



Drupal Performance testing with aiCache

The following stress test was performed using Apache Bench tool, against a stock Drupal installation. The results compare Drupal with and without the aiCache Web Application Accelerator installed. There were no configuration changes on the Drupal installation.

Server:

Duo Core 2.6GHz system, with 4GB RAM, running 64 bit Ubuntu 8.

Software

Apache2, MySQL 5, Drupal 6 all running on the same system.

Configuration:

Default configurations without modifications. Apache2 is configured to listen on port 8080, so as not to conflict with aiCache that takes standard HTTP port 80.

Details of testing:

A single Drupal page is created within Drupal content management User Interface.

Page size 5.5KB.

Apache is configured to listen on port 8080, so as not to conflict with aiCache when we start it later in the test.

Testing Tool:

To eliminate network bandwidth/throughout, the load is generated on the same server, using Apache Bench tool (ab).

Testing is performed on the dynamic page itself, no auxiliary content is tested (images, CSS and JS).

aiCache Configuration

aiCache version 5.466, with a single pattern defined, allowing for caching of the demo page with 10m TTL.

DRUPAL STAND ALONE

With Drupal Stand alone we have 26 req/sec, with CPU load at 100%, as reported by top. Mean request time is 38 msec. Connection times are at 260 msec mean.

DRUPAL + AICACHE

With aiCache + Drupal we achieve 16132 req/sec (more than 620 TIMES larger number of requests), with 60 _micro_ second page load average (more than 616 TIMES faster load time).

Connection time is less than 10 microseconds.

The server is 30% idle, as reported by top, during the test.

Command line configuration

```
# ab -c 20 -n 1000 http://192.168.168.8:8080/drupal6/?q=node/1
```

This is ApacheBench, Version 2.0.40-dev <\$Revision: 1.146 \$> apache-2.0

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Test Environment	Drupal	Drupal+ aiCache	Measure
Server Software:	Apache/2.2.8	aiCache 4.661	
Server Hostname:	192.168.168.8	192.168.168.8	
Server Port:	8,080	80	
Document Length:	5547 bytes	5547 bytes	
Concurrency Level:	20	20	
Time taken for tests:	38	6	sec
Complete requests:	1,000	100,000	
Failed requests:	0	0	
Write errors:	0	0	
Total transferred:	6,098,000	574,280,388	bytes
HTML transferred:	5,547,000	554,777,658	bytes
Requests per second:	26	16,133	mean
Time per request:	756	1	ms
Time per request:	38	0	ms
Transfer rate:	158	90,477	kb/sec
Connection Times median			
Connect:	0	0	ms
Processing:	748	1	ms
Waiting:	747	0	ms
Total:	747	1	ms
Percent of requests served within a certain time (ms)			
50%	748	1	ms
66%	798	1	ms
75%	832	1	ms
80%	872	1	ms
90%	956	1	ms
95%	1,004	1	ms
98%	1,029	1	ms
99%	1,052	1	ms
100% (longest request)	1,168	38	ms

CONCLUSION

The aiCache Web Application Acceleration provides a tremendous improvement in performance of Drupal instance. In our experience, even higher numbers can be obtained near 25,000 req/sec, using more systems to generate the load.

While certain tuning could be applied to Apache, PHP, MySQL and Drupal instance, in our experience it is only capable of improving the req/sec numbers 2-fold - to around 70 req/sec, which is still more that 300 times fewer req/sec compared to what could be handled with aiCache.