

Thunder SSLi Physical Appliance Specifications

Performance ¹	Thunder 940 SSLi	Thunder 1040-11 SSLi	Thunder 3040S SSLi	Thunder 3350S SSLi
SSLi Throughput	0.5 Gbps	1.5 Gbps	2.5 Gbps	5.5 Gbps
SSLi CPS	RSA: 500 ECDHE: 300	RSA: 4K ECDHE: 3K	RSA: 8K ECDHE: 4.5K	RSA: 20K ECDHE: 10K
SSLi Concurrent Sessions	30K	100K	200K	300K
SSL Bulk Throughput ⁵	1 Gbps	7 Gbps	11 Gbps	30 Gbps
Network Interfaces				
1 GE (BASE-T)	5	1 + 4 (Bypass)	6	6
1 GE Fiber (SFP)	0	0	2	2
1/10 GE Fiber (SFP+)	4	4 ⁶	4	8 + 4 ⁶
1/10 GE Fiber (Fixed)	0	2 (Optical Bypass) ⁴	0	0
Management Ports	Ethernet Mgmt Port, RJ-45 Console Port			
Hardware Specifications				
Processor	Intel Communications Processor	Intel Communications Processor	Intel Xeon 4-core	Intel Xeon 14-core
Memory (ECC RAM)	8 GB	16 GB	16 GB	64 GB
Storage	SSD	SSD	SSD	SSD
Hardware Acceleration	Software	Software	Software	Software
TLS/SSL Security Acceleration	N/A	Hardware	Hardware	Hardware
Dimensions (Inches)	1.75 (H) x 17.5 (W) x 17.25 (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 18 (D)
Rack Units (Mountable)	1U	1U	1U	1U
Unit Weight	14 lbs 16 lbs (RPS)	15 lbs 17 lbs (RPS)	20.6 lbs	18 lbs
Power Supply (DC option available)	Single 750W ³	Single 750W ³	Dual 600W RPS	Dual 750W RPS
	80 Plus Platinum efficiency, 100 - 240 VAC, 50 - 60 Hz			
Power Consumption (Typical/Max) ²	60W / 80W	80W / 110W	180W / 240W	175W / 222W
Heat in BTU/Hour (Typical/Max) ²	205 / 273	273 / 376	615 / 819	598 / 758
Cooling Fan	Removable Fans	Removable Fans	Hot Swap Smart Fans	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	FCC Class A, UL, CE, GS, CB, VCCI, CCC, KCC, BSMI RoHS	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 RoHS
Standard Warranty	90-Day Hardware and Software			

Thunder SSLi Physical Appliance Specifications (Cont.)

Performance ^{*1}	Thunder 4440S SSLi	Thunder 5440S SSLi	Thunder 5840S SSLi
SSLi Throughput	8 Gbps	16 Gbps	20 Gbps
SSLi CPS	RSA: 22K ECDHE: 10K	RSA: 35K ECDHE: 20K	RSA: 50K ECDHE: 25K
SSLi Concurrent Sessions	400K	800K	1 Million
SSL Bulk Throughput ^{*5}	25 Gbps	45 Gbps	55 Gbps
Network Interfaces			
1/10 GE Fiber (SFP+)	24	24	24
40 GE Fiber (QSFP+)	4	4	4
Management Ports	Ethernet Mgmt Port, RJ-45 Console Port, Lights Out Management		
Hardware Specifications			
Processor	Intel Xeon 6-core	Intel Xeon 12-core	Intel Xeon 18-core
Memory (ECC RAM)	32 GB	64 GB	64 GB
Storage	SSD	SSD	SSD
Hardware Acceleration	2 x FTA-4	2 x FTA-4	2x FTA-4
TLS/SSL Security Acceleration	Hardware	Hardware	Hardware
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)
Rack Units (Mountable)	1U	1U	1U
Unit Weight	32.5 lbs	32.5 lbs	32.5 lbs
Power Supply (DC option available)	Dual 1100W RPS	Dual 1100W RPS	Dual 1100W RPS
	80 Plus Platinum efficiency, 100 - 240 VAC, 50 - 60 Hz		
Power Consumption (Typical/Max) ^{*2}	360W / 445W	360W / 445W	375W / 470W
Heat in BTU/Hour (Typical/Max) ^{*2}	1,229 / 1,519	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, CB, VCCI, CCC, KCC, BSMI, RCM RoHS	FCC Class A, UL, CE, CB, VCCI, CCC, KCC, BSMI, RCM RoHS	FCC Class A, UL, CE, CB, VCCI, CCC, KCC, BSMI, RCM RoHS
Standard Warranty	90-Day Hardware and Software		

Thunder SSLi Physical Appliance Specifications (Cont.)

Performance*1	Thunder 5840-11S SSLi	Thunder 7440S SSLi	Thunder 7440-11S SSLi	Thunder 7655S SSLi
SSLi Throughput	25 Gbps	25 Gbps	25 Gbps	72 Gbps
SSLi CPS	RSA: 50K ECDHE: 28K	RSA: 45K ECDHE: 20K	RSA: 45K ECDHE: 20K	RSA: 100K ECDHE: 70K
SSLi Concurrent Sessions	2 Million	2 Million	2 Million	4 Million
SSL Bulk Throughput*5	55 Gbps	75 Gbps	75 Gbps	145 Gbps
Network Interfaces				
1/10 GE Fiber (SFP+)	48	48	48	0
40 GE Fiber (QSFP+)	0	4	0	0
100 GE Fiber (QSFP28)	4	0	4	16
Management Ports	Ethernet Mgmt Port, RJ-45 Console Port, Lights Out Management			
Hardware Specifications				
Processor	Intel Xeon 18-core	2 x Intel Xeon 18-core	2 x Intel Xeon 18-core	2 x Intel Xeon 28-core
Memory (ECC RAM)	128 GB	128 GB	128 GB	384 GB
Storage	SSD	SSD	SSD	SSD
Hardware Acceleration	2x FTA-4	3 x FTA-4	3 x FTA-4	2 x FTA-5, SPE
TLS/SSL Security Acceleration	Hardware	Hardware	Hardware	Hardware
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)	2.625 (H) x 17.5 (W) x 30 (D)
Rack Units (Mountable)	1U	1U	1U	1.5U
Unit Weight	34.3 lbs	36 lbs	37 lbs	44.2 lbs
Power Supply (DC option available)	Dual 1500W RPS	Dual 1100W RPS	Dual 1500W RPS	Dual 1500W RPS
	80 Plus Platinum efficiency, 100 - 240 VAC, 50 - 60 Hz			
Power Consumption (Typical/Max)*2	550W / 760W	690W / 820W	820W / 950W	1,121W / 1,3001W
Heat in BTU/Hour (Typical/Max)*2	1,877 / 2,594	2,355 / 2,798	2,798 / 3,242	3,826 / 4,436
Cooling Fan	Hot Swap Smart Fans			
Operating Ranges	Temperature 0° - 40° C Humidity 5% - 95%			
Regulatory Certifications	FCC Class A, UL, CE, CB, VCCI, CCC, BSMI, RCM RoHS	FCC Class A, UL, CE, CB, VCCI, CCC, KCC, BSMI, RCM RoHS, FIPS 140-2 ¹⁺	FCC Class A, UL, CE, 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			

Hardware specifications and 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_SHA256" 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 ECDHE case.

*2 With base model. Number varies by SSL model.

*3 Optional RPS available.

*4 Fixed SFP+ optical ports with dual rate (10GBASE-SR and 1000BASE-SX)

*5 Total SSL (transaction) capacity with maximum SSL option

*6 10Gbps speed only

^ Certification in process.

+ FIPS model must be purchased

Thunder SSLi Physical Appliance with HSM Specifications

Performance ^{*1,2}	Thunder 5440 SSLi with HSM	Thunder 5840 SSLi with HSM	Thunder 6630 SSLi with HSM
SSLi Throughput (RSA 2K keys)	15 Gbps	20 Gbps	40 Gbps
SSLi CPS (RSA 2K keys)	50K	65K	100K
Network Interfaces			
1/10 GE Fiber (SFP+)	24	24	12
40 GE Fiber (QSFP+)	4	4	0
100 GE Fiber (CXP)	0	0	4
Management Ports	Ethernet Mgmt Port, RJ-45 Console Port, Lights Out Management		
Hardware Specifications			
Processor	Intel Xeon 12-core	Intel Xeon 18-core	2 x Intel Xeon 12-core
Memory (ECC RAM)	64 GB	64 GB	128 GB
Storage	SSD	SSD	SSD
Hardware Acceleration	2 x FTA-4	2 x FTA-4	4 x FTA-3
Hardware Security Module (HSM)	1 or 2	1 or 2	1, 2 or 4
Dimensions (Inches)	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 30 (D)
Rack Units (Mountable)	1U	1U	3U
Unit Weight	32.5 lbs	32.5 lbs	74.5 lbs
Power Supply (DC option available)	Dual 1100W RPS	Dual 1100W RPS	2+2 1100W RPS
	80 Plus Platinum efficiency, 100 - 240 VAC, 50 - 60 Hz		
Power Consumption (Typical/Max) ^{*2}	360W / 445W	375W / 470W	995W / 1,150W
Heat in BTU/Hour (Typical/Max) ^{*2}	1,229 / 1,519	1,280 / 1,604	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, CB, VCCI, CCC, BSMI, RCM RoHS, FIPS 140-2 Level 3	FCC Class A, UL, CE, CB, VCCI, CCC, BSMI, RCM RoHS, FIPS 140-2 Level 3	FCC Class A, UL, CE, TUV, CB, VCCI, KCC, EAC, FAC RoHS, FIPS 140-2 Level 3
Standard Warranty	90-Day Hardware and Software		

Hardware specifications and 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 with maximum HSM cards in two appliances SSLi deployment. Cipher "TLS_RSA_WITH_AES_128_CBC_SHA" with RSA 2K keys are used.

*2 With base model. Number varies by HSM card option.

^ Certification in process.

A10 Thunder on Dell Technologies OEM Solution Bundle Specifications

Single Service Platform (SSP) Specifications

The SSP range consists of A10's cloud-ready software and purpose-built Dell Technologies hardware, with an inclusive license*2 that has the capabilities of delivering Application Delivery Controller (ADC), SSL Insight (SSLi), and Carrier Grade Networking (CGN) solutions along with an expanded feature set of A10 capabilities.

Thunder SSLi Performance*1	Dell Technologies R640		Dell Technologies R740	
	10GE NIC Model	100GE NIC Model	10GE NIC Model	100GE NIC Model
SSL Insight Throughput	8.5 Gbps	12.5 Gbps	16.5 Gbps	30 Gbps
SSL Insight CPS (RSA / ECDHE)	28.5K / 13.5K	28.5K / 14.5K	30K / 18.5K	30K / 18.5K
SSL Insight Concurrent Sessions	3 Million	3 Million	3 Million	3 Million
Network Interfaces				
1 GE (BASE-T)	2	2	2	2
1/10 GE Fiber (SFP+)	6	2	10	10
100 GE Fiber (QSFP28)	0	2	0	4
Hardware Specifications				
Processor	2 x Intel Xeon 20-core		2 x Intel Xeon 20-core	
Memory	192 GB		192 GB	
Storage	2 x SSD		2 x SSD	
TLS/SSL Security Processor	2 x Security card (PCIe)		2 x Dual-chip security card (PCIe)	
Power Supply	Dual 750W Power Supply		Dual 2000W Power Supply	

Multi-tenant Virtual Platform (MVP) Specifications

A10 Thunder Multi-tenant Virtual Platform (MVP) on Dell Technologies is an advanced platform enabling multiple virtual instances or services on a single platform, with inclusive license*2 that has the capabilities of delivering Application Delivery Controller (ADC), SSL Insight (SSLi), and Carrier Grade Networking (CGN) solutions along with an expanded feature set of A10 capabilities.

Performance with SSL Insight*1*3	Dell Technologies R640		Dell Technologies R740	
	10GE NIC Model	100GE NIC Model	10GE NIC Model	100GE NIC Model
SSL Insight Throughput	6.8 Gbps	15.5 Gbps	13.8 Gbps	32.5 Gbps
SSL Insight CPS (RSA / ECDHE)	12.5K / 7K	55K / 32K	27K / 14K	68.5K / 52.5K
SSL Insight Concurrent Sessions	58K	680K	118K	680K
Network Interfaces				
1 GE (BASE-T)	2	2	2	2
1/10 GE Fiber (SFP+)	6	2	10	10
100 GE Fiber (QSFP28)	0	2	0	4
Hardware Specifications				
Processor	2 x Intel Xeon 20-core		2 x Intel Xeon 20-core	
Memory	192 GB		192 GB	
Storage	2 x SSD		2 x SSD	
TLS/SSL Security Processor	2 x Security card (PCIe)		2 x Dual-chip security card (PCIe)	
Power Supply	Dual 750W Power Supply		Dual 2000W Power Supply	

*1 SSLi performance is tested in L3, dual-partition mode deployment, with RSA (2K keys) cipher "TLS_RSA_WITH_AES_128_CBC_SHA" and ECDSA (EC P-256) cipher "TLS_ECDHE_RSA_WITH_AES_128_CBC_SHA"

*2 A10 Thunder on Dell Technologies OEM bundle solutions are licensed under the Convergent Firewall (CFW) license. Check with your A10 Networks sales representative for the latest information on full feature testing and validation.

*3 All Thunder MVP performance specifications are aggregate number that use the following VM profiles:

- R640 10GE NIC model is tested with 1 VM and R740 10GE NIC model is with 2 VMs. Each vThunder is assigned with 8 CPUs, 16 GB memory, 30 GB storage, 8 SSL VFs.
- Both R640 and R740 100GE NIC models are tested with 4-VM profile (16 vCPUs, 32 GB memory, 30 GB storage, 16 SSL VFs assigned on each vThunder)

Thunder SSLi Virtual Appliance Specifications

vThunder SSLi

Supported Hypervisors	VMware ESXi 5.5 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
VMware ESXi	●	●	●	●	●
KVM	●	●	●	●	●
Microsoft Hyper-V	●	●	●	●	● ⁺

+ 8 Gbps license not recommended for Microsoft Hyper-V

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Part Number: A10-DS-15115-EN-18 MAY 2021