Soluciones para una transición a IP6

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A10 Networks Company Overview

- Flagship product: AX Series
- Lee Chen – founder/CEO
- HQ in San Jose, California
- 350+ employees worldwide
- Profitable
- #1 fastest growing private Computer Hardware company in North America
- 2nd fastest growing private company in Silicon Valley
Application Delivery and Load Balancing Overview

- Site Always Available
  - Faster Response
- High Volume Traffic & Unpredictable Spikes
  - Disparate Devices & Protocols
- Application Delivery Controller
- Efficient Distribution
  - Reduced Connections
  - Normalized Traffic
- CPU & Network Off-load
  - Easier Management
  - Connection Efficiency

Users

External Network

Primary Datacenter

Backup Datacenter

ADC

Internal Network

Servers

• Automatic Failover
• Datacenter Redundancy & Disaster Recovery
IPv6 Solutions

- No standard compatibility
- Different requirements
  - Home
  - Enterprise
  - Service Provider
- “IPv4 Legacy Networks”
- Each solution has its own pros & cons
IPv6 Migration Techniques

- Dual-Stack
- Encapsulation
- Translation
Main interest:
- Enterprises
- Content Providers

Usage:
- Looked into by many Enterprises / Content Providers and already deployed today

Goal:
- Offer IPv6 services quickly with minimal changes
Large Scale NAT (LSN, aka CGN/NAT444)

- **Main SP interest:**
  - ISPs

- **Usage:**
  - Looked into/tested by many ISPs

- **Goal:**
  - Resolve IPv4 exhaustion quickly with minimal changes
  - Maximize IPv4 address capacity

*Note: LSN is also called “Carrier Grade NAT” (CGN) or NAT444.*
DS-Lite (Dual-Stack Lite) + NAT with LSN/CGN

Main SP interest:
- ISPs

Usage:
- Currently being evaluated by some ISPs

Goal:
- Provide IPv4 service access to IPv4 clients and IPv6 service to IPv6 clients without having a dual-stack SP network
- IPv6 core network

Note: Some ISPs look at combining DS-Lite with DNS64/NAT64
NAT64/DNS64

Main SP interest:
- MNOs and ISPs
- Enterprises

Usage:
- Looked into by many operators and enterprises, production deployments started

Goal:
- Provide IPv4 content access to IPv6-only clients
- “Improves” IPv6, more content returned
Main SP interest:
- ISPs

Usage:
- Looked into/tested by some ISPs and deployed by a few

Goal:
- Provide IPv6 service access before core Network IPv6 upgrade
- IPv4 core network

Note: Some ISPs look at combining 6rd with NAT444 + DNS64/NAT64
A10 IPv4-to-IPv6 Migration Advantages

- **Industry-leading and mature implementation**
  - Interop shownet, evaluations, lab and field trials
  - Multiple live production deployments
  - Significant marquee customers
  - Proven interoperability, flexible deployment

- **High performance**
  - Very high session establishment rate
  - Large number of concurrent sessions
  - Very high NAT processing PPS & throughput

- **Ideal ‘green’ form factor**
  - 1U/2U with least power consumption

- **Price/performance advantage**
  - All-inclusive
Advanced Core OS (ACOS)

- Development started in June 2005
- Multi-core CPU, shared memory architecture
- 64-bit scalability
- Efficient design
  - Power, memory, space & resource consumption
- Scalable Symmetrical Multi-processing (SSMP)
- Flexible design
IPv6 (and IPv4) Advanced Traffic Management

- **ACOS platform recap**
  - Application Delivery (ADC) and Server load balancing
  - IPv6 migration and IPv4 preservation
  - Widest choice of virtualization solutions

- **Recommended Resources**
  - eLearning: A10 Quick Classes - Deploying an IPv6-ready Website for Your Enterprise (#3)
  - White Paper - The End of IPv4? Migration paths to IPv6
  - Case Study: A10 Networks (SLB-PT)