

THUNDER CFW APPLIANCE SPECIFICATIONS

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 PERFORMANCE¹				
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 PERFORMANCE²				
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) 100 - 240 VAC, 50-60Hz	Single 750W ⁴	Single 600W ⁴	Single 750W ⁴
	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 ¹ , RCM ¹ 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 ¹ , RCM ¹ RoHS
Standard Warranty	90-Day Hardware and Software			

Thunder CFW Appliance Specifications (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 Appliance Specifications (Cont.)

	<i>THUNDER</i> 4440 CFW	<i>THUNDER</i> 5330 CFW	<i>THUNDER</i> 5440 CFW	<i>THUNDER</i> 5840 CFW
FIREWALL PERFORMANCE				
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 PERFORMANCE¹				
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 PERFORMANCE²				
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 ^{1*}	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 Appliance Specifications (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 PERFORMANCE¹				
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 PERFORMANCE²				
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 ⁵ , BSMI, RCM RoHS ⁶	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 ⁷ +	FCC Class A, UL, CE, GS, CB, VCCI, CCC ⁵ , KCC ⁵ , BSMI, RCM RoHS ⁶
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 SPECIFICATIONS

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 PERFORMANCE¹				
SSLi Throughput	8 Gbps	8 Gbps	17.5 Gbps	17.5 Gbps
SSLi CPS	22K	22K	50K	50K
IPSEC PERFORMANCE²				
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 Appliance Specifications (Cont.)

	THUNDER 14045 CFW 1 MODULE	THUNDER 14045 CFW 2 MODULES
FIREWALL PERFORMANCE		
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

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