

# SteelFusion Solutions

## Model Specifications: SteelFusion™ Edge Appliances

Model	SteelFusion Edge 2100 - 4Core / 32GB / 1TB				SteelFusion Edge 2200 - 4Core / 48GB / 2TB				SteelFusion Edge 3100 - 6Core / 64GB / 4TB				SteelFusion Edge 3200 - 12Core / 128GB / 8TB				SteelFusion Edge 5100 - 20Core / 256GB / 16TB		
Configuration	W0	W1	W2	W3	W0	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	W1 / W2 / W3	W2 / W3	W3	-	W1 / W2 / 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>1</sup>				RAID 1 <sup>1</sup>				RAID 10 <sup>1</sup>				RAID10 <sup>1</sup>				RAID10 <sup>1</sup>		
Hot Swappable Drives	4				4				8				12				12		
Total CPU	8Cores				8Cores				12Cores				18Cores				26Cores		
Total RAM	48GB / 80GB <sup>18</sup>				64GB / 112GB <sup>18</sup>				112GB / 176GB <sup>18</sup>				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 2.1GHz
CPU	4Cores	4Cores	6Cores	12Cores	20Cores
Memory	32GB <sup>2</sup> / 64GB <sup>18</sup>	48GB <sup>2</sup> / 96GB <sup>18</sup>	64GB <sup>2</sup> / 128GB <sup>18</sup>	128GB <sup>2</sup>	256GB <sup>2</sup>

### Storage Resources

Advanced Tiering Cache (SSD Read Cache)	N / A	N / A	430GB	590GB	1190GB
BlockStore (HDD)	~ 750GB <sup>3</sup>	~ 1500GB <sup>3</sup>	~ 3500GB <sup>3</sup>	~ 7400GB <sup>3</sup>	~ 15200GB <sup>3</sup>

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Configuration	W0	W1	W2	W3	W0	W1	W2	W3	W0	W1	W2	W3	W0	W1	W2	W3	W0	W1	W2	
<b>WAN Optimization</b>																				
Data Store Capacity (SSD)	170GB				170GB				280GB				280GB				320GB			
Optimized WAN Capacity <sup>4</sup>	20 Mbps	20 Mbps	30 Mbps	50 Mbps	20 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 Connecitons and UDP Flows	N / A	1,500	2,500	5,000	N / A	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	N / A	100 Mbps	150 Mbps	250 Mbps	N / A	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 - WAN Capacity <sup>5</sup>	N / A	100 Mbps	150 Mbps	250 Mbps	N / A	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>6</sup>	N / A	16,000			N / A	16,000			N / A	48,000			N / A	48,000			N / A	48,000		
Network Services - Rules / Classes <sup>7</sup>	1,000				1,000				2,000				2,000				2,000			
<b>Expansion Slots / Ports - RiOS / BlockStream Node</b>																				
Expansion Slots (PCI-e)	2 <sup>8</sup>				2 <sup>8</sup>				4 <sup>9</sup>				4 <sup>9</sup>				4 <sup>9</sup>			
Included Bypass Ports (Copper) <sup>9</sup>	4				4				4				4				4			
Included Non-Bypass Ports (Copper) <sup>10</sup>	4				4				4				4				4			
Max. # of Ports	8x 1GbE (BP) or 4x 1GbE (BP) and 2x 10GbE (BP) or 4x 1GbE (BP) and 4x 10GbE (Non-BP) <sup>8</sup>				8x 1GbE (BP) or 4x 1GbE (BP) and 2x 10GbE (BP) or 4x 1GbE (BP) and 4x 10GbE (Non-BP) <sup>8</sup>				16x 1GbE (BP) or 4x 1GbE (BP) and 6x 10GbE (BP) or 4x 1GbE (BP) and 12x 10GbE (Non-BP) <sup>8</sup>				16x 1GbE (BP) or 4x 1GbE (BP) and 6x 10GbE (BP) or 4x 1GbE (BP) and 12x 10GbE (Non-BP) <sup>8</sup>				16x 1GbE (BP) or 4x 1GbE (BP) and 6x 10GbE (BP) or 4x 1GbE (BP) and 12x 10GbE (Non-BP) <sup>8</sup>			
<b>Expansion Slots / Ports - Hypervisor Node</b>																				
Expansion Slots (PCI-e)	0				0				2 <sup>9</sup>				2 <sup>9</sup>				2 <sup>9</sup>			
Included Bypass Ports (Copper)	None				None				None				None				None			
Included Non-Bypass Ports (Copper)	4				4				4				4				4			
Max. # of Ports <sup>11</sup>	None				None				8x 1GbE or 4x 1GbE and 4x 10GbE or 8x 10GbE				8x 1GbE or 4x 1GbE and 4x 10GbE or 8x 10GbE				8x 1GbE or 4x 1GbE and 4x 10GbE or 8x 10GbE			
<b>High Availability Configuration (2 Appliances)</b>																				
Hypervisor CPU	8Cores				8Cores				12Cores				24Cores				40Cores			
Hypervisor Memory	64GB <sup>2</sup>				96GB <sup>2</sup>				128GB <sup>2</sup>				256GB <sup>2</sup>				512GB <sup>2</sup>			
BlockStore (HDD)	~ 750GB <sup>3</sup>				~ 1500GB <sup>3</sup>				~ 3500GB <sup>3</sup>				~ 7400GB <sup>3</sup>				~ 15200GB <sup>3</sup>			

- RAID configuration for HDD, Fault Tolerant Striped (FTS) configuration for SSD
- 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>
- This is the maximum BlockStore space. For more details, see the "SteelFusion Edge Installation and Configuration Guide"
- The WAN capacity limit is enforced on outbound optimized traffic. Inbound optimized WAN traffic is not capped
- Maximum outbound WAN throughput
- Inclusive of all optimized and / or managed flows
- Maximum number of classes plus rules
- BP= Bypass Ports; Non-BP= Non- Bypass ports
- Included via PCIe Slot NIC
- On motherboard, not via PCIe Slot NIC
- Ports on PCIe NIC only, does not include on-motherboard ports
- With add-on memory kits

NOTE: All WAN capacity / bandwidth, TCP connections and UDP flows, and QoS specifications listed are maximums and may not be achieved in all environments.

## Model Specifications: SteelFusion Core Appliances

Model	VGC 1000 Series			VGC 1500 Series		VSFC 2500 Series					SFCR 3500 Series		
Configuration	U	L	M	L	M	C1	C2	C3	C4	C5	C1	C2	C3
Profile	Virtual			Virtual		Virtual					2U		
Upgradeable to	VGC 1000-L / M	VGC 1000-M	-	VGC 1500-M	-	VSFC 2500-C2-C5	VSFC 2500-C3-C5	VSFC 2500-C4-C5	VSFC 2500-C5	-	SFCR 3500 C2 / C3	SFCR 3500 C3	-
Number of Volumes <sup>19</sup>	10	20	40	60 <sup>16,17</sup>	60 <sup>16,17</sup>	20	60 <sup>16,17</sup>	160 <sup>16,17</sup>	250 <sup>16,17</sup>	300 <sup>16,17</sup>	200	250	300
Number of branches <sup>20</sup>	5	10	20	30	30	10	30	80	125	150	100	125	150
Block mode Capacity Data set size <sup>12</sup>	2TB	5TB	10TB	20TB	35TB	5TB	20TB	40TB	75TB	100TB	25TB	50TB	100TB
File mode (NFS) Capacity Data set size	N / A			10TB	20TB	2TB	10TB	20TB	35TB	50TB	15TB	30TB	50TB
Cores	2 <sup>13</sup>	4 <sup>13</sup>	8 <sup>13</sup>	8 <sup>13</sup>	12 <sup>13</sup>	4 <sup>13</sup>	8 <sup>13</sup>	12 <sup>13</sup>	16 <sup>13</sup>	20 <sup>13</sup>	12		
RAM	2GB <sup>14</sup>	4GB <sup>14</sup>	8GB <sup>14</sup>	32GB <sup>14</sup>	48GB <sup>14</sup>	10GB <sup>14</sup>	36GB <sup>14</sup>	72GB <sup>14</sup>	136GB <sup>14</sup>	180GB <sup>14</sup>	256GB		
Total HDD Storage	N / A			N / A		N / A					4 * 1TB		
Expansion Slots (PCI-e)	N / A			N / A		N / A					6 <sup>15</sup>		
Included Ports (Copper)	N / A			N / A		N / A					4		
Max. # of Ports	N / A			N / A		N / A					24 x 1GbE or 12 x 10GbE or mix /match 1GbE and 10GbE		

12. Capacity licensed based on sum of capacities of LUNs projected to edges

13. Recommended CPUs @2.2GHz or higher

14. Recommended RAM assigned

15. Only non-bypass NICs are supported / required on the SteelFusion Core appliance

16. Number of supported LUNs connected using fibre channel (Blockdisk) is 59

17. Number of supported LUNs if virtual cores are setup in high availability mode and connected using fibre channel (Blockdisk) is 45

19. Volumes refers to LUNs for block mode (FC and iSCSI) and exports for NFS - file mode

20. Assumes 2 LUNs per branch

## Power and Physical Specifications

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>22</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>21</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>24</sup>
Operating Acoustic noise (typical)	62dBA	65dBA	65dBA	65dBA	70dBA (Operating condition in typical office ambient temperature: 23 + / - 2°C)
System Dimensions (LxWxH) <sup>23</sup>	25.4" (H) x 17.2" (W) x 1.71" (D) 645.4 mm (H) x 436 mm (W) x 43.5 mm (D)	25.4" (H) x 17.2" (W) x 3.43" (D) 645.4 mm (H) x 436 mm (W) x 87.1 mm (D)	25.4" (H) x 17.2" (W) x 3.43" (D) 645.4 mm (H) x 436 mm (W) x 87.1 mm (D)	25.4" (H) x 17.2" (W) x 3.43" (D) 645.4 mm (H) x 436 mm (W) x 87.1 mm (D)	27.87" (H) x 17.24" (W) x 3.45" (D) 707.8 mm (H) x 438 mm (W) x 87.6 mm (D)
Packaging Dimensions	36.25" (H) x 23.38" (W) x 12.5" (D) 920.8 mm (H) x 593.7 mm (W) x 317.5 mm (D)	36.25" (H) x 23.38" (W) x 12.5" (D) 920.8 mm (H) x 593.7 mm (W) x 317.5 mm (D)	36.25" (H) x 23.38" (W) x 12.5" (D) 920.8 mm (H) x 593.7 mm (W) x 317.5 mm (D)	36.25" (H) x 23.38" (W) x 12.5" (D) 920.8 mm (H) x 593.7 mm (W) x 317.5 mm (D)	36" (H) x 24" (W) x 14" (D) 914.4 mm (H) x 609.6 mm (W) x 355.6 mm (D)
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

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

22. In China-for use in non-tropical locations

23. Length is without bezel

24. Shipping humidity spec for SFCR-3500 model

NOTE: 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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