COMP-12
Load/Performance Testing Tools and Techniques

Presentation by Joe Towns & Cordell Vail

Washington School Information Processing Cooperative

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Methodology

- **Definition of Terms**
- **Creating a baseline for your Application**
- **Know the objective**
- **Know the development environment**
- **Only buy what you need**

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Methodology

- **Comparing baseline to results**
- **Uniformity of results**
- **Trusting the test results**
- **Possible solutions**
- **Can we trust market share?**
- **Testing tool comparisons**
- **Demo of tools with our results**

Definition Of Terms

It is not so important how you define testing terms....

just that everyone in your organization uses the same definitions.

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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

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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.

Performance testing does not include tuning, debugging and fixing, but provides the information to direct those efforts.
Dale Perry

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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
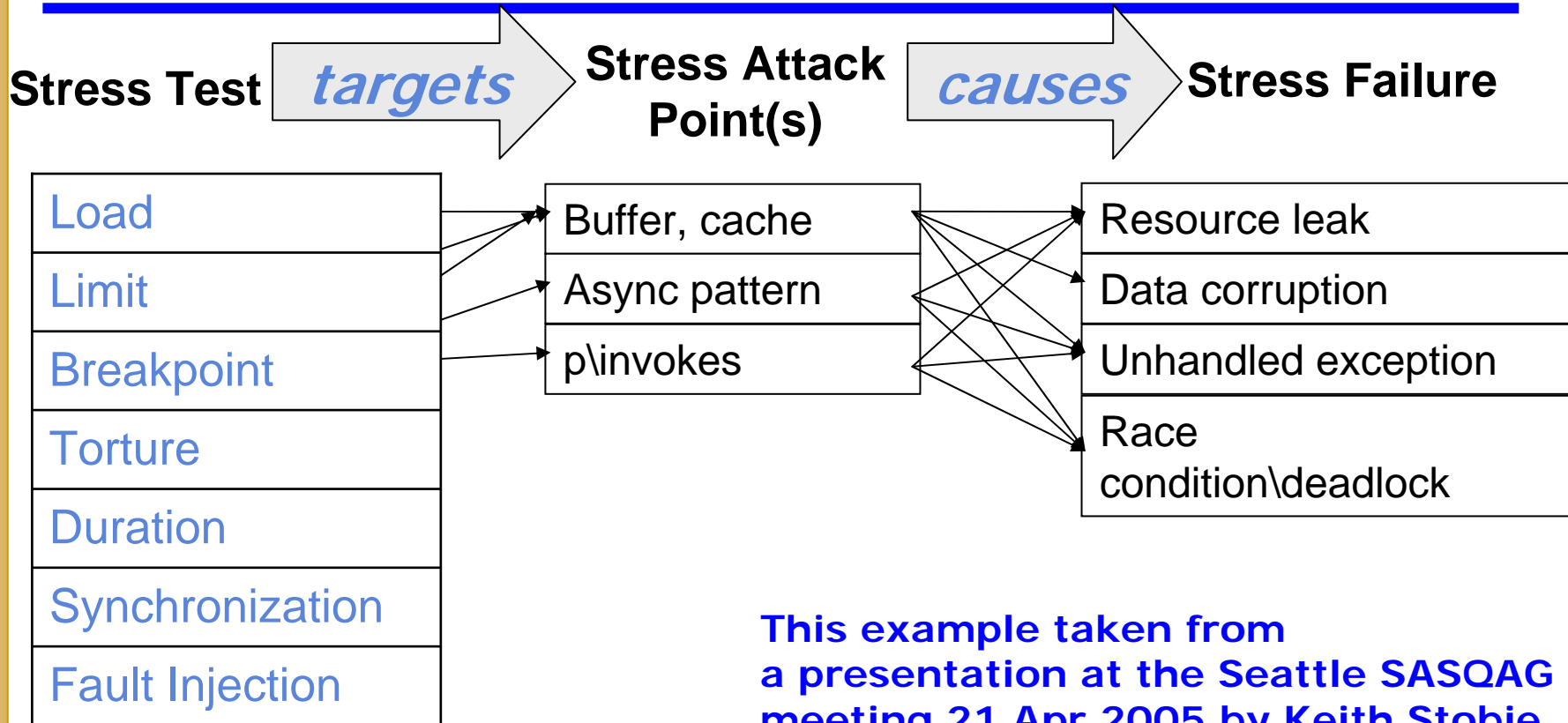
Creating an Application Baseline

Baseline levels of performance
　　For individual modules
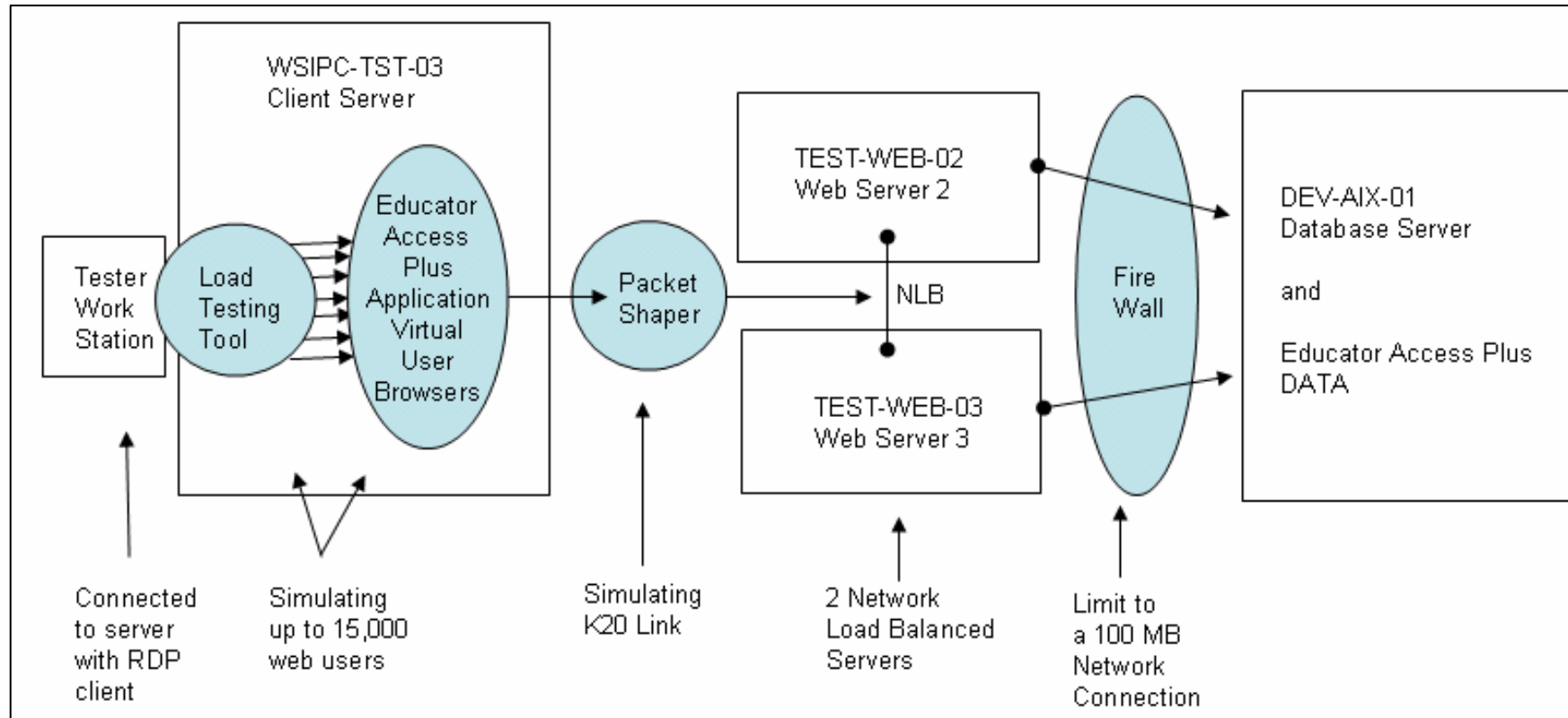　　**For entire application**

Used to compare Client/Server to WebSpeed®

Helps identify potential risk due to performance implications

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Know the Objective

Stress Test → *targets* → **Stress Attack Point(s)** → *causes* → **Stress Failure**

Stress Test	Stress Attack Point(s)	Stress Failure
Load	Buffer, cache	Resource leak
Limit	Async pattern	Data corruption
Breakpoint	p\invokes	Unhandled exception
Torture		Race condition\deadlock
Duration		
Synchronization		
Fault Injection		

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)

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Know the Development 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

Does the tool matter?

Is it compatible with Progress®?

Is the price right?

Comparing Baseline to Results

How big is this equipment?

Comparing Baseline To Results

Now how big is it?

Comparing Baseline To Results

Apples to Apples

Baseline is your standard for comparison

Uniformity of Results

Consistent

Repeatable

Understandable

Usable

Trusting the Test Results

Here is your typical waterfall

Trusting the Test Results

You have to wonder how a bear dares stand there …

Trusting The Test Results

Unless you know how high it really is!

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Trusting The Test Results

It is all a matter of PERSPECTIVE

Trusting the Test Results

What is our perspective?

Can we trust a new tool?

What is our expectation?

Possible Solutions

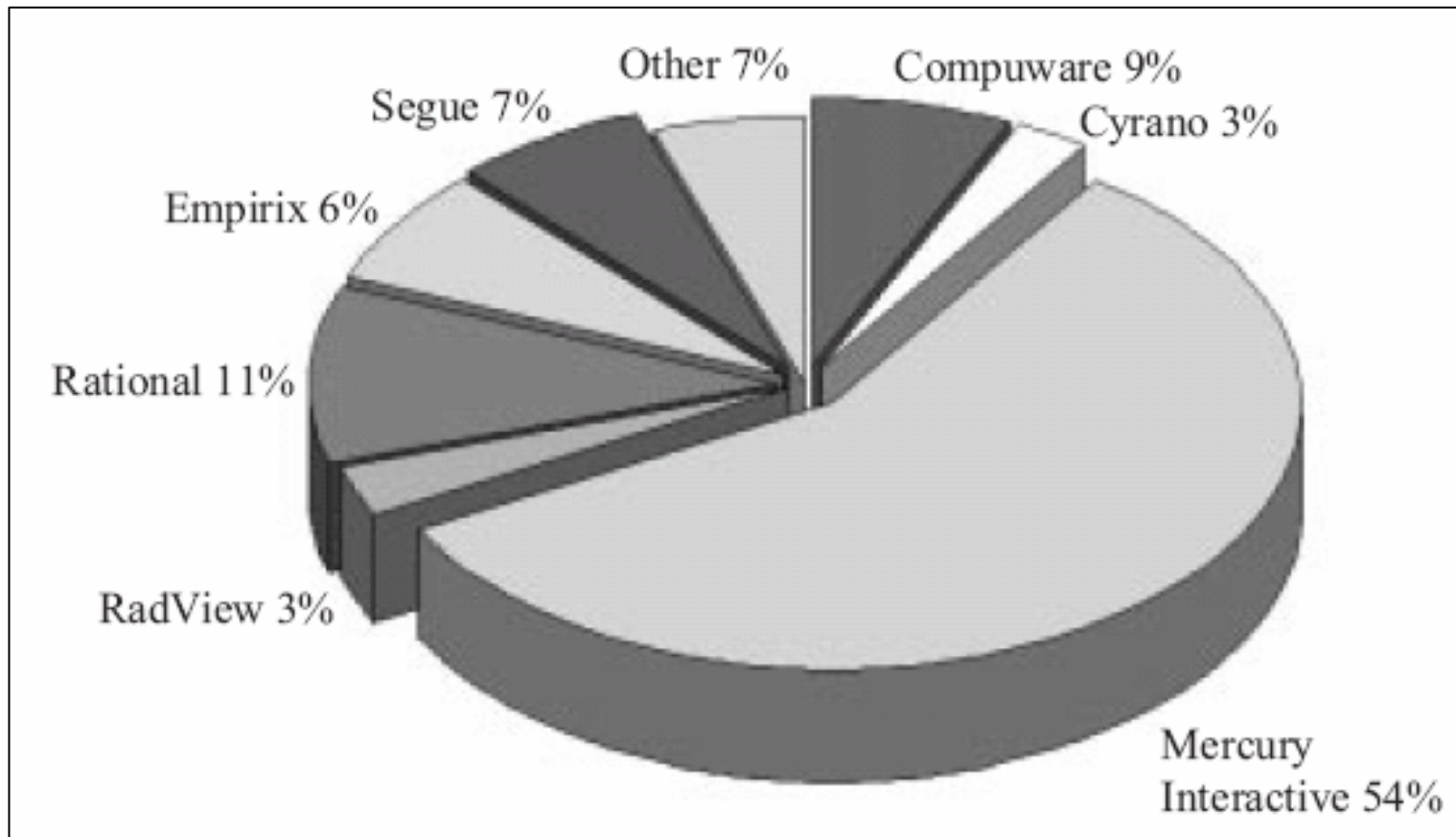## Compare to know application

Use more than one tool

Outsourcing

Can We Trust Market Share

To find the right tool…

Who is using what tools?

How much do we want to pay?

Can We Trust Market Share

Other 7%   Compuware 9%
Segue 7%   Cyrano 3%
Empirix 6%
Rational 11%
RadView 3%
Mercury Interactive 54%

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

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Can We Trust Market Share

Finding a tool

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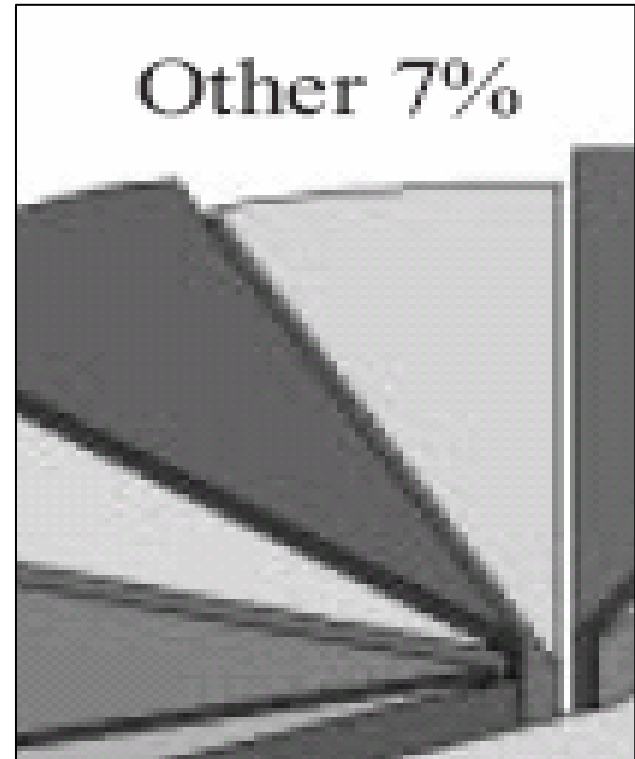
all charging very high prices

05/17/04 AP Photo

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Can We Trust Market Share

Due to budget considerations

we looked at the "OTHER" 7%

for tools that would work with Progress ®

Other 7%

Testing Tool Comparisons

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/

Testing Tool Comparisons

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.segue.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 Comparisons

Testing Tool Findings

TestMaker – PushToTest: FREE
http://www.pushtotest.com/Downloads/

WAST – Microsoft: FREE
http://www.microsoft.com/downloads/details.aspx?FamilyID=E2C05
85A-062A-439E-A67D-75A89AA36495&displaylang=en

LoadTester – AppPerfect: FREE
http://www.appperfect.com/products/devsuite/lt.html

Testing Tool Comparisons

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 Comparisons

Webserver Stress Tool 7 – Paessler: $625

www.paessler.com

HOLODECK - SISE: $1,500

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

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

Testing Tool Comparisons

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

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Demo of tools with our results

Our load testing tool results

with WebSpeed®

and Progress® Language

SUMMARY

- **Define Terms**
- **Baselines**
- **Uniformity**
- **Objective**
- **Environment**
- **Buying Tools**

- **Comparing Results**
- **Trusting Results**
- **Possible Solutions**
- **Market Share**
- **Tool Comparisons**
- **Demo**

QUESTIONS?

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THANK YOU

For development and testing tool updates please go to: **www.vcaa.com**

Vail Consulting And Associates
Cordell Vail CSTE, CSBS
Quality Assurance Analyst

Weekly Testing Tips

Software Testing Links

Software Testing Tools

Goal Setting Seminars

Research Library

Testing Seminar Notes

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The Authors

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Cordell Vail, cste, sbs – Quality Assurance Analyst. Cordell grew up in Utah and graduated from the Brigham Young University. He has completed two years of graduate school work at the University of Utah in Interpersonal Communications. He is a Certified Software Test Engineer and Certified School Business Specialist with 10 years experience in manual and automated testing. Cordell has made several presentations on Improving Testing Processes at both local and national conferences. Cordell brings to the presentation a test engineer's perspective.
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