Load Testing

Load Testing to Maintain Your Brand

NIO Naulinovation Informatika dan Otomasi

At a Glance

- Load Testing is critically important to developer, operational technical support, and end user.

- A system might work on few users, but then crash wile large number of users log in.

- When your business-critical system slow, it will hurt your brand.

What is Load Testing

Load testing is the process of putting demand on a software system or computing device and measuring its response. It is performed to determine a system's behavior under both normal and anticipated peak load conditions. It helps to identify the maximum operating capacity of an application as well as any bottlenecks and determine which element is causing degradation. When the load placed on the system is raised beyond normal usage patterns to test the system's response at unusually high or peak loads, it is known as stress testing. The load is usually so great that error conditions are the expected result, but there is no clear boundary when an activity ceases to be a load test and becomes a stress test.

The term "load testing" is often used synonymously with concurrency testing, stress testing, software performance testing, reliability testing, and volume testing.

The Purpose of Load Testing

Do you remember your last performance problem? Unfortunately, most of performance issue is not discovered in the testing phase, but in operational phase. To avoid business disruption, project management should plan for performance even in the initial design and development phases, because with the first production run performance will be on the agenda at the latest.

Most web applications have a good performance as long as only a few users are active. But what happens if a large number (e.g. thousands) of users work with the application simultaneously? At this point, Load Testing becomes a major issue. By simulating a large number of web users, we can generate load and network traffic on the system, and the application as well as various servers are driven to their performance limits.

There are several reasons to perform Load Testing:

- There is no 100% certainty that multi-user software makes all its functions and methods available to all users, and is therefore multi-user capable. But with load testing it is possible to find a high percentage of the faults which were not found by individual manual testing.
- Load testing allows a realistic check of the configuration of interfaces to other systems or subsystems and computers.

In addition, performance tests can also detect bottlenecks in host systems. Load testing essentially concern the following topics:

- Consumption of resources
- Response times
- Number of users

Especially people from technical support are mainly interested in the system resource consumption. They want to know what to expect with the introduction of an application to the production system. The adequacy of servers and instances is of interest. On the other hand, application users are interested in response times. With a large load created by many users, there will be an increase in response times and resource utilization. .
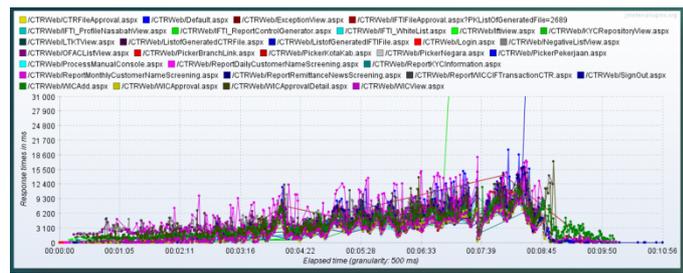
How We Do It ?

- We use Apache JMeter as load testing main tool.
- We mimic your end-user activities:
  - Thinking time.
  - Random nature of user actions.
- We load hundreds/thousands concurrent users into system.
- We monitor:
  - Response times.
  - Machine resource utilization(CPU, RAM, IO, Networks).
  - SQL Queries waiting time.
  - The bottlenecks (node, page, or SQL query).
- Maximum number concurrent users is bound to:
  - Agreed response time percentile.
  - Resource utilization.

Why Engage with PT. NIO

- ∗ PT. NIO has vast experience in load testing that gives the team knowledge of best practices and skill to develop customize JMeter plugin.
- ∗ Our team has deep knowledge in TCP/IP protocol, Java programming, and *nix operating systems.
- ∗ PT.NIO belts the most capable load testing provider in Indonesia.

System Performance Correlates with Brand

Radware® (NASDAQ: RDWR), a leading provider of application delivery and application security solutions for virtual and cloud data centers, today released new research revealing that network speed deeply impacts consumers at every phase of the transaction process, particularly users of mobile devices. The report, entitled "Mobile Web Stress: The Impact of Network Speed on Emotional Engagement and Brand Perception," shows that even moderately slower connection speeds result in significant increases in user frustration and decreases in engagement. (12/10/2013)

RESULTS

- Bottleneck node/resource.
- Top Losers of URL/action/method/function.
- Top Losers of SQL Query.
- Proposed solution to improve system scalability.
- Final conclusion on how many concurrent users your system can handle.

Our Proposition

We have many experiences in performing load testing in several MNC organizations. Those experience bring us knowledge to load testing best practices and customize and create JMeter plugin.

About PT. Naulinovation Informatika Otomasi

PT.NIO consists of people who believe that end user business is more important than signed contract. Some of them have experience that a rigid partnership between IT system provider and end user harms both parties. For that reason, our organization applies agile project delivery.

Load testing or stress testing is one of our organization most passionate field besides enterprise software development, and mobile apps development..

PT. Naulinovation Informatika Otomasi
Graha Mampang 3th floor, 305 Suite
Mampang Prapatan Raya Kav. 100.

inquiry@naulinovation.com
sales@naulinovation.com
Website http://naulinovation.com