

Stingray Performance Quick Reference

Server Hardware			
Hardware model	HP Proliant DL360 G6	Sun Fire x4170	HP Proliant DL380 G7
Processor	1 x Quad Core Intel Xeon X5520	2 x Quad Core Intel Xeon X5570	2 x Six Core Intel Xeon X5680
Memory	10GB	12 GB	48 Gb
Networking	10 x 1GbE	12 x 1GbE	4 x 10GbE
Layer 4 performance			
Connections per second	65,500	105,000	96,200
Layer 7 performance			
HTTP connections per second	95,000	155,000	159,000
HTTP requests per second (0k)	210,000	419,000	510,000
HTTP requests per second (2k)	150,000	282,000	442,000
HTTP requests per second (8k)	111,000	141,000 ¹	313,000
HTTP max. throughput	8.02 Gbits	12 Gbits ¹	35.9 Gbits
SSL performance			
SSL transactions per second	9,330	23,100	39,000
SSL max. throughput	3.41 Gbits	8.4 Gbits	14.1 Gbits
HTTP content caching performance			
Cache requests per second	393,000	836,000	966,000
Cache max. throughput	9.85 Gbits	12 Gbits ¹	74 Gbits ²
Compression performance			
Throughput: 8k files	1.98 Gbits	3.70 Gbits	7.42 Gbits
Throughput: 64k files	2.05 Gbits	4.44 Gbits	7.93 Gbits
Throughput: 512k files	1.95 Gbits	4.46 Gbits	8.2 Gbits

¹ Quad-core Xeon X5570: these tests were network bound to 12GBits. System under test exhibited up to 70% idle time.

² Six-core Xeon X5680: used 4 x SolarFlare 10GbE NICs; additional 4 x 10GbE cards were used for cache throughput tests only

Performance Considerations

All benchmarks are carefully constructed to extract the maximum performance from the system under test. Real world network conditions, uneven traffic profiles and complex traffic management policies mean that benchmark figures (particularly throughput) may not be achieved when managing live traffic.

The Riverbed/Stingray Community makes a number of recommendations on performance tuning Stingray Traffic Manager software and the following White Papers may be useful:

- Benchmarking Stingray Traffic Manager
- Accelerating Web Applications with Stingray Traffic Manager

Using the data

These results illustrate the performance potential of Stingray Traffic Manager software. They do not constitute a specific hardware recommendation, and similarly specified hardware from other leading vendors should deliver similar performance.

About the tests

Layer 4 performance	Connections per second measures the sustained rate at which new connections can be established from the client to the server, a read-write transaction (HTTP request and zero-byte response body) conducted and the connection closed.
Layer 7 performance	HTTP connections per second measures the sustained rate at which new connections can be established from the client to the server, an HTTP transaction conducted and the connection closed. This test uses keepalive connections to the server nodes. HTTP requests per second measures the sustained rate of HTTP transactions (0Kb, 2Kb and 8Kb response body) using client-side and server-side keepalive connections. HTTP max. throughput uses large HTTP responses to measure the maximum sustained response throughput.
SSL performance	SSL transactions per second measures HTTPS requests per second; the test uses 1024 bit RSA keys, RC4 bulk encryption, small HTTP responses and no session reuse. SSL max. throughput uses large HTTP responses to measure the maximum sustained response throughput.
HTTP content caching performance	Cache requests per second measures the sustained rate of HTTP transactions (0Kb response body) served directly from the Zeus Traffic Manager content cache. Cache max. throughput serves large HTTP responses from the cache to measure the maximum sustained response throughput.

About Riverbed

Riverbed delivers performance for the globally connected enterprise. With Riverbed, enterprises can successfully and intelligently implement strategic initiatives such as virtualization, consolidation, cloud computing, and disaster recovery without fear of compromising performance. By giving enterprises the platform they need to understand, optimize and consolidate their IT, Riverbed helps enterprises to build a fast, fluid and dynamic IT architecture that aligns with the business needs of the organization. Additional information about Riverbed (NASDAQ: RVBD) is available at www.riverbed.com.



Riverbed Technology, Inc.
199 Fremont Street
San Francisco, CA 94105
Tel: (415) 247-8800
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, Bldg. 9F
3-6-9, Shiba, Minato-ku
Tokyo, Japan 105-0014
Tel: +81 3 5419 1990