

Testing Server Performance: Optimized vs Unoptimized Magento

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Overview

Magento is emerging to become the most widely used eCommerce software platforms for online merchants. This is due to the flexibility of this eCommerce platform to allow customization of your online merchant site as well as being able to control the flow of how products are ordered online.

The problem many users are experiencing is that Magento is quite resource intensive resulting in slow server performances compared to other eCommerce platforms such as osCommerce. Performance degradation is apparent when more products are added to the platform and is more evident with concurrent usage. As a result, failed transactions will occur due to the lack of resources available to the server. This will ultimately lead to frustrated customers and loss of revenue for you.

Our Optimized Magento service will improve the performance of your server by maximizing the number of transactions your server can handle, minimizing the number of failed transactions, and providing quicker response times to your customer. Our key strategy is to make efficient use of your system's resources. Based on our test results, our optimized servers increased the total number of transactions achieved by 4.7 times and reduced response time by 43%¹. In addition, the performance gains of our optimization eliminated the number of failed transactions that occurred due to the lack of server resources in an unoptimized environment.

Testing Methodology

For our test, we are simulating a Magento store with 100,000 product SKUs. To begin, we used the following server configurations and loaded each with CentOS 5 and Magento Community Edition 1.3.2.4:

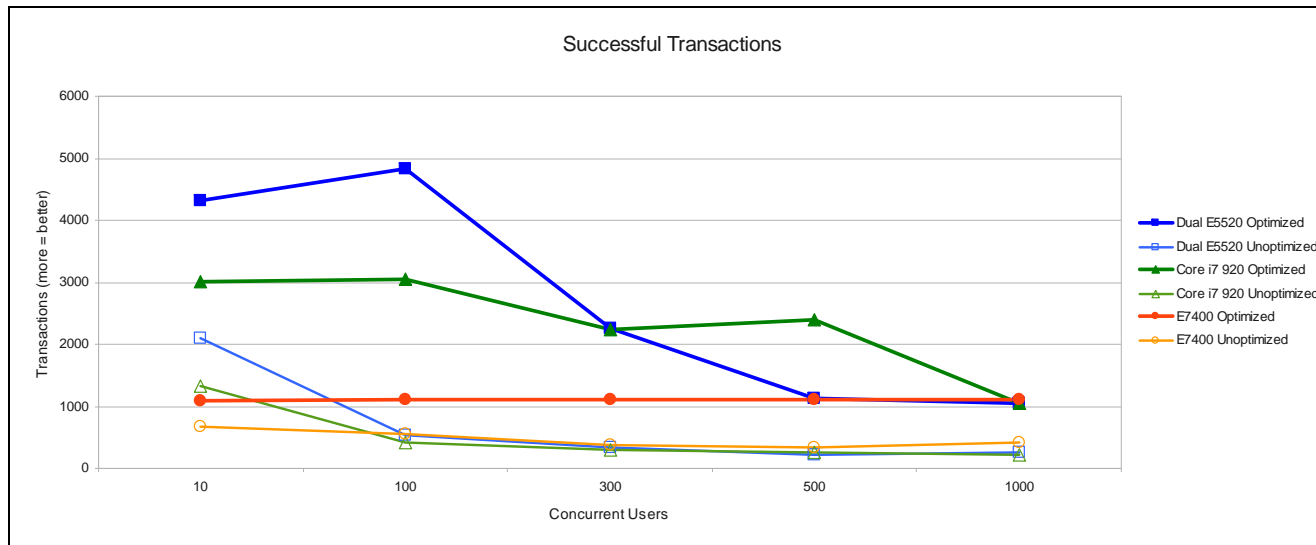
Rackmount Server Intel Core 2 Duo E7400 2.8GHz 4GB RAM 500GB SATA Hard Drive	Rackmount Server Intel Core i7 920 2.66GHz 4GB RAM 500GB SATA Hard Drive	Rackmount Server 2 x Intel Xeon E5520 (Nehalem) 2.26GHz 4GB RAM 500GB SATA Hard Drive
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For each server configuration, we loaded one server with a Magento environment that is not optimized and another server with a Magento environment that is optimized. We used Siege for load testing to simulate the performance of each server with concurrent simulated users. To measure performance gains, we recorded results of the following:

- Successful Transactions – the number of times the server responded with a valid code. A transaction is defined by the summation of each concurrent user hitting the server successfully in a 120 second window.
- Failed Transactions – the number of times the server failed to respond with a valid code.
- Response Time – the average time the server took to respond to each concurrent user's request.

¹ Number of transactions and response time figures are averages of 15 data points of optimization performance gains.

Test Results – Successful Transactions

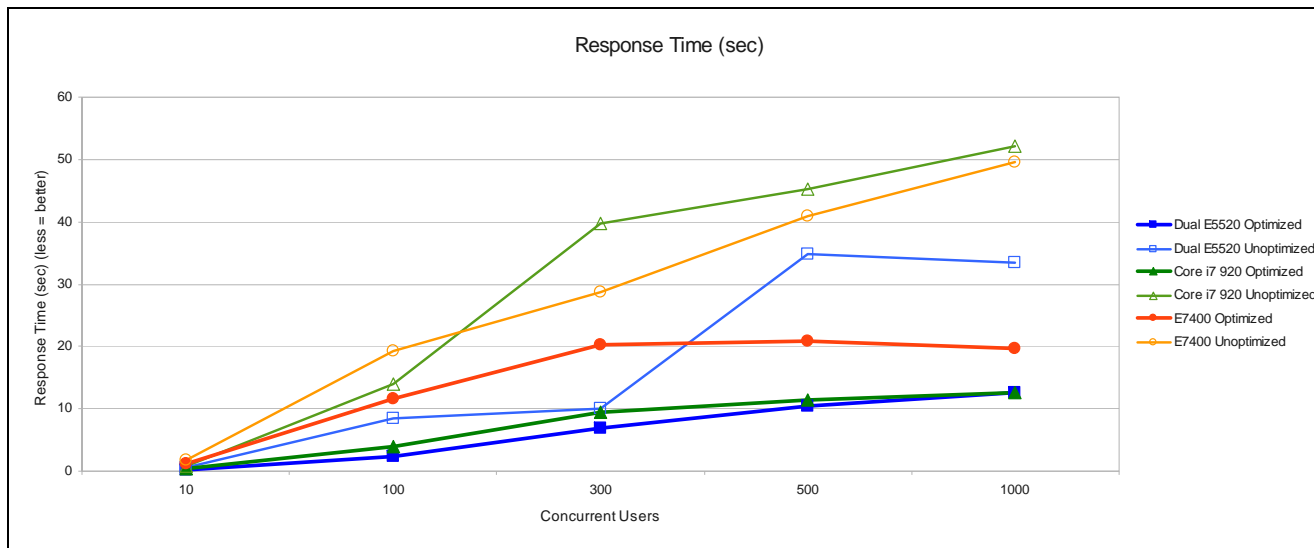


Concurrent	E7400 Unoptimized	E7400 Optimized	Core i7 920 Unoptimized	Core i7 920 Optimized	Dual E5520 Unoptimized	Dual E5520 Optimized
10	665	1087	1317	3009	2090	4326
100	562	1105	406	3045	528	4832
300	384	1108	293	2243	345	2261
500	343	1118	257	2398	227	1138
1000	418	1109	213	1058	262	1042

Our optimization increased number of transactions on average by **4.7 times**. The performance gains range from **1.6 times** to as much as **9.3 times** the number of successful transactions completed. This translates to the improved performance of your web server with Magento Optimization.

For all unoptimized server configurations, the tests recorded Failed Transactions at >300 concurrent transactions. Optimization reduced this number significantly, but did not prevent Failed Transactions from occurring.

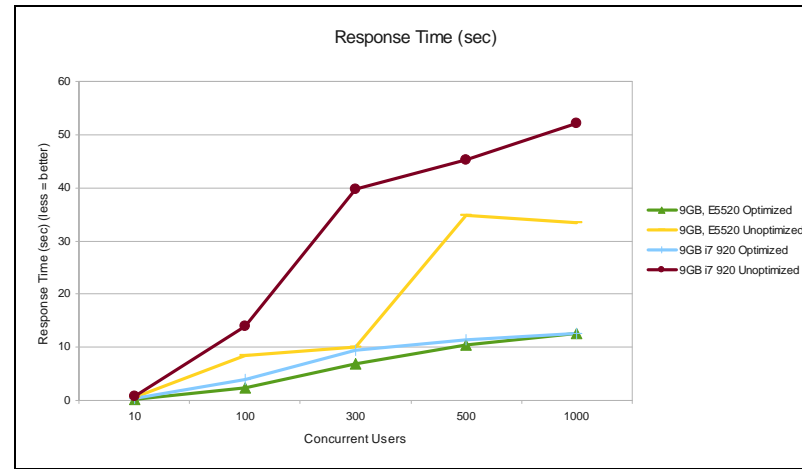
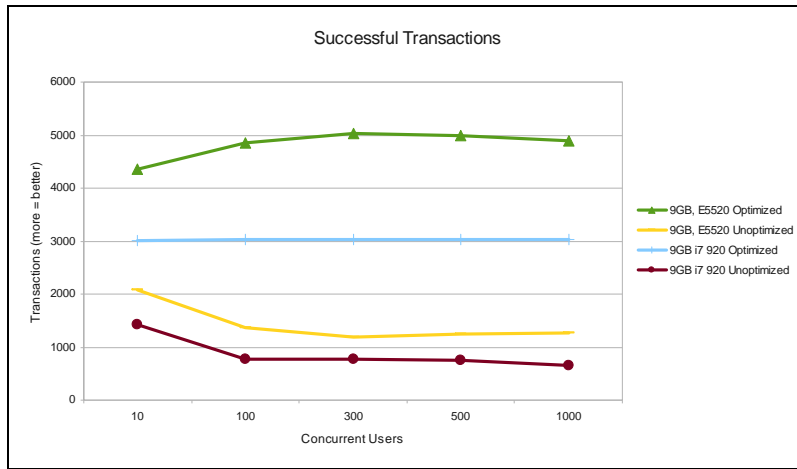
Test Results – Response Time



Concurrent	E7400 Unoptimized	E7400 Optimized	Core i7 920 Unoptimized	Core i7 920 Optimized	Dual E5520 Unoptimized	Dual E5520 Optimized
10	1.77	1.1	0.84	0.4	0.57	0.27
100	19.21	11.56	13.9	3.86	8.47	2.43
300	28.69	20.23	29.83	9.47	9.95	6.9
500	40.94	20.91	35.17	11.48	34.74	10.5
1000	49.66	19.77	42.11	12.51	33.5	12.57

Our optimization improved average server response time by **44%**. The performance gains range from **28%** to **71%** improved response time when we optimized the servers for Magento.

Test Results – Upgrading memory from 4GB to 9GB



Concurrent	9GB i7 920 Unoptimized	9GB i7 920 Optimized	9GB, E5520 Unoptimized	9GB, E5520 Optimized
10	1418	3007	2083	4366
100	781	3022	1367	4861
300	764	3039	1186	5021
500	760	3039	1251	4986
1000	657	3037	1261	4884

Concurrent	9GB i7 920 Unoptimized	9GB i7 920 Optimized	9GB, E5520 Unoptimized	9GB, E5520 Optimized
10	0.9	0.39	0.57	0.27
100	3.93	3.86	13.06	2.41
300	9.28	12.52	7.52	6.67
500	19.16	10.91	7.79	5.87
1000	28.65	10.87	22.27	8.43

Our optimization increased the average number of transactions by **3.6 times** and improved average response time by **36%**.

As expected, adding more RAM improved the overall performance of our servers. Increasing memory from 4GB to 9GB eliminated any Failed Transactions from our tests in both unoptimized and optimized environments.

The highest performance gains is exhibited during high simultaneous transactions (>300 concurrent).

Conclusion

Our Optimized Magento service will maximize the performance of your server by efficiently using your system resources. The key benefit of optimizing your Magento eCommerce platform is to minimize the number of failed responses and provide a better end-user experience of your online merchant store by providing information quicker.

Squeezing the most performance out of your server can make a difference in how your web site functions and the impression it makes to your customers. Even fractions of a second matter when it comes to displaying web pages to give the best end-user experience, especially on dynamic sites.

Based on our data, our optimization provides 4.7 times more transactions on average and improves server response time by 44%. This translates to quicker browsing of your catalog pages, faster search results of products, and a higher rate of successful order completions.

Be sure to contact our sales team to learn more about Superb's Optimized Magento services at 888.354.6128 or sales@superb.net.