



PACIFIC NW
**SOFTWARE
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Stress, Load, Volume, Performance, Benchmark & Baseline Testing at a Price You Can Afford!

Presentation by

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Washington School Information Processing Cooperative





Making Things Happen

The reason most people never
find a 4 leaf clover is that
they never look for one.
Life is a lot like that.

Cordell Vail

Purpose of this Presentation



This presentation will help you learn how to find inexpensive testing tools that will give you predictable results

This presentation is **NOT** intended to teach you how to do the testing

The “Big Picture” Overview



- Know Where To Start
- Uniformity
- Definition Of Terms
 - Stress Testing
 - Load Testing
 - Volume Testing
 - Performance Testing
 - Benchmark Testing
 - Baseline Testing

The “Big Picture” Overview (cont)



- Know the testing objective
- Know the testing environment
- Only buy what you need
- Know how you are going to test
- Trusting the test results
- Possible solutions
- Can we trust market share
- Testing tool comparisons

Know Where to Start

In testing we would all do well to follow Stephen Covey's advice:

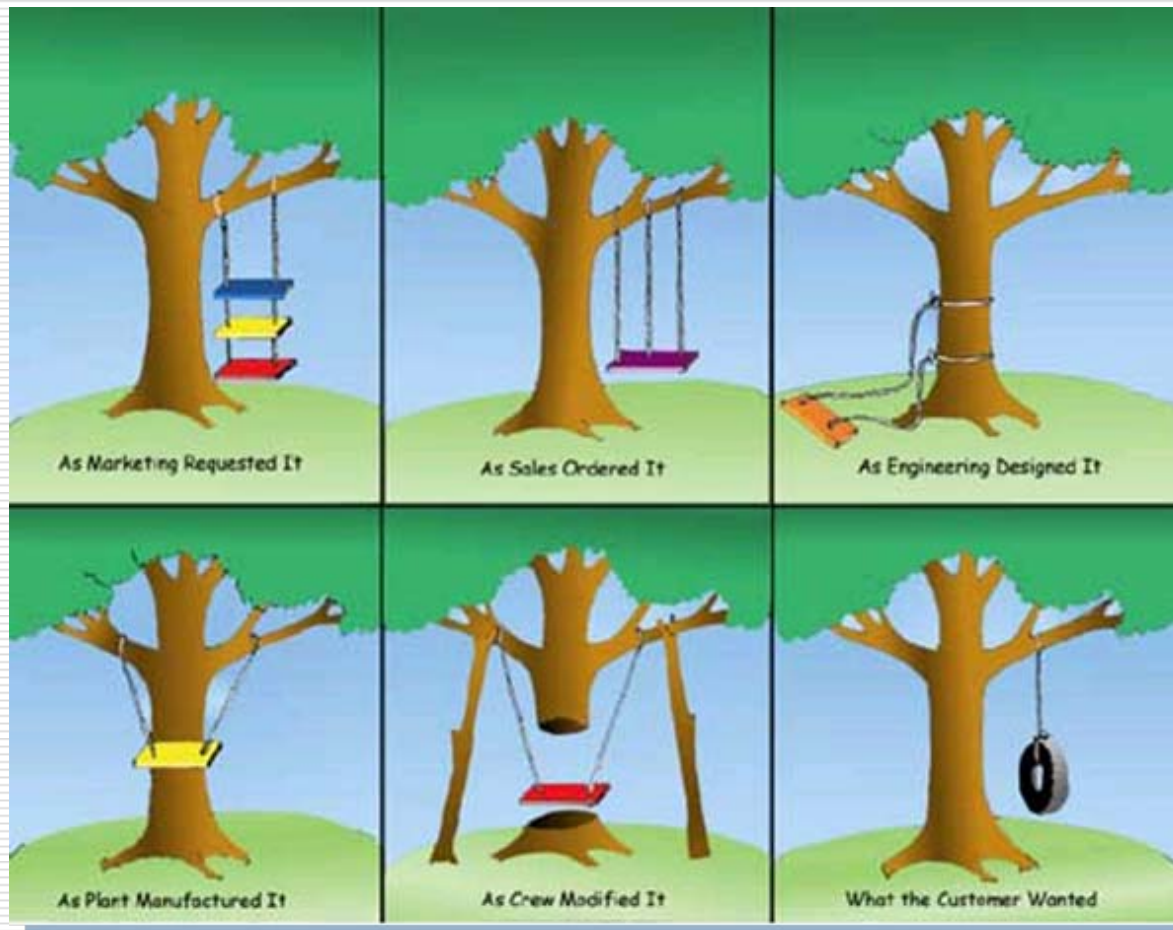
“Begin with the end in mind”

USE A TEST PLAN!

Uniformity



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Uniformity

**We need to define terms
to eliminate confusion**

- **Stress**
- **Load**
- **Volume**
- **Performance**
- **Benchmark**
- **Baseline**

Uniformity

It is not so important how you define testing terms as it is that everyone in your organization use the same definitions

Stress Testing

Tests the server –
Peak volume over a short
span of time

Load Testing

Tests the database –
Largest load the database can
handle at one time

Volume Testing

Tests the server & the database –
Heavy volumes of data over time
(combination of Stress Testing
and Load Testing over time)

Performance Testing

Tests user response time

With web applications this is normally the main consideration

Benchmark Testing

Compares your testing standards to the same testing standards in other similar organizations in the industry

Baseline Testing

Setting testing standards to be used as a starting point for comparison later within your own organization

Identity the Target of the Test



Will the tool need to test:

Bandwidth

Concurrent users

Multiple platforms

Multiple browsers

Users per server

Multithreading

Disk capacity

Faults

Memory

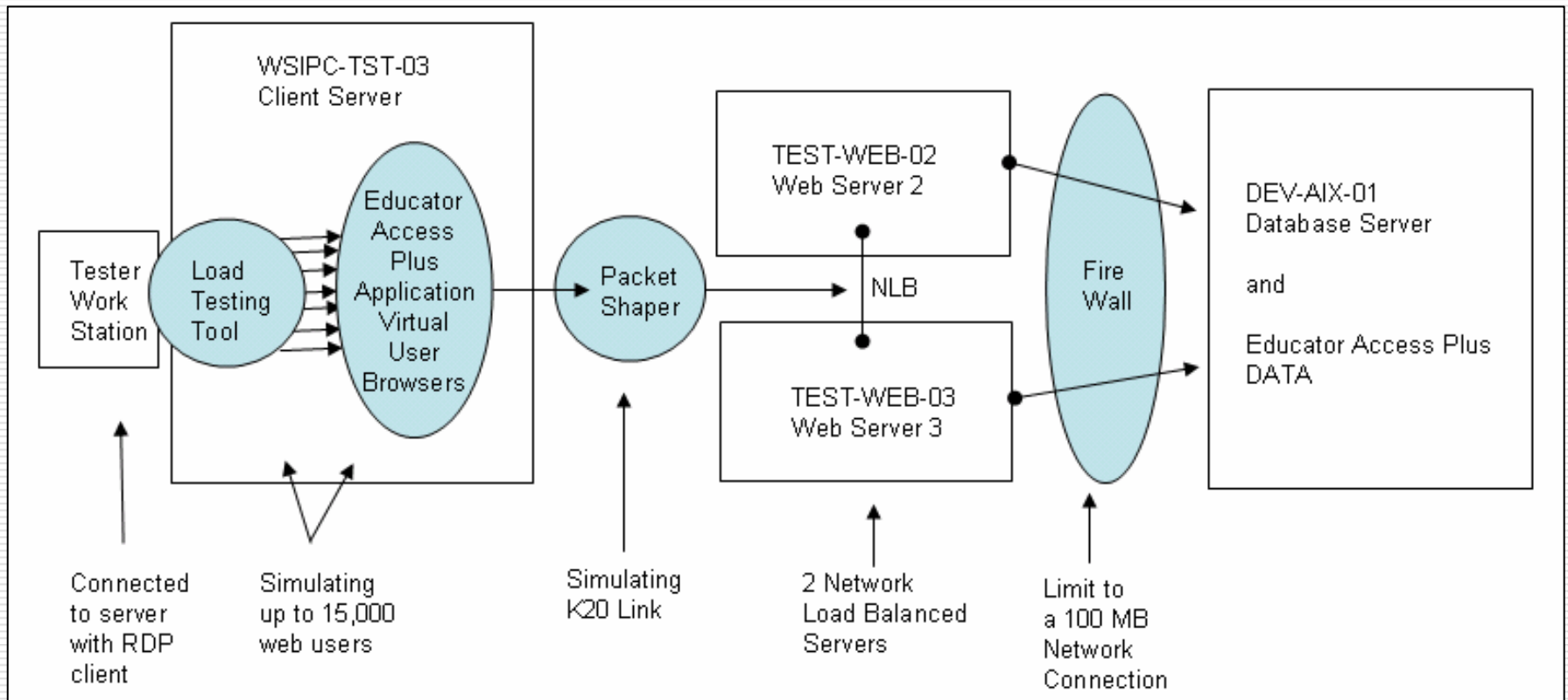
User response

Know the Testing Environment



- **Number of client workstations**
- **Connectivity to servers**
- **Database availability**
- **Production copy of application**
- **Application and web servers**
- **Bandwidth and LAN**
- **Test tools to monitor results**

Our Testing Environment



NOTE: The Client Server and the 2 Web Servers are HP Proliant BL 20 PG2 Dual 3GH Xeon with 2GB Ram

Only Buy What You Need



To find an economical tool you must know what your testing needs are

Each tool is very different

You are not going to pay \$200 and get a tool that will do what an \$85,000 tool will do!

Consider Team Composition



Developers

Source Code Analysis
Cyclomatic Complexity
Memory Leaks

Test Engineers

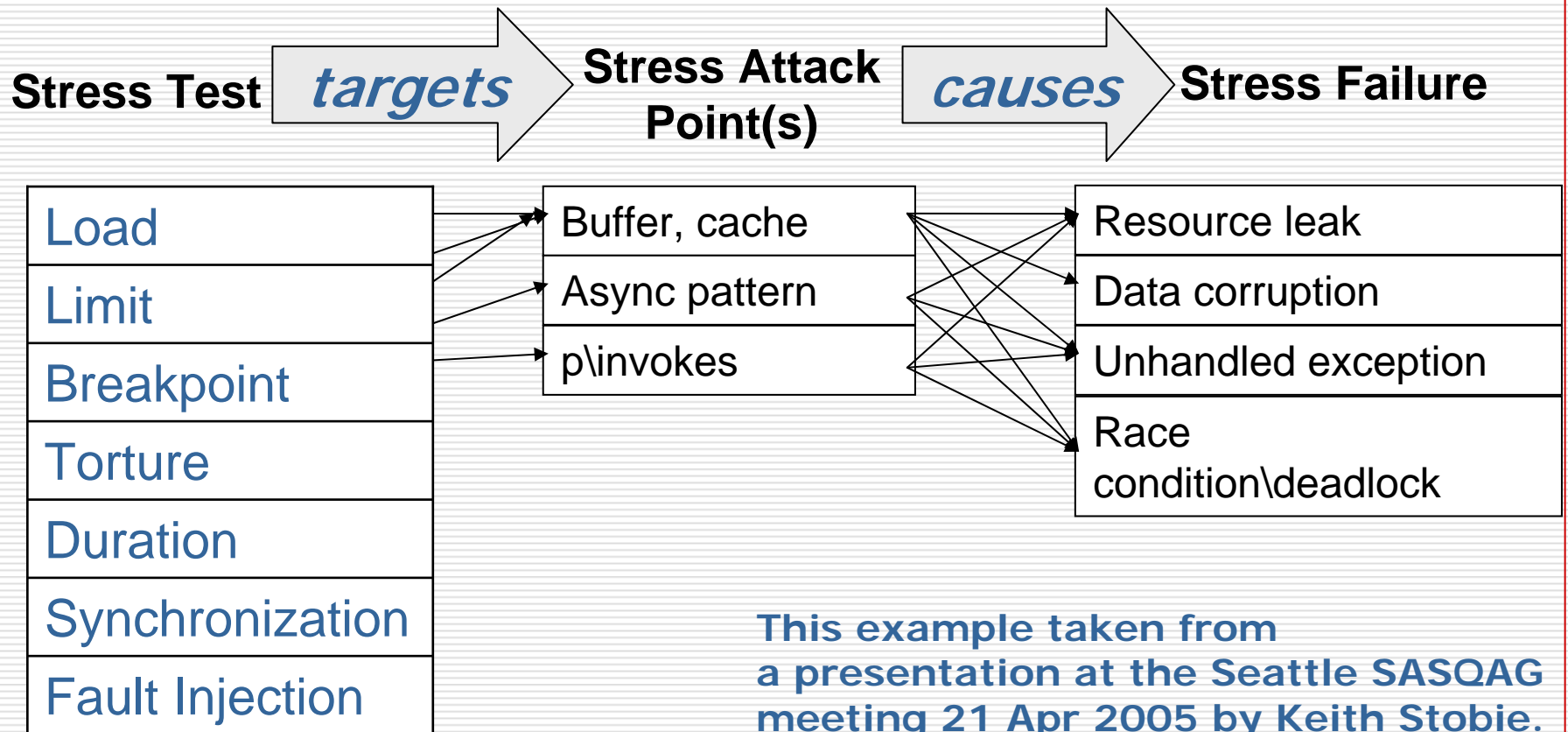
Error Handling
Fault Injection
User Response Time

System Engineers

Bandwidth Restriction
Server Performance
Multithreading

The members of your testing team will be able to help determine what tests need to be done with which testing tool

Know Now How You are Going to Test It



This example taken from a presentation at the Seattle SASQAG meeting 21 Apr 2005 by Keith Stobie. Diagram created by Reji John. Both work at Microsoft. (Used with permission)

Trusting the Test Results



With a new testing tool, how do you know your results are accurate or even valid unless you have something to compare against

Trusting the Test Results



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How big is this equipment?

Trusting the Test Results



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How big is it?

Possible Solutions

#1 - Test the tool on an existing application and web server where you already know what the test results should be

Possible Solutions

#2 - Test with more than one testing tool and compare the results

Is that feasible with the cost of the tools on the market today?

Can We Trust Market Share



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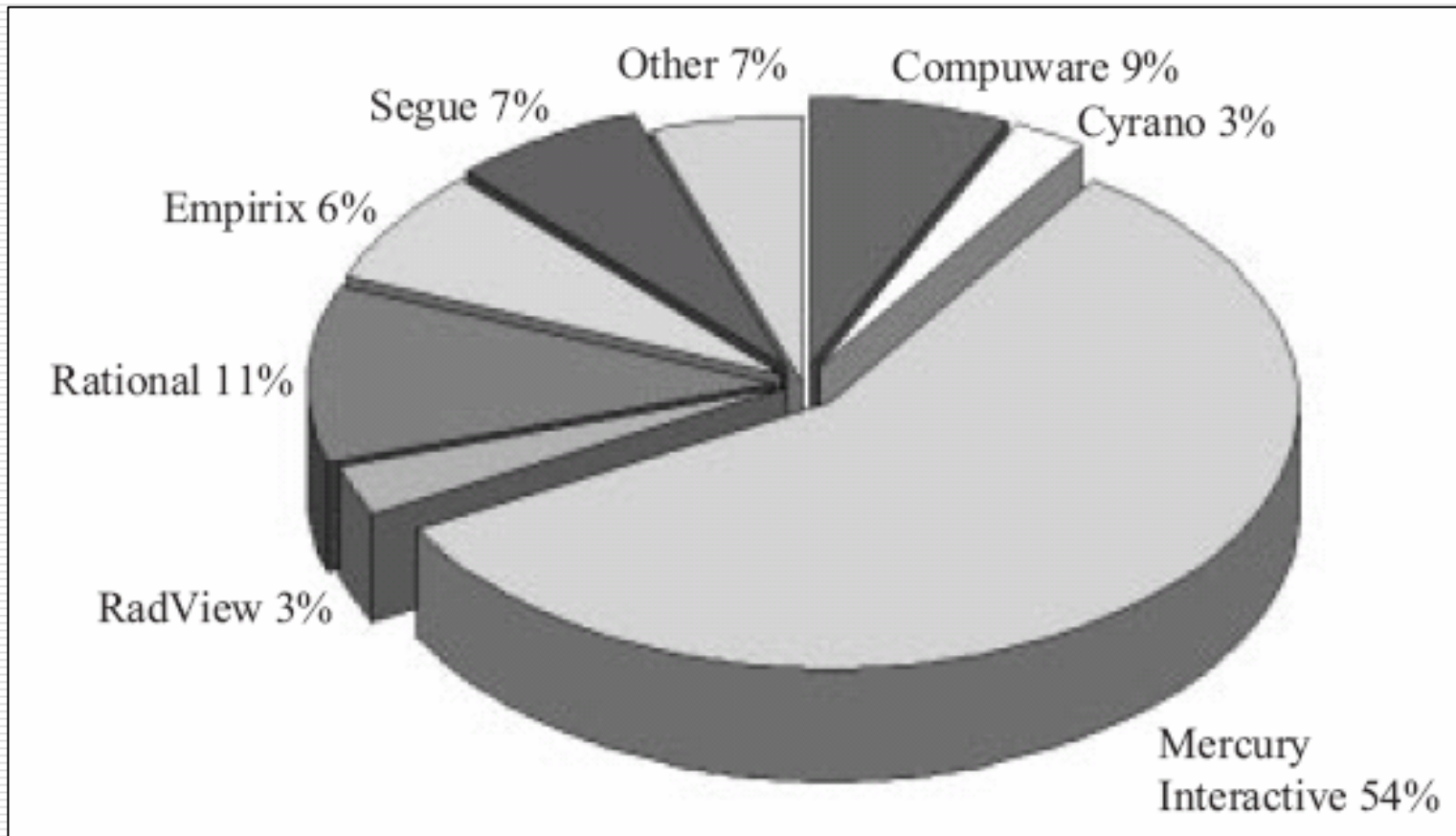
93% of the market share is controlled by 7 vendors all charging very high prices



05/17/04 AP Photo



Market Share

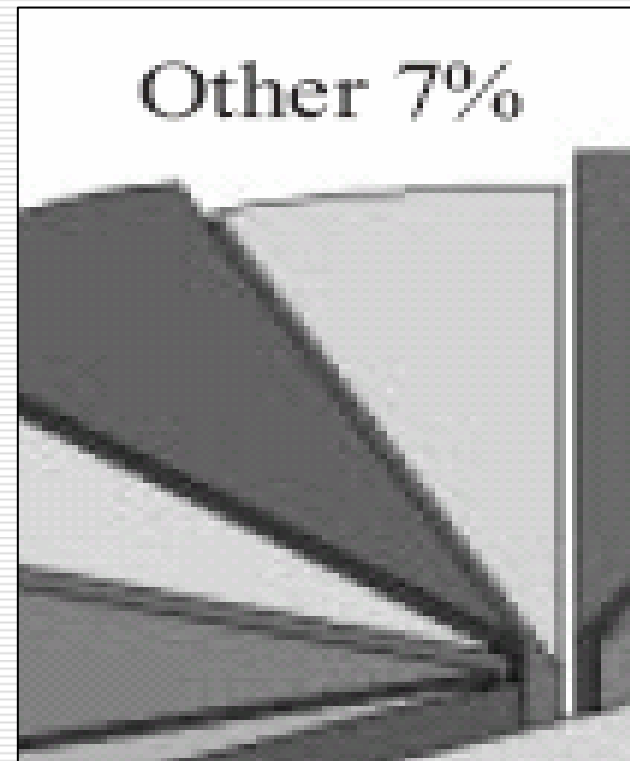


Source:

http://www.mercury.com/us/pdf/company/newport_load2000.pdf

Affordable Testing Tools

We decided to look at that "OTHER" 7% mostly because of price



Testing Tool Comparison Links



<http://www.vcaa.com/testengineer/links.htm>

<http://www.testingfaqs.org/t-load.html>

<http://hammerhead.sourceforge.net/>

<http://opensourcetesting.org/performance.php>

http://www.grove.co.uk/Tool_Information/Choosing_Tools.html

<http://www.softwaregatest.com/gatweb1.html#LOAD>

<http://www.sqa-test.com/toolpage.html>

<http://www.webservices.org/index.php/ws/content/view/full/102>

<http://opensourcetesting.org/performance.php>

<http://sourceforge.net/projects/dieseltest/>

NOTE: See our comparison list on the session CD handout

Testing Tool Vendor Links



Here are links to those 7 larger vendors that are holding 93% of the market share

www-306.ibm.com/software/awdtools/tester/performance/index.html

www.segure.com/products/load-stress-performance-testing/index.asp

www.mercury.com/us/products/performance-center/loadrunner/

www.radview.com/products/WebLOAD.asp

www.quotium.com/qpro_overview_load_testing.html

www.empirix.com/default.asp?action=article&ID=418

www.compuware.com/products/qacenter/performance.htm

Check the Prices out for yourself!

Testing Tool Findings



TestMaker – PushToTest: FREE

<http://www.pushtotest.com/Downloads/>

WAST – Microsoft: FREE

<http://www.microsoft.com/downloads/details.aspx?FamilyID=E2C0585A-062A-439E-A67D-75A89AA36495&displaylang=en>

LoadTester – AppPerfect: FREE

<http://www.appperfect.com/products/devsuite/lt.html>

Testing Tool Findings (cont)



Site Tester 1 – Pilot:

\$29

<http://www.pilotltd.com/eng/index.html>

Portent Supreme –

Loadtesting.com:

\$279

www.loadtesting.com

WAPT - Logasoft:

\$299

<http://www.loadtestingtool.com>

Testing Tool Findings (cont)



Webserver Stress Tool 7 – Paessler:

www.paessler.com

\$625

HOLODECK - SISE:

<http://www.sisecure.com/holodeck/learn.shtml>

\$1,500

NOTE: Holodeck is a fault injection tool- not a normal virtual user testing tool

Other Options

Testing Onshore Outsourcing

http://www.veritest.com/services/load_stress.asp

Online Hosted Services

<http://servers.aplus.net/loadbalance.html>

http://www.webpartner.com/products/st_main.html

<http://www.keynote.com/>

<http://www.webmetrics.com/loadtesting.html>

NOTE: Hosted or online testing may be available free from your ISP

The Authors



Joe Towns brings to the presentation a developer's perspective. He has eighteen years experience as a software developer, systems engineer, and supervisor.

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Cordell Vail brings to the presentation a test engineer's perspective. He is a Certified Software Test Engineer and Certified School Business Specialist with 9 years experience in manual and automated testing. Cordell has made several presentations on "Improving Testing Processes" at both local and national conferences.

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Credits



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