

SteelHead Product Family

Riverbed® SteelHead™

Model Specifications

SteelHead CX

	Branch Office SteelHead				Mid-Size Office SteelHead					
Model	CX255 Series				CX570 Series			CX770 Series		
Configurations	U	L	M	H	L	M	H	L	M	H
Profile	Desktop									
Upgradeable to	255 L/M/H	255 M/H	255 H	-	570 M/H	570 H	-	770 M/H	770 H	-
Optimized TCP Connections & UDP Flows	50	75	150	230	275 ³	450 ³	700 ³	1,000 ³	1,500	2,500 ³
Optimized SSL/TLS Connections										
Optimized WAN Capacity¹	2 Mbps	6 Mbps			10 Mbps ³	10 Mbps		20 Mbps ³		30 Mbps ³
Network Services – WAN Capacity²	10 Mbps ³	30 Mbps ³			50 Mbps ³			100 Mbps ³		150 Mbps ³
Network Services – Flows⁴	8,000				8,000			16,000		
Network Services – Rules/Classes⁵	300				500			1,000		
Data Store Capacity	50 GB				70 GB SSD			150 GB SSD		
Web Proxy Cache Capacity	50 GB				50 GB			50 GB		100 GB ¹¹
Storage Fault Tolerance	-				-			-		
Hot Swappable Drives	-				-			-		
RAM¹⁰	2 GB				2 GB			4 GB		
Expansion Slots (PCI-e)⁷	-				-			-		
Included Bypass Ports (Copper)	2				4			4		
Max. # of Bypass Ports	2				4			4		
SteelHead SD Capable	No				Yes			Yes		

NOTE: SD Capable includes SteelHead SD for SD-WAN and SteelHead SD Ready for software-upgradeable SD-WAN.

Riverbed® SteelHead™

Model Specifications

SteelHead CX

	Large Office or Data Center SteelHead							
Model	CX3070 Series			CX5070Series		CX7070 Series		
Configuration	L	M	H	M	H	L	M	H
Profile	1U			2U				
Upgradeable to	3070 M/H	3070 H	-	5070 H	-	7070 M/H	7070 H	-
Optimized TCP Connections & UDP Flows	3,000	6,000	9,000	16,000	30,000	80,000	110,000	180,000
Optimized SSL/TLS Connections	50 Mbps	100 Mbps		200 Mbps	400 Mbps	622 Mbps	1 Gbps	2 Gbps ^{8,9}
Network Services – WAN Capacity ²	250 Mbps	500 Mbps		Unrestricted				
Network Services – Flows ⁴	48,000			96,000		192,000	256,000	512,000
Network Services – Rules/Classes ⁵	2,000			4,000				
Data Store Capacity	320 GB SSD			960 GB SSD		1.8 TB SSD	2.4 TB SSD	4.8 TB SSD
Web Proxy Cache Capacity	200 GB			300 GB		400 GB		
Storage Fault Tolerance	RAID ⁶			RAID ⁶				
Hot Swappable Drives	4			8		8	10	18
RAM ¹⁰	12 GB			24 GB		48 GB	64 GB	128 GB
Expansion Slots (PCI-e) ⁷	2			4				
Included Bypass Ports (Copper)	4			4				
Max. # of Bypass Ports	12			20				
SteelHead SD Capable	Yes			No				

- Optimized WAN capacity limit is enforced on outbound optimized traffic. Inbound optimized WAN traffic is not capped
- Maximum outbound WAN throughput. For SteelHead SD models the WAN capacity is equivalent to VPN throughput performance. Full VPN throughput spec for SteelHead SD 3070M/H models may not be achievable in all environments
- RiOS 8.6.2b or later
- Inclusive of all optimized and/or managed flows
- Maximum number of classes plus rules. Not applicable to SteelHead SD models
- RAID1 configuration for HDD, Data store uses fault tolerant striped (FTS) configuration for SSD

- Optional Network Bypass cards: Dual and Quad LX and SX GigE Fiber GigE, Quad Copper GigE, 10GbE SR/LR
 - No enforced optimized WAN bandwidth limit
 - 7070-H WAN capacity is specified at up to 2 Gbps for branch-to-data Center workloads and up to 3 Gbps for data center-to-data center workloads
 - SteelHead SD models have a larger RAM size: CX 570 = 8GB, CX 770 = 12GB, CX 3070 = 16GB
 - SteelHead SD model 770H Web Proxy Cache Capacity is 50GB
- NOTE: All WAN capacities, connections, flows and rules/classes specifications listed are maximums and may not be achieved simultaneously and/or in all environments

Riverbed® SteelHead™

Power and Physical Specifications

SteelHead CX

	Branch Office SteelHead	Mid-Size Office SteelHead		Large Office or Data Center SteelHead		
Model	CX255 Series	CX570 Series	CX770 Series	CX3070 Series	CX5070 Series	CX7070 Series
Dual Power Supplies	-	-		✓	✓	
Power (Watts) Typical	30	45	50	123	233	416
BTU	102	145	165	418	794	1419
Temperature ²	0-45°C / 32-113°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 ¹	20%-80%, non-condensing (Operating) 5%-95%, non-condensing (Storage)			20%-80%, non-condensing (Operating) ⁴ 50%-80%, non-condensing (Storage) ⁵		

SteelHead CX

	Branch Office SteelHead	Mid-Size Office SteelHead		Large Office or Data Center SteelHead		
Model	CX255 Series	CX570 Series	CX770 Series	CX3070 Series	CX5070 Series	CX7070 Series
Operating Acoustic Noise (Typical)	45 dBA			7.0 BA (operating condition in typical office ambient temperature: 23 +/- 2°C)		
System Dimensions (LxWxH) ³	13.0" x 8.0" x 1.73" 330 x 204 x 44mm			25.21" x 17.24" x 1.7" 640.43 x 438 x 43.2mm	27.87" x 17.24" x 3.45" 707.8 x 438 x 87.6 mm	
Packaging Dimensions	17.7" x 12.2" x 7" 450 x 310 x 180 mm			36" x 24" x 13" 914.4 x 609.6 x 330.2 mm	36" x 24" x 14" 914.4 x 609.6 x 355.6 mm	
Weight (without packaging)	5.5 lbs 2.4 kg	6 lbs 2.7 kg		27 lbs 12.25 kg	41 lbs 18.59 kg	42 lbs 19.05 kg
Rail Information	Included spare part RMK-010, Orderable RMK-016			Mounting Rail Included Orderable Spare Part Numbers: RMK-1-VRAIL, RMK-1-PRAIL		

1. Operating altitude up to 10,000 feet except in China 6,562 feet (2,000m)
2. In China – for use in non-tropical locations
3. Length is without bezel

4. Max dew point of 21° C / 69.8° F
 5. Maximum wet bulb of 28° C / 82.4° F (at temperatures from 25-35° C / 77 – 95° F)
- 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

Riverbed® SteelHead™

Model Specifications

SteelHead GX

	Large Office / Data Center SteelHead
Model	GX 10000
Profile	2U
Optimized TCP Connections & UDP Flows	270,000
Optimized SSL/TLS Connections	
Optimized WAN Capacity ¹	10 Gbps
Network Services – WAN Capacity ²	10 Gbps
Network Services – Flows ³	768,000
Network Services – Rules/Classes ⁴	4,000
Data Store Capacity	9.6 TB SSD
Web Proxy Cache Capacity	400 GB
Storage Fault Tolerance	RAID ⁵
Hot Swappable Drives	12
RAM	256 GB
Expansion Slots (PCI-e)	4
Max. # Bypass Ports (10 Gbps ports)	8 (4 Segments) ⁷
SteelHead SD Capable	No

1. Optimized WAN capacity limit is enforced on outbound optimized traffic. Inbound optimized WAN traffic is not capped. Total system measured system capacity is 25 Gbps (this is the total of LAN and WAN bandwidth added together)
2. Maximum outbound WAN throughput is capped at 10 Gbps
3. Inclusive of all optimized and/or managed flows
4. Maximum number of classes plus rules

5. RAID1 configuration for HDD, Data store uses fault tolerant striped (FTS) configuration for SSD
 6. Optional Network Bypass cards: Dual 10 GbE SR and / or LR
 7. Total of four 2 port 10 GbE Bypass NICs
- NOTE: All WAN capacities, connections, flows and rules/classes specifications listed are maximums and may not be achieved simultaneously and/or in all environments

Riverbed® SteelHead™

Power and Physical Specifications

SteelHead GX

	Large Office / Data Center SteelHead
Model	GX 10000
Dual Power Supplies	Yes
Power (Watts) Typical	437
BTU	1,490
Temperature¹	10-35°C / 50-95°F (Operating) -40-70°C / -40-158°F (Storage)
Relative Humidity²	20%-80%, non-condensing (Operating) ³ 50%-90%, non-condensing (Storage) ⁴
Operating Acoustic Noise (Typical)	45 dBA
System Dimensions (LxWxH)⁵	31.25" x 17.25" x 3.5" 793.8 x 439 x 89mm
Packaging Dimensions	37" x 24" x 11" 939.8 x 609.6 x 279.4mm
Max Weight (without packaging)	46 lbs 20.87 kg
Rail Information	Mounting Rail Kit Included Orderable Spare Part Number: RMK-1-VRAIL

1. In China – for use in non-tropical locations
2. Operating altitude up to 10,000 feet except in China 6,562 feet (2,000m)
3. Max dew point of 21° C / 69.8°F
4. Maximum wet bulb of 28°C / 82.4°F (at temperatures from 25-35°C / 77 – 95°F)
5. Length is without bezel

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

Riverbed® SteelHead™

Model Specifications

SteelHead CX for Virtual

Model	VCX255				VCX555			VCX755			VCX1555			
	U	L	M	H	L	M	H	L	M	H	L	M	H	
Optimized WAN Capacity	2 Mbps	6 Mbps			6 Mbps	10 Mbps		10 Mbps		20 Mbps	50 Mbps		100 Mbps ³	
Optimized TCP and UDP Flows	50	75	150	230	250	400	650	900	1,500	2,300	3,000	4,500	6,000	
QoS Bandwidth¹	4 Mbps	12 Mbps			12 Mbps	20 Mbps		45 Mbps			100 Mbps			
QoS Rules/Classes²	No Published Limit (global QoS limit of 2,000 rules and 2,000 classes)													
Disk Capacity Advised	88 GB				118 GB			140 GB		188 GB		438 GB		
Max Data Store Capacity	50 GB				80 GB			102 GB		150 GB		400 GB		
Virtual CPUs Required (min)	1 x 1.0 Ghz				1 x 1.2 Ghz			2 x 1.2 Ghz			4 x 1.2 Ghz			
Reserved Memory Required	2 GB				2 GB			2 GB		4 GB		8 GB		

Riverbed® SteelHead™

Model Specifications

SteelHead CX for Virtual

Model	VCX5055		VCX7055	
	M	H	L	M
Configurations				
Optimized WAN Capacity	200 Mbps ³	400 Mbps ³	622 Mbps ³	1 Gbps ³
Optimized TCP and UDP Flows	14,000	25,000	75,000	100,000
QoS Bandwidth ¹	Unlimited			
QoS Rules/Classes ²	No Published Limit (global QoS limit of 2,000 rules and 2,000 classes)			
Disk Capacity Advised	722 GB		1778 GB	2418 GB
Max Data Store Capacity	8 x 80 GB		10 x 160 GB	14 x 160 GB
Virtual CPUs Required (min)	12 x 1.2 Ghz		16 x 1.2 Ghz	24 x 1.2 Ghz
Reserved Memory Required	16 GB		32 GB	48 GB

Riverbed® SteelHead™

Monthly Subscription Models

SteelHead CX for Virtual

Model	VCX-10	VCX-20	VCX-30	VCX-40	VCX-50	VCX-60	VCX-70	VCX-80	VCX-90
Optimized WAN Capacity	2 Mbps	5 Mbps	10 Mbps	20 Mbps	50 Mbps	100 Mbps	200 Mbps	500 Mbps	1000 Mbps
Optimized TCP and UDP Flows	50	200	500	1,000	2,000	5,000	12,000	50,000	100,000
Network Services	10 Mbps	25 Mbps	50 Mbps	100 Mbps	250 Mbps	500 Mbps	Unrestricted		
Disk Capacity Advised ⁴	70	100	120	176	438	438	870	1,686	2,358
Max Data Store Capacity	50	80	100	150	400	400	800	1,600	2,240
Management Disk	20	20	20	26	38	38	70	86	118
Maximum Web Proxy	200 GB	200 GB	400 GB	400 GB	800 GB	800 GB	800 GB	800 GB	800 GB
Virtual CPUs Required (min)	1	1	2	4	4	4	6	12	24
Reserved Memory Required	2 GB	2 GB	2 GB	4 GB	8 GB	8 GB	24 GB	32 GB	48 GB

1. Recommended maximum outbound QoS shaping capacity

2. Total of classes plus rules

3. SSD or other high IOPS storage medium required for VCX1555/5055/7055 models and VCX-30 to VCX-90 models

4. Without web-proxy activated

Available H/W NIC options are NIC-001-2TX (2 port copper), NIC-002-4TX (4 port copper), NIC-008-2SR (2 port multimode fiber)

Hyper-V is supported only for Models up to VCX 1555H (100Mbps) on Windows Server 2012 and Hyper-V Server 2012 running RiOS 8.0.3 and later

The Riverbed network bypass card is not supported on Hyper-V

NOTE: Virtual SteelHead guests must run at least RiOS 6.1 or later, and support vSphere 4.0 or later release, using ESX/ESXi 4.0 or later. RiOS 6.5.x and later support ESXi 4.1. RiOS 6.5.2 and later support ESXi 5.0. RiOS 8.6.0 and later support ESXi 5.1. Please refer to the VMware system compatibility guide for servers supported with these VSphere/ESX/ESXi releases

Riverbed network bypass cards NIC-001-2TX, NIC-002-4TX, and NIC-003-4TX are supported by Virtual SteelHead guests running RiOS 7.0.1 or later

Riverbed network bypass cards are supported only on ESXi 4.1 and up for all current RiOS releases

Riverbed network bypass cards NIC-008-2SR is supported by Virtual SteelHead guests on ESXi running RiOS 8.6.0 or later

NOTE: All WAN capacity / bandwidth, TCP connections and UDP flows, and QoS specifications listed are maximums and may not be achieved in all environments. The WAN capacity limit is enforced on outbound optimized traffic. Inbound optimized WAN traffic is not capped

Riverbed® SteelHead™

Model Specifications

SteelHead CX for Amazon Web Services Cloud

Model	CCX PERF-TIER1	CCX PERF-TIER2	CCX PERF-TIER3	CCX PERF-TIER4	CCX PERF-TIER4-H	CCX PERF-TIER5	CCX PERF-TIER5-H
Optimized WAN Capacity¹	10 Mbps	50 Mbps	200 Mbps	500 Mbps		1 Gbps	
Optimized TCP Connections²	1,250	4,500	9,000	1,000	30,000	1,000	50,000
Total Elastic Block Store (EBS) Volume Size	430 GB			960 GB		2.4 TB	
Amazon Machine Instance (AMI) Size³	m3.large		m3.xlarge	m4.4xlarge		m4.10xlarge	

1. Optimized WAN capacity-inbound and outbound
2. Optimized WAN capacity and TCP connections are limited up to the listed amounts
3. CPU and memory capacity are fixed for any Amazon Machine Instance (AMI) size

Riverbed® SteelHead™

Model Specifications

SteelHead CX for VMware ESX Cloud

Model	CCX PERF-TIER1	CCX PERF-TIER2	CCX PERF-TIER3	CCX PERF-TIER4	CCX PERF-TIER4-H	CCX PERF-TIER5	CCX PERF-TIER5-H
Optimized WAN Capacity¹	10 Mbps	50 Mbps	200 Mbps	N / A			
Optimized TCP Connections²	1,250	4,500	9,000	N / A			
Disk Capacity Required	430 GB			N / A			
Virtual CPUs Required	2 x 1.2 Ghz	4 x 1.2 Ghz	4 x 2.2Ghz	N / A			
Reserved Memory Required	3 GB	8 GB	14 GB	N / A			

1. Optimized WAN capacity-inbound and outbound
2. Optimized WAN capacity and TCP connections are limited up to the listed amounts

Riverbed® SteelHead™

Model Specifications

SteelHead CX for Microsoft Azure Cloud

Model	CCX PERF-TIER1	CCX PERF-TIER2	CCX PERF-TIER3	CCX PERF-TIER4	CCX PERF-TIER4-H	CCX PERF-TIER5	CCX PERF-TIER5-H
Optimized WAN Capacity¹	10 Mbps	50 Mbps	200 Mbps	500 Mbps		1 Gbps	
Optimized TCP Connections²	1,250	4,500	9,000	1,000	30,000	1,000	50,000
Total Azure Blob Storage Volume Size	430 GB			1.2 TB		2.4 TB	
Azure Target	A2	A3	D3 v2	D14 v2		D15 v2	

1. Optimized WAN capacity-inbound and outbound
2. Optimized WAN capacity and TCP connections are limited up to the listed amounts

Riverbed® SteelHead™

Model Specifications

SteelHead Interceptor, SteelCentral™ Controller for SteelHead or SCC (formerly Central Management Console or CMC), SteelCentral Controller for SteelHead Mobile or SCCM (formerly SteelHead Mobile Controller or SMC)

	Data Center	Management	
Model	INT9600	SCC1000	SMC9000
Profile	2U	1U	
Effective LAN Throughput	40 Gbps ^{1,2}	-	
Storage Fault Tolerance	RAID	-	
Front Swappable Drives	2 ³	2 ⁵	
RAM	32 GB		16 GB
Expansion Slots (PCI-e)	6 ⁴	-	
Included Bypass Ports (Copper)	4	-	
Max. # of Bypass Ports	24	-	
Max. # of Manageable Appliances	-	2,000	-

- All LAN capacity, bandwidth, and TCP connections listed are maximums and may not be achieved in all environments
- Requires 5 or greater 10G in-path interfaces and xbridge enabled
- Hot swappable disks

- Optional Network Bypass cards: Dual and Quad LX and SX GigE Fiber GigE, Quad Copper GigE, Dual 10GbE SR/LR
- Internal hard disks

Riverbed® SteelHead™

Power and Physical Specifications

SteelHead Interceptor, SteelCentral Controller for SteelHead or SCC (formerly Central Management Console or CMC), SteelCentral Controller for SteelHead Mobile or SCCM (formerly SteelHead Mobile Controller or SMC)

	Data Center	Management	
Model	INT9600	SCC1000	SMC9000
Dual Power Supplies	✓	-	
Power (Watts) Typical	227	50	
BTU	774	165	
Temperature ²	10-35°C / 50-95°F (Operating) -40-70°C / -40-158°F (Storage)	0-45°C / 32-113°F (Operating) -40-65°C / -40-149°F (Storage)	
Relative Humidity ¹	50%-90%, non-condensing with a maximum wet bulb of 28°C (at temperatures from 25 to 35°C) ⁴	20%-80%, non-condensing (Operating) 5%-90%, non-condensing (Storage)	
Operating Acoustic Noise	7.0 BA (Operating condition in typical office ambient temperature: 23 +/- 2°C)	45 dBA	
System Dimensions (LxWxH) ³	27.87" x 17.24" x 3.45" 707.8 x 438 x 87.6mm	13.0" x 8.0" x 73" 330 x 204 x 44mm	
Packaging Dimensions	36" x 24" x 14" 914.4 x 609.6 x 355.6mm	17.7" x 12.2" x 7" 450 x 310 x 180mm	
Max Weight (without packaging)	40 lbs 18.14 kg	6 lbs 2.7 kg	
Rail Information	Mounting Rail Kit Included Orderable Spare Part Numbers: RMK-1-VRAIL, RMK-1-PRAIL	Included Spare Part RMK-010 Orderable RMK-016	

- Operating altitude up to 10,000 feet except in China 6,562 feet (2,000m)
- In China – for use in non-tropical locations
- Length is without bezel

- Shipping Humidity Spec for CXA-xxx70/INT9600 models
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. and the laws and regulations of any applicable foreign agency or authority

Riverbed® SteelHead™

System Requirements

SteelHead Mobile

Model	Version 4.8	Version 5.0/higher
Operating System	Windows 7 (32 and 64 bit), Windows 8 (32 and 64 bit), Windows 8.1 (64 bit), Windows 10 (32 and 64 bit), macOS 10.8, 10.9, 10.10	Windows 7 (32 and 64 bit), Windows 8 (32 and 64 bit), Windows 8.1 (64 bit), Windows 10 (32 and 64 bit), macOS 10.8, 10.9, 10.10, 10.11 and 10.12
CPU	1 GHz or higher	1 GHz or higher
Memory	2 GB or higher	2 GB or higher
Data Store	256 MB free disk space (min. required)	256 MB free disk space (min. required)
VSP CPU & Memory Requirements	Minimum 1 CPU (1 GHz or higher) & 3 GB or higher	Minimum 1 CPU (1 GHz or higher) & 3 GB or higher
SteelHead Appliance¹	Minimum 1 Physical (CX), Virtual (VCX) or Cloud SteelHead (CCX) needed on Server Side	Minimum 1 Physical (CX), Virtual (VCX) or Cloud SteelHead (CCX) needed on Server Side
SteelCentral Controller for Mobile SteelHead – SCCM (Formerly SMC)	Required: Either SteelHead Mobile Controller Appliance or SteelHead Mobile Controller Virtual Edition	Required: Either SteelHead Mobile Controller Appliance or SteelHead Mobile Controller Virtual Edition

Riverbed® SteelHead™

Software Specifications

SteelHead Mobile

Model	SteelHead Mobile
Concurrent Clients Supported per SCCM	20,000 (SMC9000) / 4,000 (SMC-Virtual Edition) ⁴
Concurrent Clients Supported with SCCM Cluster²	(Number of SMC9000s x 20,000) or (Number of SMC8650s/SMC-Virtual) x 4,000
VPN Compatibility³	Cisco, Juniper, OpenVPN, Microsoft, Citrix, Array, Checkpoint, F5, Dell Sonicwall Aventail, Fortinet, NetMotion Mobile VPN, Apple VN, Palo Alto Global Protect (version 4.7 onwards)

1. At least one SteelHead appliance is required. Recommend running RiOS version 8.6 or higher on it
2. SCCMs (SMCs) can operate in clustered mode to support additional SteelHead Mobile clients. A cluster can have a mix of SMC8650 and SMC9000 models but is not recommended. Up to 100,000 concurrent clients can be supported by minimum of 5 SMC9000s and up to 20,000 concurrent clients can be supported by a cluster of 5 SMC 8650s
3. VPN compatibility may be impacted by vendor software version, client configuration, and other factors
4. Up to 100 clients for Riverbed RSP/VSP platforms; Up to 4000 clients for VMWare ESX and Microsoft Hyper-V platforms. Please refer to the SteelHead Mobile Installation Guide for details on VM resource requirements.

NOTE: SMC9000 is supported on SHM 4.5.1 and later versions only

About Riverbed

Riverbed Technology, Inc. enables organizations to modernize their networks and applications with industry-leading SD-WAN, application acceleration, and visibility solutions. Riverbed's platform allows enterprises to transform application and cloud performance into a competitive advantage by maximizing employee productivity and leveraging IT to create new forms of operational agility. At more than \$1 billion in annual revenue, Riverbed's 28,000+ customers include 97% of the *Fortune* 100 and 98% of the *Forbes* Global 100. Learn more at riverbed.com.

