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Riverbed® Cascade® Product Family

Model Specifications: xx60 Cascade Profiler and Cascade Express Appliances

Model	Cascade Express All-In-One Solution			Cascade Profilers							
	CAX-360 Series			CAP-2260 Series			CAP-4260[3,6,7]			CAP-4260[3,6,7] Expansion	
Configurations	L	M	H	L	M	H	CAP-4260-UI	CAP-4260-DB	CAP-4260-AN	CAP-4260-EX	CAP-4260-DP
Flow Capacity (Flows per Minute)[8]	25,000	50,000	75,000	100,000	200,000	500,000	N/A	N/A	800,000	400,000	N/A
Disk Capacity[1]	4 TB			12 TB			2 TB	2 TB	24 TB	24 TB	2 TB
Optional Fibre Channel SAN Support (with purchase of CAP-FC-SAN)	-			✓			-	-	✓	✓	-
RAID	RAID 1 / RAID 10			RAID 1 / RAID 10			RAID 1	RAID 1	RAID 1 / RAID 10	RAID 1 / RAID 10	RAID 1
Front-Swappable Disks[5]	4			12			2	2	12	12	2
RAM	16 GB			32 GB			32 GB				
Serial Port (9-pin D-subminiature connector)	✓			✓			✓			✓	
Available Sensor Ports	4-port copper (built-in), 2-port 10G Fiber LR[9], 2-port 10G Fiber SR[9]			-			-				
Primary Cascade Management Port[2] (10/100/1000 RJ45)	✓			✓			✓			✓	
Flow as Data Source (Accepts NetFlow V1, V5, V7, V9, IPFIX, sFlow V2, sFlow V5, cFlow, Packeteer FDR, Cascadeflow, Cascadeflow-compatible)	✓			Requires Cascade Gateway							

Model Specifications: Cascade Gateway Appliances

	Cascade Gateways				
Model	CAG-2260 Series[4]				
Configurations	F1	F2	F3	F4	F5
Flow Capacity (Flows per Minute)[8]	100,000	200,000	500,000	800,000	1,400,000
Disk Capacity[1]	2 TB				
Optional Fibre Channel SAN Support (with purchase of CAP-FC-SAN)	-				
RAID	RAID 1				
Front-Swappable Disks[5]	2				
RAM	8 GB				
Serial Port (9-pin D-subminiature connector)	✓				
Primary Cascade Management Port[2] (10/100/1000 RJ45)	✓				
Flow as Data Source (Accepts NetFlow V1, V5, V7, V9, IPFIX, sFlow V2, sFlow V5, cFlow, Packeteer FDR, Cascadeflow, Cascadeflow-compatible)	✓				

1. Raw Disk Capacity does not not take into account disk formatting, RAID overhead, software installation, or OS usage
2. 1000/Full connection required in some configurations
3. CAP4260 system includes-CAP4260-UI, CAP4260-DB, and CAP4260-AN, plus one or more CAP-4260-EX expansion modules (for a maximum of seven). Each additional CAP-4260-EX adds 400K FPM. CAP-4260-DP is required with addition of fifth CAP-4260-EX.
4. Each Gateway can forward data to two Profilers and send rawflows to two third party devices capable of receiving flow.

5. Hot swappable disks
6. CAP4260-AN/EX equipped with RAID 1 / RAID 10 (24TB); CAP4260-UI/DB equipped with RAID 1 (2TB)
7. CAP4260-AN/EX equipped with 12 Front-Swappable Disks; CAP4260-UI/DB equipped with 2 Front-Swappable Disks
8. Flow capacity can be expanded up to the amount listed.
9. Requires compatible SFPs

Model Specifications: Cascade Sensor Appliances

Model	CAS-2260 Series		
Monitor Port Type	Built-in copper	10G Fiber LR[10]	10G Fiber SR[10]
Monitor Port Speed / Connector	10/100/1000/RJ45 (built-in)	10GB/LC, Single mode Fiber (Requires SMF cables)	10GB/LC, Multimode Fiber (Requires 62.5/125 multimode fiber cables)
Number of Monitor Ports	4	2	2
Reporting Capacity	Unit can report to up to two Cascade Profilers		
Disk Capacity[10]	2 TB		
RAID	RAID 1		
Front-Swappable Disks	2		
RAM	8 GB		
Serial Port (9-pin D-subminiature connector)	✓		
Primary Cascade Management Port[11] (10/100/1000 RJ45)	✓		

10. Requires appropriate SFPs
11. 1000/Full connection required in some configurations

System Requirements: Cascade Sensor Virtual Edition for RSP

Model	CAS-VE		
Steelhead	SH250(L/M/H)	SH520(L/M/H)　　SH550(L/M/H)	SH1050(L/M/H) SH1020(L/M/H) SH1520(L/M/H) SH2020(L/M/H) SH2050(L/M/H)
Memory Required	256 MB	512 MB	512 MB
Reporting Capacity	Unit can report to up to one Cascade Profiler		
Disk Space Required	12 GB		
SPAN monitoring of LAN traffic at the branch[12]	✓		
Monitor SH LAN/WAN traffic	✓		

12. via SH aux port

Power & Physical Specifications: Cascade Express, Cascade Profiler, Cascade Gateway, Cascade Sensor Appliances

Model	CAX-360 Series, CAG-2260 Series, CAS-2260 Series, CAP-4260-UI/DB/DP	CAP-2260 Series, CAP-4260-AN/EX
Dual Power Supplies (Redundant, 750 Watt)	✓	✓
Power [Watts] (Typical)	300	420
BTU	1024	1433
Temperature[13]	10 - 40 deg C / 50 - 95 deg F (Operating) -40 - 65 deg C / -40 - 149 deg F (Storage)	
Relative Humidity	20% - 80% non-condensing (Operating) 5% - 95% non-condensing (Storage)	
Operating Acoustic noise (Typical)	61.6 dBA	65.6 dBA
Rack Size	1U	2U
System Dimensions (LxWxH)[14]	25.4x17.2x1.7 in 644.4x436.1x43.4 mm	25.4x17.2x3.4 in 644.4x436.1x87.1 mm
Packaging Dimensions	36.25x23.38x12.5 in 920.8x593.7x317.5 mm	
Max Weight (without packaging)	36 Lbs/16.36 Kg	60 Lbs./27.26 Kg
Rail Information	Mounting rail kit inlcuded. Orderable spare part RMK-002	
RoHS Compliant	✓	✓

13. Operating altitude up to 10,000 feet
14. Length is without bezel, rack ears, cables

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.

Model Specifications: Cascade Shark Appliances

Model	1000 Series	2000 Series		3000 Series	
	CSK-01100	CSK-02100	CSK-02200	CSK-03100	CSK-03200
Storage	4 TB	8 TB	16 TB	16 TB	32 TB
Capture Disk Capacity[15]	4 x 1 TB	8 x 1 TB	8 x 2 TB	16 x 1 TB	16 x 2 TB
Operating System Disk Capacity[16]	500 GB				
Operating System	Customized Linux-based OS				
DVD-ROM	Yes				
RAID	H/W RAID level 0			2x H/W RAID level 0 + S/W RAID level 0	
Front-Swappable Disks	4	8		16	
RAM (GB)	6	12		24	
Available Network Interface Card Slots	1	2			
Available Capture Ports (max)[17]	2 x 1GbE (Copper) OR 4 x 1GbE (Copper)	8 x 1GbE (Copper) OR 4 x 10GbE ports (Fiber) OR 4 x1Gbe (Copper) + 2 x 10GbE (Fiber)			
Management Port (10/100/1000 RJ45)	2				

15. Raw Disk Capacity. 1TB = 10^12 Bytes. It does not not take into account disk formatting, RAID overhead
16. Raw Disk Capacity. 1TB = 10^12 Bytes. It does not not take into account disk formatting, or OS usage.
17. Supported NICS's- 1GbE dual-port copper (on 1100 only); 1GbE-quad port copper, 10GbE-dual port Fiber ports are available with SR and LR SFP (LC connectors).

Power & Physical Specifications: Cascade Shark Appliances

Model	1000 Series	2000 Series	3000 Series
Dual Power Supplies (Redundant)	No	Yes	Yes
Power [Watts] (Typical))	350	450	600
BTU	1200	1530	2050
Line Power Requirement	100-240 VAC 9-4A 50-60Hz		100-240 VAC 9A-4A 50-60Hz
Operating Temperature[18]	10°to 35°C (50°to 95°F)		
Operating Relative Humidity	8% to 90% (non-condensing)		
Rack Size	1U	2U	3U
System Dimensions (LxWxH)[19]	25.6"x17.2"x1.7"	25.5"x17.2"x3.5"	25.5"x17.2"x5.2"
Packaging Dimensions (LxWxH)[20]	36.5"x25.5"x12.5"	36.5"x25.5"x12.2"	39"x27"x20"
Max Weight (without packaging)[21]	34 Lbs.	57 Lbs.	88 Lbs.
Rail Information[22]	RMK-CSK-0001	RMK-CSK-0002	RMK-CSK-0003
RoHS Compliant	Yes		

18. Operating altitude up to 10,000 feet
19. Length is without bezel, cables
20. Packaging dimensions do not include the pallet on which the unit might be shipped.
21. Weight includes the rails.

22. The included rails fit square hole and un-threaded round hole racks
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System Requirements: Virtual Cascade Shark

Model	VSK-00050	VSK-00200	VSK-00400
Packet Storage	Up to 50GB	Up to 1TB	Up to 2TB
Hypervisor	VMware ESXi 4.1		
vCPU	2		
Memory	2GB		
System Disk Space	30GB		
Capture Ports	Up to 4		
Management Ports	2		

System Requirements: Cascade Pilot

	Cascade Pilot
Operating System[23]	Windows XP, Windows Vista, and Windows 7 (32 bit/64 bit, Home, Premium, Enterprise, Professional, Ultimate)
CPU	Dual-core 2.0 GHz CPU or better
Memory	2 GB RAM
Disk Space	300MB free disk space, plus additional storage for trace files, reports & logs
Video	Graphics card with minimum resolution of 1024 x 768

23. Administrator rights required for installation and operation

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About Riverbed

Riverbed Technology is the IT performance company. The Riverbed family of wide area network (WAN) optimization solutions liberates businesses from common IT constraints by increasing application performance, enabling consolidation, and providing enterprise-wide network and application visibility – all while eliminating the need to increase bandwidth, storage or servers. Thousands of companies with distributed operations use Riverbed to make their IT infrastructure faster, less expensive and more responsive. Additional information about Riverbed (NASDAQ: RVBD) is available at **www.riverbed.com**.

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Riverbed Technology
199 Fremont Street
San Francisco, CA 94105
Tel: +1 415 247 8800
Fax: +1 415 247 8801
www.riverbed.com

Riverbed Technology Ltd.
One Thames Valley
Wokingham Road, Level 2
Bracknell RG42 1NG
United Kingdom
Tel: +44 1344 401900

Riverbed Technology Pte. Ltd.
391A Orchard Road #22-06/10
Ngee Ann City Tower A
Singapore 238873
Tel: +65 6508-7400

Riverbed Technology K.K.
Shiba-Koen Plaza Building 9F
3-6-9, Shiba, Minato-ku
Tokyo, Japan 105-0014
Tel: +81 3 5419 1990

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