Hewlett-Packard NetServer LT 6000r Web Server Performance

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White Paper Contents

Disclosure

The Hewlett-Packard Company sponsored the testing in this report. Mindcraft, Inc. conducted the performance tests described in this report at its test lab in Los Gatos, California.

Executive Summary

The HP NetServer LT 6000r running Microsoft Windows 2000 delivers great, scalable Web server performance in a small package

The NetServer LT 6000r is the fastest Web server that we've tested to date. It packs a lot of performance and high-availability features in a small enclosure. The system we tested had 6 x 550 MHz Pentium III Xeon CPUs with 2 MB of L2 cache. The NetServer's eight memory slots were filled with 512 MB DIMMs giving it 4 GB of memory. The system had four 18 GB SCSI disks connected to the built-in RAID controller. We put two Gigabit Ethernet network interface cards into the six-slot PCI bus, four slots of which provide hot-swap capability. Redundant, hot-swappable power supplies and fans round out the amazing packaging job HP did to build a powerhouse server in a 4U rack-mount enclosure.

Mindcraft tested the performance and Web-server scalability of the NetServer LT 6000r running the released version of Microsoft Windows 2000 and Internet Information Server 5 (IIS 5). We used our SPICE Benchmark specification and test programs driven by WebBench 3.0 to test both static and dynamic HTTP request performance. By using our SPICE benchmark, the test results let you compare static and dynamic Web server response performance fairly because both types of responses send the same average amount of data. If they don't, the type of response that sends less data will have a higher response rate.

To handle dynamic requests, we developed an Active Server Pages (ASP) program in VB Script and an Information Server Application Programming Interface (ISAPI) module in C, both meeting the SPICE specification.

We ran five different types of Web server requests to test the NetServer LT 6000r using four different processor configurations:

- 100% of the requests were *static* (a file was sent directly by the Web server).

- 100% of the requests were handled by an *ASP* run by the Web server.
- 100% of the requests were handled by an *ISAPI* program run by the Web server.
- An e-commerce simulation that included 2% dynamic requests over SSL, 6% static SSL requests, and 17% dynamic requests over a normal connection.
- The same e-commerce simulation as above but using an *ISAPI* module to respond to the requests.

Figure 1 shows the peak request rate for each of the tests we did. The test results demonstrate the scalability of the NetServer LT 6000r regardless of the type of request made. Table 1 gives the peak request rates corresponding to those shown in Figure 1.

Figure 1: Peak Request Rate Performance Summary
(larger numbers are better)

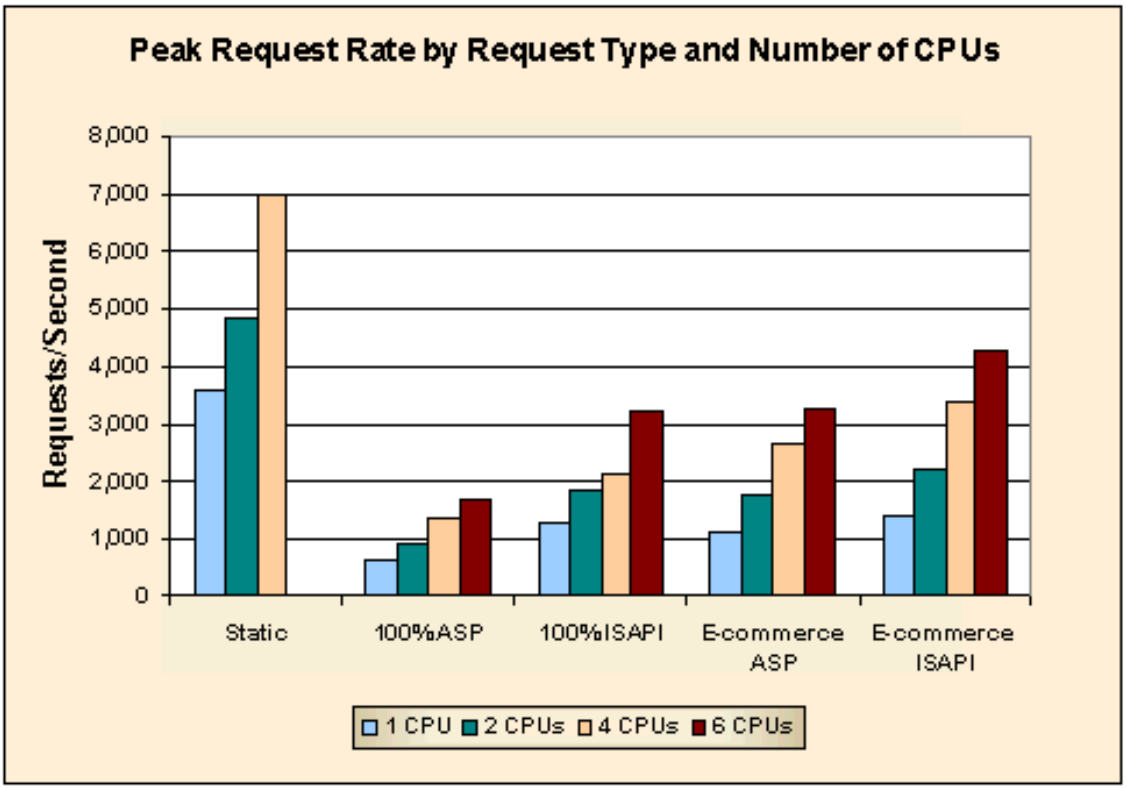

Table 1: Peak Request Rates

Test	NetServer Configuration			
	1 CPU	2 CPUs	4 CPUs	6 CPUs
Static	3570	4842	7010	*
100% ASP	634	920	1369	1688
100% ISAPI	1271	1854	2136	3238
E-commerce ASP	1144	1768	2644	3265
E-commerce ISAPI	1409	2183	3389	4275

* - We have no performance result for the 6-CPU configuration because our test lab was not able to get all six processors in the NetServer to approach 100% CPU utilization.

Conclusions

- The HP NetServer LT 6000r running Microsoft Windows 2000 provides great Web server performance that scales well and comes in a small package.
- The HP NetServer LT 6000r is a good platform for running applications written using ASPs because performance scales well as more processing power is added.

Mindcraft Certification

Mindcraft certifies that the benchmark results reported in this white paper accurately represent the performance of the HP NetServer LT 6000r and Windows 2000 configured and tested as specified herein.

Our test results should be reproducible by others using the same test lab configuration, the same HP server and Windows 2000 configuration, and the same software configurations documented in this white paper.

Analysis and Test Details ▶

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