



High-performance Application Delivery for Financial Information eXchange (FIX) Systems



Solution Brief

AX Series New Generation Application Delivery & Server Load Balancer

The Financial Information eXchange Protocol, also known as FIX, is used by financial institutions to facilitate the sale of equities between buyers and sellers. Originally it was designed to be used in private networks so network delay was low and predictable. However, with the adoption of IP networks, FIX has adapted to function over IP data networks resulting in several key challenges that need to be addressed.

FIX Challenges

Reliability: To achieve reliability, the FIX provider has to manually redirect traffic around a failed FIX server, which results in costly downtime.

Scalability: To add users to the FIX infrastructure, the IT administrator needs to configure a 1-to-1 client to server path, causing the use of many IP addresses, which is very time consuming and difficult to manage.

High-performance NAT (Network Address Translation) and Low Latency: FIX servers initiate connections to various outside systems. This requires NAT to public IP addresses. Current routing equipment used for NAT is expensive and additionally creates unneeded traffic delays.

Application Intelligence: FIX is a unique protocol and routers and switches lack the capability to provide application level features such as persistence and reading of FIX tag values; for example, TargetCompID (tag 56), Symbol (tag 55 for ticker symbols) and market values (such as LastPx, tag 32, for showing the last price of a stock). Each of the defined FIX application tags have an associated value passed along with it.

AX Series Advantage for FIX

A10's AX Series Application Delivery Controllers are new generation server load balancers that deliver industry leading solutions for FIX to ensure FIX can operate the most efficiently at all times.

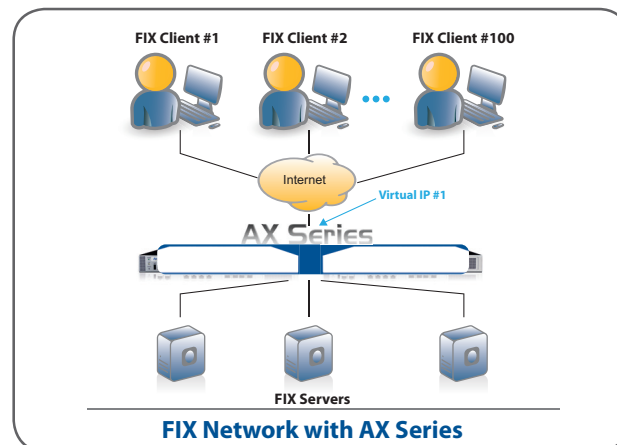
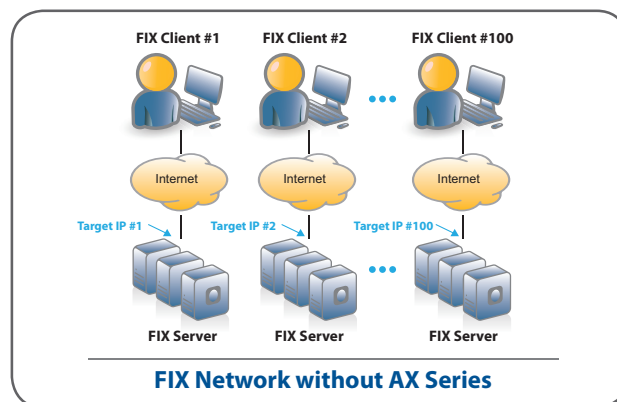
Reliability

The AX Series provides High Availability (HA) by ensuring the Layer

4/7 appliances can fail over efficiently. To enable 100 percent uptime for critical business applications such as FIX, features such as sub-second Layer 2 failover and session synchronization are essential to ensure user sessions are not lost.

Scalability

Financial institutions that provide FIX services will need to add customers to their network quickly and easily. Without the AX Series appliances, these institutions would need to add a server pair for each new customer and would also have to assign an individual IP address for each customer. The AX Series provides a single virtual IP (VIP) that could be provided to all of an organization's customers, allowing them to scale without adding servers or IP addresses. The AX Series includes a 64-bit Advanced Core Operating System (ACOS) and 64-bit hardware platform which increase addressable memory for maximum scalability.



Solution Brief

Low Latency

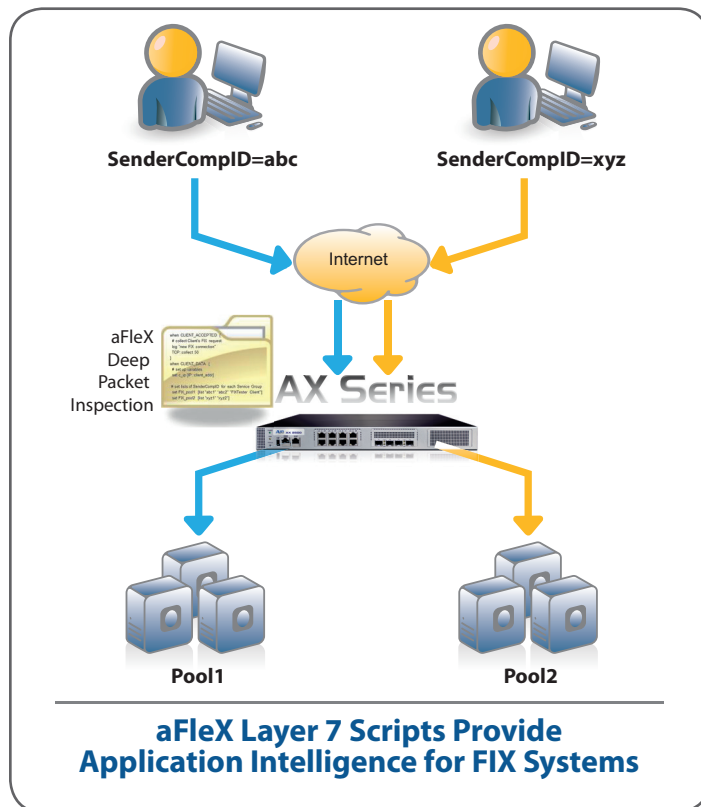
The AX Series utilizes its innovative operating system, ACOS, which is built from the ground up for multi-core CPU systems for the industry's highest performance and scalability. With AX Series, content is distributed to FIX servers optimally based on current traffic levels, combined with application acceleration features and purpose-built hardware to minimize latency.

High-performance NAT

FIX systems require that the Application Delivery Controller (ADC) provide NAT capabilities without delay. The AX Series can easily provide over one million NAT translations per second, delivering the industry's highest performance NAT solution for FIX in an ADC.

Application Intelligence

FIX clients can be routed to different FIX servers based on their tag, which is called a SenderCompID (tag 49). The AX Series delivers the required application layer switching by leveraging an aFlex script to perform Layer 7 FIX inspection. The aFlex script can be used to automatically route the appropriate FIX client to its FIX server without traditional performance penalties.



Summary

The AX Series ADCs provide the consolidation of IP addresses and massive scalability, delivering the reliability of a carrier class switch with extensive redundancy features.

The ability to provide high-speed NAT with less than 15 microseconds of latency combined with application acceleration features, such as persistence and Layer 7 routing, make the AX Series the most powerful application delivery solution for FIX systems on the market today.



FIX Capabilities included with all AX Series appliances

About AX Series

A10 Networks' AX Series is the industry's best price/performance advanced traffic manager – helping enterprises and ISPs maximize application availability through a high-performance and scalable Web Application Delivery platform. The AX's Advanced Core Operating System (ACOS) architecture has garnered the company numerous awards and is revolutionary by market standards due to its scalable symmetrical multiprocessing (SSMP), shared memory architecture. AX includes an optimized multi-CPU architecture built from the ground up that leaps the competition in terms of performance, scalability and reliability. For more information, visit:

www.a10networks.com/products/axseries

About A10 Networks

A10 Networks was founded in 2004 with a mission to provide innovative networking and security solutions. A10 Networks makes high-performance products that help organizations accelerate, optimize and secure their applications. A10 Networks is headquartered in Silicon Valley with offices in the United States, United Kingdom, France, The Netherlands, Germany, Brazil, Japan, China, Korea and Taiwan.

For more information, visit: www.a10networks.com