

Test of MapServer Delivery Platforms for WMS

Comparison of IIS vs. Apache and CGI vs. FastCGI

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MEGIS has hosted OGC-compliant web mapping services (WMS) using MapServer for over two years to provide orthoimagery services to end users. As of February 1, 2011 these services had handled 3.9M requests and were averaging about 11,000 requests per day.

MEGIS uses the popular MapServer for Windows (MS4W) bundle which precompiles the appropriate supporting technologies into a single zip file. MS4W includes a built-in Apache web server, PHP support, and many options for authentication. It also includes built-in support for FastCGI, though this has to be enabled. In 2008, MEGIS originally implemented this in Microsoft's IIS instead of Apache, to allow integration with the ArcIMS-based GeoPortal Toolkit which is no longer in place.

With the increased use of MapServer for web applications, and the increased demands MEGIS was interested in making some upgrades and testing some options for MapServer, specifically migrating the web server to Apache, upgrading the MapServer version to the latest version, and implementing FastCGI.

In February 2011, MEGIS tested these changes on their test server using these parameters:

- 1) upgrade MapServer from 5.2.1 to 5.6.6
- 2) migrate the webserver from IIS to Apache
- 3) implement FastCGI

Phase 1:

MEGIS first upgraded its test server to the new version of MapServer (MS4W) and simultaneously migrated the webserver to Apache. Testing was done against the production server which was still running MapServer 5.6.6 and IIS.

Phase II:

Using the upgraded version of the test server with Apache, MEGIS enabled FastCGI for WMS.

Testing in both cases included 3 trials viewing 9 different bookmarks in ArcMap v10. Time was recorded to the 1/10 second moving from one bookmark to the next, in both prod and test servers. In each case after the series of bookmarks was completed, ArcMap was exited and restarted to clear out the WMS cache. The times for each trial were averaged per bookmark, and averaged over all 9 bookmarks.

Results show an average 36% performance increase with just the upgrade of MapServer and migration to Apache, and a 43% performance increase when this is coupled with FastCGI. The performance increase varied from bookmark to bookmark ranging from 29%-48% in phase I and 40%-59% in phase II.

Comparison of WMS Delivery methods

