

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	255L/M/H	255M/H	255H	-	570M/H	570H	-	770M/H	770H	-
Optimized TCP Connections and 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 Capacity ⁴	2Mbps	6Mbps			10Mbps ³	10Mbps		20Mbps ³		30Mbps ³
Network Services – WAN Capacity ²	10Mbps ³	30Mbps ³			50Mbps ³			100Mbps ³		150Mbps ³
Network Services – Flows ⁴	8,000				8,000			16,000		
Network Services – Rules/Classes ⁵	300				500			1,000		
Data Store Capacity	50GB				70GB SSD			150GB SSD		
Web Proxy Cache Capacity	50GB				50GB			50GB	100GB ¹¹	
Storage Fault Tolerance	-				-			-		
Hot Swappable Drives	-				-			-		
RAM ¹⁰	2GB				2GB			4GB		
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			CX5070 Series		CX7070 Series		
Configuration	L	M	H	M	H	L	M	H
Profile	1U			2U				
Upgradeable to	3070M/H	3070H	-	5070H	-	7070M/H	7070H	-
Optimized TCP Connections and UDP Flows	3,000	6,000	9,000	16,000	30,000	80,000	110,000	180,000
Optimized SSL/TLS Connections								
Optimized WAN Capacity ¹	50Mbps	100Mbps		200Mbps	400Mbps	622Mbps	1Gbps	2Gbps ^{8,9}
Network Services – WAN Capacity ²	250Mbps	500Mbps		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	320GB SSD			960GB SSD		1.8TB SSD	2.4TB SSD	4.8TB SSD
Web Proxy Cache Capacity	200GB			300GB		400GB		
Storage Fault Tolerance	RAID ⁶			RAID ⁶				
Hot Swappable Drives	4			8		8	10	18
RAM ¹⁰	12GB			24GB		48GB	64GB	128GB
Expansion Slots (PCI-e) ⁷	2			4				
Included Bypass Ports (copper)	4			4				
Max. # of Bypass Ports	12			20				
SteelHead SD Capable	Yes			No				

1. Optimized WAN capacity limit is enforced on outbound optimized traffic. Inbound optimized WAN traffic is not capped
2. 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
3. RiOS 8.6.2b or later
4. Inclusive of all optimized and/or managed flows
5. Maximum number of classes plus rules. Not applicable to SteelHead SD models
6. RAID1 configuration for HDD. Data store uses fault tolerant striped (FTS) configuration for SSD

7. Optional Network Bypass cards: Dual and Quad LX and SX GigE Fiber GigE, Quad Copper GigE, 10GbE SR/LR
8. No enforced optimized WAN bandwidth limit
9. 7070-H WAN capacity is specified at up to 2Gbps for branch-to-data center workloads and up to 3Gbps for data center-to-data center workloads
10. SteelHead SD models have a larger RAM size: CX 570 = 8GB, CX 770 = 12GB, CX 3070 = 16GB
11. 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	1,419
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)	45dBA			7.0BA (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 87.6mm	
Packaging Dimensions	17.7" x 12.2" x 7" 450 x 310 x 180mm			36" x 24" x 13" 914.4 x 609.6 x 330.2mm	36" x 24" x 14" 914.4 x 609.6 x 355.6mm	
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 and UDP Flows	270,000
Optimized SSL/TLS Connections	270,000
Optimized WAN Capacity ¹	10Gbps
Network Services – WAN Capacity ²	10Gbps
Network Services – Flows ³	768,000
Network Services – Rules/Classes ⁴	4,000
Data Store Capacity	9.6TB SSD
Web Proxy Cache Capacity	400GB
Storage Fault Tolerance	RAID ⁵
Hot Swappable Drives	12
RAM	256GB
Expansion Slots (PCI-e)	4
Max. # Bypass Ports (10Gbps 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 25Gbps (this is the total of LAN and WAN bandwidth added together)
2. Maximum outbound WAN throughput is capped at 10Gbps
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 10GbE SR and / or LR
7. Total of four 2 port 10GbE 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
Temperature ¹	10-35°C / 50-95°F (Operating) -40-70°C / -40-158°F (Storage)
Relative Humidity ²	20%-80%, non-condensing (Operating) ³ 50%-90%, non-condensing (Storage) ⁴
Operating Acoustic Noise (typical)	45dBA
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™

Perpetual or 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	VCX-100	VCX-110
Optimized WAN Capacity	2Mbps	5Mbps	10Mbps	20Mbps	50Mbps	100Mbps	200Mbps	500Mbps	1000Mbps	2.5Gbps	5Gbps
Optimized TCP and UDP Flows	50	200	500	1,000	2,000	5,000	12,000	50,000	100,000	150,000	180,000
Network Services	10Mbps	25Mbps	50Mbps	100Mbps	250Mbps	500Mbps	Unrestricted				
Disk Capacity Advised ⁴	70	100	120	176	438	438	870	1,686	2,358	3,760	5,100
Max Data Store Capacity	50	80	100	150	400	400	800	1,600	2,240	3,600	4,800
Management Disk	20	20	20	26	38	38	70	86	118	160	300
Maximum Web Proxy	200GB	200GB	400GB	400GB	800GB	800GB	800GB	800GB	800GB	800GB	800GB
Virtual CPUs Required (min)	1	1	2	4	4	4	6	12	24	32	44
Reserved Memory Required	2GB	2GB	2GB	4GB	8GB	8GB	24GB	32GB	48GB	64GB	128GB

Riverbed® SteelHead™

Model Specifications

SteelHead CX for Virtual

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

Riverbed® SteelHead™

Model Specifications

SteelHead CX for Virtual

Model	VCX5055		VCX7055	
Configurations	M	H	L	M
Optimized WAN Capacity	200Mbps ³	400Mbps ³	622Mbps ³	1Gbps 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	722GB		1778GB	2418GB
Max Data Store Capacity	8 x 80GB		10 x 160GB	14 x 160GB
Virtual CPUs Required (min)	12 x 1.2Ghz		16 x 1.2Ghz	24 x 1.2Ghz
Reserved Memory Required	16GB		32GB	48GB

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

For ESXi, 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)

For VCX-10 to VCX110: Available H/W NIC options are NIC-1-001G-4TX-BP and NIC-1-001G-4SX-BP on all hypervisors (KVM, Hyper-V and ESXi)

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

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; RiOS 9.6.0a and later support ESXi 6.0. 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 NIC-1-001G-4TX-BP and NIC-1-001G-4SX-BP are supported by Virtual SteelHead guests running RiOS 9.7.0 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 Capacity ¹	10Mbps	50Mbps	200Mbps	500Mbps		1Gbps	
Optimized TCP Connections ²	1,250	4,500	9,000	1,000	30,000	1,000	50,000
Total Elastic Block Store (EBS) Volume Size	430GB			960GB		2.4TB	
Amazon Machine Instance (AMI) Size ³	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 Capacity ¹	10Mbps	50Mbps	200Mbps	N / A			
Optimized TCP Connections ²	1,250	4,500	9,000	N / A			
Disk Capacity Required	430GB			N / A			
Virtual CPUs Required	2 x 1.2Ghz	4 x 1.2Ghz	4 x 2.2Ghz	N / A			
Reserved Memory Required	3GB	8GB	14GB	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 Capacity ¹	10Mbps	50Mbps	200Mbps	500Mbps		1Gbps	
Optimized TCP Connections ²	1,250	4,500	9,000	1,000	30,000	1,000	50,000
Total Azure Blob Storage Volume Size	430GB			1.2TB		2.4TB	
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	40Gbps ^{1,2}	-	
Storage Fault Tolerance	RAID	-	
Front Swappable Drives	2 ³	2 ⁵	
RAM	32GB		16GB
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	7.0BA (Operating condition in typical office ambient temperature: 23 +/- 2°C)	45dBA	
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 7.3" 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

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Riverbed® SteelHead™

System Requirements

SteelHead Mobile

Model	Version 6.0/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 10.11, 10.12, and 10.13
CPU	1GHz or higher
Memory	2GB or higher
Data Store	256MB free disk space (min. required)
VSP CPU & Memory Requirements	Minimum 1 CPU (1GHz or higher) and 3GB or higher
SteelHead Appliance ¹	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

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 Cluster ²	(Number of SMC9000s x 20,000) or (Number of SMC8650s/SMC-Virtual) x 4,000 or (Number of SMC-Virtuals for Azure x 35,000)
VPN Compatibility ³	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 4000 clients for VMWare ESX and Microsoft Hyper-V platforms. Up to 35,000 clients for Microsoft Azure platforms. Please refer to the SteelHead Mobile Installation Guide for details on VM resource requirements.

About Riverbed

Riverbed®, The Digital Performance Company™, enables organizations to maximize digital performance across every aspect of their business, allowing customers to rethink possible. Riverbed's unified and integrated Digital Performance Platform™ brings together a powerful combination of Digital Experience, Cloud Networking and Cloud Edge solutions that provides a modern IT architecture for the digital enterprise, delivering new levels of operational agility and dramatically accelerating business performance and outcomes. At more than \$1 billion in annual revenue, Riverbed's 30,000+ customers include 98% of the *Fortune* 100 and 100% of the *Forbes* Global 100. Learn more at riverbed.com.

