Softsmith
Quality Enterprise Solutions

Performance Testing Assignment at Arman Infotech

Arman Infotech was developing a product for staffing services. Arman Infotech was not sure of application's performance under load. So Softsmith Infotech was engaged to certify the products performance.

Client Overview:

Arman Infotech Systems is a new generation company that fuses traditional business principles with advanced technology, to create leading edge products and solutions in the areas of CRM, E-business, client/server, wireless, application software and Business Process Outsourcing.

Project Overview:

TalentSecure® is a hiring management system that aims to streamline an organization's recruitment function. Our staffing software product TalentSecure® has been designed to focus on facilitating the requirements of organizations, staffing agencies, contingency search firms, executive search firms and temporary placement agencies. It is a secure web-based system that would simplify and automate the recruitment process in an enterprise.

Case Study

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Engagement Model:

- **Carry out a proof of concept and suggest a good open source tool for performance testing.**

  The client had no previous experience on performance testing. Softsmith was invited to conduct a proof of concept on their application and suggest a good open source tool. Initially open source tools like grinder, OpenSTA were tried. But these tools were not able to handle the correlation problems properly. Finally Web Load was tried. With web load scripts were created for the sample scenarios given by the client. Then the sample scenarios were run with a maximum of 100 users. The report was submitted to the client along with the recommendations on the tool to be used. A presentation was given to the client on the performance test approach and other deliverables.

- **Performance Test approach used**

  Web load is the tool used for the load testing. Initially performance-critical scenarios were identified. Three phases of Load testing were planned. Scenarios were identified for each of the phases. Then scripts were generated for these scenarios using the recording engine of the webload. Correlation rules were written to capture the dynamically generated data. The scripts were then parameterized with test data given by the client.

  The Following was the approach used to run the performance test in the console

  - Tests were started with one user, and then increased to 10, 25, 50,100, 150,200,250, and 300.
  - Testing done for each scenario and results are prepared for the above load.
  - Only one load generator used for the load testing as web load does not support more than one generator for open source version.
  - Performance counters like Response time, Throughput, Resource utilization (Processor, Memory, Disk I/O and Network I/O), Maximum user load were monitored.
  - Ensured that performance counters relevant for identified metrics and resource utilization are being measured and are not interfering with the accuracy of the simulation.

  It was made sure that the client computers (agents) used to generate load are not overly stressed. Resource utilization such as processor and memory remained well below the utilization threshold values to ensure accurate test results.

- **Major Performance bottlenecks identified during performance testing.**

  Could not create people, company and job requirement when we log in with 2 users for the scenarios Create new People, Create new company, Create new Job Req. Users were getting 500 errors for more than one user when they try to create at the same point of time. The problem was analyzed and we found "DataTable already belongs to another DataSet" error at the database level.

  Edit People profile and Edit company profile are not able to handle within stipulated time beyond 25 users at a time. Even though there is no failure for these runs but needs to be fine tuned for more concurrent users. It was found that the connection pooling was not done properly.

- **Suggested performance tuning actions.**

  - Write queries that update as many rows as possible in a single statement, rather than using multiple queries to update the same rows.
  - Use the Index Tuning Wizard to analyze your queries and make index recommendations.
  - Use integer keys for clustered indexes. Additionally, clustered indexes benefit from being created on unique, nonnull, or IDENTITY columns.
  - Create nonclustered indexes on all columns frequently used in queries. This can maximize the use of covered queries.

Accomplishments

- A solid performance test plan and approach was established.
- A base line for all the performance critical scenarios were achieved.
- The client was now confident about the number of users the site can handle.
- Several scenarios were tuned that made the application more robust.

This is what Arman commented on softsmith's delivery:

We are glad with the outstanding technical assistance provided by you towards Performance testing. We will always remember how courteous, friendly and professional your team was. We have had lots of very positive comments on your support and your dedicated work made a great difference. Many thanks to Softsmith and we are looking

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