



Microsoft Web Application Stress Tool

JUGAT Meeting
12 Juni 2001

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- You have implemented a web-based application ?!
- You have to fulfill some performance criteria ?!
 - Fast enough for X users ?!
 - Still up and running with 2*X users ?!
 - Need more CPU and /or RAM for the box ?!
 - Tune the performance ?!
- You don't have spare money ?!
 - 20.000 USD are not an option for performance check ?!
 - Don't like virtual users valid for 24 hours ?!

Have a look at Microsoft Web Application Stress Tool !!

Load testing is defined as testing the server or application in a way that is considered operationally normal with a normal-to-heavy number of concurrent users.

Stress testing is defined as testing the server or application in a way that is considered operationally abnormal.

Performance testing includes both load and stress testing to gauge how the Web site (application) performs.

- Performance testing through load simulators
 - manually created scripts
 - capture & replay a session
- Analysing a web-application regarding to
 - response time
 - throughput
 - scalability
 - system resource consumption
- Detecting load induced failures
 - Race Conditions
 - Dead Locks
 - Weird Paths

Company	Product	Virtual User	Price (USD)
Mercury Interactive	Loadrunner	> 50	> 40.000
RSW Software	E-Load	> 100	> 25.000
Segue Software	Silkperformer	> 100	> 25.000
Microsoft	Web Stress Tool	Unlimited	0

Source: Dr. Dobb's Journal March 2001

- Capture/Replay Tool for HTTP/HTTPS Requests
- Recording of tests using a browser
 - Internet Explorer 5.0
 - Netscape Navigator 4.X
- Test script stored in Access database
 - SQL queries possible
- Replaying of test script with configurable
 - server
 - test duration
 - number of virtual users
 - data transmission rate

Test Scenario for Enhydra Golfshop Demo

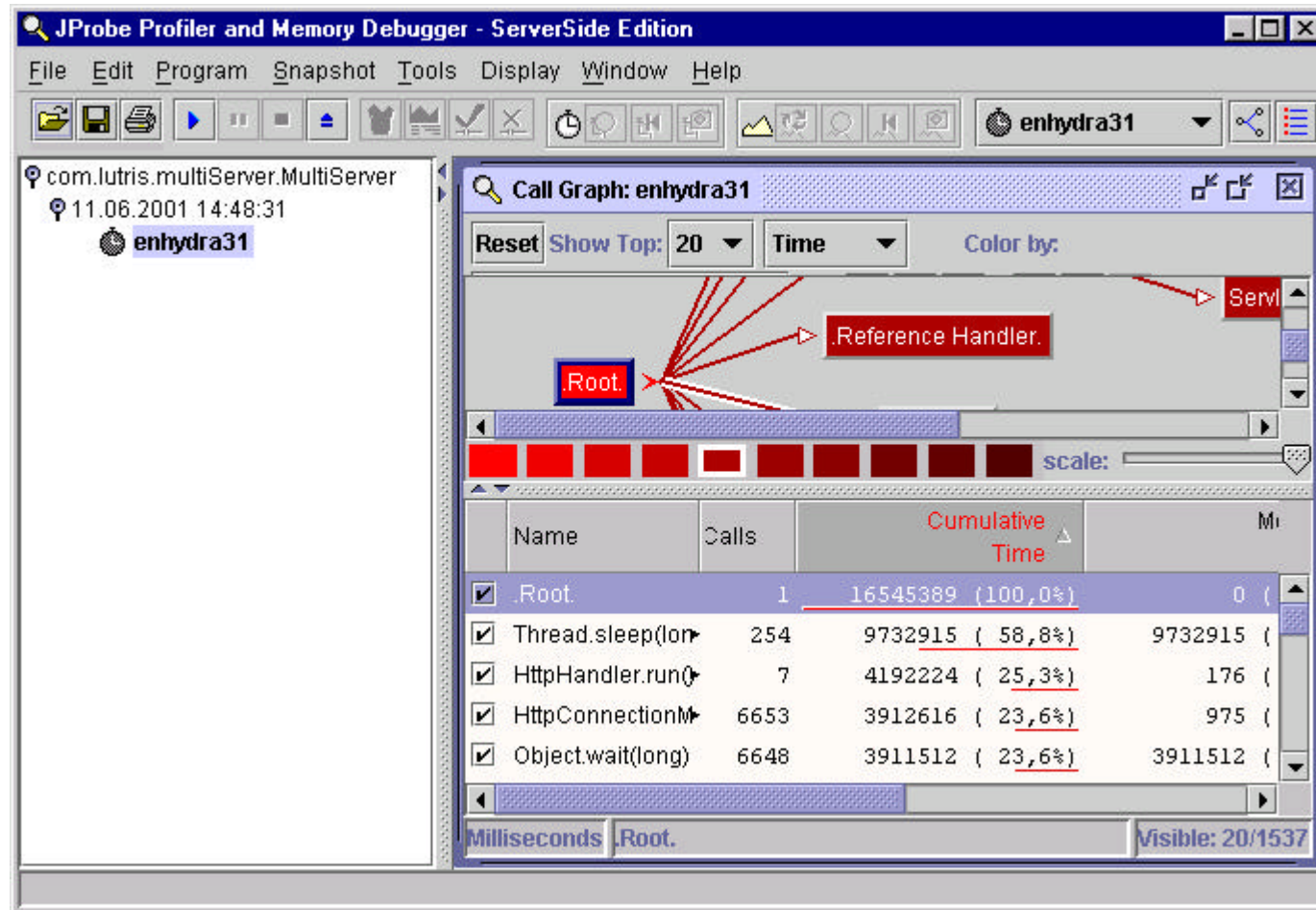
- Login
- Buy some practice balls (5 packages)
- Buy steel irons
- Buy basic putter
- Delete basic putter from shopping cart
- Provide personal data for purchase
- Logout



The server is too slow - what now ?!

- OS Performance Monitor
 - PERFMON for Windows NT
 - top/ktop for Linux

- Java Source Code Profiler
 - JProbe 2.8
 - Optimizelt



- Page Groups
- Query String Editor
- Dynamic Input Parameter
 - sequential & random distribution of input parameter
- Windows Performance Counters
 - as implemented in PERFMON
- SSL Support
- HTTP message tracing

- No result verification possible
 - check application logfile
 - check HTTP result codes
 - check result size of pages
- No redirect to other server possible
 - different ports on one computer possible
- No graphical representation of performance data
 - EXCEL is not too bad after all
- Limited usage of user specific data
 - only username and password

- HTTP Unit
 - Roll your own tests in JAVA
 - Extensions available such as JUNIT-WEBAPP currently developed by Software Daten Service, Vienna
- OpenSTA
 - runs on Windows NT/2000
 - capture/replay available
 - scripting language support
 - CORBA based
- JMeter
 - JAVA/Swing application
 - much simpler than WAS

WAS is an easy to use tool for performance testing :

- no costs
- capturing a test scenario with a browser
- replaying a test scenario with hundreds of virtual users
- other tools needed for optimizing a slow server - „what you can't measure you can't optimize“
 - JProbe
 - Optimizelt



World Wide Web

- Unit Testing: www.junit.org
- HTTPUnit: www.sourceforge.net
- OpenSTA: www.opensta.org
- JMeter: <http://jakarta.apache.org/jmeter>
- Microsoft Web Application Stress Tool - webtool.rte.microsoft.com
- Optimizelt: <http://www.intuisys.com>
- JProbe: www.sitraka.com