



## Zeus Traffic Manager Performance Quick Reference

<b>Server Hardware</b>			
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
<b>Layer 4 performance</b>			
Connections per second	65,500	105,000	96,200
<b>Layer 7 performance</b>			
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*	313,000
HTTP max. throughput	8.02 Gbits	12 Gbits*	35.9 Gbits
<b>SSL performance</b>			
SSL transactions per second	9,330	23,100	39,000
SSL max. throughput	3.41 Gbits	8.4 Gbits	14.1 Gbits
<b>HTTP content caching performance</b>			
Cache requests per second	393,000	836,000	966,000
Cache max. throughput	9.85 Gbits	12 Gbits*	74 Gbits **
<b>Compression performance</b>			
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

These benchmark tests were conducted in the Zeus testing labs using software clients and servers.:

\* Quad-core Xeon X5570: these tests were network bound to 12GBits. Server exhibited up to 70% idle time (Cache Max Throughput tests).

\*\* Six-core Xeon X5680: used SolarFlare 10GbE NICs with additional performance tuning; 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 conditions, such as slow, unreliable network connections, uneven traffic profiles and deep packet inspection mean that benchmark figures (particularly throughput) may not be achieved when managing live traffic.

The Zeus Community ([www.zeus.com/community](http://www.zeus.com/community)) makes a number of recommendations on performance tuning Zeus software and the following White Papers from <http://www.zeus.com/> may be useful:

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

## 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.

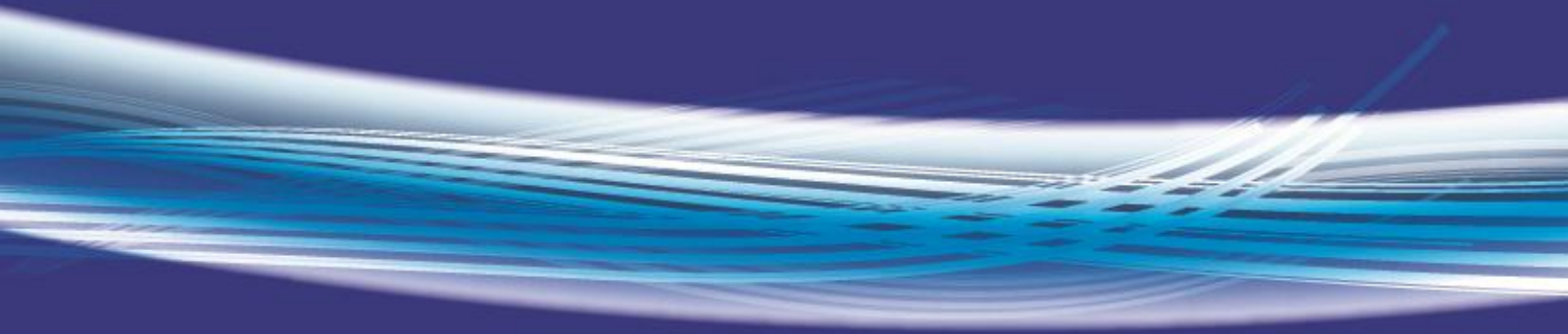
### HTTP content caching performance:

**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.

### Compression performance:

**Compression throughput** tests the rate at which Zeus Traffic Manager can compress HTML files of various sizes, balancing request handling and bulk compression performance.



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