SteelHead CX

Riverbed® SteelHead™

Model Specifications

SteelHead CX

Model	CX580 Series			CX780 Series			CX3080 Series		
Software Configuration (RiOS)	Essentials	Standard	Enterprise	Essentials	Standard	Enterprise	Essentials	Standard	Enterprise
Profile	Desktop						1U		
Software Upgrade Path (RiOS)	Standard / Enterprise	Enterprise	-	Standard / Enterprise	Enterprise	-	Standard / Enterprise	Enterprise	-
Software Conversion Path (FlexVNF)[1]	Essentials / Standard / Advanced								
Optimized TCP Connections and UDP Flows	2,500			5,500			14,000		
Optimized SSL/TLS Connections	2,500			5,500			14,000		
Optimized WAN Capacity[2]	50 Mbps			100 Mbps			200 Mbps		
Network Services - WAN Capacity[3]	1,000 Mbps								
Data Store Capacity	200 GB SSD			200 GB SSD			400 GB SSD		
Web Proxy Cache Capacity	150 GB			250 GB			350 GB		
Storage Fault Tolerance	-			-			RAID[4]		
Hot Swappable Drives	-			-			2		
RAM	16 GB			16 GB			24 GB		
Expansion Slots (PCI-e)[4]	-			-			1		
Included Bypass Ports (Copper)	4			4			4		
Max. # of Bypass Ports	4			4			8		

1. See Riverbed® SteelConnect™ EX spec sheet for more information about FlexVNF-based platform capabilities
2. Optimized WAN capacity limit is enforced on outbound optimized traffic. Inbound optimized WAN traffic is not capped
3. Using 1 Gbps on-board interface
4. Restrictions apply in combination of card types. Please see technical documentation for details

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

Model	CX580 Series	CX780 Series	CX3080 Series
Dual Power Supplies	-		✓
Power [Watts] (Typical)	37	60	70
BTU	128	205	242
Temperature[1]	0-45°C / 32-113°F (Operating) -40-65°C / -40-149°F (Storage)		0-45°C / 32-113°F (Operating) -40-65°C / -40-149°F (Storage)
Relative Humidity[2]	20%-80% non-condensing (Operating) 10%-95%, non-condensing (Storage)		20%-80%, non-condensing (Operating)[4] 10%-95%, non-condensing (Storage)[5]
Operating Acoustic Noise (Typical)	45 dBA		
System Dimensions (LxWxH)[3]	12.25 x 13.75 x 1.73 in 311.15 x 349.25 x 44 mm		15.25 x 17.24 x1.73 in 387.35 x 483 x 44 mm
Packaging Dimensions	17.7 x 12.2 x 7 in 450 x 310 x 180 mm		36 x 24 x 13 in 914.4 x 609.6 x 330.2 mm
Weight (Without Packaging)	6 lbs 2.7 kg		27 lbs 12.25 kg
Rail Information	Mounting Rail Kit Included Orderable Spare Part Number: RMK-4-DT		Mounting Rail Included Orderable Spare Part Numbers: RMK-4-3080

1. In China – for use in non-tropical locations
2. Operating altitude up to 10,000 feet except in China 6,562 feet (2,000 m)
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)

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Feature Tiers: SteelHead CX-580/CX-780/CX-3080 and CX for Virtual Series

	Essentials	Standard	Enterprise
Description	Basic WAN Optimization	Full WAN Optimization with App Acceleration	Full Featured App Acceleration + Next Gen Features
Sample Features	• Full Deduplication • TCP Optimization / MXTCP • Hybrid Networking: QOS / Secure Transport / Path Selection	*Essentials +* • HTTPS Optimization • Most Protocol Blades (MAPI, SMB, CIFS) • WebProxy • SaaS Accelerator	*Standard +* • Data Center Protocol Blades (Replication, NFS) • Exotic Protocols – Lotus Notes • SCPS / FIPS

Riverbed® SteelHead™

Model Specifications

SteelHead CX

Model	CX5080 Series		CX7080 Series		
Hardware Configuration / License	CXA-05080-B010 / L25	CXA-05080-B010 / L26	CXA-07080-B010 / L30	CXA-07080-B020 / L31	CXA-07080-B030 / L32
Profile	2U	2U	2U	2U	2U
Upgradeable to	L26	–	-B020 / L31 or -B030 / L32[2]	-B030 / L32[2]	–
Optimized TCP Connections and UDP Flows	20,000	60,000	100,000	150,000	220,000
Optimized SSL/TLS Connections	20,000	60,000	100,000	150,000	220,000
Optimized WAN Capacity[1]	300 Mbps	622 Mbps	1,000 Mbps	2,000 Mbps	3,000 Mbps
Network Services – WAN Capacity	Unrestricted	Unrestricted	Unrestricted	Unrestricted	Unrestricted
Network Services – Flows[3]	160,000	160,000	320,000	480,000	800,000
Network Services – Rules/Classes	6,000	6,000	6,000	6,000	6,000
Data Store Capacity	1.4 TB	1.4 TB	2.8 TB	3.8 TB	7.6 TB
Web Proxy Cache Capacity	300 GB	300 GB	500 GB	500 GB	500 GB
Storage Fault Tolerance	RAID[4]	RAID[4]	RAID[4]	RAID[4]	RAID[4]
Hot Swappable Drives	6 SSDs + 2 HDDs	6 SSDs + 2 HDDs	6 SSDs + 2 HDDs	8 SSDs + 2 HDDs	8 SSDs + 2 HDDs
RAM	32 GB	32 GB	64 GB	96 GB	192 GB
Total # of Expansion Slots (PCI-e)	Up to 4 FHFL + 2 FHHL[5]	Up to 4 FHFL + 2 FHHL[5]	Up to 4 FHFL + 1 FHHL + 1 HHHL[5]	Up to 4 FHFL + 1 FHHL + 1 HHHL[5]	Up to 4 FHFL + 1 FHHL + 1 HHHL[5]
Included # of Bypass Ports (10/100/1000 Copper)	4	4	4	4	4
Max. # of Bypass Ports 40 GbE / 10 GbE / 1 GbE	4x40 GbE / 16x10 GbE / 24x1 GbE[5]	4x40 GbE / 16x10 GbE / 24x1 GbE[5]	4x40 GbE / 16x10 GbE / 24x1 GbE[5]	4x40 GbE / 16x10 GbE / 24x1 GbE[5]	4x40 GbE / 16x10 GbE / 24x1 GbE[5]

1. Optimized WAN capacity limit is enforced on outbound optimized traffic. Inbound optimized WAN traffic is not capped
2. Requires exchange of appliance device (UPC-CXA-07080)
3. Inclusive of all optimized and/or managed flows
4. RAID1 configuration for HDD. Datastore uses fault tolerant striped (FTS) configuration for SDD
5. Restrictions apply in combination of card types. Please see technical documentation for details

NOTE: All WAN capacities, connections, flows and rules/classes specifications listed are maximums and may not be achieved simultaneously and/or in all environments

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Power and Physical Specifications

SteelHead CX

Model	CX5080 Series		CX7080 Series		
Hardware Configuration / License	CXA-05080-B010 / L25	CXA-05080-B010 / L26	CXA-07080-B010 / L30	CXA-07080-B020 / L31	CXA-07080-B030 / L32
Dual Power Supplies	✓	✓	✓	✓	✓
Power [Watts] (Typical)	With 120VAC: 298W With 230VAC: 290W	With 120VAC: 298W With 230VAC: 290W	With 120VAC: 374W With 230VAC: 364W	With 120VAC: 374W With 230VAC: 364W	With 120VAC: 478W With 230VAC: 459W
BTU	With 120VAC: 1015 With 230VAC: 991	With 120VAC: 1015 With 230VAC: 991	With 120VAC: 1275 With 230VAC: 1240	With 120VAC: 1275 With 230VAC: 1240	With 120VAC: 1632 With 230VAC: 1566
Temperature[1]	0-40°C / 32-104°F (Operating)[4] -40-60°C / -40-140°F (Storage)[5]	0-40°C / 32-104°F (Operating)[4] -40-60°C / -40-140°F (Storage)[5]	0-40°C / 32-104°F (Operating)[4] -40-60°C / -40-140°F (Storage)[5]	0-40°C / 32-104°F (Operating)[4] -40-60°C / -40-140°F (Storage)[5]	0-40°C / 32-104°F (Operating)[4] -40-60°C / -40-140°F (Storage)[5]
Relative Humidity[2]	40-90%, non-condensing at 40°C	40-90%, non-condensing at 40°C	40-90%, non-condensing at 40°C	40-90%, non-condensing at 40°C	40-90%, non-condensing at 40°C
Operating Acoustic Noise (Typical)	<60 dB	<60 dB	<60 dB	<60 dB	<60 dB
System Dimensions (LxWxH)	27.56 x 17.32 x 3.43 in 700 x 440 x 87 mm	27.56 x 17.32 x 3.43 in 700 x 440 x 87 mm	27.56 x 17.32 x 3.43 in 700 x 440 x 87 mm	27.56 x 17.32 x 3.43 in 700 x 440 x 87 mm	27.56 x 17.32 x 3.43 in 700 x 440 x 87 mm
Packaging Dimensions[3]	36 x 24 x 12 in 914.4 x 609.6 x 304.8 mm	36 x 24 x 12 in 914.4 x 609.6 x 304.8 mm	36 x 24 x 12 in 914.4 x 609.6 x 304.8 mm	36 x 24 x 12 in 914.4 x 609.6 x 304.8 mm	36 x 24 x 12 in 914.4 x 609.6 x 304.8 mm
Max Weight (Without Packaging, without PCIE cards)	51 lbs 23 kg	51 lbs 23 kg	51 lbs 23 kg	51 lbs 23 kg	51 lbs 23 kg
Rail Information	Mounting Rail Kit Included. Orderable Spare Part Number: RMK-4-2U	Mounting Rail Kit Included. Orderable Spare Part Number: RMK-4-2U	Mounting Rail Kit Included. Orderable Spare Part Number: RMK-4-2U	Mounting Rail Kit Included. Orderable Spare Part Number: RMK-4-2U	Mounting Rail Kit Included. Orderable Spare Part Number: RMK-4-2U

1. In China – for use in non-tropical locations
2. Operating altitude up to 10,000 feet except in China 6,562 feet (2,000 m)
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)

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Perpetual or Monthly Subscription Models

SteelHead CX for Virtual

Model	VCX-30	VCX-40	VCX-50	VCX-60	VCX-70	VCX-80	VCX-90	VCX-100	VCX-110
Optimized WAN Capacity	10 Mbps	25 Mbps	50 Mbps	100 Mbps	200 Mbps	500 Mbps	1,000 Mbps	2.5 Gbps	5 Gbps
Optimized TCP and UDP Flows	500	1,000	2,000	5,000	12,000	50,000	100,000	150,000	180,000
Network Services	50 Mbps	100 Mbps	250 Mbps	500 Mbps	Unrestricted				
Disk Capacity Advised[4]	120	176	438	438	870	1,686	2,358	3,760	5,100
Max Data Store Capacity	100	150	400	400	800	1,600	2,240	3,600	4,800
Management Disk	20	26	38	38	70	86	118	160	300
Maximum Web Proxy	400 GB	400 GB	800 GB	800 GB	800 GB	800 GB	800 GB	800 GB	800 GB
Virtual CPUs Required (min)	2	4	4	4	6	12	24	32	44
Reserved Memory Required	4 GB	4 GB	8 GB	8 GB	24 GB	32 GB	48 GB	64 GB	128 GB

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-30 to VCX-130: 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 (100 Mbps) 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]	10 Mbps	50 Mbps	200 Mbps	500 Mbps		1 Gbps	
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	430 GB			960 GB		2.4 TB	
Amazon Machine Instance (AMI) Size[3]	M4.large		M4.2xlarge	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

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]	10 Mbps	50 Mbps	200 Mbps	N / A			
Optimized TCP Connections[2]	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 2.2 Ghz	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 Capacity[1]	10 Mbps	50 Mbps	200 Mbps	500 Mbps		1 Gbps	
Optimized TCP Connections[2]	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 CX for Oracle Cloud Infrastructure (OCI)

Model	CCX PERF-TIER1	CCX PERF-TIER2	CCX PERF-TIER3
Optimized Wan Capacity[1]	10 Mbps	50 Mbps	200 Mbps
Optimized TCP Connections[2]	1,250	4,500	9,000
Total Storage	430 GB	430 GB	430 GB (SSD)
VM Shape	VM.Standard2.1	VM.Standard2.1	VM.Standard2.2
Number CPUs	1 OCPU	1 OCPU	2 OCPU
Memory	15 GB RAM	15 GB RAM	30 GB RAM
DataStore disk	430 GB	430 GB	430 GB (SSD)

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, Riverbed® Controller for SteelHead or SCC (formerly Central Management Console or CMC), Controller for Client Accelerator or SCCM (formerly Client Accelerator Controller or SCCM)

	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	-

1. All LAN capacity, bandwidth, and TCP connections listed are maximums and may not be achieved in all environments
2. Requires 5 or greater 10 G in-path interfaces and xbridge enabled
3. Hot swappable disks
4. Optional Network Bypass cards: Dual and Quad LX and SX GigE Fiber GigE, Quad Copper GigE, Dual 10 GbE SR/LR
5. Internal hard disks

Riverbed® SteelHead™

Power and Physical Specifications

SteelHead Interceptor, Controller for SteelHead or SCC (formerly Central Management Console or CMC), Controller for Client Accelerator or SCCM (formerly Client Accelerator Controller or SCCM)

	Data Center	Management	
Model	INT9600	SCC1000	SMC9000
Dual Power Supplies	✓	No	
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 in 707.8 x 438 x 87.6 mm	13.0 x 8.0 x 1.73 in 330 x 204 x 44 mm	
Packaging Dimensions	36 x 24 x 14 in 914.4 x 609.6 x 355.6 mm	17.7 x 12.2 x 7 in 450 x 310 x 180 mm	
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	

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. Shipping Humidity Spec for CXA-xxx70/INT9600 models

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Riverbed® SteelHead™

System Requirements

Client Accelerator

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	1 GHz or higher
Memory	2 GB or higher
Data Store	256 MB free disk space (min. required)
VSP CPU & Memory Requirements	Minimum 1 CPU (1 GHz or higher) and 3 GB or higher
SteelHead Appliance[1]	Minimum 1 Physical (CX), Virtual (VCX) or Cloud SteelHead (CCX) needed on Server Side
Client Accelerator Controller (formerly SCCM)	Required Controller: Virtual or Azure Edition

Riverbed® SteelHead™

Software Specifications

Client Accelerator

Model	Client Accelerator
Concurrent Clients Supported per Client Accelerator Controller	20,000 (SMC9000) / 4,000 (SMC-Virtual Edition)[4]
Concurrent Clients Supported with Client Accelerator Cluster[2]	(Number of SMC9000s x 20,000) or (Number of 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. Client Accelerator Controller can operate in clustered mode to support additional Client Accelerator clients. A cluster of up to 10 SMC9000 models is supported up to 200,000 concurrent clients
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 Client Accelerator Installation Guide for details on VM resource requirements.

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