

Cloud ,Mobility & Performance Testing

MIMOS Berhad

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Agenda

- Introduction
- What to measure in Performance ?
- Why the need to measure ?
- Open Source Tools available - Jmeter , Google Analytics , Yslow, Speed Tracer
- Analyzing the result
- Lookup against the Best Practices

Introduction

- Important to know how much load your system can support for scalability .
- Waterfall ,Agile ,Hybrid ,Fragile SDLC make no difference in the need of Performance Test.
- Open Source Tools should be able to provide the necessary information .

What to measure in Performance ?

- System respond given a x load .
- Stress test – under what load system fails and what contribute to it ?
- Load test – under certain expected load ,how your system handles ?
- Scalability – how the system improves if I add more server ?
- Profiling - time spent on each function ,efficiency of garbage collector etc

Why the need to measure ?

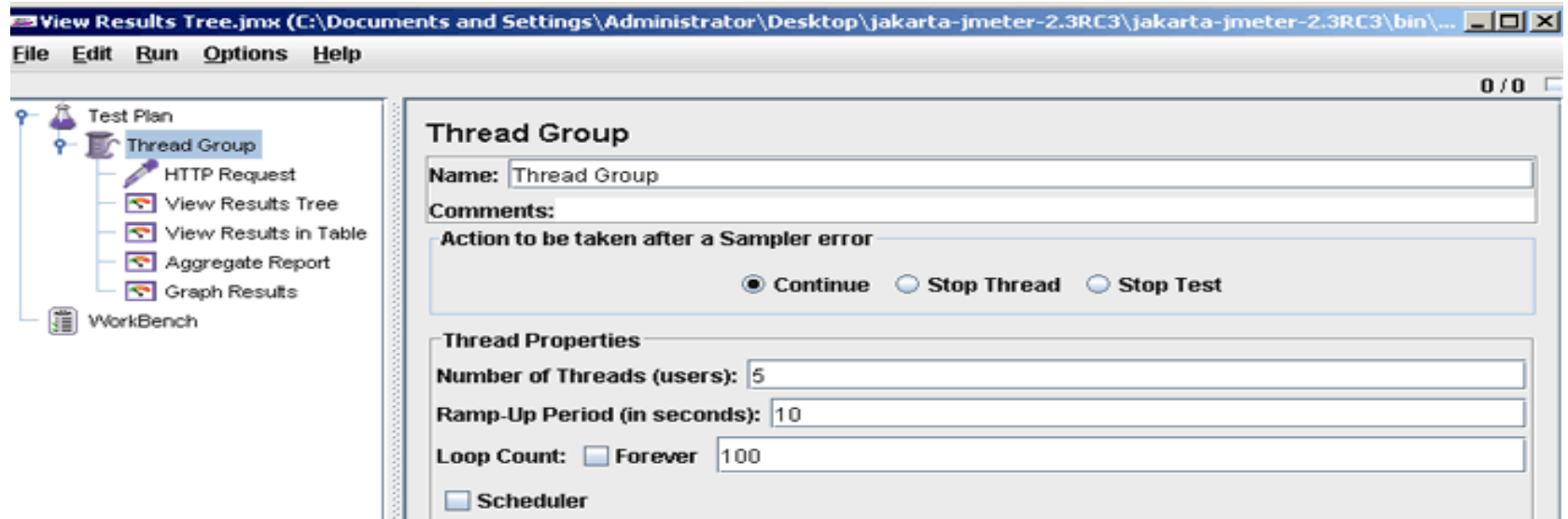
- Scalability
- No unexpected problem on the launching date
- Customer satisfaction and plan to beat your competitor

Tools you need (and they're OSS!)

- Simulate load and measure how's the servers respond - Jmeter
- Profiling – Jmeter plugin such as perfmon etc
- Front end and page load time -Yslow (Firefox) , SpeedTrace (Chrome)
- Website traffic information -Google Analytics

Jmeter

- Java based desktop application from Apache Jakarta Project
- Available at <http://jmeter.apache.org/>
- Provide scalability to generate concurrent user loads where commercial tools will charge based on extra user loads needed .



Jmeter Report

Aggregate Graph

Name:

Comments:

Write results to file / Read from file

Write to file

Filename

LogDisplay Only: Errors Successes

Label	# Samples	Average	Median	90% Line	Statistics	Error %	Throughput
201_Startpagina	6	286	191	778		0,00%	2,1/min
202_Zoeken	6	977	623	2704		0,00%	2,2/min
203_Zoek_Pagina	6	516	540	686	353	0,00%	2,2/min
204_Detail_Scherm	6	297	206	774	193	0,00%	2,2/min
TOTAL	235	379	269	663	137	0,00%	1,1/sec

Statistics

Statistical Graphs

Title for Graph

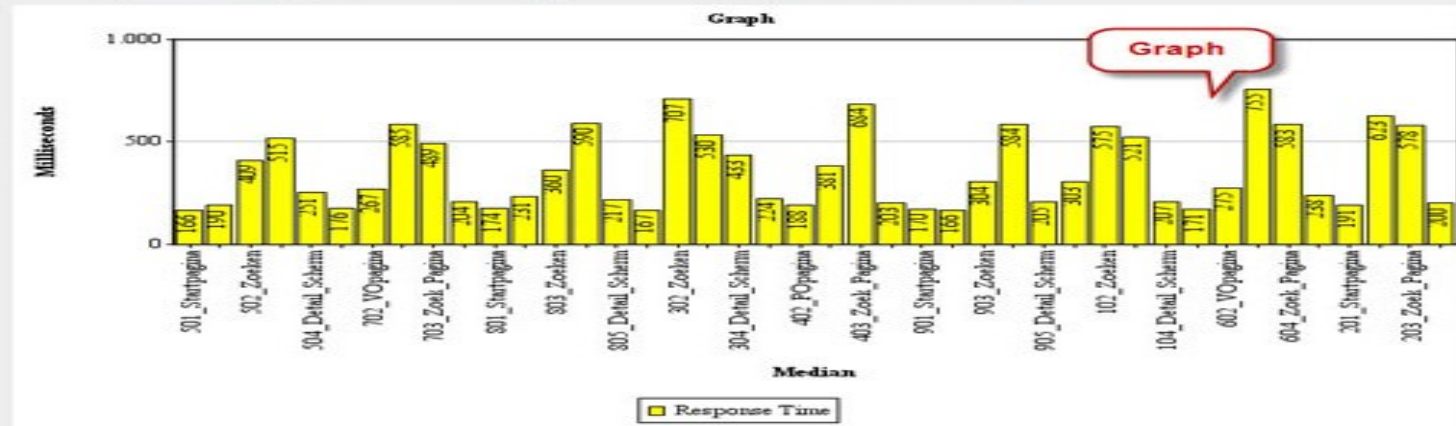
Max length of x-axis label

Width

Height

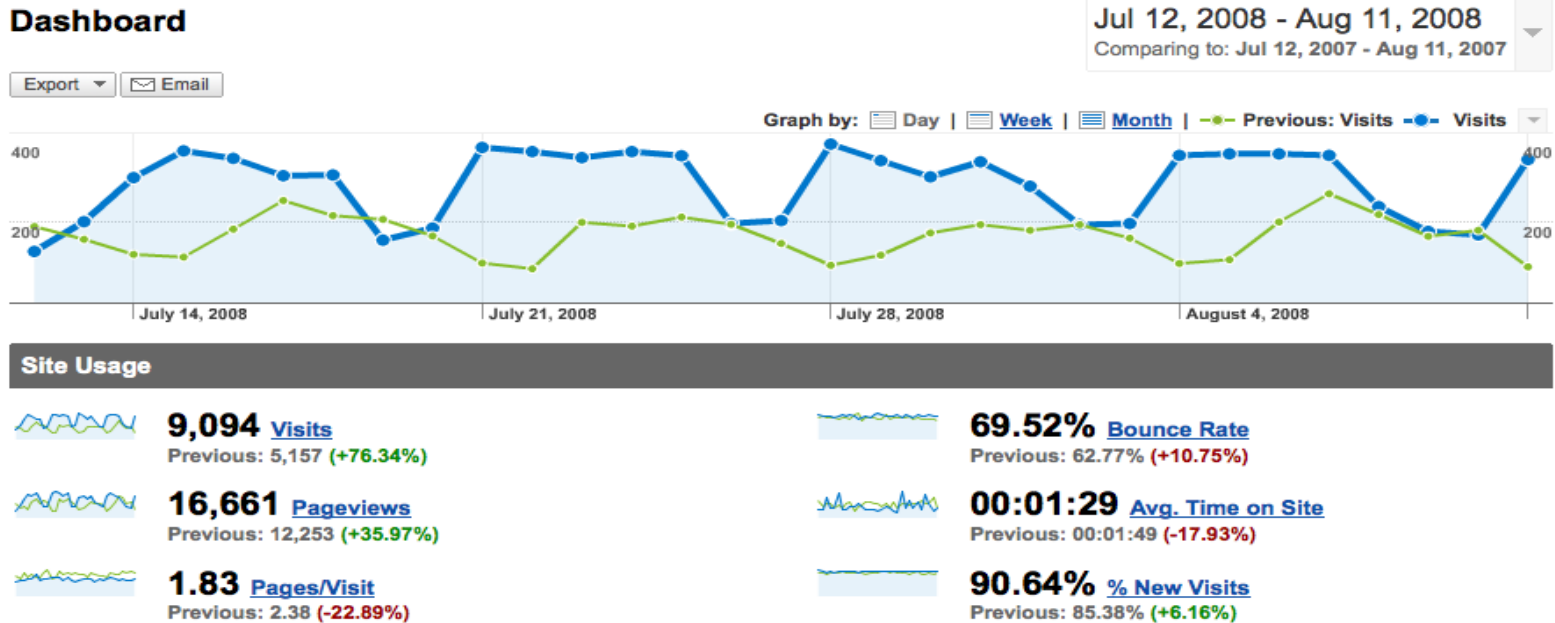
Column

Save Table Header



Google Analytics

It's a very good for basic stats tracking the performance of your site .In this case Google Analytics can generate up to 85 different reports that provides an insight of your website traffic



Google Analytics User Trend Report

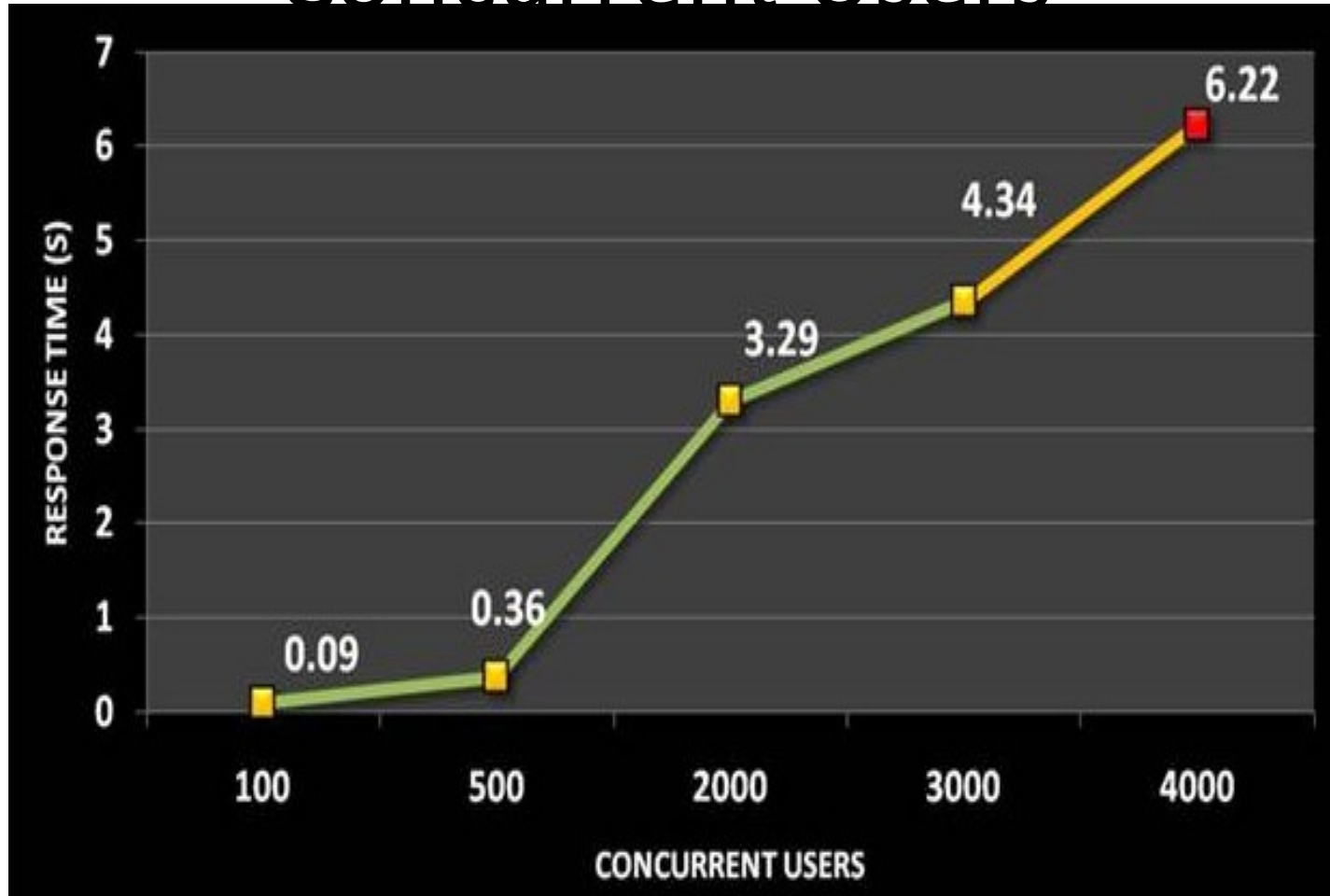
Measure at the Front End -Yslow

Grade **B** Overall performance score 86 Ruleset applied: YSlow(V2) URL: http://www.dotnetcurry.com/BrowseArticles.aspx

ALL (22) FILTER BY: [CONTENT \(6\)](#) | [COOKIE \(2\)](#) | [CSS \(6\)](#) | [IMAGES \(2\)](#) | [JAVASCRIPT \(4\)](#) | [SERVER \(5\)](#)

A Make fewer HTTP requests	Grade A on Make fewer HTTP requests This page has 4 external Javascript scripts. Try combining them into one. <hr/> <p>Decreasing the number of components on a page reduces the number of HTTP requests the page, resulting in faster page loads. Some ways to reduce the number of component files, combine multiple scripts into one script, combine multiple CSS files into one style sheet, Sprites and image maps.</p> <p>»Read More</p> <p>Copyright © 2009 Yahoo! Inc. All rights reserved.</p>
E Use a Content Delivery Network (CDN)	
C Add Expires headers	
D Compress components with gzip	
A Put CSS at top	
B Put JavaScript at bottom	
A Avoid CSS expressions	
n/a Make JavaScript and CSS external	
A Reduce DNS lookups	
E ...	

Response time correlation against Concurrent Users



What you need to plan ?

1. User growth
2. Usage growth
3. Application Growth
4. Denial-of-Service attack
5. Hardware Failure

Analyzing the Result

- What and where is bottleneck ?
- How far we can improve without adding new hardware .

Lookup on the Best Practices

- Plan for scalability in architecture.
- Leave rooms for error and allow plenty time to test ,given configuration is new
- Start as early as possible i.e how to make the search run faster in the code.
- Don't be overestimate when predicting the future .Control what within your control.

Q & A