



# AX ADC

## Application Delivery Controller

### Supported Platforms



**AX ADC**  
physical appliance



**aGalaxy**  
centralized management

### Overview

A10 AX Series is a family of hardware appliances ready to match your deployment need. Each AX Series appliance is powered by ACOS software, which brings a unique combination of shared memory accuracy and efficiency, 64-bit scalability and advanced flow processing.

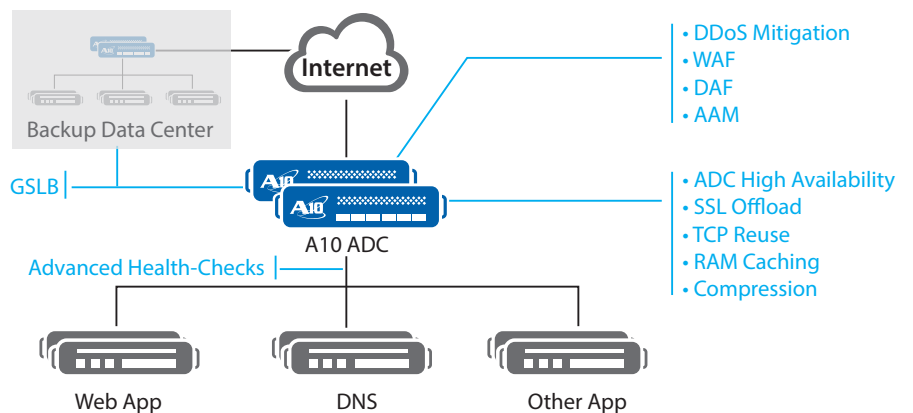
A10 Networks® AX™ ADC product line of high-performance, application delivery controllers enable customers' applications to be highly available, accelerated and secure. AX ADC is our original ADC product line, delivering performance scalability up to 115 Gbps.

The A10 AX ADC product line is built upon A10's Advanced Core Operating System (ACOS®) platform, with our Symmetric Scalable Multi-Core Processing (SSMP) software architecture that delivers high performance options for dedicated, hosted or cloud data centers.

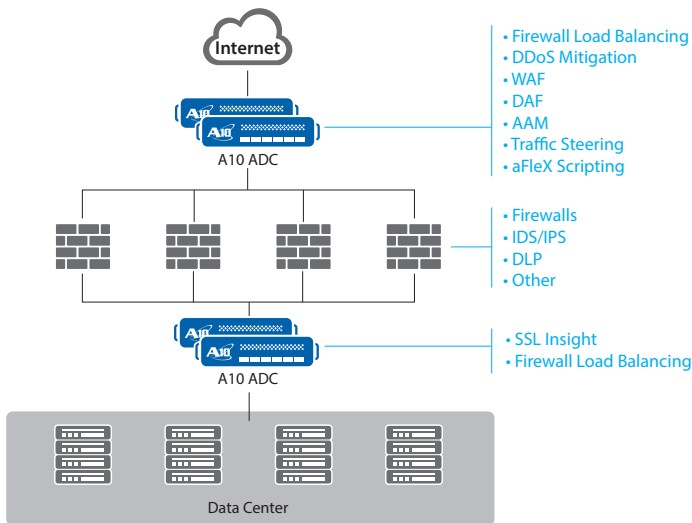
- **Application availability for customer satisfaction:** Enable your Web and key infrastructure servers to scale seamlessly to meet customer demand and ensure business continuity to maximize revenue and user satisfaction
- **Application acceleration for efficient operations:** Provide fast and responsive services to your customers for competitive advantage and reduced infrastructure requirements for both application delivery and critical services, driving down CAPEX and OPEX
- **Security for compliance and risk reduction:** Protect against advanced and emerging attacks for uninterrupted operations, brand protection, and revenue loss while meeting required regulatory compliance obligations for Payment Card Industry Data Security Standard (PCI DSS) and other regulations.

A10 AX ADC delivers critical services in efficient hardware-based form factors. The AX ADC product line ensures that your rack space is maximized and your power consumption is reduced (via optimal ADC CPU and memory optimization, infrastructure optimization and overall data center cooling).

### Architecture and Key Components



*Application Delivery example for Web, DNS and other services*



*DMZ security device scaling, offload and acceleration*

## Features and Benefits

Whether you are an enterprise, service provider or Web giant, A10 AX ADC offers key benefits to make your data center applications available, accelerated and secure.

### Application Availability

**Highly available applications and data centers:** Advanced server load balancing (SLB) and global server load balancing (GSLB) ensure maximum uptime by detecting local and remote outages. Acting on advanced health checks, A10 AX Series directs connections to active servers and data centers in a way that is transparent to the end user.

**Next-generation cloud data center evolution:** Equip your network for the next phase in network evolution with Infrastructure-as-a-Service (IaaS) capabilities. Benefit from integration of software defined networks (SDNs) with overlay networking (VXLAN and NVGRE), cloud orchestration systems (OpenStack, Microsoft SCVMM and more), and enable service chaining and traffic insertion.

**Fast deployment, proven application configuration and provisioning:** Rapidly enable and deploy business critical applications with predefined smart templates for popular applications from Microsoft (Exchange, Lync, SharePoint), Oracle and many more, to deploy in hours, not days or weeks.

### Application Acceleration

**Application acceleration for a better user experience and infrastructure utilization:** Offload application infrastructure from CPU and memory intensive tasks to reduce costs. Techniques include SSL offload (including offload of demanding 2048- and 4096-bit key operations), HTTP compression, TCP reuse, and RAM caching. Deliver a faster experience for your customers and reduced CAPEX and OPEX as your infrastructure scales efficiently without wasted compute cycles.

**Virtualization for ADC and SLB consolidation:** Enable multi-tenancy and maximize density with our application delivery partitions (ADPs), providing L3 virtualization and per-tenant role-based administration (RBA) on hardware.

**Full control and deep packet inspection (DPI) capabilities to solve complex problems:** aFleX<sup>®</sup> TCL scripting provides granular traffic transformation capabilities to adjust traffic as needed for your applications. Additionally, advanced ADC capabilities enable the most common requirements to be met with specific preconfigured templates and capabilities, for example L7 URL switching.

**Flexible management to optimize IT operations:** Multiple management capabilities simplify operation tasks using the aGalaxy<sup>™</sup> centralized management system to control any A10 AX device, whether pushing configurations, aFleX rules, backing up SSL keys and much more. Our aXAPI<sup>®</sup> REST-based API gives complete management control with custom scripting for homegrown management operations or integration into third-party management systems. Also, plug-ins and packages are available to be used with partners' management systems such as Microsoft SCVMM and others.

## Secure

**Enhance your data center security:** Our web application firewall (WAF) guards Web servers against the critical Open Web Application Security Project (OWASP) top ten threats facing web-based application servers, while our DNS application firewall (DAF) gives advanced protection against domain name system (DNS) infrastructure exploitation, with granular application rules for query behavior and mitigation methods such as rate limiting.

**Enhance, scale and optimize your existing DMZ security infrastructure:** With our appliances supporting up to 115 Gbps per device, firewall load balancing (FWLB) enables existing security products to scale seamlessly. AX ADC also provides visibility into encrypted traffic for all devices with SSL Insight<sup>™</sup> (SI), eliminating the SSL "blind spot" facing enterprise networks today by allowing all devices to see and take action on all encrypted traffic. SI also utilizes SSL security processors in hardware appliances to provide high-performance decryption.

**Protect against the latest emerging threats:** As threats emerge, the AX Series enables your network to be ready with effective countermeasures. DDoS protection features are standard in all appliances, and with FPGA FTA-based models, protection can be enabled for high volume attacks against application servers. The FPGA mitigates common volumetric attacks, while general purpose CPUs can be used to mitigate more sophisticated L7 attacks (e.g., exhaustion attacks like Slowloris and more). For critical applications that require Internet access, whole categories of attacks can be rendered inert by utilizing our application access management (AAM) technology, which presents an authentication challenge and validation against your choice of identity server, before the connection can reach the application server.

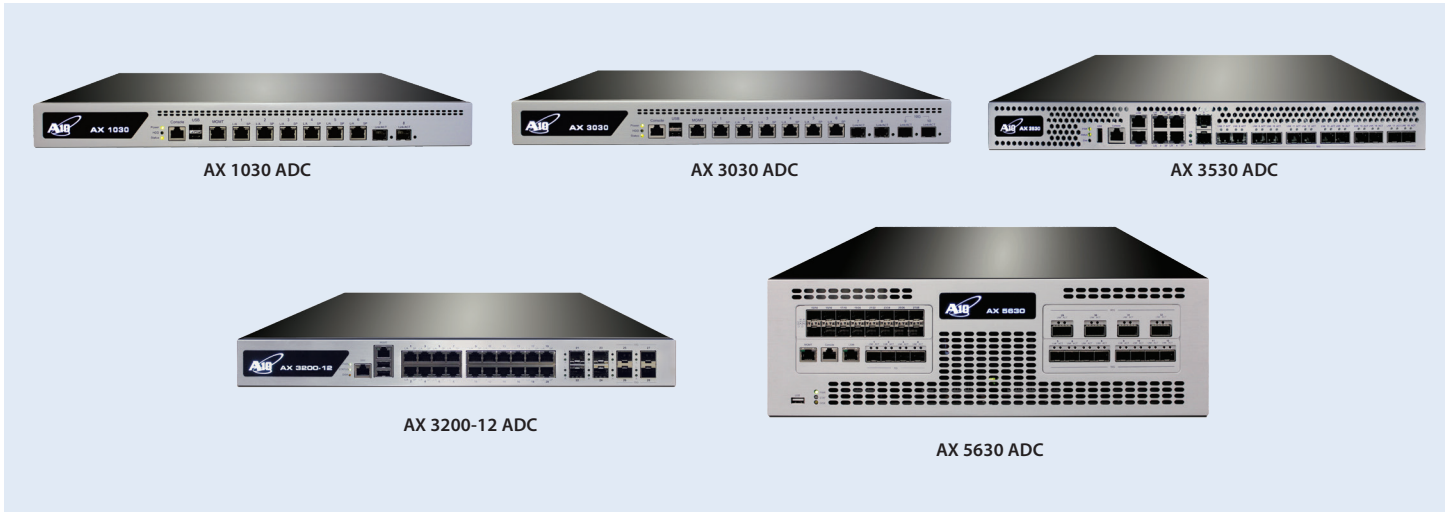
## Appliance Summary/Specifications Table

	AX 1030 ADC	AX 3030 ADC	AX 3530 ADC	AX 3200-12 ADC	AX 5630 ADC
Application Throughput (L4/L7)	7.5 Gbps / 7 Gbps	27 Gbps / 26.5 Gbps	115 Gbps / 114 Gbps	19.5 Gbps / 18.5 Gbps	77 Gbps / 74 Gbps
Layer 4 CPS	430k	580k	1.3 million	1.1 million	6 million
Layer 4 HTTP RPS	1.9 million	2.9 million	5.6 million	6.6 million	32.5 million
Layer 7 CPS (1:1)^	220k	240k	890k	310k	1.5 million
SSL CPS (1024/2048)	5.5k / 1.2k	12k / 2.7k	120k <sup>‡</sup> / 98k <sup>‡</sup>	44k <sup>‡</sup> / 24k <sup>‡</sup>	180k <sup>‡</sup> / 174k <sup>‡</sup>
Application Delivery Partitions (ADP) RBA <sup>^^</sup> /L3V	128 / 32	128 / 64	1,023 / 127	128 / 64	1,023 / 1,023
<b>Network Interface</b>					
1 GE Copper	6	6	4	20	0
1 GE Fiber (SFP)	2	2	2	4	4
1/10 GE Fiber (SFP+)	0	2	12	4	24
40 GE Fiber (QSFP+)	0	0	0	0	4
Management Interface	Yes	Yes	Yes	Yes	Yes
Lights Out Management	No	No	Yes	No	Yes
Console Port	Yes	Yes	Yes	Yes	Yes
Solid-state Drive (SSD)	Yes	Yes	Yes	Yes	Yes
Processor	Intel Xeon Quad-core	Intel Xeon Quad-core	2 x Intel Xeon Octo-core	Intel Xeon Quad-core	2 x Intel Xeon Octo-core
Memory (ECC RAM)	8 GB	16 GB	64 GB	12 GB <sup>*</sup>	128 GB
<b>Hardware Acceleration</b>					
64-bit Linear Decoupled Architecture	Yes	Yes	Yes	Yes	Yes
Flexible Traffic Acceleration	Software	Software	Software	1 x FTA-2 FPGA	4 x FTA-2 FPGA
Switching/Routing	Software	Software	Software	Hardware	Hardware
SSL Security Processor	Yes	Yes	Option	Yes	Option
SSL Card Option	No	No	1 x 2 cards	1 <sup>*</sup>	1 x 2 cards or 2 x 2 cards
Compression Card Option	No	No	No	1	No
Total Optional Card Per Unit	0	0	2	1	4
Power Consumption (Max)	155W	188W	467W	313W	890W
Heat in BTU/hr (Max)	529	641	1,593	1,068	3,037
Performance Per Watt (PPW)**	2,774	3,085	2,784	3,514	6,742
Power Supply (DC option available)	1 x 400W <sup>***</sup>	Dual 400W RPS	Dual 750W RPS	Dual 400W RPS	2+1 1200W RPS
	100 - 240 VAC, Frequency 50 – 60 Hz   DC option available <sup>***</sup>				
Cooling Fan	Hot Swap Smart Fans				
Dimensions	1.7 in (H), 17.2 in (W), 16.6 in (D)	1.7 in (H), 17.2 in (W), 16.6 in (D)	1.75 in (H), 17.25 in (W), 22.8 in (D)	1.7 in (H), 17 in (W), 24.6 in (D)	5.3 in (H), 16.9 in (W), 28 in (D)
Rack Units	1U	1U	1U	1U	3U
Unit Weight	17.5 lbs	19.5 lbs	29.6 lbs	26 lbs	67 lbs
Operating Ranges	Temperature 0° - 40° C   Humidity 5% - 95%				
Regulatory Certifications	FCC Class A, UL, CE, TUV, CB, VCCI, FIPS 140-2 <sup>^^^</sup>				
Standard Warranty	90-day Hardware and Software				

<sup>‡</sup> With maximum SSL cards | <sup>\*</sup> RAM is doubled from number shown with select SSL option cards | <sup>\*\*</sup> Layer 4 CPS per watt | <sup>\*\*\*</sup> For AX 1030, optional RPS available and no DC option

<sup>^</sup> Layer 7 connections per second - measures number of new HTTP connections (1 HTTP request per TCP connection, without TCP connection reuse ) within 1 second

<sup>^^</sup> Number may vary depending on ACOS version | <sup>^^^</sup> FIPS model must be purchased



## Product Description

### A10 AX ADC Series Product Line

A10 AX Series is a family of hardware appliances ready to match your deployment need. Each AX Series appliance is powered by ACOS software, which brings a unique combination of shared memory accuracy and efficiency, 64-bit scalability and advanced flow processing.

AX Series line of hardware ADC appliances fits all size networks with entry-level models starting at 7.5 Gbps and moving up to a 115 Gbps high-performance appliance for your most demanding requirements. All models are dual power supply capable, feature solid-state drives (SSDs) and utilize no inaccessible moving parts for high availability. All models benefit from our Flexible Traffic Acceleration (FTA) technology, with select models featuring field programmable gate arrays (FPGAs) for hardware optimized FTA processing; this provides highly scalable flow distribution and distributed denial of service (DDoS) protection capabilities.

Also, in select models, dedicated security processors provide SSL offload, and switching and routing processors provide high-performance network processing. Each appliance offers high performance per rack unit and efficient power supplies to ensure a green solution and reduce power consumption costs. Coupled with high density 1 Gbps, 10 Gbps and 40 Gbps port options, AX ADC appliances meet the highest networking bandwidth demands.

Additional management options are also available to enhance your AX Series infrastructure. A10's aGalaxy® line of hardware and software appliances centrally manage all AX Series appliances for streamlined operations, resulting in reduced OPEX.

## Detailed Feature List\*

### Application Delivery

- 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
- SIP Load Balancing for VoIP
- 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)
- Next hop load distribution
- Diameter AAA Load Balancing
- Database Load Balancing

### Application Acceleration

- HTTP Acceleration & Optimization
  - HTTP Connection Multiplexing
  - HTTP Caching
  - HTTP Compression

## Security

- Web Application Firewall (WAF)
- Next-generation DDoS protection
- Application Access Management (AAM)
- DNS Application Firewall (DAF)
- SSL Insight™
- SSL Acceleration
  - SSL Offload
  - Support for all TCP Protocols – SSL Termination, SSL Bridging (SSL Initiation)
  - TLS 1.2 and 4096-bit SSL key support
- SSL Session ID Reuse
- IP Anomaly Detection
- Connection Rate Limiting/Connection Limiting

## High Performance, Scalable Platform

- ACOS (Advanced Core 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 (802.1Q)
- Trunking (802.1AX), LACP
- Access Control Lists (ACLs)
- Traditional IPv4-->IPv4 NAT/NAPT
- IPv6-->IPv6 NAPT
- Jumbo Frame support

## IPv6 Migration/IPv4 Preservation

- Full native IPv6 management and feature support
- SLB-PT (Protocol Translation), SLB-64 (IPv4<->IPv6, IPv6<->IPv4)

## Management

- Dedicated management interface (Console, SSH, Telnet, HTTPS)
- Web-based Graphical User Interface (GUI) with Language Localization
- Industry-standard Command Line Interface
- SNMP, Syslog, email alerts
- Port mirroring
- REST-style XML API (aXAPI)
- LDAP, TACACS+, RADIUS support

## Virtualization

- aVCS (Virtual Chassis System)
- 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
- Hardware-based SYN Cookies
- Smart Fans (hot swap)
- Hot swap Redundant Power Supplies (AC and DC)
- Solid-state drive (SSD)
- High Port Density
- 1 GE, 10 GE, 40 GE ports
- Tamper Detection
- Lights Out Management (LOM/IPMI)

\*Features may vary by appliance.

## About A10 Networks

A10 Networks is a leader in application networking, providing a range of high-performance application networking solutions that help organizations ensure that their data center applications and networks remain highly available, accelerated and secure. Founded in 2004, A10 Networks is based in San Jose, California, and serves customers globally with offices worldwide. For more information, visit: [www.a10networks.com](http://www.a10networks.com)

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To learn more about the A10 Thunder Application Service Gateways and how it can enhance your business, contact A10 Networks at: [www.a10networks.com/contact](http://www.a10networks.com/contact) or call to talk to an A10 sales representative.

Part Number: A10-DS-15103-EN-05  
Aug 2015