IBM Software Group

Running Your First Performance Test

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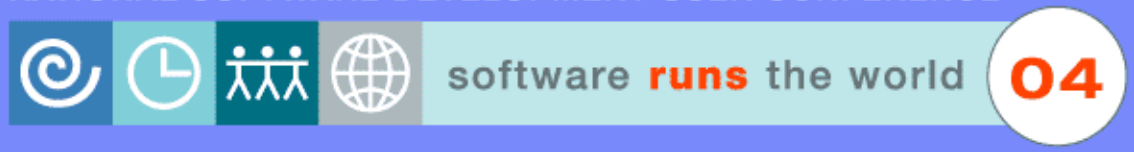
Rational. software

RATIONAL SOFTWARE DEVELOPMENT USER CONFERENCE



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Welcome To Performance Testing

- Terminology
- Planning and Designing Performance Tests
- Creating a Performance Test Script
- Creating a Performance Test Suite
- Running a Performance Test Suite
- Reviewing and Analyzing Results
- Next Steps

Terminology

- *Performance Testing* – determine whether a multi-client system is performing within user-defined standards under varying loads. Performance testing includes many other types of testing including load testing, stress testing, configuration testing, etc…
- *Virtual Tester* (or *Virtual User*) – a single instance of a virtual tester/user script running on a computer. Many virtual users may run simultaneously and are used to emulate traffic between a client and its servers
- *Test Suite* – a TestManager object that enables you to manage how test scripts are run and the computers that will be used for testing. In performance testing, you can also customize the number of virtual users, how the users and tests are distributed, and in what order the performance tests are executed.

Planning and Designing Performance Tests

Getting Started

- What types of performance tests do I need to run to ensure the agreed-upon level of quality?
- What performance benchmarks are we interested in and how will I measure whether they've been met?

Going Forward

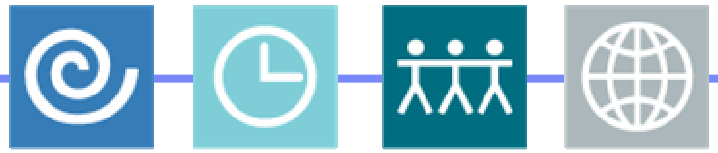
- "User Experience, not Metrics" – Series by Scott Barber

  http://www-106.ibm.com/developerworks/rational/library/4228.html
- "Beyond Performance Testing" – Series by Scott Barber

  http://www-106.ibm.com/developerworks/rational/library/4169.html

Creating a Performance Test Script

- Set your recording options
- Record a session
  - **Comments** - delimited by the characters /* and */, comments will make your script more maintainable and easier to debug
  - **Blocks** - a block is a set of contiguous lines of code that you want to make distinct from the rest of a VU script
  - **Timers** - a timer measures the time it takes a virtual user to perform an activity (stopwatch)
  - **Synchronization Points** – used to coordinate the activities of a number of virtual testers by pausing the execution of each virtual tester at a particular point
- Generate your script(s)
- Modify the generated script(s)



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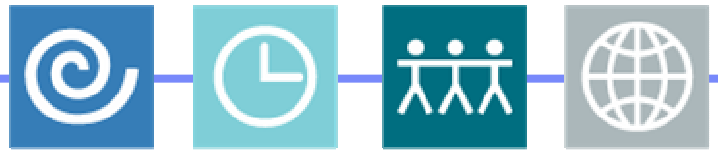
Creating a Performance Test Suite

- Performance Testing Wizard
  - **Add computers** – You can add computers to a suite for remote testing, distributed testing, or configuration testing.
  - **Add Test Scripts** – You can add multiple scripts to the suite to create custom scenarios or to generate different types of load.

Creating a Performance Test Suite

- Modifying the Suite
  - **User Groups** – used to set runtime information for the scripts contained in the group
  - **Scripts** – vu scripts generated in Robot
  - **Scenarios** – use to reuse a series of events within a suite
  - **Delays** – set to allow a particular number of seconds to elapse before continuing the suite
  - **Selectors** – defines which items each virtual tester will execute and in what sequence
  - **Synchronization Points** - used to coordinate the activities of a number of virtual testers by pausing the execution of each virtual tester at a particular point
  - **Transactors** – can be added to set the number of tasks each virtual tester will run in a given period of time.



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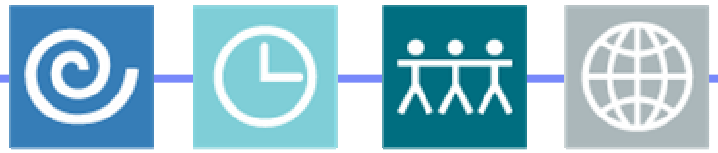
Running a Performance Test Suite

- Set the User Count
  - Fixed Users vs. Scalable Users
- Select the Computers
- Set the Runtime Settings
- Run the Suite
  - Messages
  - Toolbars
  - Views and Histograms



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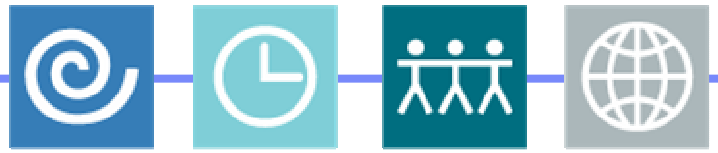
Reviewing and Analyzing Results

- Looking at the log file
- Looking at the Command Status report
- Looking at the Performance report

SQ14 – Interpreting Performance Testing Results and Metrics using IBM Rational TestManager and Excel



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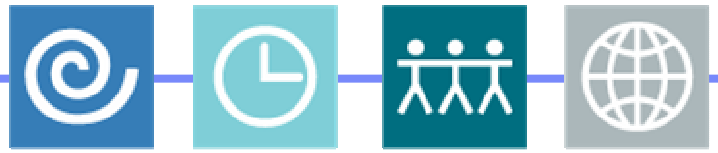
Next Steps

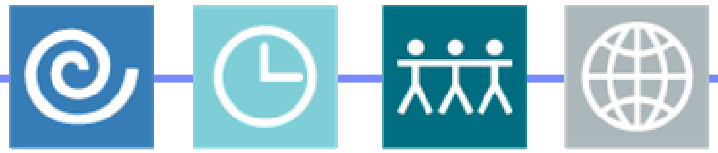
- Performance Requirements
- Distributed Testing
- Modify VU code
- Datapools
- Scenarios

Resources

- "User Experience, Not Metrics" – Series by Scott Barber
- "Beyond Performance Testing" – Series by Scott Barber
- "End-to-End Testing of IT Architecture and Applications" – by Jeff Bocarsly, Jonathan Harris, and Bill Hayduk
- "Performance Testing C++ Code" – by Neil Hunt
- "Quality Aspects of Performance" – by Robert Michalsky
- "Performance Requirements for e-Business Applications" – by Robert Michalsky
- "Load Testing FAQ" – by Rational Software
- "Using Test Agents" – by Michael Kelly
- "Inserting Comments, Timers, Synchronization Points, and Blocks in VU Scripts" – by Michael Kelly
- "Reading HTTP VU Scripts" – by Michael Kelly



QUESTIONS



Thank You

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