



IPv6: High-Performance IPv4/IPv6 Gateway



Solution Brief

AX Series New Generation Application Delivery Controller (ADC)

Overview

With IPv6 as the designated successor to IPv4, enterprises and service providers are implementing products and solutions to enable a smooth transition from IPv4 to IPv6. To facilitate a smooth transition to IPv6, and ensure forward and backward compatibility with legacy IPv4 systems, a highly scalable IPv4/IPv6 gateway is required. The gateway should support the various IPv4-to-IPv6 techniques in use today, each of which addresses a different business need, as well as being flexible enough to accommodate future techniques.

AX Series New-Generation Application Delivery Controller: High-Performance IPv4/IPv6 Gateway
A10 Networks' AX Series provides the industry's most scalable IPv4/IPv6 gateway to ensure a smooth transition. The AX Series includes the most comprehensive set of IPv6 migration features of any ADC on the market. With the AX Series, customers can run IPv4 and IPv6 features simultaneously through a scalable high performance platform designed to address the transition requirements and beyond.

Key Features:

IPv4 and IPv6 Server Load Balancer (SLB) Dual-Stack Support

- ▶ All IPv4 and IPv6 features can run simultaneously
- ▶ SLB-PT (Protocol Translation), SLB-64, SLB-46
- ▶ Dual-stack IPv4 & IPv6 SLB
- ▶ IPv6<->IPv4 only SLB

IPv6 Transition and IPv4 Preservation Support

- ▶ Carrier Grade NAT (CGN), Large Scale NAT (LSN), NAT444, NAT44
- ▶ Dual-stack Lite (DS-Lite), 6rd, NAT64/DNS64 and Stateless NAT46
- ▶ Application Level Gateways (ALGs) for FTP, TFTP, RTSP, PPTP, SIP, ICMP, DNS

IPv6 Server Load Balancing

- ▶ Comprehensive support for Layer 4 (TCP/UDP), Layer 7 (HTTP/Fast-HTTP), and SSL (HTTPS) IPv6 virtual addresses
- ▶ Support for IPv6 server health checks

Performance

- ▶ Very high session establishment rate
- ▶ Large number of concurrent sessions, 100+ million in 2 RU
- ▶ Very high NAT processing PPS & throughput

Logging

- ▶ Scalable, low impact, high performance and highly configurable
- ▶ Advanced features (Fixed-NAT/Zero-Logging, Port Batching, policy-based logging, compact logging, binary logging and others)

Flexibility of Deployment

- ▶ Inline Mode
- ▶ One-armed Mode

AX Management Through IPv6

- ▶ Full native IPv6 and IPv4 management and feature support
- ▶ SSH, HTTP, HTTPS, SCP, and SFTP support

IPv6 Routing

- ▶ Static IPv6 route and neighbor configuration
- ▶ Dynamic routing - OSPFv3, IS-IS, RIPng, BGP4+

High Availability

- ▶ Active-Standby or Active-Active
- ▶ IPv6 session synchronization for uninterrupted service following failover
- ▶ Multiple High Availability sets in the same network for greater service protection
- ▶ Fully stateful redundancy (SLB, CGN/LSN, NAT64, DS-Lite and others)

Awards



Solution Brief

AX Benefits:

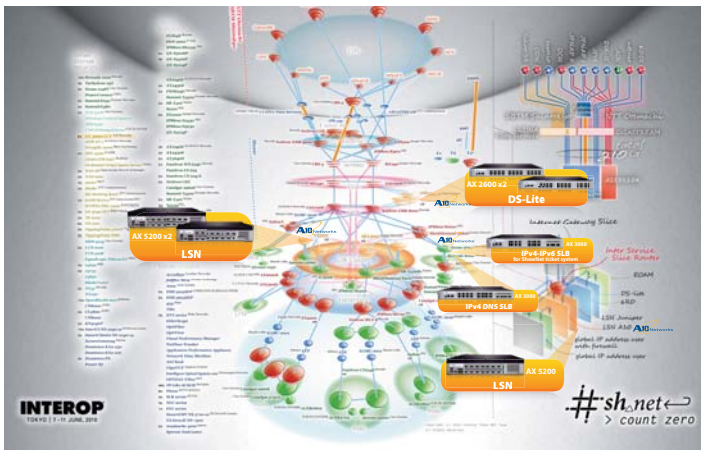
- ▶ AX Series offers the highest performance IPv4/IPv6 gateway on the market for load balancing IPv6 traffic, and for high-speed IPv4/IPv6 translation.
- ▶ AX Series has the most IPv6 features of any server load balancer on the market, with the capability to run IPv4 and IPv6 features simultaneously.
- ▶ Mature and proven IPv6 solution with many very large deployments completed with significant marquee customers.
- ▶ AX Series is a new generation platform, tuned for 64-bit multi-core CPU environments, and is therefore capable of handling the high performance and scalability requirements of IPv6.

Success Stories

Interop Tokyo 2007 to 2011

In 2007 the AX Series was invited to be the only server load balancing device for the Interop Tokyo ShowNet, where it load balanced live IPv4, IPv6 and SSL traffic that was used by thousands of concurrent users at the event. The AX Series also won Grand Prix/Best of Interop Tokyo 2007 through a unanimous vote by the judges.

In the following year, 2008, the AX Series was again the only server load balancer for the ShowNet, load balancing live IPv4/IPv6 traffic, and demonstrating superior IPv6 performance and advanced IPv6 features. The AX Series won Grand Prix/Best of Interop as Best Carrier/ISP Solution. Participation and more awards have followed in each subsequent year.

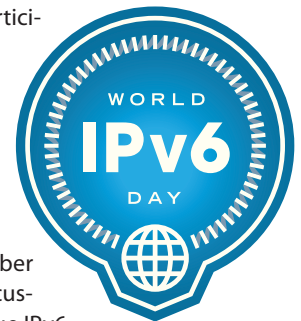


NTT Plala 2008

The NTT Plala Hikari-TV implementation became live in 2008 for IPTV broadcasting and video on-demand service (and Karaoke!). This was achieved with a native IPv6-based, fiber-to-the-home network. Hikari-TV was the first large-scale, commercially successful application of IPTV service running over an IPv6 network. Plala noted, "After a comparative test... we selected A10's AX Series... as the high-performance server load balancer platform for 'Hikari-TV'... video distribution service...."

World IPv6 Day 2011

In June 2011 www.a10networks.com participated as an IPv6 Test Day web site, one of the 40 or so sites tracked by RIPE. AX devices also were used by many A10 customers who also participated, representing a broad cross section of the Internet community, including: a large US web portal, a major US news organization, DNS providers, and a number of Web 2.0 and Cloud companies. One customer reported well over a million unique IPv6 addresses hitting its infrastructure's front-end A10 IPv6 virtual IP addresses (VIPs). World IPv6 Day represented a unique test bed for the AX Series, which had no issues reported on the day of the event.



Live Deployments and Summary



The AX Series has a large number of live customers in production and in field and lab trials. Due to its real-world experience and extensive interoperability testing with industry organizations, the AX Series offers the most feature rich and scalable solution on the market today in compact and energy efficient 1 or 2 rack unit (RU) form factors. With live deployments across North America, Europe, Japan, Latin America and Asia, A10 has local resources to assist any customer.

