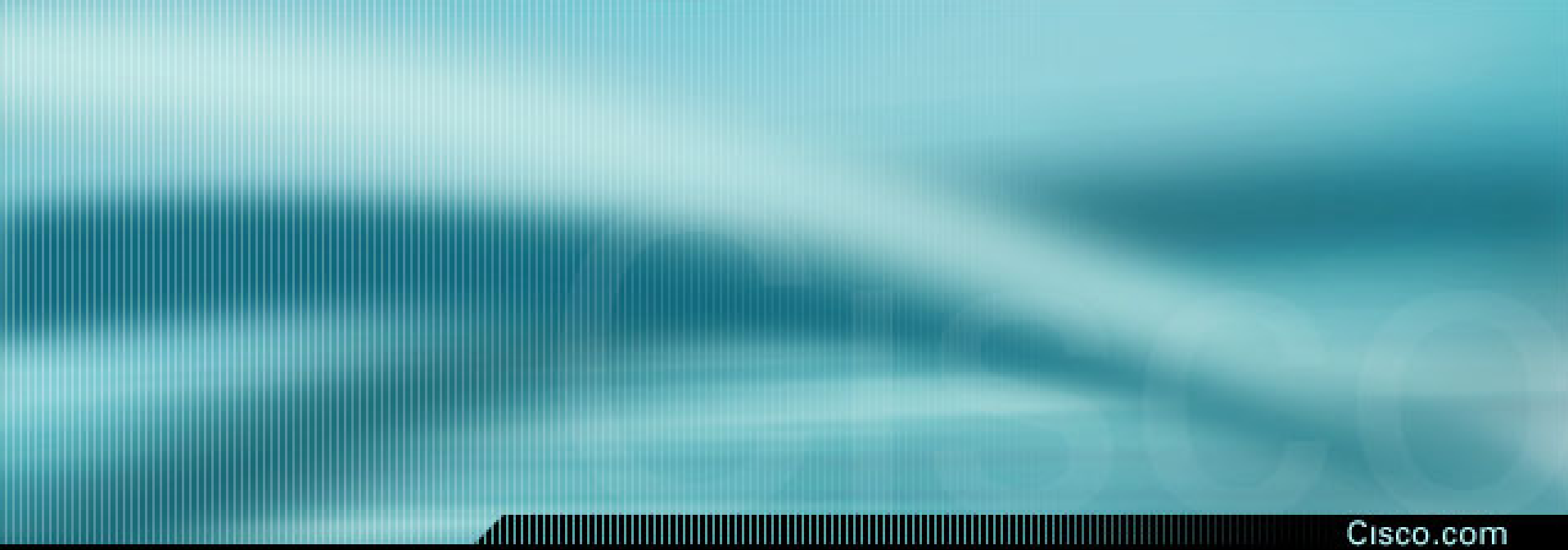

Cisco IPv6 status

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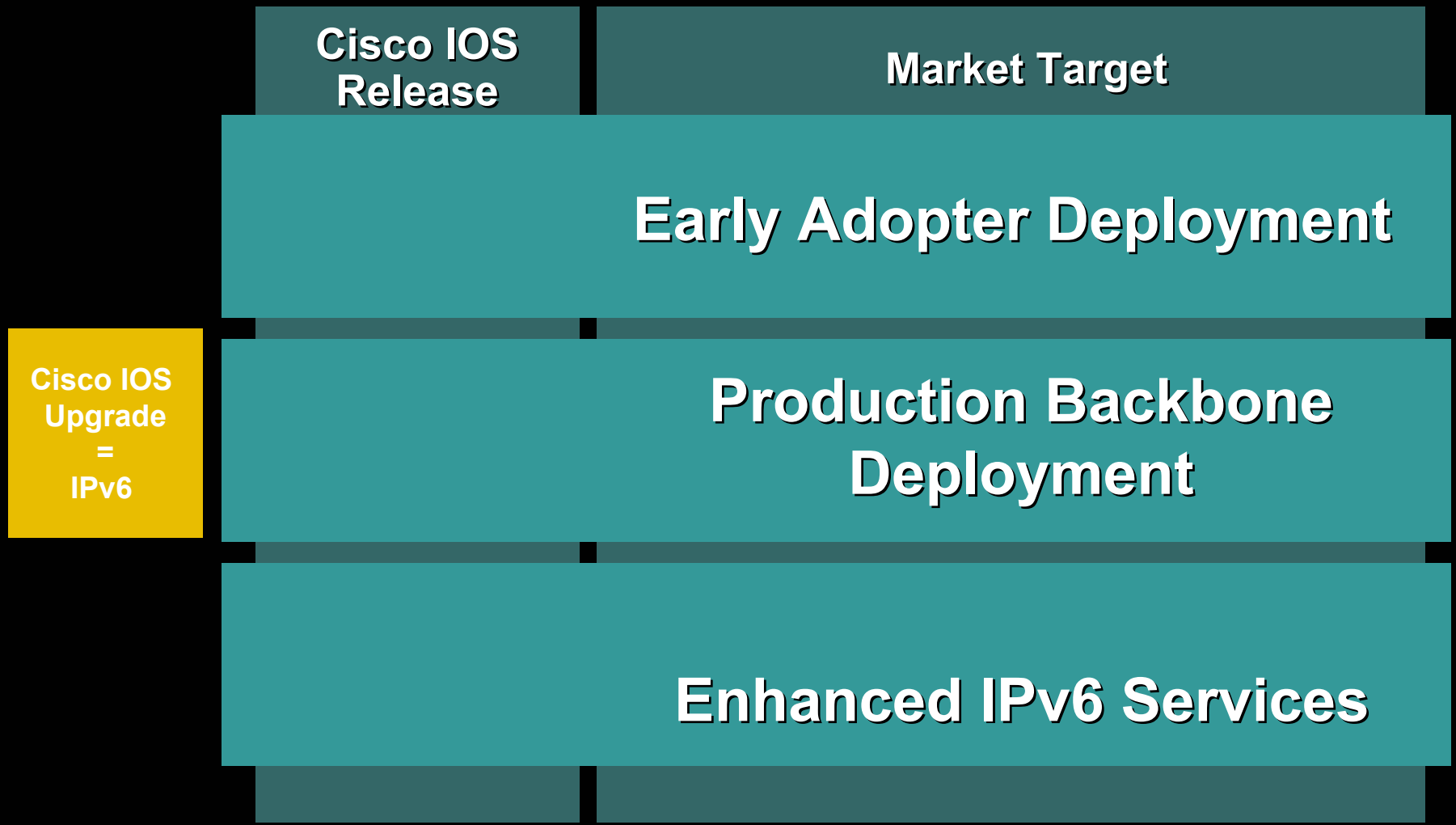
Cisco IOS Roadmap: The Confluence of IPv4/IPv6

Cisco.com



Cisco IOS IPv6 Phase I – Early Adopters

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Done

Feature Set	12.2T	12.0S/ST (*)	12.2S
IPv6 Basic specifications (RFC 2460)	12.2(2)T	12.0(22)S/(21)ST	12.2(14)S
ICMPv6 (RFC 2463)	12.2(2)T	12.0(22)S/(21)ST	12.2(14)S
Neighbor Discovery (RFC 2461)	12.2(2)T	12.0(22)S/(21)ST	12.2(14)S
Stateless Auto-Configuration	12.2(2)T	12.0(22)S/(21)ST	12.2(14)S
RIPng (RFC 2080)	12.2(2)T	12.0(22)S/(21)ST	12.2(14)S
MP-BGP4 (RFC 2545 & 2858)	12.2(2)T	12.0(22)S/(21)ST	12.2(14)S
Configured & Automatic Tunnels	12.2(2)T	12.0(22)S/(21)ST	12.2(14)S
6to4 Tunnels (RFC 3056)	12.2(2)T	12.0(22)S/(21)ST	12.2(14)S
GRE Tunnels	12.2(4)T	N/A	12.2(14)S
Data Links (*) Ethernet, FDDI, PPP, HDLC ATM PVC & LAN-E, FR PVC	12.2(2)T	12.0(22)S/(21)ST	12.2(14)S
Applications Ping, Traceroute, Telnet, TFTP, DNA AAAA over IPv4, HTTP	12.2(2)T	12.0(22)S/(21)ST	12.2(14)S
Standard Access Control List	12.2(2)T	12.0(22)S/(21)ST	12.2(14)S

Cisco IOS IPv6 Phase II – Infrastructure

Done

Feature Set	12.2T	12.0S/ST (*)	12.2S
IS-IS for IPv6	12.2(8)T	12.0(22)S/(21)ST	12.2(14)S
CEFv6/dCEFv6	12.2(13)T	12.0(22)S/(21)ST	12.2(14)S
Extended Access Control List	12.2(13)T	12.0(23)S	12.2(14)S
IPv6 over MPLS – 6PE	12.2(15)T	12.0(22)S	12.2(14)S
NAT-PT (RFC 2766)	12.2(13)T	N/A	TBD
IPv6 MIBs	12.2(15)T	12.0(22)S	12.2(14)S
CDP IPv6 Address Family on Neighbor	12.2(8)T	N/A	12.2(14)S
Static ND Cache entry	12.2(8)T	12.0(22)S/(21)ST	12.2(14)S
Link-local Address for BGP4+ peering	12.2(4)T	12.0(22)S/(21)ST	12.2(14)S
Broadband Access Encapsulation, AAA, Prefix Pools	12.2(13)T	N/A	TBD
DNS AAAA over IPv6	12.2(8)T	12.0(22)S/(21)ST	12.2(14)S
SSH over IPv6	12.2(8)T	12.0(22)S	12.2(14)S

Cisco IOS IPv6 Phase III Target – as 01/2003

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	12.2T	12.0S/ST	12.2S	12.3M
IPv6 QoS	12.2(13)T	*TBD*	*TBD*	
OSPFv3	12.2(15)T	12.0(24)S	*12.2(3rd)S*	
MT IS-IS	12.2(15)T	*TBD*	*12.2(3rd)S*	
ISATAP	12.2(15)T	N/A	12.2(14)S	
IPv6 Multicast	*12.3(1st)T*	*12.0(26)S*	*12.2(3rd)S*	
Netflow IPv6	*12.3(2nd)T*	*TBD*	*TBD*	

Extensive Platform Support

Cisco.com

Check latest release number & availability with your local Cisco team

Cisco IOS 12.2T

- Cisco 800 series Routers
- Cisco 1400 series Routers
- Cisco 1600 series Routers
- Cisco 1700 series Routers
- Cisco 2500 series Routers [12.2(4)T]
- Cisco 2600 series Routers
- Cisco 3600 series Routers
- Cisco 3700 series Routers
- Cisco 4500/4700 series Routers [12.2(2)T only]
- Cisco 7100 series Routers
- Cisco 7200 series Routers
- Cisco 7500 series Routers

Cisco IOS 12.2S

- Cisco 7100 series Routers
- Cisco 7200 series Routers
- Cisco 7300 series Routers
- Cisco 7400 series Routers
- Cisco 7500 series Routers
- Cisco 7600 series Routers
- Catalyst 6500 series

Cisco IOS 12.0S

- Cisco 12000 Series Routers
- Cisco 10720

Cisco 12000 series router IPv6

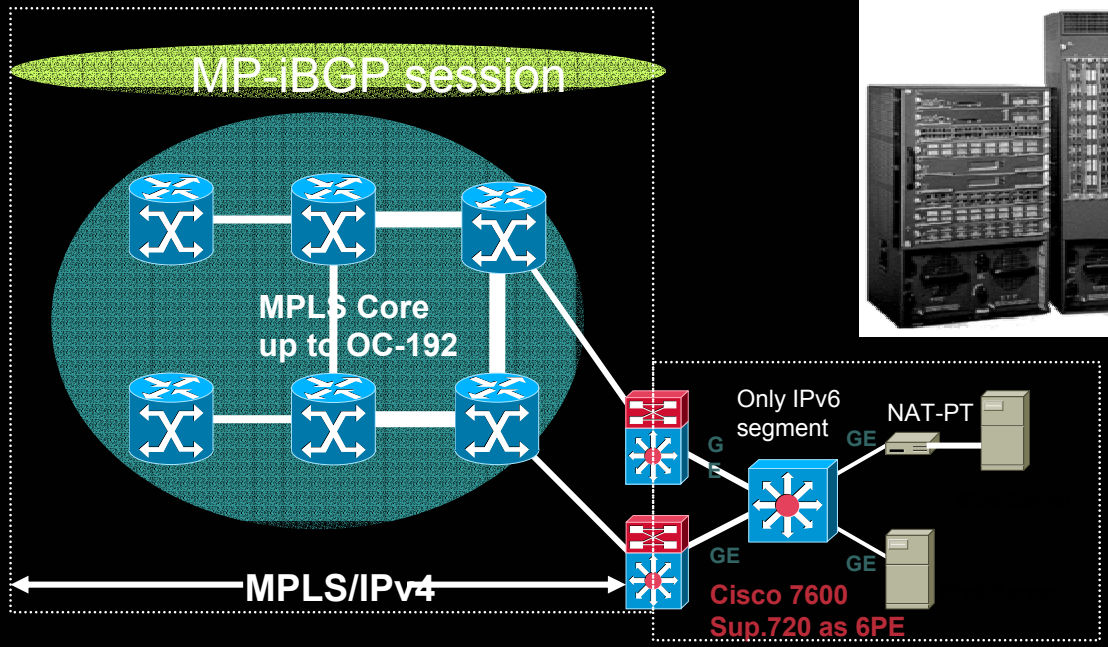
IPv6 Control Plane

- IPv6 Basics
  - ICMPv6
  - ND – including static entries
  - Stateless Auto-config.
  - MIBs
  - SSH, Telnet
  - DNS
- Routing protocols
  - RIPng
  - IS-ISv6
  - OSPFv3
  - MP-BGP4
- IPv6 Tunnels
  - distributed on Line cards or Tunnel Card

IPv6 Hardware Assistance

- Engine 3 Line Cards
  - 4 x GE
  - ATM OC-12
  - POS OC-3, OC-12, OC-48
- Standard & Extended ACL
- IPv6 Provider Edge (6PE) over MPLS
- up to 3.8M pps per LC

Cisco 7600 / Catalyst 6500 Sup.720



- **Best-in-class IPv6 performances on Catalyst 6500/Cisco 7600**
  - **Supervisor Engine 720 & distributed PFC3 modules, 10GE HW FW**
  - **IPv6 hardware assistance for IPv6 native and IPv6 over IPv4 tunnels (configured, 6to4, ISATAP)**
  - **10Mpps (Tunnels), 20Mpps (Sup.720), 200Mpps (Distributed)**

Cisco 7500

IPv6 performance with VIP4-80 & OC3 interface

Packet Size	Max. PPS	Meas. PPS	% Line Rate
64	353,208	166,000	47%
128	160,000	153,490	96%
256	76,408	76,408	100%
512	37,365	37,365	100%
1024	18,480	18,480	100%
1518	12,422	12,422	100%

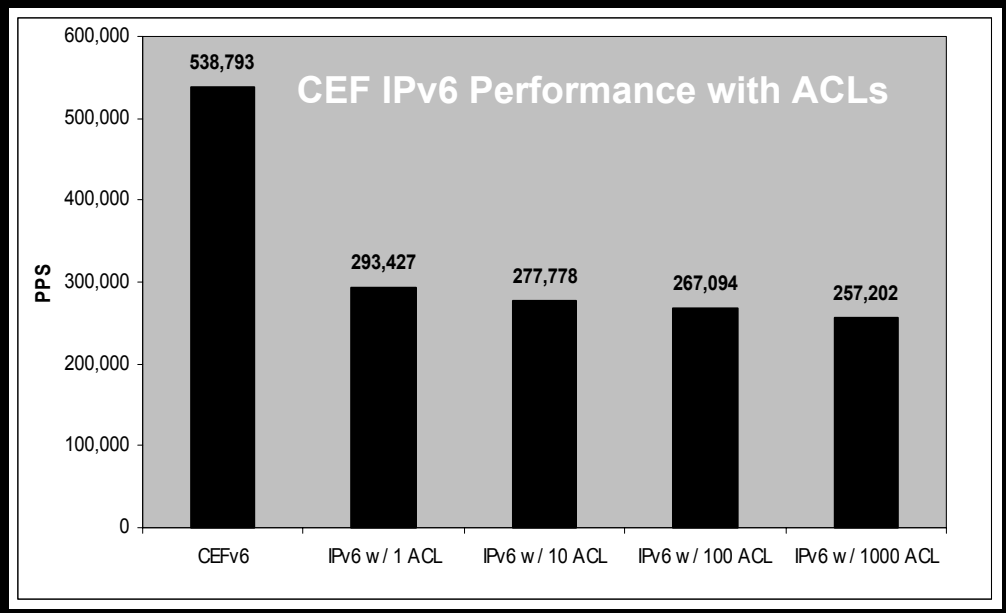
- **IPv6 Performance Summary**

  For small size packets, there is an approx 11-16% performance degradation when using IPv6 versus IPv4

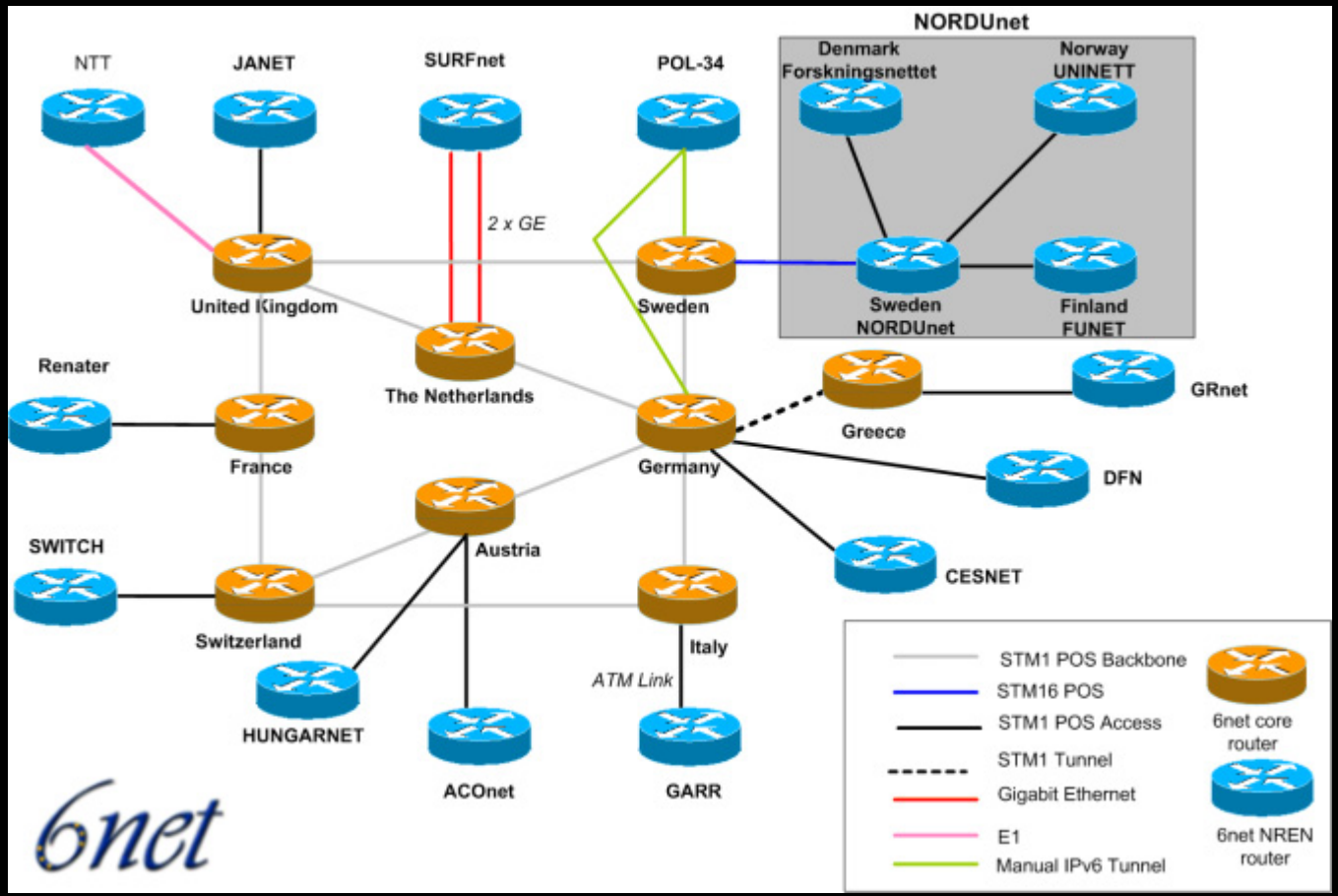
  For packet size of 256 bytes or above, both IPv4 and IPv6 achieve line rate.

Cisco 7200 & 7301 - NPE-G1

IPv6 CEF performance on NPE-G1 exceeds IPv4 CEF performance on NPE-400

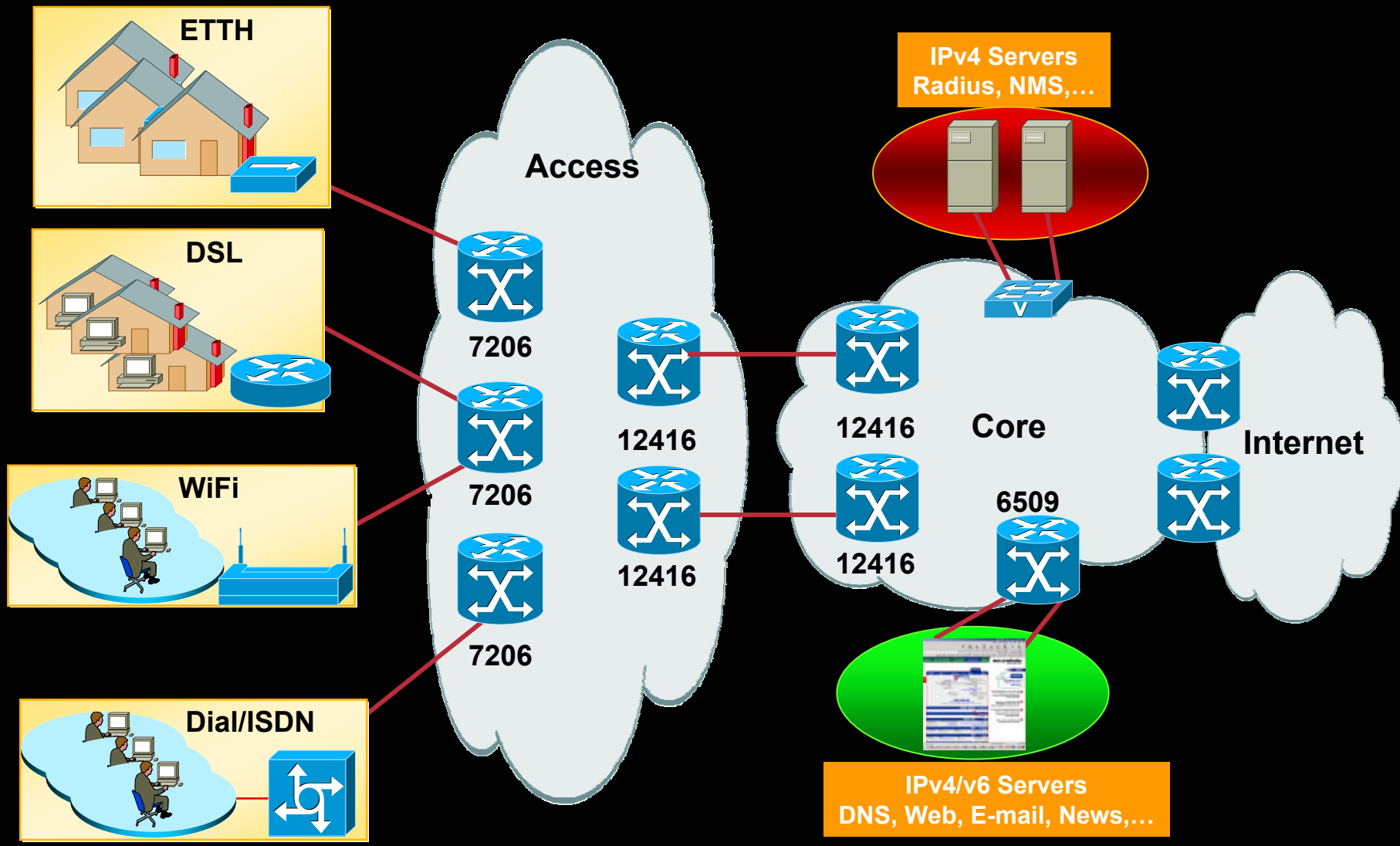


6net



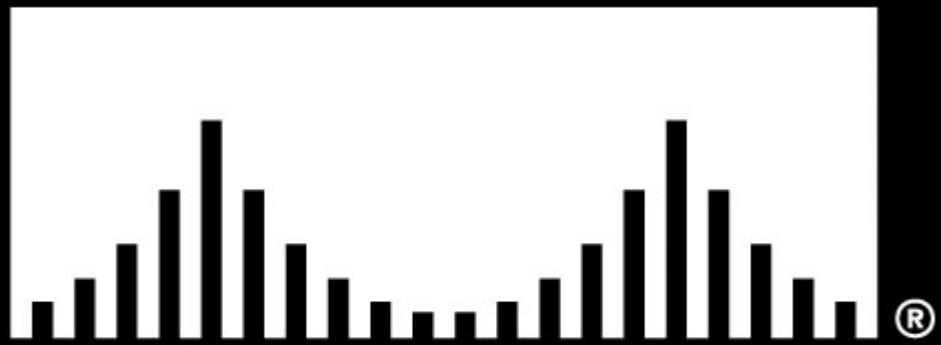
Initial IPv4 to IPv6 migration Cookbook for organizational/ISP (NREN) and backbone networks.
http://www.6net.org/publications/deliverables/D2.2.2.pdf

Commercial



Questions?

CISCO SYSTEMS



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