

# SteelFusion Solutions

## Model Specifications: SteelFusion™ Edge Appliances

Model	SteelFusion Edge 2100 4 core / 32GB / 1TB			SteelFusion Edge 2200 4 core / 48GB / 2TB			SteelFusion Edge 3100 6 core / 64GB / 4TB				SteelFusion Edge 3200 12 core / 128GB / 8TB				SteelFusion Edge 5100 20 core / 256GB / 16TB		
Configuration	W1	W2	W3	W1	W2	W3	W0	W1	W2	W3	W0	W1	W2	W3	W0	W1	W2

### Appliance Specs

Profile	1U			1U			2U				2U				2U		
License Upgradeable to	W2 / W3	W3	-	W2 / W3	W3	-	W1 / W2 / W3	W2 / W3	W3	-	W1 / W2 / W3	W2 / W3	W3	-	W1 / W2	W2	-
Storage Fault Tolerance	RAID 1 <sup>(a)</sup>			RAID 1 <sup>(a)</sup>			RAID 10 <sup>(a)</sup>				RAID10 <sup>(a)</sup>				RAID10 <sup>(a)</sup>		
Hot Swappable Drives	4			4			8				12				12		
Total CPU	8 cores			8 cores			12 cores				18 cores				26 cores		
Total RAM	48GB			64GB			112GB				184GB				336GB		
Total SSD Storage	200GB			200GB			800GB				960GB				1600GB		

### Hypervisor Compute Resources

Processor Model	E5-2609v2 2.5GHz	E5-2609v2 2.5GHz	E5-2630v2 2.6GHz	2* E5-2630v2 2.6GHz	2* E5-2660v2 2.1 GHz
CPU	4 cores	4 cores	6 cores	12 cores	20 cores
Memory	32GB <sup>(b)</sup>	48GB <sup>(b)</sup>	64GB <sup>(b)</sup>	128GB <sup>(b)</sup>	256GB <sup>(b)</sup>

### Storage Resources

Advanced Tiering Cache (SSD Read Cache)	N/A	N/A	430GB	590GB	1190GB
BlockStore (HDD)	~ 750GB <sup>(c)</sup>	~ 1500GB <sup>(c)</sup>	~ 3500GB <sup>(c)</sup>	~ 7400GB <sup>(c)</sup>	~ 15200GB <sup>(c)</sup>

NOTE: All WAN Capacity / Bandwidth, TCP Connections and UDP flows, and QoS specifications listed are maximums and may not be achieved in all environments.

(a) RAID Configuration for HDD, Fault Tolerant Striped (FTS) Configuration for SSD

(b) The RAM noted here is the Host Physical Memory available to vSphere. The memory available to guests will be lower than this number.

For more details on vSphere memory management, please refer to the VMware vSphere Resource Management Guide at <http://pubs.vmware.com/vsphere-55/topic/com.vmware.ICbase/PDF/vsphere-esxi-vcenter-server-55-resource-management-guide.pdf>

(c) This is the maximum BlockStore space. For more details, see the "SteelFusion Edge Installation and Configuration Guide"

Model Specifications: SteelFusion™ Edge Appliances (continued)

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Configuration	W1	W2	W3	W1	W2	W3	W0	W1	W2	W3	W0	W1	W2	W3	W0	W1	W2

WAN Optimization

Data Store Capacity (SSD)	170GB			170GB			280GB				280GB				320GB		
Optimized WAN Capacity <sup>(d)</sup>	20 Mbps	30 Mbps	50 Mbps	20 Mbps	30 Mbps	50 Mbps	30 Mbps	30 Mbps	50 Mbps	100 Mbps	30 Mbps	30 Mbps	50 Mbps	100 Mbps	50 Mbps	50 Mbps	100 Mbps
Optimized TCP Connections and UDP Flows	1,500	2,500	5,000	1,500	2,500	5,000	N/A	2,500	5,000	10,000	N/A	2,500	5,000	10,000	N/A	5,000	10,000
Optimized SSL / TLS Connections	1,500	2,500	5,000	1,500	2,500	5,000	N/A	2,500	5,000	10,000	N/A	2,500	5,000	10,000	N/A	5,000	10,000
Network Services - WAN Capacity <sup>(e)</sup>	100 Mbps	150 Mbps	250 Mbps	100 Mbps	150 Mbps	250 Mbps	N/A	150 Mbps	250 Mbps	500 Mbps	N/A	150 Mbps	250 Mbps	500 Mbps	N/A	250 Mbps	500 Mbps
Network Services - Flows <sup>(f)</sup>	16,000			16,000			N/A	48,000			N/A	48,000			N/A	48,000	
Network Services - Rules / Classes <sup>(g)</sup>	1,000			1,000			2,000				2,000				2,000		

Expansion Slots / Ports—RiOS / BlockStream Node

Expansion Slots (PCI-e)	2 <sup>(h)</sup>			2 <sup>(h)</sup>			4 <sup>(i)</sup>				4 <sup>(i)</sup>				4 <sup>(i)</sup>		
Included Bypass Ports (Copper) <sup>(j)</sup>	4			4			4				4				4		
Included Non-Bypass Ports (Copper) <sup>(j)</sup>	4			4			4				4				4		
Max. # of Ports <sup>(j)</sup>	8 x 1GbE (BP) or 4 x 1GbE (BP) and 2 x 10GbE (BP) or 4 x 1GbE (BP) and 4 x 10GbE (Non-BP) <sup>(h)</sup>			8 x 1GbE (BP) or 4 x 1GbE (BP) and 2 x 10GbE (BP) or 4 x 1GbE (BP) and 4 x 10GbE (Non-BP) <sup>(h)</sup>			16 x 1GbE (BP) or 4 x 1GbE (BP) and 6 x 10GbE (BP) or 4 x 1GbE (BP) and 12 x 10GbE (Non-BP) <sup>(h)</sup>				16 x 1GbE (BP) or 4 x 1GbE (BP) and 6 x 10GbE (BP) or 4 x 1GbE (BP) and 12 x 10GbE (Non-BP) <sup>(h)</sup>				16 x 1GbE (BP) or 4 x 1GbE (BP) and 6 x 10GbE (BP) or 4 x 1GbE (BP) and 12 x 10GbE (Non-BP) <sup>(h)</sup>		

- (d) The WAN capacity limit is enforced on outbound optimized traffic. Inbound optimized WAN traffic is not capped
- (e) Maximum Outbound WAN throughput
- (f) Inclusive of all optimized and / or managed flows
- (g) Maximum number of classes plus rules
- (h) Both slots 1 and 2 are assigned to RiOS node (both Bypass and Non-Bypass NICs are supported)
- (i) Included via PCIe slot NIC
- (j) On motherboard, not via PCIe slot NIC

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Configuration	W1	W2	W3	W1	W2	W3	W0	W1	W2	W3	W0	W1	W2	W3	W0	W1	W2

Expansion Slots / Ports—Hypervisor Node

Expansion Slots (PCI-e)	0			0			2 <sup>(j)</sup>				2 <sup>(j)</sup>				2 <sup>(j)</sup>		
Included Bypass Ports (Coper)	N/A			N/A			N/A				N/A				N/A		
Included Non-Bypass Ports (Coper) <sup>(j)</sup>	4			4			4				4				4		
Max. # of Ports <sup>(j)</sup>	N/A			N/A			8 x 1GbE or 4 x 1GbE and 4 x 10GbE or 8 x 10GbE				8 x 1GbE or 4 x 1GbE and 4 x 10GbE or 8 x 10GbE				8 x 1GbE or 4 x 1GbE and 4 x 10GbE or 8 x 10GbE		

High Availability Configuration (2 Appliances)

Hypervisor CPU	8 cores			8 cores			12 cores				24 cores				40 cores		
Hypervisor Memory	64GB <sup>(b)</sup>			96GB <sup>(b)</sup>			120GB <sup>(b)</sup>				256GB <sup>(b)</sup>				512GB <sup>(b)</sup>		
BlockStore (HDD)	~750GB <sup>(c)</sup>			~1500GB <sup>(c)</sup>			~3500GB <sup>(c)</sup>				~7400GB <sup>(c)</sup>				~15200GB <sup>(c)</sup>		

Model Specifications: SteelFusion Core Appliances

Model	VGC 1000 Series			VGC 1500 Series		SFCR 3500 Series		
Configuration	U	L	M	L	M	C1	C2	C3
Profile	Virtual			Virtual		2U		
Upgradeable to	VGC 1000-L / M	VGC 1000-M	-	VGC 1500-M	-	SFCR 3500C2 / C3	SFCR 3500C3	-
Number of LUNs	10	20	40	60	60	200	250	300
Number of branches <sup>(k)</sup>	5	10	20	30	30	100	125	150
Data set size <sup>(l)</sup>	2TB	5TB	10TB	20TB	35TB	25TB	50TB	100TB
Cores	2 <sup>(m)</sup>	4 <sup>(m)</sup>	8 <sup>(m)</sup>	8 <sup>(m)</sup>	12 <sup>(m)</sup>	12		
RAM	2GB <sup>(n)</sup>	4GB <sup>(n)</sup>	8GB <sup>(n)</sup>	32GB <sup>(n)</sup>	48GB <sup>(n)</sup>	256GB		
Total HDD Storage	N/A			N/A		4 * 1TB		
Expansion Slots (PCI-e)	N/A			N/A		6 <sup>(o)</sup>		
Included Ports (Copper)	N/A			N/A		4		
Max. # of Ports <sup>(j)</sup>	N/A			N/A		24 x 1GbE or 12 x 10GbE or mix /match 1GbE and 10GbE		

(j) On motherboard, not via PCIe slot NIC

(k) Ports on PCIe NIC only, does not include on-motherboard ports. Assumes 2 LUNs per branch

(l) Recommended size depending on data type

(m) Recommended CPUs @2.2GHz or higher

(n) Recommended RAM assigned

(o) Only Non-Bypass NICs are supported / required on the SteelFusion core appliance

## Power and Physical Specifications: SteelFusion Core Appliances

Model	SFED-2100 / 2200	SFED-3100	SFED-3200	SFED-5100	SFCR-3500
Dual Power Supplies	✓	✓	✓	✓	✓
Power [Watts] (typical)	291	478	600	619	248
BTU	992	1629	2047	2109	845
Temperature <sup>(i)</sup>	10 - 40°C / 50 - 104°F (Operating) -40 - 65°C / -40 - 149°F (Storage)	10 - 40°C / 50 - 104°F (Operating) -40 - 65°C / -40 - 149°F (Storage)	10 - 40°C / 50 - 104°F (Operating) -40 - 65°C / -40 - 149°F (Storage)	10 - 40°C / 50 - 104°F (Operating) -40 - 65°C / -40 - 149°F (Storage)	10 - 35°C / 50 - 95°F (Operating) -40 - 70°C / -40 - 158°F (Storage)
Relative Humidity <sup>(ii)</sup>	20 - 80% non-condensing (Operating) 5 - 95% non-condensing (Storage)	20 - 80% non-condensing (Operating) 5 - 95% non-condensing (Storage)	20 - 80% non-condensing (Operating) 5 - 95% non-condensing (Storage)	20 - 80% non-condensing (Operating) 5 - 95% non-condensing (Storage)	50 - 90%, non-condensing with a maximum wet bulb of 28°C (at temperatures from 25 - 35°C) <sup>(iv)</sup>
Operating Acoustic noise (typical)	62dBA	65dBA	65dBA	65dBA	7.0 BA (Operating condition in typical office ambient temperature: 23 + / - 2° C)
System Dimensions (LxWxH) <sup>(iii)</sup>	25.4" (L) x 17.2" (W) x 1.71" (H) 645.4 mm (L) x 436 mm (W) x 43.5 mm (H)	25.4" (L) x 17.2" (W) x 3.43" (H) 645.4 mm (L) x 436 mm (W) x 87.1 mm (H)	25.4" (L) x 17.2" (W) x 3.43" (H) 645.4 mm (L) x 436 mm (W) x 87.1 mm (H)	25.4" (L) x 17.2" (W) x 3.43" (H) 645.4 mm (L) x 436 mm (W) x 87.1 mm (H)	27.87" (L) x 17.24" (W) x 3.45" (H) 707.8 mm (L) x 438 mm (W) x 87.6 mm (H)
Packaging Dimensions (LxWxH) <sup>(iii)</sup>	36.25" (L) x 23.38" (W) x 12.5" (H) 920.8 mm (L) x 593.7 mm (W) x 317.5 mm (H)	36.25" (L) x 23.38" (W) x 12.5" (H) 920.8 mm (L) x 593.7 mm (W) x 317.5 mm (H)	36.25" (L) x 23.38" (W) x 12.5" (H) 920.8 mm (L) x 593.7 mm (W) x 317.5 mm (H)	36.25" (L) x 23.38" (W) x 12.5" (H) 920.8 mm (L) x 593.7 mm (W) x 317.5 mm (H)	36" (L) x 24" (W) x 14" (H) 914.4 mm (L) x 609.6 mm (W) x 355.6 mm (H)
Max Weight (without packaging)	36 Lbs 16.33 Kg	48 Lbs 21.77 Kg	60 Lbs 27.22 Kg	60 Lbs 27.22 Kg	43 Lbs 19.50 Kg
Rail Information	Mounting rail kit included orderable spare Part Number: RMK-2-EXPRAIL	Mounting rail kit included orderable spare Part Number: RMK-2-EXPRAIL	Mounting rail kit included orderable spare Part Number: RMK-2-EXPRAIL	Mounting rail kit included orderable spare Part Number: RMK-2-EXPRAIL	Mounting rail kit included orderable spare Part Numbers: RMK-1-VRAIL, RMK-1-PRAIL

(i) Operating altitude up to 10,000 feet except in China 6,562 feet (2,000m)

(ii) In China- for use in non-tropical locations

(iii) Length is without bezel

(iv) Shipping Humidity Spec for SFCR-3500 model

The availability, export or re-export of these products or specific features are subject to the export laws and regulations of the U.S., EU, Singapore, and the laws and regulations of any applicable foreign agency or authority.

### About Riverbed

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