



Unified Application Service Gateway

A10 Thunder™ Unified Application Service Gateways (UASGs) are the next evolution in Application Networking – taking the Application Delivery Controller (ADC) and Server Load Balancer (SLB) to the next level.

The Thunder UASGs have the power to consolidate multiple premium application services into an efficient 1 RU appliance. These services encompass ADCs and Server Load Balancers, or Security modules such as DDoS protection, Web Application Firewall (WAF), as well as next generation networking solutions such as Carrier Grade NAT (CGNAT), IPv6 migration solutions such as NAT64/DNS64, and SDN integration.

Thunder is built upon the best-in-class Advanced Core Operating System (ACOS): *The* software defined platform. The Thunder Series comprises an extensible family of both hardware and software appliances to match any deployment need.

Next-generation Application Delivery Controller

The unrestricted power of Thunder gives the user the freedom to choose and deploy any fully featured service module, on demand. Thunder has the power to run multiple application modules concurrently and A10's all-inclusive licensing model makes it easy and affordable to deploy new modules. A10 Thunder enables the elimination of point products, and complements existing solutions.



Efficient: Scalable Application Services in Compact Form Factors

Flexible: Application Services On Demand

Reliable: Maximum Uptime with Carrier Class Hardware



Application Delivery

Classic Server Load Balancing and Application Delivery Control features improve an application's performance and availability, and provide seamless application scaling with the highest uptime. A10 Thunder provides the capacity to scale to the highest levels. Application Delivery service modules can be controlled on a granular L7 level with aFlex, a TCL-based scripting language.

- **ADC:** Optimization and Acceleration
- **SLB:** Scalability and Availability
- **GSLB:** Global Availability
- **ADP:** Application Delivery Partitions for Virtualization

Security

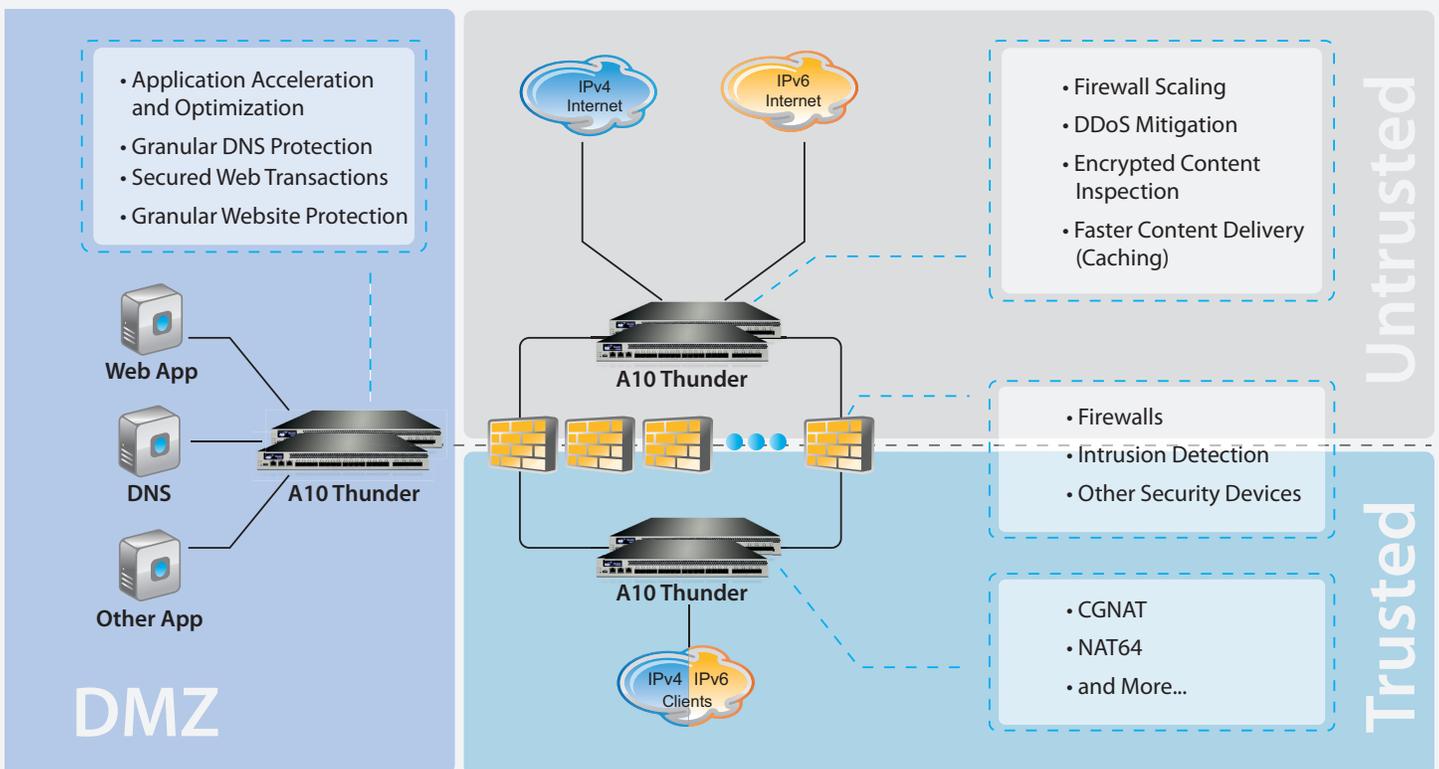
A10 Thunder provides advanced and powerful security features to enhance network and application security and ensure predictable business operations. The Thunder Series provides unprecedented next-generation DDoS protection, as well as Web Application Firewall (WAF) and many more premium features, all tightly integrated on to the ACOS foundation, and of course part of A10's all-inclusive licensing model.

- **WAF:** Web Application Firewall
- **DAF:** DNS Application Firewall
- **DDoS:** Attack Mitigation
- **SI:** SSL Intercept
- **AAM:** Application Access Management for pre-authentication

Cloud, SDN and Next Gen Networking

Thunder expands its application services portfolio with modules that are built for next-generation networks. With Thunder, legacy IPv4 networks can easily interconnect with the IPv6 Internet (NAT64 and more solutions); the Thunder UASG provides a smooth migration of the internal network to the next-generation IPv6 protocol, while existing IPv4 connectivity can expand with the CGNAT module.

Utilizing the RESTful aXAPI, the Thunder Series can interoperate with third-party vendors and be integrated in Software Defined Networks. The Thunder UASG is a logical point in the network where application intelligence can be leveraged to enhance network flows and create dynamic, automated networks.



A10 Thunder Application Landscape

Virtual appliance for
VMware, Hyper-V, KVM,
XenServer and Amazon EC2

Centrally manage hardware
and software appliances



aCloud™
Ecosystem

Hosting solutions
Centralized accounting
and control



Thunder 930



Thunder 1030S



Thunder 3030S



Thunder 5430S



Thunder 6430/6430S

Appliance Summary

	Thunder 930	Thunder 1030S	Thunder 3030S	Thunder 5430S	Thunder 6430	Thunder 6430S
Application Throughput	5 Gbps	10 Gbps	30 Gbps	77 Gbps	150 Gbps	150 Gbps
Layer 4 CPS	200k	450k	750k	2.8 million	5.3 million	5.3 million
SSL CPS (1024/2048)	1.9k / 400	25k / 7k	47k / 14k	100k / 68k	N/A	134k / 130k
Application Delivery Partitions (ADP) RBA/L3V	128 / 32	128 / 32	128 / 64	128 / 1024	128 / 1024	128 / 1024
Ethernet Interface						
1 Gb Copper	6	6	6	0	0	0
1 Gb Fiber (SFP)	2	2	2	0	0	0
1/10 Gb Fiber (SFP+)	2	2	4	16	16	16
40 Gb Fiber (QSFP+)	0	0	0	4	4	4
Management Interface	Yes	Yes	Yes	Yes	Yes	Yes
Lights Out Management	No	Yes	Yes	Yes	Yes	Yes
Console Port	Yes	Yes	Yes	Yes	Yes	Yes
Solid-state Drive (SSD)	Yes	Yes	Yes	Yes	Yes	Yes
Processor	Intel Xeon Dual-core	Intel Xeon Quad-core	Intel Xeon Quad-core	Intel Xeon Octo-core	2 x Intel Xeon Octo-core	2 x Intel Xeon Octo-core
Memory (ECC RAM)	8 GB	8 GB	16 GB	64 GB	128 GB	128 GB
Hardware Acceleration						
64-bit Linear Decoupled Architecture	Yes	Yes	Yes	Yes	Yes	Yes
Flexible Traffic ASIC	No	No	No	2 x FTA-3	4 x FTA-3	4 x FTA-3
Switching/Routing ASIC	No	No	No	Yes	Yes	Yes
SSL Acceleration ASIC	No	1	1	2	No	4
Power Consumption (Typical/Max)	66 W / 76 W	98 W / 108 W	131 W / 139 W	450 W / 550 W	590 W / 680 W	680 W / 780 W
Heat in BTU/hour (Typical/Max)	225 / 259	334 / 369	447 / 474	1,535 / 1,877	2,013 / 2,320	2,320 / 2,661
Performance Per Watt (PPW)*	2,632	4,167	5,396	5,091	7,794	6,795
Power Supply (DC option available)	1 x 600 W**	1 x 600 W**	Dual 600 W RPS	Dual 1100 W RPS	Dual 1100 W RPS	Dual 1100 W RPS
	80 Plus "Platinum" efficiency, 100 to 240 VAC, Frequency 50 – 60 Hz					
Cooling Fan	Hot Swap Smart Fans					
Dimensions	1.75 in (H), 17.5 in (W), 17.45 in (D)			1.75 in (H), 17.5 in (W), 30 in (D)		
Rack Units (Mountable)	1 RU	1 RU	1 RU	1 RU	1 RU	1 RU
Unit Weight	17.8 lbs (1 PSU) 19.9 lbs (2 PSUs)***	18.0 lbs (1 PSU) 20.1 lbs (2 PSUs)***	20.1 lbs	34.6 lbs	39 lbs	39 lbs
Operating Ranges	Temperature and Humidity 0° - 40° C / 5% - 95%					
Regulatory Certifications	FCC Class A, UL, CE, TUV, CB, VCCI China CCC†, BSMI‡, RCM (replace C-Tick)‡, GOST-R‡, FAC‡					
Standard Warranty	90-day Hardware & Software					

* Layer 4 CPS per Watt (Max) | ** Optional RPS available | *** With optional RPS | † Except Thunder 5430S, 6430 and 6430S

Features*

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)
- Link Load Balancing (LLB)
- 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 Intercept (SI)
 - ♦ Hardware-based SSL Offload
 - ♦ Support for all TCP Protocols – SSL Termination, SSL Bridging (SSL Initiation)
 - ♦ TLS 1.2 and 4096-bit SSL key support
- SSL Acceleration
 - ♦ Hardware-based 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 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)
- Application Level Gateways (ALGs) for FTP, TFTP, RTSP, PPTP, SIP, ICMP, DNS, ESP

- Carrier Grade NAT (CGNAT), Large Scale NAT (LSN), NAT444, NAT44, NAT46
- 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
- SNMP, Syslog, email alerts
- Port mirroring
- REST-style XML API (aXAPI)
- LDAP, TACACS+, RADIUS support

Virtualization

- aVCS (Virtual Chassis System)
- SoftAX Virtual Appliance for VMware vSphere, XenServer and KVM
- 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
- Hardware-based SYN Cookies
- Smart Fans (hot swap)
- Solid-state drive (SSD)
- High Port Density
- 40 Gb, 10 Gb, 1 Gb Ports
- Tamper Detection
- Lights Out Management (LOM/IPMI)

*Features may vary by appliance.

Customer Driven Innovation

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

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 and centers of excellence around the globe. For more information, visit www.a10networks.com.

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