DATA SHEET

THUNDER CFW

CONVERGED FIREWALL, VPN & SECURE WEB GATEWAY

A10 Thunder® Convergent Firewall (CFW) is the first converged security solution for service providers, cloud providers and large enterprises that includes integrated application delivery and security solutions in a single, standalone product.

HIGH-PERFORMANCE SECURITY

Modern service providers, web giants, enterprises and cloud platforms aim to consolidate carrier-grade solutions to defend global networks, secure infrastructure, encrypt data and protect customers.

A high-performance, all-inclusive security product, A10 Thunder Convergent Firewall (CFW) is the cost-effective approach for strengthening security postures and protecting network perimeters without the need for disparate point products.

A10 Thunder CFW features a data center firewall, site-to-site IPsec VPN, Gi/SGi firewall and secure web gateway for service providers and enterprises. Thunder CFW includes all Thunder ADC, CGN and SSLi features.

Thunder CFW uncovers threats in SSL traffic and secures high-value assets in the data center from network and DDoS attacks. The scalable security solution also protects mobile core infrastructure and enables service providers and enterprises to encrypt data at massive scale in the cloud.

Thunder CFW is built on A10's market-proven ACOS platform that delivers scalable form factors and cost structures that make economic sense. Offering unmatched performance and scalability with the industry's best data center footprint for integrated security and application networking needs, Thunder CFW reduces an organization's total cost of ownership (TCO).

PLATFORMS



THUNDER CFW
Physical Appliance



vTHUNDER CFW
Virtual Appliance

MANAGEMENT



HARMONY CONTROLLER
Centralized Analytics and Management



FLEXPOOL
Capacity Pooling License

TALK WITH A10

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Gi/SGi FIREWALL

Secure the path to 5G expansion and protect against DDoS attacks and IoT-based threats. Protect subscribers and shield mobile core infrastructure from cyber attacks to ensure uninterrupted operations. Built on A10's proven Thunder CGN technology, the firewall combines the security of a carrier-grade firewall with integrated DDoS protection features to serve as a carrier-grade networking solution for mobile carriers.

SECURE WEB GATEWAY

Eliminate the SSL blind spot in corporate defenses, restrict access to undesirable websites, and identify malicious traffic with our secure web gateway. This feature combines A10's SSL Insight® technology, URL filtering, and explicit proxy to increase the efficacy of the security infrastructure.

DATA CENTER FIREWALL

Unite application delivery control and security on a single platform to reduce hardware and operating costs. The high-performance data center firewall includes a Layer 4 firewall with integrated DDoS protection and server load-balancing to protect data center assets from the inside out.

SITE-TO-SITE IPSEC VPN

Encrypt data at a massive scale — including in the cloud — with this high-speed, site-to-site IPsec VPN designed for enterprises and service providers.

CERTIFICATIONS

ICSA labs CERTIFIED FIREWALL - CORPORATE

ICSA labs CERTIFIED IPSEC - IKEV2 BASIC

ICSA labs CERTIFIED WEB APPLICATION FIREWALL

SEE ALL CERTIFICATIONS

FEATURES AND BENEFITS

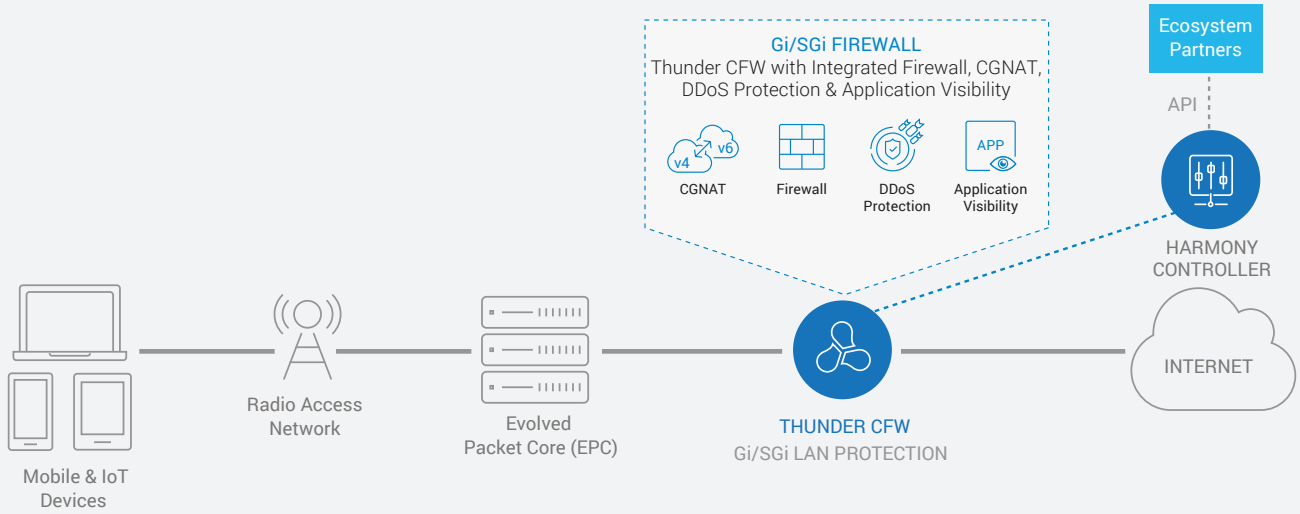
Designed for enterprises, service providers and mobile carriers, A10 Thunder CFW offers the performance and versatility needed to safeguard applications, users and infrastructure.

Gi/SGi FIREWALL

Comprehensive Mobile Core Infrastructure Protection

Granular control over network resources allows mobile carriers to block network and DDoS attacks that may arise from a variety of intrusion points. A10 5G-GiLAN™ solution offers Gi LAN services consolidation to combine L4–L7 functions, including CGNAT, stateful firewall, and application visibility to integrate greater efficiencies on the Gi LAN. Thunder CFW protects subscribers and shields 3G/4G data and control plane services, including the Gateway GPRS Support Node (GGSN) and Packet Gateway (PGW) in the Evolved Packet Core (EPC), from a wide array of threats. Thunder CFW defends mobile core against GTP-based attacks coming in from access networks and roaming partners to support uninterrupted operations. Thunder CFW can also secure its own resources, such as NAT IP pools, to ensure that operational functions are not compromised.

A10 5G-GiLAN™ SOLUTION



In this scenario, a mobile service provider deploys the Gi/SGi firewall to secure communication between the evolved packet core (EPC) and the internet to protect the mobile core infrastructure. Integrated carrier-grade NAT enables carriers to manage communication with both IPv4 and IPv6 address protocols. Built-in DDoS protection safeguards the NAT IP pools to avoid service interruption. Harmony Controller provides centralized management and analytics for Gi Firewall solution.

IPv4 Preservation and IPv6 Transition Lifecycle

Integrated carrier-grade networking functionality includes CGNAT to preserve investments in existing IPv4-based infrastructure and comprehensive IPv6 transition options to facilitate a smooth transition to IPv6, ensuring seamless subscriber experiences and sustainable subscriber growth. Integrated application layer gateways (ALGs) ensure that applications remain addressable and operate transparently through address translation.

Granular Visibility and Reporting

DPI-based application visibility with comprehensive subscriber awareness provides granular insights into network traffic. Understanding network and application traffic trends allows for effective network planning, deeper business intelligence, tighter security controls, enhanced Law Enforcement Agency (LEA) compliance and service monetization.

High-Performance, Scalable Firewall

Thunder CFW Gi/SGi firewall enables mobile carriers to achieve exceptionally high firewall connection rates, throughput, and higher NAT session capacity to meet service providers' current and future traffic requirements. Simplify operational tasks and reduce CAPEX and OPEX by integrating CGNAT, stateful firewall, and DDoS protection capabilities.

*Agile Management and Analytics-Driven**

Gain application and network services visibility with the A10 Harmony Controller for Thunder CFW Gi/SGi firewall. Centrally configure and manage policies across services in a multi-cloud environment. Get customizable drill-down views for analysis and actionable insights for faster troubleshooting.



*ANALYTICS DRIVEN GiFW TROUBLESHOOTING DASHBOARD**

Get real-time actionable insights on firewall performance, critical CGN services such as mapping distribution, NAT IP pool utilization and more, and application visibility including application distribution by category, bytes consumed by application category.

*Available in Q3 2018

SECURE WEB GATEWAY

Decrypt Once, Inspect Multiple Times

Leverage A10's SSL Insight technology to decrypt SSL traffic and forward it to third-party security devices for inspection.

Gain Superior Control with URL Filtering

Maximize employee productivity and reduce risks by blocking access to malicious websites, including malware, spam and phishing sources. The A10 URL Classification Service, powered by Webroot, categorizes more than 460 million domains and 13 billion URLs into 83 categories to block undesirable sites and shield users from threats.

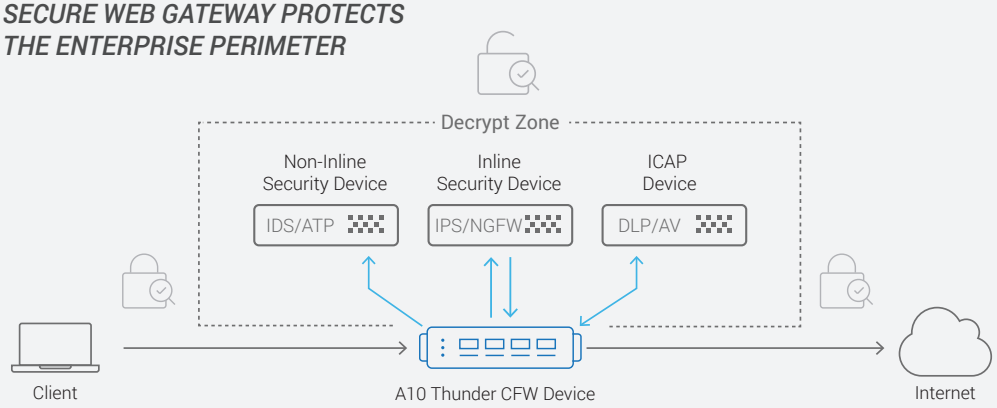
Prevent Data Exfiltration and Enforce Compliance

Integrate with third-party Data Loss Prevention (DLP) solutions via the industry-standard ICAP. Send decrypted traffic to DLP servers for inspection before forwarding intercepted traffic to a client or a server.

Extend the Life of Security Infrastructure

Maximize uptime and increase security infrastructure capacity with integrated load balancing. Unburden firewalls and other security devices from computationally intensive tasks like SSL decryption and ICAP support, enabling them to do what they do best — detect and stop attacks.

SECURE WEB GATEWAY PROTECTS THE ENTERPRISE PERIMETER



Deploy Thunder CFW, with integrated SSL Insight technology, to decrypt traffic for a variety of security products, including inline, non-inline (passive/TAP) and ICAP-enabled devices.

Application Visibility and Control

DPI-based application visibility with comprehensive user and group awareness provides deep insights into network traffic. Understanding application traffic trends in the enterprise network allows for effective security planning and sanctioning of allowed business applications.

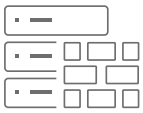
Solution Management

Simplify and automate management tasks that reduce administrative costs and ensure that complex tasks are done accurately the first time.

To complement its industry-standard CLI and web GUI, A10's RESTful API, with 100 percent coverage, offers rapid integration with third-party management consoles to efficiently operate one or more Thunder CFW appliances.

Thunder CFW supports granular role-based access control, enabling organizations to create users and groups, and grant read-only or read/write privileges for specific partitions or management interfaces.

To scale load-balancing capacity, the A10 Networks aVCS® Virtual Chassis System allows multiple appliances to operate as one, with a single management point for all appliances in the virtual chassis.



DATA CENTER FIREWALL

Achieve Unprecedented Firewall Performance

Powered by A10's Advanced Core Operating System (ACOS®), Thunder CFW provides high performance in a compact appliance, allowing organizations to stop emerging threats at scale.

The Thunder CFW data center firewall offers exceptionally high firewall connection rates — 220 Gbps of throughput — in a one rack-unit appliance that provides enough capacity to support up to 256 million concurrent sessions. Eliminate traditional performance bottlenecks while protecting your data center assets.

Consolidate Application Delivery and Security

Eliminate single-purpose devices from data centers by consolidating security and application delivery controller (ADC) features on one platform to reduce hardware and operating costs. Optimize the delivery and security for potentially hundreds of apps in a given data center.

Protect Multi-Tenant Environments

Leverage the A10 Harmony™ architecture to deliver completely programmable security for the data center. A10 Harmony unifies policy control across multiple clouds, offering unprecedented telemetry as well as 100 percent RESTful API coverage. The product supports multi-tenancy features like application delivery partitions (ADP) for segmentation.

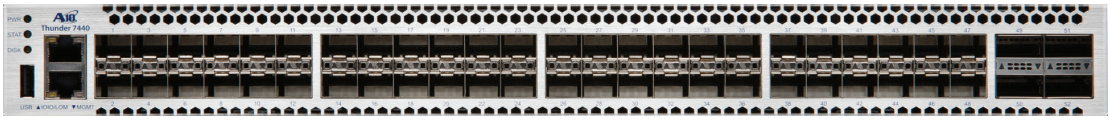
DATA CENTER FIREWALL PERFORMANCE

THUNDER

7440 CFW

BY THE NUMBERS

220	6.5 M	256 M	128K
Gbps	Layer 4 CPS	Concurrent Sessions	Rules



SITE-TO-SITE IPSEC VPN

Encrypt Data at Unparalleled Speeds

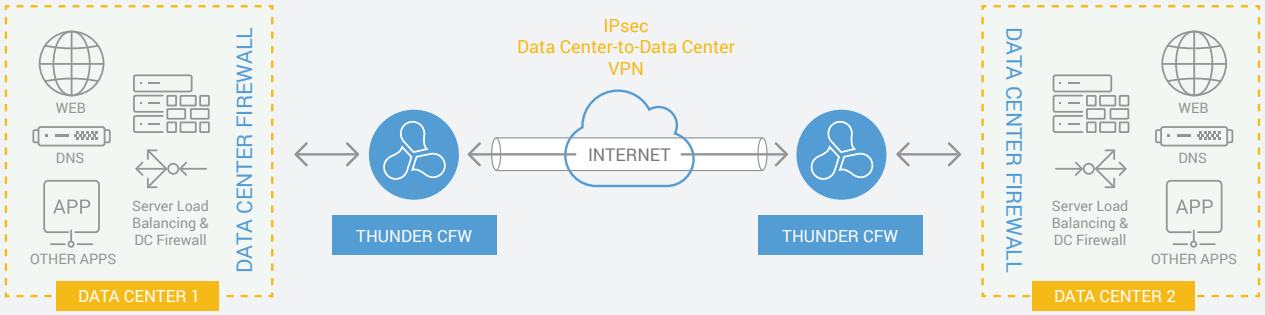
Securely interconnect remote sites over the internet using high-performance, hardware-based IPsec cryptographic security.

The Thunder CFW platform supports unprecedented IPsec throughput levels and massive IPsec VPN tunnels. It features a broad array of encryption algorithms and data integrity methods for securing public, private and hybrid cloud workloads.

Consolidate IPsec VPN, Firewall and Application Delivery

Thunder CFW unifies firewall and IPsec VPN capabilities on a single platform to improve agility through consolidation. Whether used with the data center firewall to support secure interconnectivity between data centers or to support high-speed VPN connections in the cloud, Thunder CFW provides a comprehensive networking and security platform that reduces data center footprints and operating costs.

DATA CENTER FIREWALL AND IPSEC VPN



The data center firewall and virtual private network (VPN) connection are often deployed together to defend an environment. By unifying firewall and application delivery controller (ADC) capabilities, organizations are able to both load-balance traffic and protect the data center, services and related applications from DDoS attacks and other threats. Global communication between various data centers is encrypted with an IPsec VPN.

THUNDER CFW PHYSICAL APPLIANCE

FIREWALL PERFORMANCE	THUNDER 840 CFW	THUNDER 940 CFW	THUNDER 1030S CFW	THUNDER 1040 CFW
Throughput	5 Gbps	5 Gbps	10 Gbps	20 Gbps
Layer 4 CPS	200K	240K	300K	450K
Concurrent Sessions	8 Million	8 Million	16 Million	24 Million
FW Rules	8K	8K	8K	12K
SECURE WEB GATEWAY PERFORMANCE*1				
SSLi Throughput (2K key)	0.5 Gbps	0.5 Gbps	1.5 Gbps	1.5 Gbps
SSLi CPS	RSA (1K): 500 RSA (2K): 300	RSA: 500 ECDHE: 300	RSA (1K): 4K RSA (2K): 3K	RSA: 4K ECDHE: 3K
IPSEC PERFORMANCE*2				
IPsec Throughput	1.5 Gbps	3 Gbps	6 Gbps	6 Gbps*5
IPsec Tunnels	50	50	100	100
NETWORK INTERFACE				
1 GE Copper	5	5	6	5
1 GE Fiber (SFP)	0	0	2	0
1/10 GE Fiber (SFP+)	2	4	2	4
Management Ports	1 x Ethernet Mgmt port, 1 x RJ-45 console port			
HARDWARE SPECIFICATIONS				
Processor	Intel Communications Processor	Intel Communications Processor	Intel Xeon 4-core	Intel Communications Processor
Memory (ECC RAM)	8 GB	8 GB	8 GB	8 GB / 16 GB*2
Storage	SSD	SSD	SSD	SSD
Hardware Acceleration	Software	Software	Software	Software
SSL Security Processor ('S' Models)	N/A	N/A	Yes	Yes
Dimensions (inches)	1.75 (H) x 17.0 (W) x 12 (D)	1.75 (H) x 17.5 (W) x 17.25 (D)	1.75 (H) x 17.5 (W) x 17.45 (D)	1.75 (H) x 17.5 (W) x 17.25 (D)
Rack Units (Mountable)	1U	1U	1U	1U
Unit Weight	8.8 lbs	14 lbs/16 lbs (RPS)	18.0 lbs/20.1 lbs (RPS)	15 lbs/17 lbs (RPS)
Power Supply (DC option available)	Single 150W (AC only)	Single 750W*4	Single 600W+	Single 750W*4
	100 - 240 VAC, 50-60Hz	80 Plus Platinum efficiency, 100 - 240 VAC, 50 – 60 Hz		
Power Consumption (Typical/Max)*3	57W / 75W	60W / 80W	98W / 108W	80W / 110W
Heat in BTU/hour (Typical/Max)*3	195 / 256	205 / 273	334 / 369	273 / 376
Cooling Fan	Single Fixed Fan	Removable Fans	Hot Swap Smart Fans	Removable Fans
Operating Ranges	Temperature 0° - 40° C | Humidity 5% - 95%			
Regulatory Certifications	FCC Class A, UL, CE, TUV, CB, VCCI, CCC, BSMI, RCM | RoHS	FCC Class A, UL, CE, GS, CB, VCCI, CCC, BSMI^, RCM^ | RoHS	FCC Class A, UL, CE, TUV, CB, VCCI, CCC, KCC BSMI, RCM, FAC | RoHS	FCC Class A, UL, CE, GS, CB, VCCI, CCC, BSMI^, RCM^ | RoHS
Standard Warranty	90-Day Hardware and Software			

Thunder CFW Physical Appliance (Cont.)

FIREWALL PERFORMANCE	THUNDER 3030S CFW	THUNDER 3040 CFW	THUNDER 3230 CFW	THUNDER 3430 CFW
Throughput	30 Gbps	30 Gbps	25 Gbps	38 Gbps
Layer 4 CPS	500K	550K	1.4 Million	2 Million
Concurrent Sessions	32 Million	32 Million	32 Million	64 Million
FW Rules	16K	16K	16K	32K
SECURE WEB GATEWAY PERFORMANCE*1				
SSLi Throughput (2k key)	2.5 Gbps	2.5 Gbps	3.5 Gbps	5.5 Gbps
SSLi CPS	RSA (1K) : 8K RSA (2K): 6K	RSA: 8K ECDHE: 4.5K	RSA: 12.5K ECDHE: 7K	RSA: 18K ECDHE: 10K
IPSEC PERFORMANCE*2				
IPsec Throughput	8 Gbps	N/A	15 Gbps	30 Gbps
IPsec Tunnels	1K	N/A	1K	4K
NETWORK INTERFACE				
1 GE Copper	6	6	0	0
1 GE Fiber (SFP)	2	2	4	4
1/10 GE Fiber (SFP+)	4	4	4	4
Management Ports	1 x Ethernet Mgmt port, 1 x RJ-45 console port			
HARDWARE SPECIFICATIONS				
Processor	Intel Xeon 4-core	Intel Xeon 4-core	Intel Xeon 4-core	Intel Xeon 6-core
Memory (ECC RAM)	16 GB	16 GB	16 GB	32 GB
Storage	SSD	SSD	SSD	SSD
Hardware Acceleration	Software	Software	FTA-4	FTA-4
SSL Security Processor ('S' Models)	Yes	Yes	Yes	Yes
Dimensions (inches)	1.75 (H) x 17.5 (W) x 17.45 (D)	1.75 (H) x 17.5 (W) x 17.45 (D)	1.75 (H) x 17.5 (W) x 17.15 (D)	1.75 (H) x 17.5 (W) x 17.15 (D)
Rack Units (Mountable)	1U	1U	1U	1U
Unit Weight	20.1 lbs	20.6 lbs	23 lbs	23 lbs
Power Supply (DC option available)	Dual 600W RPS	Dual 600W RPS	Dual 600W RPS	Dual 600W RPS
	80 Plus Platinum efficiency, 100 - 240 VAC, 50 – 60 Hz			
Power Consumption (Typical/Max)*3	180W / 240W	180W / 240W	190W / 240W	210W / 260W
Heat in BTU/hour (Typical/Max)*3	615 / 819	615 / 819	648 / 819	717 / 887
Cooling Fan	Hot Swap Smart Fans			
Operating Ranges	Temperature 0° - 40° C | Humidity 5% - 95%			
Regulatory Certifications	FCC Class A, UL, CE, TUV, CB, VCCI, CCC, KCC, BSMI, RCM, EAC, FAC | RoHS, FIPS 140-2*4	FCC Class A, UL, CE, GS, CB, VCCI, CCC, KCC, BSMI, RCM | RoHS	FCC Class A, UL, CE, GS, CB, VCCI, CCC, KCC, BSMI, RCM, NEBS | RoHS	FCC Class A, UL, CE, GS, CB, VCCI, CCC, KCC, BSMI, RCM, NEBS | RoHS
Standard Warranty	90-Day Hardware and Software			

Thunder CFW Physical Appliance (Cont.)

FIREWALL PERFORMANCE	THUNDER 4440 CFW	THUNDER 5330 CFW	THUNDER 5440 CFW	THUNDER 5840 CFW
Throughput	70 Gbps	70 Gbps	90 Gbps	100 Gbps
Layer 4 CPS	2.8 Million	2.8 Million	3.5 Million	4.5 Million
Concurrent Sessions	64 Million	64 Million	128 Million	128 Million
FW Rules	32K	32K	64K	64K
SECURE WEB GATEWAY PERFORMANCE*1				
SSLi Throughput (2k key)	8 Gbps	10 Gbps	15 Gbps	20 Gbps
SSLi CPS	RSA: 22K ECDHE: 10K	RSA: 30K ECDHE: 15K	RSA: 35K ECDHE: 20K	RSA: 50K ECDHE: 25K
IPSEC PERFORMANCE*2				
IPsec Throughput	30 Gbps	35 Gbps	35 Gbps	35 Gbps
IPsec Tunnels	4K	4K	8K	8K
NETWORK INTERFACE				
1 GE Fiber (SFP)	0	0	0	0
1/10 GE Fiber (SFP+)	24	8	24	24
40 GE Fiber (QSFP+)	4	0	4	4
Management Ports	1 x Ethernet Mgmt port, 1 x RJ-45 console port			
HARDWARE SPECIFICATIONS				
Processor	Intel Xeon 6-core	Intel Xeon 10-core	Intel Xeon 12-core	Intel Xeon 18-core
Memory (ECC RAM)	32 GB	32 GB	64 GB	64 GB
Storage	SSD	SSD	SSD	SSD
Hardware Acceleration	2 x FTA-4	FTA-4	2 x FTA-4	2 x FTA-4
SSL Security Processor ('S' Models)	Yes	Yes	Yes	Yes
Dimensions (inches)	1.75 (H) x 17.5 (W) x 30 (D)	1.75 (H) x 17.5 (W) x 17.15 (D)	1.75 (H) x 17.5 (W) x 30 (D)	1.75 (H) x 17.5 (W) x 30 (D)
Rack Units (Mountable)	1U	1U	1U	1U
Unit Weight	32.5 lbs	23 lbs	32.5 lbs	32.5 lbs
Power Supply (DC option available)	Dual 1100W RPS	Dual 600W RPS	Dual 1100W RPS	Dual 1100W RPS
	80 Plus Platinum efficiency, 100 - 240 VAC, 50 – 60			
Power Consumption (Typical/Max)*3	360W / 445W	210W / 260W	360W / 445W	375W / 470W
Heat in BTU/hour (Typical/Max)*3	1,229 / 1,519	717 / 887	1,229 / 1,519	1,280 / 1,604
Cooling Fan	Hot Swap Smart Fans			
Operating Ranges	Temperature 0° - 40° C | Humidity 5% - 95%			
Regulatory Certifications	FCC Class A, UL, CE, GS, CB, VCCI, CCC, KCC, BSMI, RCM | RoHS, FIPS 140-2*†+	FCC Class A, UL, CE, GS, CB, VCCI, CCC, BSMI, RCM, NEBS | RoHS	FCC Class A, UL, CE, GS, CB, VCCI, CCC, BSMI, RCM | RoHS	FCC Class A, UL, CE, GS, CB, VCCI, CCC, BSMI, RCM | RoHS
Standard Warranty	90-Day Hardware and Software			

Thunder CFW Physical Appliance (Cont.)

FIREWALL PERFORMANCE	THUNDER 5840-11 CFW	THUNDER 6440 CFW	THUNDER 7440 CFW	THUNDER 7440-11 CFW
Throughput	100 Gbps	150 Gbps	220 Gbps	220 Gbps
Layer 4 CPS	4.5 Million	4.5 Million	6.5 Million	6.5 Million
Concurrent Sessions	128 Million	256 Million	256 Million	256 Million
FW Rules	64K	128K	128K	128K
SECURE WEB GATEWAY PERFORMANCE*1				
SSLi Throughput (2k key)	25 Gbps	22 Gbps	25 Gbps	25 Gbps
SSLi CPS	RSA: 50K ECDHE: 28K	RSA: 40K ECDHE: 15K	RSA: 45K ECDHE: 20K	RSA: 45K ECDHE: 20K
IPSEC PERFORMANCE*2				
IPsec Throughput	N/A	N/A	N/A	N/A
IPsec Tunnels	N/A	N/A	N/A	N/A
NETWORK INTERFACE				
1/10 GE Fiber (SFP+)	48	48	48	48
40 GE Fiber (QSFP+)	0	4	4	0
100 GE Fiber (QSFP28)	4	0	0	4
Management Ports	1 x Ethernet Mgmt port, 1 x RJ-45 console port			
HARDWARE SPECIFICATIONS				
Processor	Intel Xeon 18-core	2 x Intel Xeon 10-core	2 x Intel Xeon 18-core	2 x Intel Xeon 18-core
Memory (ECC RAM)	64 GB /128 GB*4	128 GB	128 GB	128 GB
Storage	SSD	SSD	SSD	SSD
Hardware Acceleration	2 x FTA-4	3 x FTA-4	3 x FTA-4	3 x FTA-4
SSL Security Processor ('S' Models)	Yes	Yes	Yes	Yes
Dimensions (inches)	1.75 (H) x 17.5 (W) x 30 (D)	1.75 (H) x 17.5 (W) x 30 (D)	1.75 (H) x 17.5 (W) x 30 (D)	1.75 (H) x 17.5 (W) x 30 (D)
Rack Units (Mountable)	1U	1U	1U	1U
Unit Weight	34.3 lbs	36 lbs	36 lbs	37 lbs
Power Supply (DC option available)	Dual 1500W RPS	Dual 1100W RPS	Dual 1100W RPS	Dual 1500W RPS
	80 Plus Platinum efficiency, 100 - 240 VAC, 50 – 60 Hz			
Power Consumption (Typical/Max)*3	550W / 760W	480W / 550W	690W / 820W	820W / 950W
Heat in BTU/hour (Typical/Max)*3	1,877 / 2,594	1,638 / 1,877	2,355 / 2,798	2,798 / 3,242
Cooling Fan	Hot Swap Smart Fans			
Operating Ranges	Temperature 0° - 40° C | Humidity 5% - 95%			
Regulatory Certifications	FCC Class A, UL, CE, GS, CB, VCCI, CCC^, BSMI, RCM | RoHS^	FCC Class A, UL, CE, GS, CB, VCCI, CCC, BSMI, RCM | RoHS	FCC Class A, UL, CE, GS, CB, VCCI, CCC, KCC, BSMI, RCM | RoHS, FIPS 140-2^|+	FCC Class A, UL, CE, GS, CB, VCCI, CCC^, KCC^, BSMI, RCM | RoHS^
Standard Warranty	90-Day Hardware and Software			

The specifications, performance numbers are subject to change without notice, and may vary depending on configuration and environmental conditions. As for network interface, it's highly recommended to use A10 Networks qualified optics/transceivers to ensure network reliability and stability.

*1 Tested in single appliance SSLi deployment with maximum SSL option. Cipher "TLS_RSA_WITH_AES_256_CBC_SHA" with RSA 2K keys are used for RSA cases, "TLS_ECDHE_RSA_WITH_AES_128_CBC_SHA256" with EC P-256 and RSA 2K keys are used for PFS case. | *2 With maximum SSL | *3 With base model. Number varies by SSL model | *4 Optional RPS available | *5 Software-based | ^ Certification in process | + FIPS model must be purchased

THUNDER CFW SPE PHYSICAL APPLIANCE

FIREWALL PERFORMANCE	THUNDER 4435 CFW	THUNDER 5435 CFW	THUNDER 6435 CFW	THUNDER 6635 CFW
Throughput	38 Gbps	76 Gbps	140 Gbps	150 Gbps
Layer 4 CPS	2.7 Million	2.8 Million	5.5 Million	5.5 Million
Concurrent Sessions	128 Million	128 Million	256 Million	256 Million
FW Rules	64K	64K	128K	128K
SECURE WEB GATEWAY PERFORMANCE*1				
SSLi Throughput	8 Gbps	8 Gbps	17.5 Gbps	17.5 Gbps
SSLi CPS	22K	22K	50K	50K
IPSEC PERFORMANCE*2				
IPsec Throughput	20 Gbps	20 Gbps	70 Gbps	80 Gbps
IPsec Tunnels	6K	6K	20K	20K
NETWORK INTERFACE				
1/10 GE Fiber (SFP+)	16	16	16	12
40 GE Fiber (QSFP+)	0	4	4	0
100 GE Fiber (CXP)	0	0	0	4 (CXP)
Management Ports	1 x Ethernet Mgmt port, 1 x RJ-45 console port			
HARDWARE SPECIFICATIONS				
Processor	Intel Xeon 10-core	Intel Xeon 10-core	2 x Intel Xeon 12-core	2 x Intel Xeon 12-core
Memory (ECC RAM)	64 GB	64 GB	128 GB	128 GB
Storage	SSD	SSD	SSD	SSD
Hardware Acceleration	FTA-3+, SPE	2 x FTA-3+, SPE	4 x FTA-3+, SPE	4 x FTA-3+, SPE
SSL Security Processor ('S' Models)	N/A	N/A	Yes	Yes
Dimensions (inches)	1.75 (H) x 17.5 (W) x 30 (D)	1.75 (H) x 17.5 (W) x 30 (D)	1.75 (H) x 17.5 (W) x 30 (D)	5.3 (H) x 16.9 (W) x 28 (D)
Rack Units (Mountable)	1U	1U	1U	3U
Unit Weight	34.5 lbs	35.5 lbs	39 lbs	74.5 lbs / 78 lbs*2
Power Supply (DC option available)	Dual 1100W RPS	Dual 1100W RPS	Dual 1100W RPS	2+2 1100W RPS
	80 Plus Platinum efficiency, 100 - 240 VAC, 50 – 60 Hz			
Power Consumption (Typical/Max)*3	350W / 420W	400W / 480W	620W / 710W	995W / 1,150W
Heat in BTU/hour (Typical/Max)*3	1,195 / 1,433	1,365 / 1,638	2,116 / 2,423	3,395 / 3,924
Cooling Fan	Hot Swap Smart Fans			
Operating Ranges	Temperature 0° - 40° C | Humidity 5% - 95%			
Regulatory Certifications	FCC Class A, UL, CE, TUV, CB, VCCI, CCC, MSIP, BSMI, RCM, EAC, NEBS | RoHS	FCC Class A, UL, CE, TUV, CB, VCCI, CCC, BSMI, RCM, EAC, NEBS | RoHS	FCC Class A, UL, CE, TUV, CB, VCCI, CCC, BSMI, RCM, NEBS | RoHS	FCC Class A, UL, CE, TUV, CB, VCCI, EAC, FAC | RoHS
Standard Warranty	90-Day Hardware and Software			

The specifications, performance numbers are subject to change without notice, and may vary depending on configuration and environmental conditions. As for network interface, it's highly recommended to use A10 Networks qualified optics/transceivers to ensure network reliability and stability.

*1 Tested in single appliance SSLi deployment with maximum SSL option. Cipher "TLS_RSA_WITH_AES_128_CBC_SHA" with RSA 2K keys are used. | *2 With maximum SSL | *3 With base model. Number varies by SSL model

Thunder CFW SPE Physical Appliance (Cont.)

FIREWALL PERFORMANCE	THUNDER 14045 CFW 1 MODULE	THUNDER 14045 CFW 2 MODULES
Throughput	150 Gbps	300 Gbps
Layer 4 CPS	4 Million	8 Million
Concurrent Sessions	256 Million	512 Million
FW Rules	128K	128K
NETWORK INTERFACE		
40 GE Fiber (QSFP+)	4	4
100 GE Fiber (CXP)	4 (CFP2 or QSFP28)	4 (CFP2 or QSFP28)
Management Ports	1 x Ethernet Mgmt port, 1 x RJ-45 console port+, 1 x Lights Out Management	
HARDWARE SPECIFICATIONS		
Processor	Intel Xeon Dual 18-core	Intel Xeon Quad 18-core
Memory (ECC RAM)	256 GB	512 GB
Storage	Yes	Yes
Hardware Acceleration	4 x FTA-3+ FPGA	8 x FTA-3+ FPGA
SSL Security Processor ('S' Models)	N/A	N/A
Dimensions (inches)	5.3 (H) x 16.9 (W) x 30 (D)	5.3 in (H) x 16.9 in (W) x 30 in (D)
Rack Units (Mountable)	3U	3U
Unit Weight	80 lbs	102 lbs
Power Supply (DC option available)	2+2 1100W RPS	2+2 1100W RPS
	80 Plus Platinum efficiency, 100 - 240 VAC, 50 – 60 Hz	
Power Consumption (Typical/Max)	1,000W / 1,200W	1,700W / 2,000W
Heat in BTU/hour (Typical/Max)	3,412 / 4,095	5,801 / 6,825
Cooling Fan	Hot Swap Smart Fans	
Operating Ranges	Temperature 0° - 40° C | Humidity 5% - 95%	
Regulatory Certifications	FCC Class A, UL, CE, GS, CB, VCCI, CQC, KCC, BSMI, RCM | RoHS	FCC Class A, UL, CE, GS, CB, VCCI, CQC, KCC, BSMI, RCM | RoHS
Standard Warranty	90-Day Hardware and Software	

The specifications, performance numbers are subject to change without notice, and may vary depending on configuration and environmental conditions. As for network interface, it's highly recommended to use A10 Networks qualified optics/transceivers to ensure network reliability and stability.

+ Thunder 14045 comes with a splitter cable for console to provide access to both modules.

vTHUNDER CFW VIRTUAL APPLIANCE

vTHUNDER CFW

Supported Hypervisors	VMware ESXi 5.0 or higher (VMXNET3, SR-IOV, PCI Passthrough) KVM QEMU 1.0 or higher (VirtIO, OvS with DPDK, SR-IOV, PCI Passthrough) Microsoft Hyper-V on Windows Server 2008 R2 or higher
Hardware Requirements	See Installation Guide
Standard Warranty	90-Day Software

Bandwidth Licenses	Lab	200 Mbps	1 Gbps	4 Gbps	8 Gbps	10 Gbps	20 Gbps	40 Gbps	100 Gbps
VMware ESXi	●	●	●	●	●	●	●*1	●*1	●*2
KVM	●	●	●	●	●	●	●*1	●*1	●*2
Microsoft Hyper-V	●	●	●	●	●+				
Feature Basis Throughput Guideline	ADC/CGN/FW: 200 Mbps-100 Gbps IPsec/SSL Insight (SWG): 200 Mbps – 8 Gbps								

*1 SR-IOV

*2 PCI Passthrough

+ 8 Gbps license not recommended for Microsoft Hyper-V

DETAILED FEATURE LIST

Features may vary by appliance.

Gi/SGi FIREWALL

Firewall

- Stateful Layer 4 network firewall
- L7 application visibility
- L4–L7 services consolidation
- GTP firewall with granular SCTP filtering
- ALG protocol support for protocols with dynamic ports (e.g., SIP, FTP, DNS, ICMP)

DDoS Protection

- Integrated DDoS protection for NAT IP pools
- IP anomaly detection

IPv4 Preservation (CGNAT)

- Carrier-grade NAT (CGN/CGNAT), Large-scale NAT (LSN), NAT444, NAT44

IPv6 Migration

- Dual-stack support, full-native IPv6 management and features
- SLB-PT (Protocol Translation), SLB-64 (IPv4<–>IPv6, IPv6<–>IPv4)
- NAT64/DNS64, NAT46, DS-Lite, 6rd, LW4o6, MAP-T, MAP-E

Visibility & Analytics with Harmony Controller

- CGN
  - Subscriber session insights
  - Session opening and closing rates
  - TopN flow consuming subscribers
  - TopN bandwidth consuming subscribers
  - Subscriber user quota alerts
  - CGN resource tracking
  - Mapping distribution per protocol and per technology
  - NAT IP pool utilization
  - Session distribution per NAT technology
- Firewall
  - Firewall rule performance and rule distribution by protocol
  - Top firewall rules by state
  - Complete log with source/destination IP, port, protocol, application, application category, and firewall actions for better visibility and faster troubleshooting
- Application
  - Application distribution by category
  - Top destination IP by application distribution
  - Bytes consumed by application category

SECURE WEB GATEWAY (SWG)

SSL Insight

- High-performance SSL decryption and encryption as a forward proxy
- Internet Content Adaptation Protocol (ICAP) support for data loss prevention
- Dynamic port decryption to detect and intercept SSL or TLS traffic regardless of TCP port number
- Forward proxy failsafe to bypass traffic when there is a handshake failure
- SSL Insight bypass based on hostname; bypass list scales up to 1 million Server Name Indication (SNI) values
- Multi-bypass list support
- Decryption of HTTPS, STARTTLS, SMTP, XMPP
- Client certificate detection and optional bypass
- Untrusted certificate handling using the Online Certificate Status Protocol (OCSP)
- TLS alert logging to log flow information from SSL Insight events
- SSL session ID reuse
- Firewall Load-Balancing (FWLB)

URL Filtering

- URL Classification Service powered by Webroot to selectively bypass trusted websites for SSL decryption**
- Optional monitoring and blocking of malicious or undesirable websites

IP Threat Intelligence

- Prevents malicious traffic from entering your network, based on customizable risk score and tolerance

Threat Investigator

- Rich and contextual analytics for object under investigation

Application Firewall with Signature Detection

- Identifications for thousands of applications and protocols with support for custom rules that run real-time

Operation Modes

- Transparent Forward Proxy
- Explicit Forward Proxy
- Proxy chaining

DATA CENTER FIREWALL

Firewall

- Stateful L4 network firewall
- Application Layer Gateways (FTP, TFTP, DNS and SIP)
- Web Application Firewall (WAF)
- DNS Application Firewall (DAF)

DDoS Protection

- Flood attack protection: SYN cookies, TCP/UDP/ICMP flood protection, DNS/HTTP flood protection
- Protocol attack protection: Invalid packets, anomalous TCP flag combinations, packet size validation (ping of death)
- Resource attack protection: Slowloris, slow POST, Sockstress, fragmentation
- Rate-limiting: IP-based connection, HTTP, DNS request, DNS query, ICMP rate-limiting

Application Access Management (AAM)

- Authentication methods: HTTP Basic, NTLM over HTTP, form-based, OCSP, TDS SQL Logon and SAML
- Authentication servers: LDAP, Active Directory, RADIUS, OCSP Responder, NTLM, Kerberos, RSA Secure ID, Entrust IdentityGuard and SAML Identity Provider (IdP)
- Authentication relay: Kerberos, form-based, LDAP, WS-Federation, and Microsoft SharePoint and Outlook Web Access
- Extensive logging for audit

ADC

- Advanced Layer 4/Layer 7 server load-balancing
  - Fast HTTP, full HTTP proxy
  - High-performance, template-based L7 switching with header/URL/domain manipulation
  - Comprehensive L7 application persistence support
- Comprehensive load-balancing methods: round-robin, weighted round-robin (WRR), least connections (LC), fastest response and more
- Comprehensive IPv4/IPv6 support
- A10 Networks aFleX® TCL-based scripting technology: deep packet inspection and transformation for customizable, application-aware switching
- Global Server Load-Balancing (GSLB)
- HTTP acceleration: HTTP connection multiplexing (TCP connection reuse), RAM caching, HTTP compression
- SSL acceleration: Hardware SSL offload, TLS 1.2 and 4096-bit SSL key support, Elliptic Curve Diffie-Hellman Exchange (ECDHE) and other ECC ciphers

IPSEC VPN

- Route-based VPN
- Keying methods: IKEv1, IKEv2
- Authentication methods: RSA Signature, Pre-shared Key, Public Key Infrastructure (PKI)
- Key Exchange Diffie-Hellman Groups: 1, 2, 5, 14, 15, 16, 18
- Encryption algorithms: DES, 3DES, AES-128, AES-192, AES-256
- Data integrity: MD5, SHA1 and SHA-256
- OSPF, BGP and Bidirectional Forwarding Detection (BFD) over IPsec tunnel
- IPv4 and IPv6 support
- Equal Cost Multipath (ECMP) support
- NAT traversal
- Perfect Forward Secrecy (PFS) support
- Life bytes and time rekey
- PKI support with Simple Certificate Enrollment Protocol (SCEP), Online Certificate Status Protocol (OCSP) and certificate revocation list (CRL) distribution points

COMMON FEATURES

A10 Threat Intelligence Service**

- Dynamic threat intelligence feed updated in near real time
- 30-plus public, private and proprietary sources to block "call homes" to command and control servers, identify known attack sources and mitigate zero-day attacks.

High-Performance, Scalable Platform

- Advanced Core Operating System (ACOS)
  - Linear application scaling
  - ACOS on data plane
- Linux on control plane
- IPv6 feature parity

Networking

- Integrated L2/L3
- 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 NAT/NAPT, IPv6 NAPT
- Jumbo Frame support
- Hardware-accelerated Virtual Extensible LAN (VXLAN)
- Network Virtualization using Generic Routing Encapsulation (NVGRE)

Management

- Dedicated on-box management interface (GUI, CLI, SSH, Telnet)
- Web-based AppCentric Templates (ACT) support
- SNMP, syslog, email alerts
- RESTful API (aXAPI)
- LDAP, TACACS+, RADIUS support
- Configurable control CPUs

Virtualization

- aVCS (virtual chassis system)
- Multi-tenancy with ADPs
  - Partition-based management
  - L2/L3 virtualization

Carrier-Grade Hardware*

- Redundant, hot-swap power supplies (AC or DC)
- 40 GbE ports, 100 GbE ports
- Tamper detection
- Lights-Out Management (LOM/IPMI)
- High-performance security processor option

* Features may vary by appliance.

** Additional paid service.

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ABOUT A10 NETWORKS

CONTACT US

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