Application Delivery Platform
New Generation Server Load Balancer

64-bit

AX Series
Performance by Design

- ▶ *Increased Application Performance and Data Center Efficiency*
- ▶ *Innovative, Advanced Features*
- ▶ *All Features Included*

The AX Series Advanced Traffic Manager family from A10 Networks is designed to meet the growing demands of Web sites, carriers and enterprises. The AX Series offers intelligent Layer 4-7 application processing capabilities with industry-leading performance and scalability to meet critical business requirements at competitive prices.

The AX Series' unique Advanced Core Operating System

(ACOS) offers true scalable performance. With rich Layer 7 features and its aFleX scripting language, the AX Series integrates into any data center to enable advanced Web application delivery solutions. The AX Series also includes the most comprehensive set of IPv6 and Network Address Translation (NAT) features of any Advanced Application Delivery Controller (ADC) on the market today.

AX Series' advanced server load balancing and flexible health monitoring capabilities ensure application availability and reliability. With the AX Series' standard redundant components and high availability design, organizations ensure non-stop service availability for all types of applications. With the AX Series' line-rate security defenses and secure email features, organizations can now deploy data-center-wide protection against network-level attacks to ensure business continuity for critical services.

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Key Benefits

Industry-leading Application Price/Performance

- Superior performance – Layer 4 connections per second (CPS), Layer 7 transactions per second (TPS), SSL CPS, SSL TPS and Layer 4-7 throughput.
- The high-end AX 5200-11 offers 4.5 million L4 CPS in a single 2U compact platform.
- Industry's best performance per watt, per dollar, and per rack unit.
- Advanced Core Operating System (ACOS) delivers multi-threaded performance and is tuned for multiple CPUs with multiple cores for future-proof scalability.
- Purpose-built hardware provides efficient packet buffer management, TCP connection multiplexing, SSL acceleration, support for IPv4 and IPv6 and much more.
- 10/100/1000-Mb and 10-Gb interfaces.

Application Availability, Scalability and Flexibility

- ACOS is designed to provide a scalable, flexible platform.
- Provides 99.999% reliability for applications.
- Scales server farm capacity with new-generation server load balancing.
- Flexibility to adapt to changing business requirements with aFleX scripting language.
- Supports both Transparent Mode and Gateway Mode for flexibility in deployment.
- Supports Layer 2 Hot-Standby, Active-Active and Active-Standby.
- Delivers carrier-grade high availability (HA) for 100% uninterruptible service.

Integrated Application Security

- Protects application servers from Denial of Service (DoS) and protocol anomaly attacks.
- Ensures application availability for legitimate traffic during malicious attacks.
- Line-rate performance – AX 5200-11 supports over 50 million SYN cookies per second with zero additional CPU utilization.

Hardware Summary

AX 1030   **AX 2500**   **AX 2600**   **AX 3030**   **AX 3000**

	AX 1030	AX 2500	AX 2600			AX 3030	AX 3000		
Model Option Code	N/A	N/A	GC	GF	GCF	N/A	GC	GCF	11-GCF
Layer 4 Throughput	7.5 Gbps	11 Gbps	19 Gbps			27 Gbps	22 Gbps		30 Gbps
Layer 4 CPS	430K	300K	355K			580K	440K		850K
SSL CPS	5.5K	8.2K‡/30K‡‡	12K‡/33K‡‡			12K	12K‡/35K‡‡		12K‡/49K‡‡
Ethernet Interface Gigabit Copper Gigabit Fiber – SFP 10-Gigabit Fiber	 6 2 0	 8 4 0	 24 0 0	 0 24 0	 16 8 0	 6 2 2*	 16 0 4*	 8 8 4*	 8 8 4*
Management Interface	Yes	Yes	Yes			Yes	Yes		
Console Port	Yes	Yes	Yes			Yes	Yes		
Solid-state Drive (SSD)	Yes	Yes	Yes			Yes	Yes		
Cooling Fan	Hot Swap Smart Fans								
Maximum Power Consumption	155 W	250 W	291 W			188 W	308 W		315 W
Performance Per Watt (PPW)***	2774	1200	1220			3085	1429		2698
Power Supply	1 x 400 W**	Dual 400 W RPS	Dual 400 W RPS			Dual 400 W RPS	Dual 400 W RPS		
	100 to 240 VAC, Frequency 50 – 60 Hz								
Hardware Acceleration Linear Decoupled Architecture Flexible Traffic ASIC Switching/Routing ASIC SSL Acceleration ASIC Multi-ASIC SSL Card Option Compression ASIC Card Option Total Optional Cards Per Unit	 Yes No No Yes No No 0	 Yes No No Yes 1 1 1	 Yes No No Yes 1 1 1			 Yes No No Yes No No 0	 Yes No No Yes 1 1 1		
Dimensions	1.7 in (H), 17.2 in (W), 16.6 in (D)	1.75 in (H), 17 in (W), 21.8 in (D)				1.7 in (H), 17.2 in (W), 16.6 in (D)	1.75 in (H), 17 in (W), 21.8 in (D)		
Rack Units (Mountable)	1 U	1 U	1 U			1 U	1 U		
Unit Weight	17.5 lbs	25 lbs	25 lbs			19.5 lbs	25 lbs		
Operating Ranges	Temperature and Humidity 0° - 40° C 5% - 95%								
Regulatory Certification	FCC Class A, UL, CE, TUV, CB, VCCI, NEBS****, FIPS 140-2^								
Standard Warranty	90-day Hardware & Software								

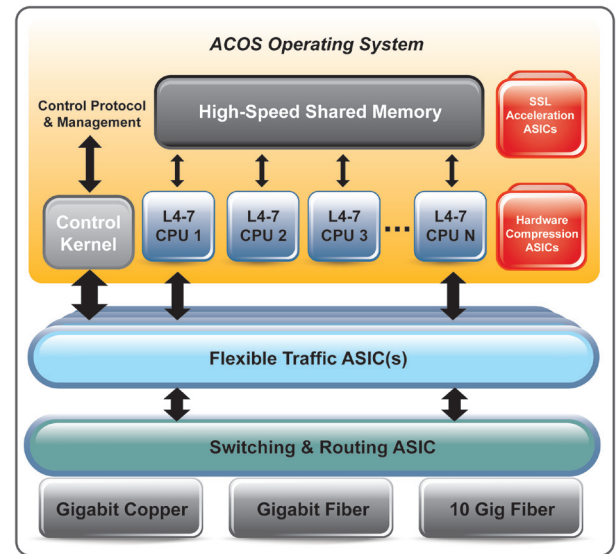‡ Standard SSL performance | ‡‡ With maximum Multi-ASIC SSL cards | ^ AX 2500, AX 2600-GCF, AX 3000-GCF

* SFP+ | ** Optional RPS available | *** Layer 4 CPS per watt | **** NEBS Level 3 (AX 2500, AX 3000-GCF and AX 5200)

64-bit ACOS

Designed for 64-bit processing, the AX Series integrates modern multi-core, multi-threaded OS technologies (ACOS) with A10's Flexible Traffic ASIC, switching/routing ASIC and SSL Acceleration ASIC to provide performance advantages. Leveraging Scalable Symmetric Multiprocessing (SSMP) technologies used in super-computing, the AX Series uses a decoupled multi-CPU architecture with simultaneous high-speed memory access to process application traffic in true parallel fashion, without the need to copy data or replicate computing instructions.

ACOS, standard in all AX models, provides true linear scalability of Layer 4-7 application features – for acceleration, availability, and security. The AX Series includes HTTP/HTTPS server load balancing, secure email services, Global Server Load Balancing (GSLB), DNS Application Firewall, video/voice acceleration and IPv4 and IPv6 traffic management.

Flexible Traffic ASIC (FTA) Models

	AX 3200-12	AX 3400	AX 5100	AX 5200	
Model Option Code	N/A	N/A	N/A	N/A	11
Layer 4 Throughput	18 Gbps	38 Gbps	40 Gbps	40 Gbps	40 Gbps
Layer 4 CPS	1.1 million	2 million	2 million	3 million	4.5 million
SSL CPS	12K‡/43K‡‡	12K‡/59K‡‡	82K‡‡	100K‡‡	150K‡‡
Ethernet Interface Gigabit Copper Gigabit Fiber – SFP 10-Gigabit Fiber	 20 4 4*	 20 4 4*	 0 4 8**	 0 4 16**	 0 4 16**
Management Interface	Yes	Yes	Yes	Yes	Yes
Console Port	Yes	Yes	Yes	Yes	Yes
Solid-state Drive (SSD)	Yes	Yes	Yes	Yes	Yes
Cooling Fan	Hot Swap Smart Fans				
Maximum Power Consumption	313 W	338 W	610 W	620 W	660 W
Performance Per Watt (PPW)*	3514	5917	3279	4871	6818
Power Supply	Dual 400 W RPS	Dual 400 W RPS	Dual 900 W RPS	Dual 900 W RPS	Dual 1200 W RPS
	100 to 240 VAC, Frequency 50 – 60 Hz				
Hardware Acceleration Linear Decoupled Architecture Flexible Traffic ASIC Switching/Routing ASIC SSL Acceleration ASIC Multi-ASIC SSL Card Option Compression ASIC Card Option Total Optional Cards Per Unit	 Yes 1 x FTA-2 Yes Yes 1 1 1	 Yes 2 x FTA-2 Yes Yes 1 1 1	 Yes 4 Yes Option 1-4 1-2 4	 Yes 4 Yes Option 1-4 1-2 4	 Yes 2 x FTA-2 Yes Option 1-4 1-2 4
Dimensions	1.7 in (H), 17 in (W), 24.6 in (D)		3.5 in (H), 17 in (W), 29 in (D)		
Rack Units (Mountable)	1 U	1 U	2 U	2 U	2 U
Unit Weight	26 lbs	26.5 lbs	60 lbs	61 lbs	62 lbs
Operating Ranges	Temperature and Humidity 0° - 40° C 5% - 95%				
Regulatory Certification	FCC Class A, UL, CE, TUV, CB, VCCI, NEBS****, FIPS 140-2^				
Standard Warranty	90-day Hardware & Software				

‡ Standard SSL performance | ‡‡ With maximum Multi-ASIC SSL cards | ^ AX 5100 and AX 5200
* SFP+ | ** XFP | *** Layer 4 CPS per watt | **** NEBS Level 3 (AX 2500, AX 3000-GCF and AX 5200)

Features

» Application Delivery Features

- Comprehensive IPv4/IPv6 Support
- Advanced Layer 4/Layer 7 Server Load Balancing
  - Fast HTTP, Full HTTP Proxy
  - High-performance, template-based Layer 7 switching with header/URL/domain manipulation
  - Comprehensive Layer 7 application persistence support
- Comprehensive load balancing methods
  - Round Robin, Least Connections, Weighted RR, Weighted LC, Fastest Response, & more
- aFleX – deep packet inspection and transformation for customizable, application-aware switching
- Advanced Health Monitoring
  - Comprehensive Protocol Support - ICMP, TCP, UDP, HTTP, HTTPS, FTP, RTSP, SMTP, POP3, SNMP, DNS, RADIUS, LDAP, & more
  - TCL Scriptable Health Check Support
  - High Availability – Active-Active, Active-Standby configurations with sub-second failover
  - SIP Load Balancing for VoIP and other rich-media applications
  - STARTTLS support for Secure Email (POPS, SMTPS, IMAPS) & LDAPS
- Spam Filter Support – high-speed application of very large black/white lists
- Firewall Load Balancing (FWLB)
- Global Server Load Balancing (GSLB)
- Transparent Cache Switching (TCS)
- Link Load Balancing (LLB)
- Diameter AAA Load Balancing

» Acceleration & Security Features

- HTTP Acceleration & Optimization
  - HTTP Connection Multiplexing
  - HTTP Caching
  - HTTP Compression (hardware based)
- SSL Acceleration
  - Hardware-based SSL Offload
  - Support for all TCP Protocols – SSL Termination, SSL Bridging (SSL Initiation)
- SSL Session ID Reuse
- Hardware-based SYN Cookies, IP Anomaly Detection
- Connection Rate Limiting/Connection Limiting
- DNS Application Firewall

» High Performance, Scalable Platform

- ACOS Operating System
  - Multi-core, Multi-CPU Support
  - Linear Application Scaling
  - Linux on Control Plane
- ACOS on Data Plane

» Networking

- Integrated Layer 2/Layer 3
- Transparent Mode/Gateway Mode
- Routing – Static Routes, IS-IS (v4/v6), RIPv2/ng, OSPF v2/v3, BGP4+
- VLAN
- Trunking
- Access Control Lists (ACLs)
- Traditional IPv4-->IPv4 NAT/NAPT
- IPv6-->IPv6 NAPT

» IPv6 Migration/IPv4 Preservation

- Full native IPv6 management and feature support

- SLB-PT (Protocol Translation), SLB-64 (IPv4<->IPv6, IPv6<->IPv4)
- Application Level Gateways (ALGs) for FTP, TFTP, RTSP, PPTP, SIP, ICMP, DNS
- Carrier Grade NAT (CGN), Large Scale NAT (LSN), NAT444, NAT44
- NAT64/DNS64, DS-Lite, 6rd

» Management

- Dedicated Management Interface (Console, SSH, Telnet, HTTPS)
- Web-based Graphical User Interface (GUI) with Language Localization
- Industry-standard Command Line Interface Support
- SNMP, Syslog, Alerting
- Port Mirroring
- REST-style XML API (aXAPI)

» Virtualization

- aVCS (AX Virtual Chassis System)
- SoftAX Virtual Appliance (Optional)
- Multi-tenancy with Application Delivery-Partitions (ADPs)
  - Role-based Administration (RBA)
  - Partition-based Management
  - L2/L3 Virtualization
- Hypervisor Acceleration and Management Integration

» Carrier-grade Hardware

- Advanced Hardware Architecture
- Redundant Power Supplies
- AC or DC Power Supplies
- Removable Fan Tray
- Solid-state drive (SSD) and Compact Flash
- High Port Density
- 10-Gb Ports

About A10 Networks

Performance by Design

To learn more about the AX Series Advanced Traffic Manager and how to improve application performance up to 8 times faster while enhancing reliability and security, visit A10 Networks' website at:

www.a10networks.com

or call and talk to an

A10 sales representative.

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 and centers of excellence around the globe.
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