



Works on my machine – your problem now?

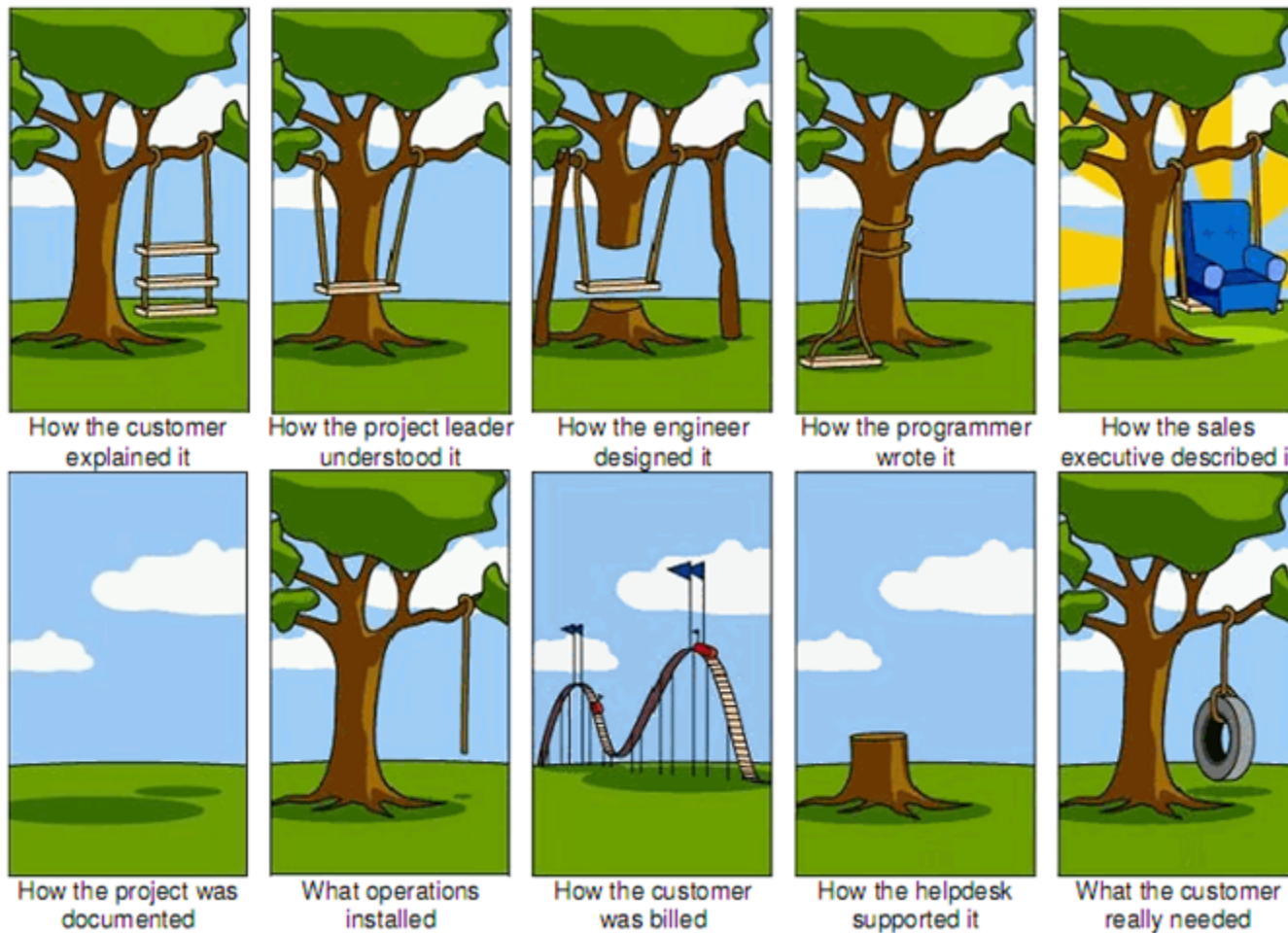


Wolfgang Gottesheim

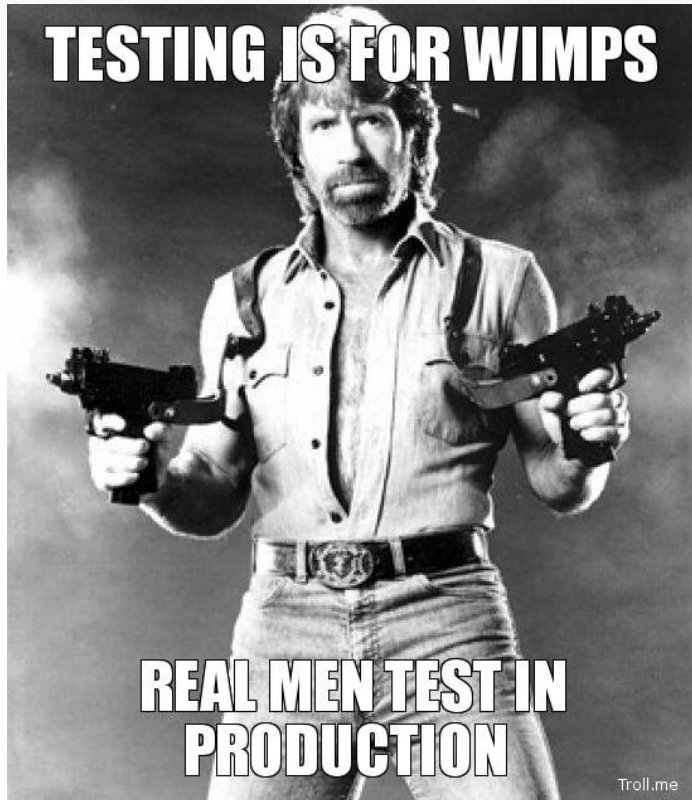
Compuware APM

COMPANY CONFIDENTIAL – DO NOT DISTRIBUTE


Business comes up with new features



Testing?



And this is what you end up with...

* I would like to comment about: 

Comments:

I'm looking to drop some **serious cash** on cookware, but I **can't add items** to my cart!



Lili Mush @Lili_Mush

8 Sep

@AussieFarmersD do you have an **app**? Using your site on my mobile is ridiculous, **slow** and extremely unresponsive. Very **frustrating!**

Expand



Morgan @absoloutea

9 Sep

if i had a dollar for every time the twitter **app crashed** i'd be able to afford m&g for every single show on the wwa tour

Expand



Paulo Portillo @chikkopao

4h

I couldnt get through my instagram account. :(tried to reset the password but the **link** that was sent to my email **doesnt** seem to **work**.

Expand

[Reply](#) [Retweet](#) [Favorite](#) [More](#)

Geldanlage
> Sparen

Kredite
> Erfolgskredit
> Raten & Wohnen

Direkteinstieg
> Jugend / Studierende
> Freie Berufe

System Unresponsive?

healthCare.gov

We are experiencing
In a hurry? You might
with

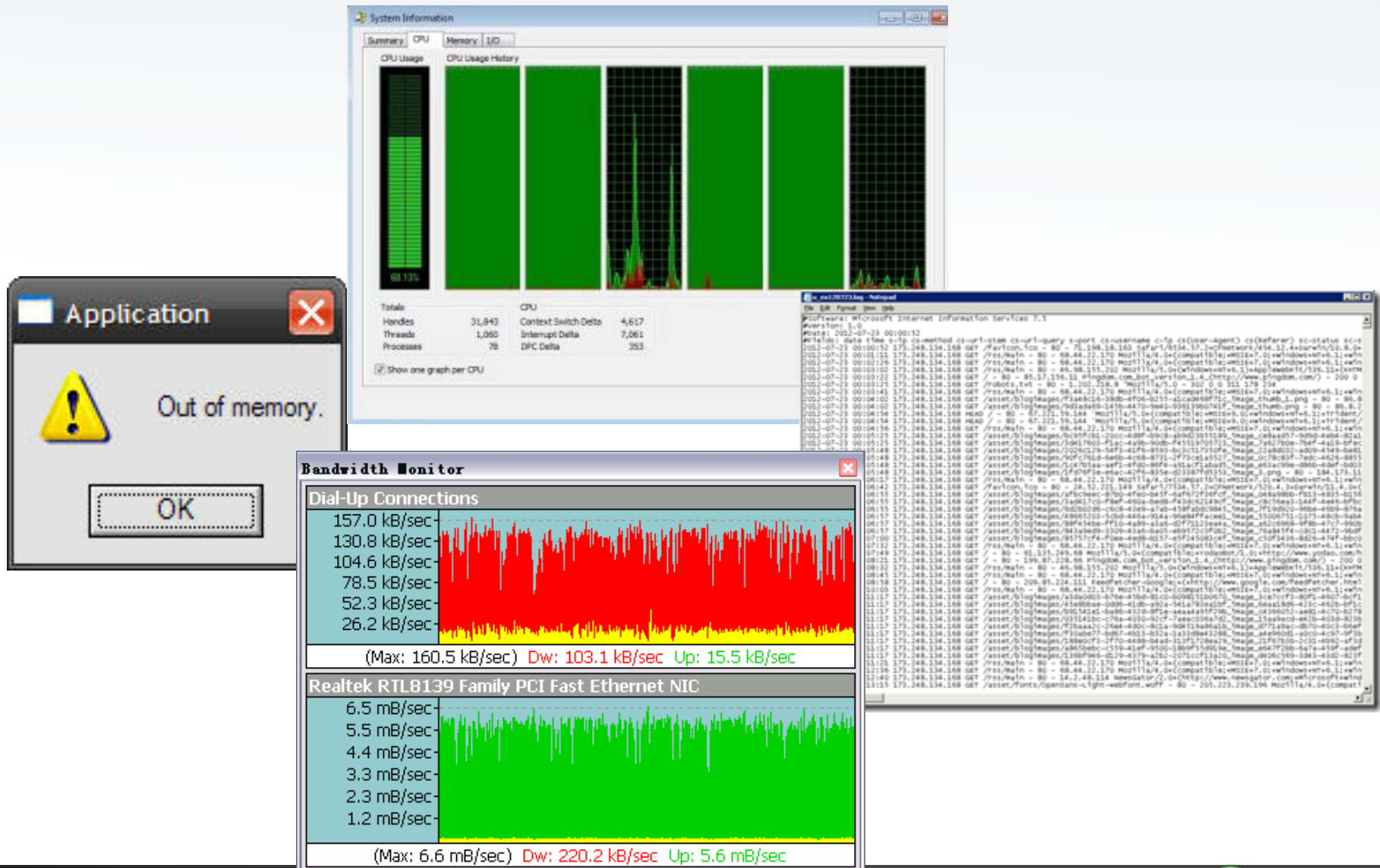


KEEP
CALM
AND
ALT
F4

ent.

ed soon. Please try again later.
er. Call 1-800-318-2596 to talk
ver the phone.

What Operations tells Developers...



...and what Devs would like to know



Visits by Location

UE In

Selecting a single visit shows a detailed view of its client actions.

Where is the user from?
What Browser does he use?

Visits	Visit Duration	Client Errors	Failed Actions	Exit Action failed
88	5min 45s	14 % (2)	0 % (0)	0 %
88	5min 45s	14 % (2)	0 % (0)	0 %
2	2min 14s	no	0 % (0)	no
11	26min 4s	yes	0 % (0)	no

Visit	Visits	Visit Duration	Client Errors	Failed Actions	Exit Action failed
<ul style="list-style-type: none"> Karnataka <ul style="list-style-type: none"> Bangalore <ul style="list-style-type: none"> Visit from Bangalore, India using IE 8.0 Visit of 'suyash@compuware.com' from Bangalore, India using IE 8.0 Visit of 'suyash@compuware.com' from Bangalore, India using IE 8.0 	14	0.57			

This is the exact click path of that frustrated user

No wonder the user is frustrated when waiting 77s to load the landing page

But its not Server-Side related – it happens outside of our Data Center

Client Action	End-To-End Response	Duration [ms]	Start-Time	User Experience	Client...	Server-Tim...
click on "Log In" on /community/login.action	client (96%)	77456.00	2013-02-28 10:01:36	frustrated	73899.67	3556.33
click on "Documentation" on /community/display/PUB/Community+Home	client (95%)	32611.00	2013-02-28 10:22:55	frustrated	30668.26	1942.74
Browser Error on '/community/display/APMDOC/APM+Documentation'		-	2013-02-28 10:23:38	-	-	-
Browser Error on '/community/display/APMDOC/APM+Documentation'		-	2013-02-28 10:23:38	-	-	-
click on "dynaTrace 4.2" on /community/display/APMDOC/APM+Documentation	client (82%)	8469.00	2013-02-28 10:23:39	tolerating	6879.12	1589.88
Loading of Page /community/display/DOCCT42/dynaTrace+Documentation	client (91%)	21978.55	2013-02-28 10:23:49	frustrated	19869.51	2109.04
click on "Attachments:" on /community/display/DOCCT42/dynaTrace+Documen...	client (83%)	7860.00	2013-02-28 10:24:16	tolerating	6491.84	1368.16
Loading of Page /community/display/DOCCT42/dynaTrace+Documentation	client	4874.73	2013-02-28 10:24:32	tolerating	3359.82	1514.91
Loading of Page /community/display/APMDOC/APM+Documentation	client	5097.35	2013-02-28 10:24:39	tolerating	3503.35	1594.00
click on "dynaTrace 5" on /community/display/APMDOC/APM+Documentation	client	4718.00	2013-02-28 10:24:46	tolerating	3053.05	1664.95
Loading of Page /community/display/DOCCT50/dynaTrace+Documentation	client (80%)	11240.21	2013-02-28 10:24:52	tolerating	8920.43	2319.77
click on "Attachments:" on /community/display/DOCCT50/dynaTrace+Documen...	client	4469.00	2013-02-28 10:25:06	tolerating	3514.31	954.69
Browser Error on '/community/pages/viewpageattachments.action'		-	2013-02-28 10:26:01	-	-	-
Browser Error on '/community/pages/viewpageattachments.action'		-		-	-	-

We also seem to have JavaScript Errors on these pages for IE8

...and what Devs would like to know

Top Contributor is related to String handling

Method Breakdown by CPU

Select a method to find out where it is called from

Method	CPU Sum	Breakdown	Class	APIs
length()	259.28s	cpu (83%) io	java.lang.String	Atlassian
run()	199.10s	cpu io (77%)	com.atlassian.confluence.ext.usage.event.UsageTaskQueue\$2	Atlassian
fillInStackTrace()	155.16s	cpu (78%) io	java.lang.Throwable	Atlassian
indexOf(Object)	110.77s	cpu (71%) io (29%)	java.util.ArrayList	Atlassian
readBytes(byte[], int, int)	85.50s	cpu (59%) io (41%)	java.io.RandomAccessFile	Atlassian

Caller Breakdown of 'length()'

Find out from what components the method is called and which call path has the biggest performance impact

Method	Contribution	API	Package
String.length()		Atlassian	java.lang
Matcher.getTextLength()	99%	Atlassian	java
Matcher.reset()		Atlassian	java
Matcher.<init>(Pattern, CharSequence)	99%	Atlassian	java.util.regex
Pattern.matcher(CharSequence)		Atlassian	java.util.regex
AbstractRegexRendererComponent.regexRender(String, RenderContext, ...)	45%	Atlassian	com.atlassian.renderer.v2.components
String.replaceAll(String, String)	18%	Atlassian	java.lang
BlockRendererComponent.isOneBlockToken(String)		Atlassian	com.atlassian.renderer.v2.components.block
Pattern.split(CharSequence, int)		Atlassian	java.util.regex
BlockRendererComponent.render(String, RenderContext)		Atlassian	com.atlassian.renderer.v2.components.block
HeadingBlockRenderer.renderNextBlock(String, LineWalker, RenderContext)		Atlassian	com.atlassian.renderer.v2.components.block

99% of that time comes from RegEx Pattern Matching

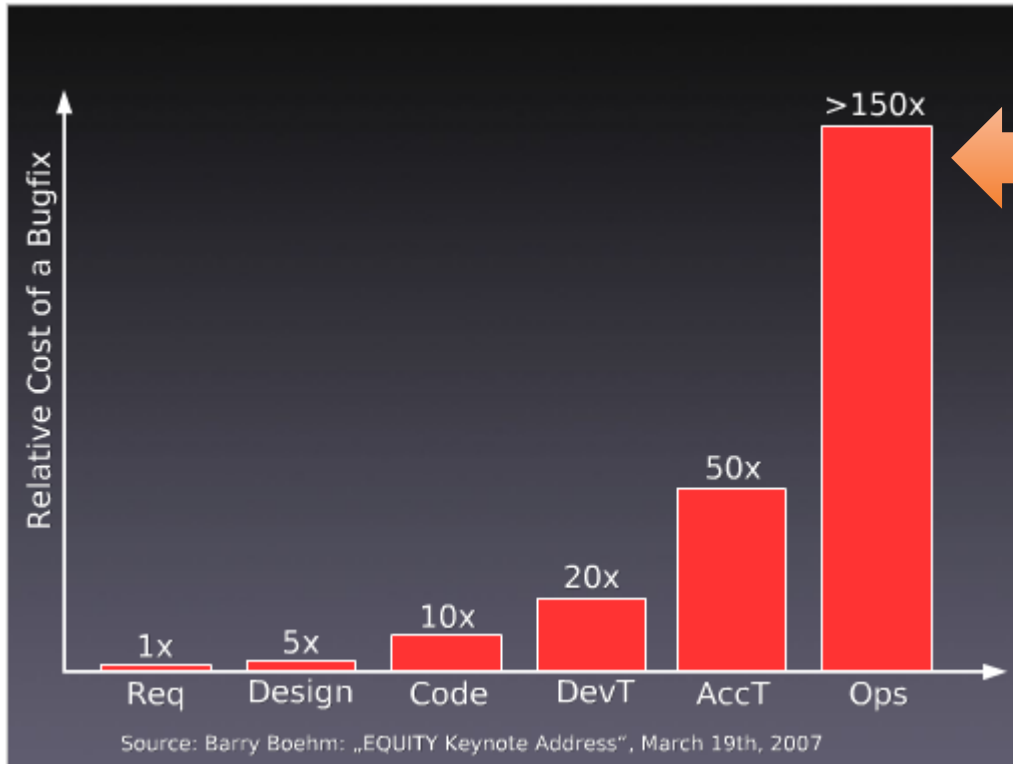
Page Rendering is the main component

Attitudes like this don't help either



Image taken from <https://www.scriptrock.com/blog/devops-whats-hype-about/>

Very “expensive” to work on these issues



YES we know this

80% Dev Time in Bug Fixing

\$60B Defect Costs

BUT

~80% of problems

caused by **~20%** *patterns*

© DESPAIR.COM



MISTAKES

IT COULD BE THAT THE PURPOSE OF YOUR LIFE IS
ONLY TO SERVE AS A WARNING TO OTHERS.

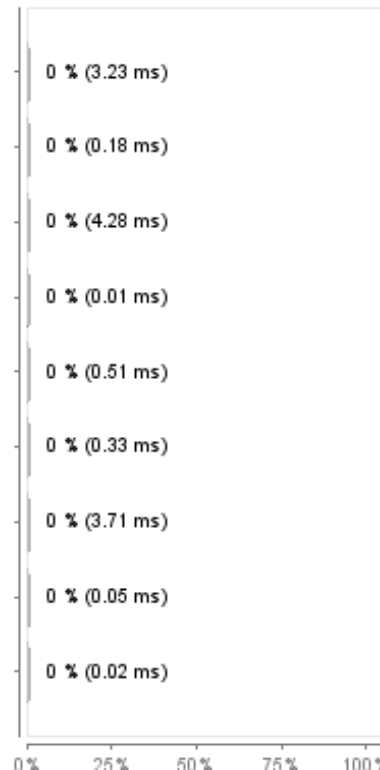
#1: Exhausted Resource Pools

Database

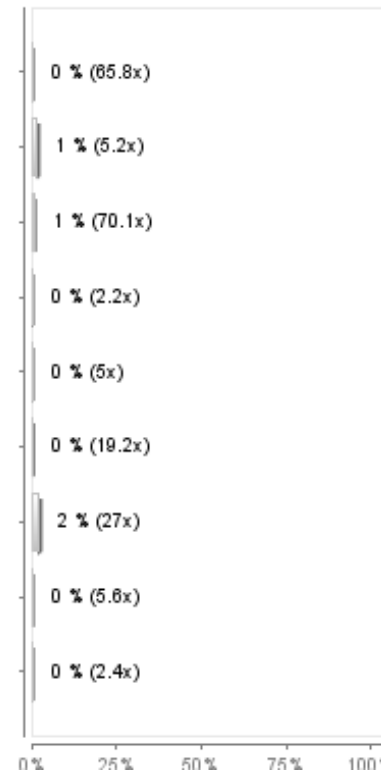
Database and Connection Pool

- support@sqlserver:Community (c3p0)
[\(Show history in new dashboard\)](#)
- wiki@emea-lnz-db002.em...orp:devwiki_359 (c3p0)
[\(Show history in new dashboard\)](#)
- support@sqlserver:dtadm...sinesslog (Apache DBCP)
[\(Show history in new dashboard\)](#)
- support@sqlserver:eserv...reporting (Apache DBCP)
[\(Show history in new dashboard\)](#)
- eservices@emea-lnz-db0...agestats (Apache DBCP)
[\(Show history in new dashboard\)](#)
- support@sqlserver:license_JIRA516 (Apache DBCP)
[\(Show history in new dashboard\)](#)
- support@sqlserver:support_jira434 (Apache DBCP)
[\(Show history in new dashboard\)](#)
- support@sqlserver:user...nagement (Apache DBCP)
[\(Show history in new dashboard\)](#)
- support@sqlserver:community (Apache DBCP)
[\(Show history in new dashboard\)](#)

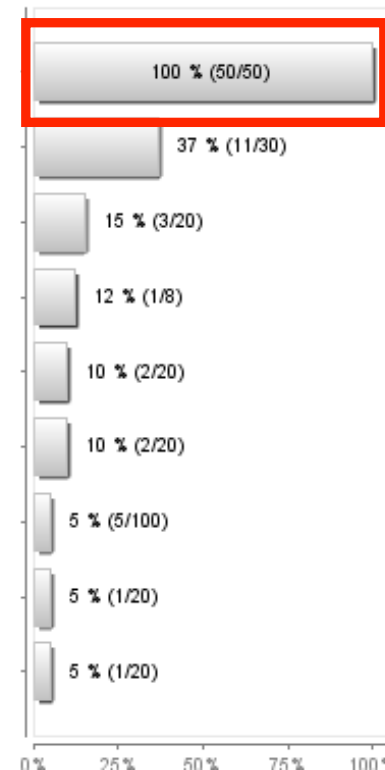
Transaction Response Time Contribution



Percentage of Transactions Calling



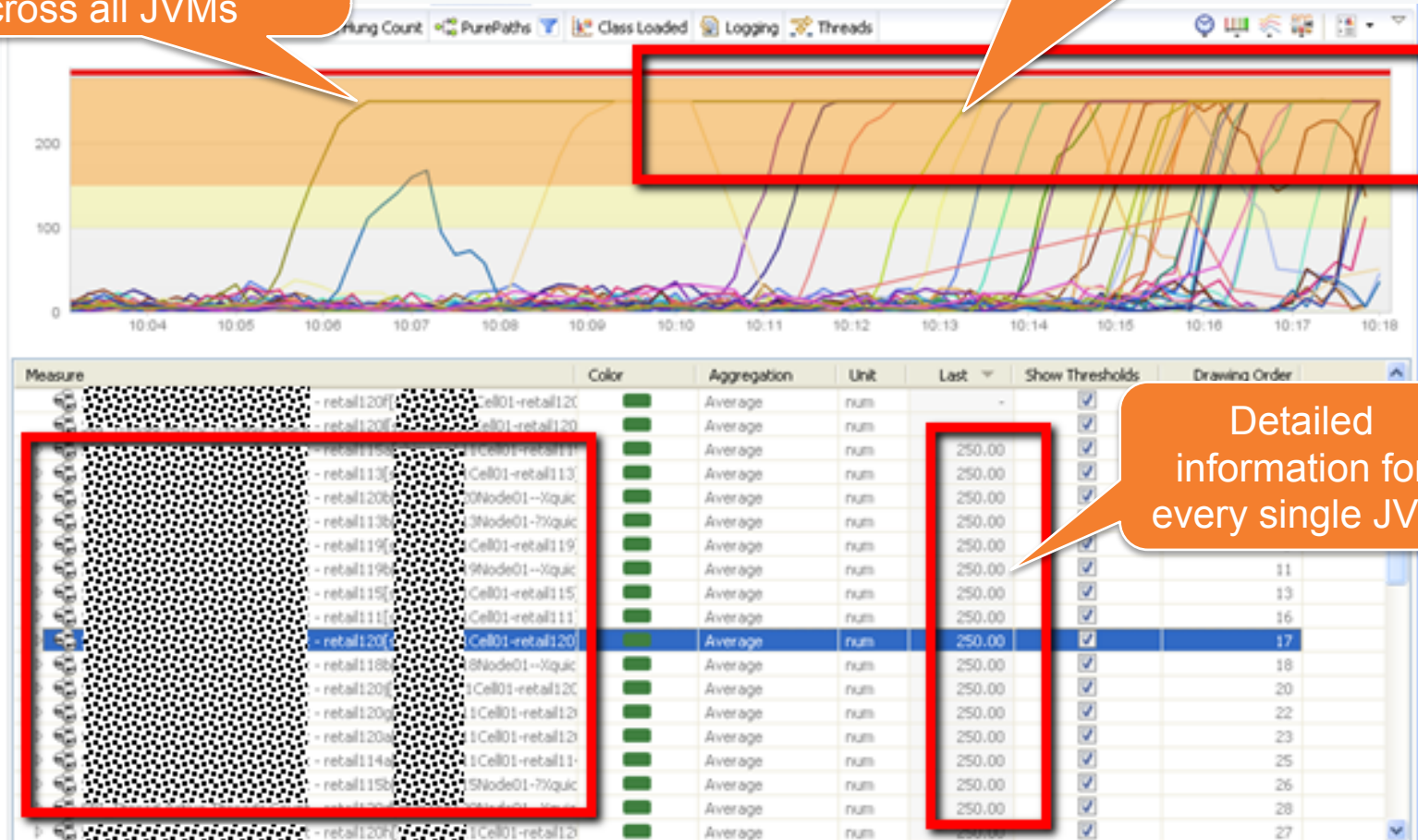
Pool Usage



#2: Maxing out Worker Threads

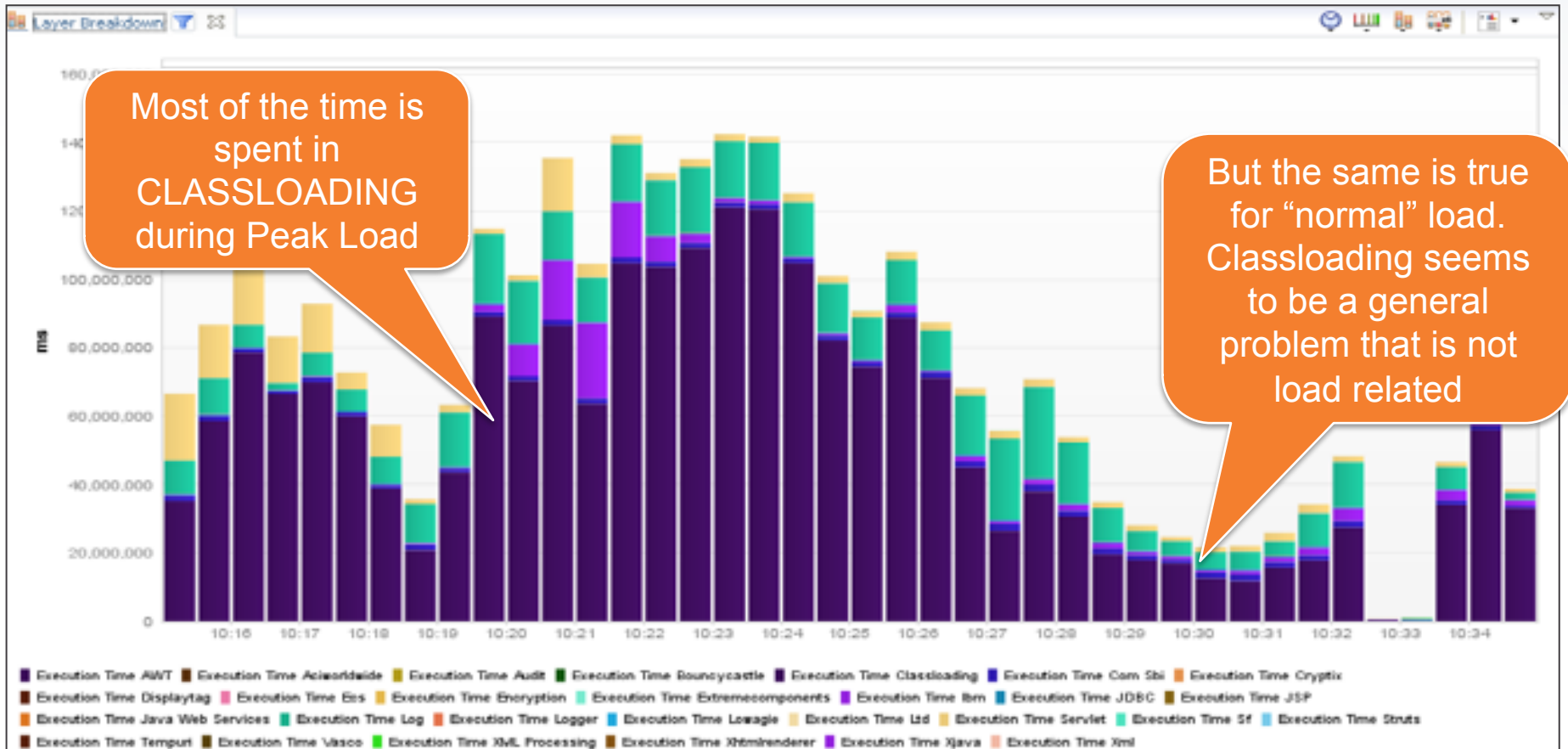
The timeline shows how these active worker threads are distributed across all JVMs

At ~10:10 AM almost all JVMs max out their available worker threads



Detailed information for every single JVM

Root Cause: Class Loading as Performance Hotspot



Root Cause: Trying to Load a Missing Class

Class Loading impacts ALL transactions (fast or slow)

Class Loader tries to load a class ending in **TransferValidatorBPBeanInfo**
It's a class that doesn't exist

The screenshot displays the Dynatrace PurePaths interface. At the top, there's a table of PurePaths with columns for PurePath, Response Time [ms], and Breakdown. Below this is a search bar and a PurePath Tree. A 'Node Details' window is open, showing the following information:

- Method:** loadClass(java.lang.String)
- Error Type:** java.lang.ClassNotFoundException
- Class:** java.lang.ClassLoader
- Argument:** TransferValidatorBPBeanInfo
- Returns:** [java.lang.ClassNotFoundException: TransferValidatorBPBeanInfo at java.net.URLClassLoader\$1.run(URLClassLoader.java:202) at java.security.AccessController.doPrivileged(Native Method) at java.net.URLClassLoader.findClass(URLClass...
- Agent:** 17b1...0de01-...723783
- API:** Classloading
- Thread Name:** WebContainer : 528 <2142486021>
- Elapsed Time [ms]:** 113.80

The bottom of the screenshot shows a table with columns for Method, Class, API, and Thread Name, listing multiple instances of the class loading attempt.

#3: Deployment Mistakes

Method Breakdown by CPU Time

Select a method to find out where it is called from

Method	CPU Sum	Breakdown	Class	APIs
fillInStackTrace()	96.91s	cpu (91%) io	java.lang.Throwable	Atlassian
readBytes(byte[], int, int)	20.30s	cpu (38%) io (62%)	java.io.RandomAccessFile	Atlassian
isInterface()	18.03s	cpu (90%) io	java.lang.Class	Atlassian
inPlaceAnd(DocIdSetIterator)	11.32s	cpu (77%) io (23%)	org.apache.lucene.util.OpenBitSetDISI	Atlassian
hashCode()	11.01s	cpu (94%) io	java.lang.Integer	Atlassian
getStackTraceElement(int)	10.77s	cpu (91%) io	java.lang.Throwable	Atlassian
inPlaceOr(DocIdSetIterator)	9.82s	cpu (82%) io	org.apache.lucene.util.OpenBitSetDISI	Atlassian

96s are spent in fillInStackTrace

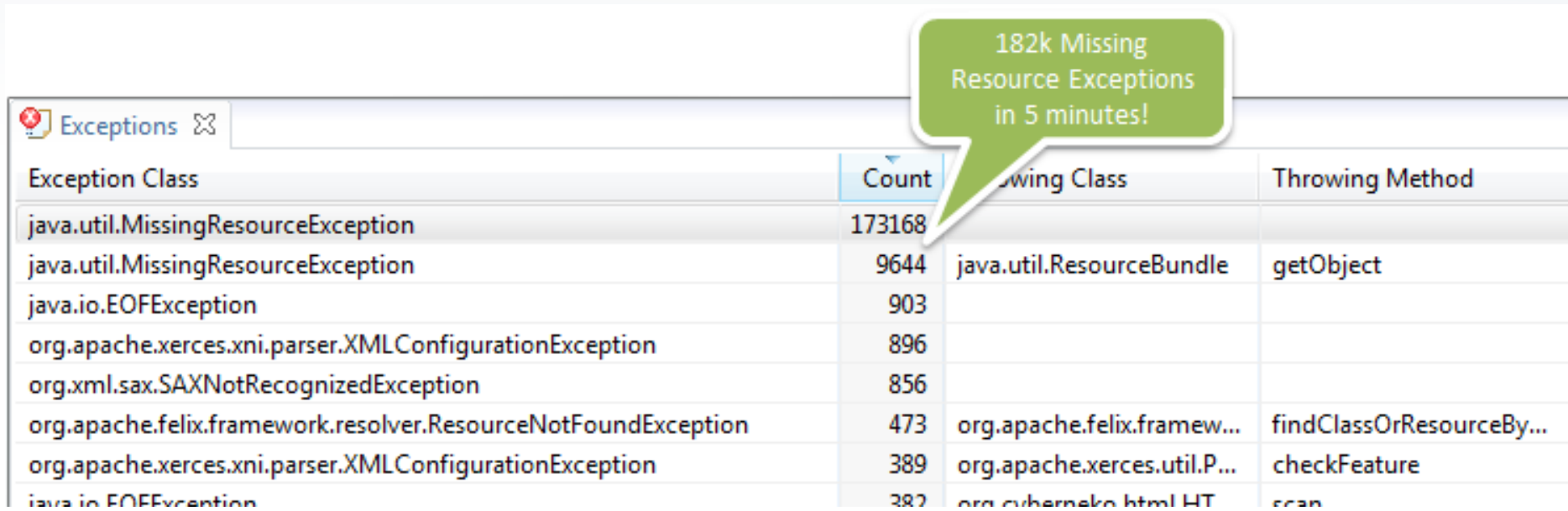
Caller Breakdown of 'fillInStackTrace'

Find out from what components the method is called

Method	Percentage	APIs	Package
Throwable.fillInStackTrace()		Atlassian	java.lang
Throwable.<init>(String)	81%	Atlassian	java.lang
Exception.<init>(String)		Atlassian	java.lang
RuntimeException.<init>(String)	79%	Atlassian	java.lang
MissingResourceException.<init>(String, String, String)	79%	Atlassian	java.util

Hotspot is MissingResourceException – contributing to 79% of these Exceptions

Root Cause: Missing File



Exceptions

Exception Class	Count	Throwing Class	Throwing Method
java.util.MissingResourceException	173168		
java.util.MissingResourceException	9644	java.util.ResourceBundle	getObject
java.io.EOFException	903		
org.apache.xerces.xni.parser.XMLConfigurationException	896		
org.xml.sax.SAXNotRecognizedException	856		
org.apache.felix.framework.resolver.ResourceNotFoundException	473	org.apache.felix.framework...	findClassOrResourceBy...
org.apache.xerces.xni.parser.XMLConfigurationException	389	org.apache.xerces.util.P...	checkFeature
java.io.EOFException	382	org.cyberneko.html.HT	scan

#4: Different settings in Test & Prod

~ 1Mio Lock Exceptions in 30 mins

Exception Class	Message	Count
com.ibm.ejs.ras.SharedLogLockException	Unable to obtain Shared Log Lock file / XXXXXXXXXX /activity.log.lck	437060
com.ibm.ejs.ras.SharedLogLockException	Unable to obtain Shared Log Lock file / XXXXXXXXXX /activity.log.lck	389793
com.ibm.ejs.ras.SharedLogLockException	Unable to obtain Shared Log Lock file / XXXXXXXXXX /activity.log.lck	104051
com.ibm.ejs.ras.SharedLogLockException	Unable to obtain Shared Log Lock file / XXXXXXXXXX /activity.log.lck	94194



Logging and Tracing > IMN01 > IBM Service Logs

Use this page to configure the IBM service log, also known as the activity log. The IBM service log contains both the application server messages that are written to the ~~systemout stream and special messages that contain extended service information that you can use to analyze problems.~~ One service log exists for all Java virtual machines (JVMs) on a node, including all application servers and their node agent, if present. A separate activity log is created for a deployment manager in its own logs directory. The IBM Service log is maintained in a binary format. Use the Log Analyzer or Showlog tool to view the IBM service log.

Configuration

General Properties

Enable service log

* File Name:

* Maximum File Size

MB

Enable Correlation ID

Log Service provides a synchronized log file across ALL JVMs

#6: N+1 Query Problem

Method	Argument	Exec Total [ms]	Breakdown	Class	API
prepare()	SELECT v.name AS name, v.value AS value FROM variable v WHERE (name IN (:db_condition_placeholder_0, :db_co...	0.02	cpu (93.0%) io	PDO	Database
execute()	SELECT v.name AS name, v.value AS value FROM variable v WHERE (name IN (:db_condition_placeholder_0, :db_co...	1.06	io (93.0%)	PDOStatement	Database
prepare()	SELECT value FROM variable WHERE name = :name	0.04	cpu (95.0%) io	PDO	Database
execute()	SELECT value FROM variable WHERE name = :name	0.91	io (93.0%)	PDOStatement	Database
prepare()	SELECT value FROM variable WHERE name = :name	0.01	cpu (93.0%) io	PDO	Database
execute()	SELECT value FROM variable WHERE name = :name	1.79	cpu (53.0%) io (47.0%)	PDOStatement	Database
prepare()	SELECT value FROM variable WHERE name = :name	0.02	cpu (91.0%) io	PDO	Database
execute()	SELECT value FROM variable WHERE name = :name	0.61	cpu io (88.0%)	PDOStatement	Database
prepare()	SELECT value FROM variable WHERE name = :name	0.02	cpu (91.0%) io	PDO	Database
execute()	SELECT value FROM variable WHERE name = :name	1.01	io (95.0%)	PDOStatement	Database
prepare()	SELECT value FROM variable WHERE name = :name	0.02	cpu (91.0%) io	PDO	Database
execute()	SELECT value FROM variable WHERE name = :name	0.72	io (93.0%)	PDOStatement	Database
prepare()	SELECT value FROM variable WHERE name = :name	0.05	cpu (51.0%) io (49.0%)	PDO	Database
execute()	SELECT value FROM variable WHERE name = :name	0.61	cpu io (89.0%)	PDOStatement	Database
prepare()	SELECT value FROM variable WHERE name = :name	0.02	cpu (90.0%) io	PDO	Database

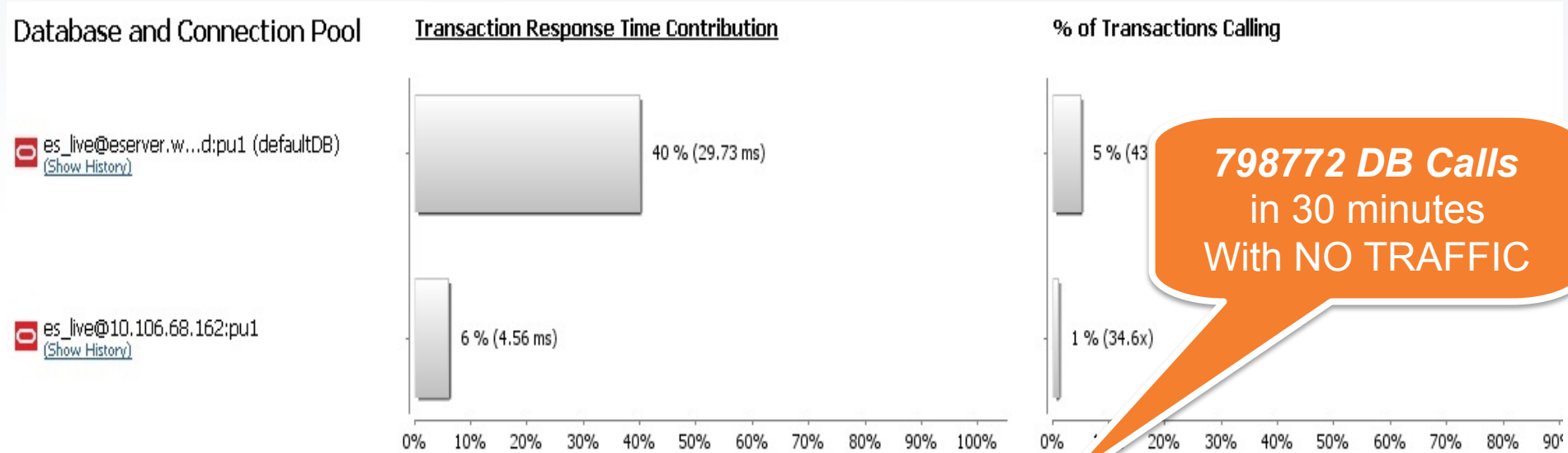
SQL

Execs/calling Tran...

SELECT value FROM variable WHERE name = :name	2464.00
INSERT INTO search_total (word, count) VALUES (:db_insert_placeholder_0, :db_insert_placeholder_1)	587.00
UPDATE block SET module=:db_update_placeholder_0, delta=:db_update_placeholder_1, theme=:db_up	296.00

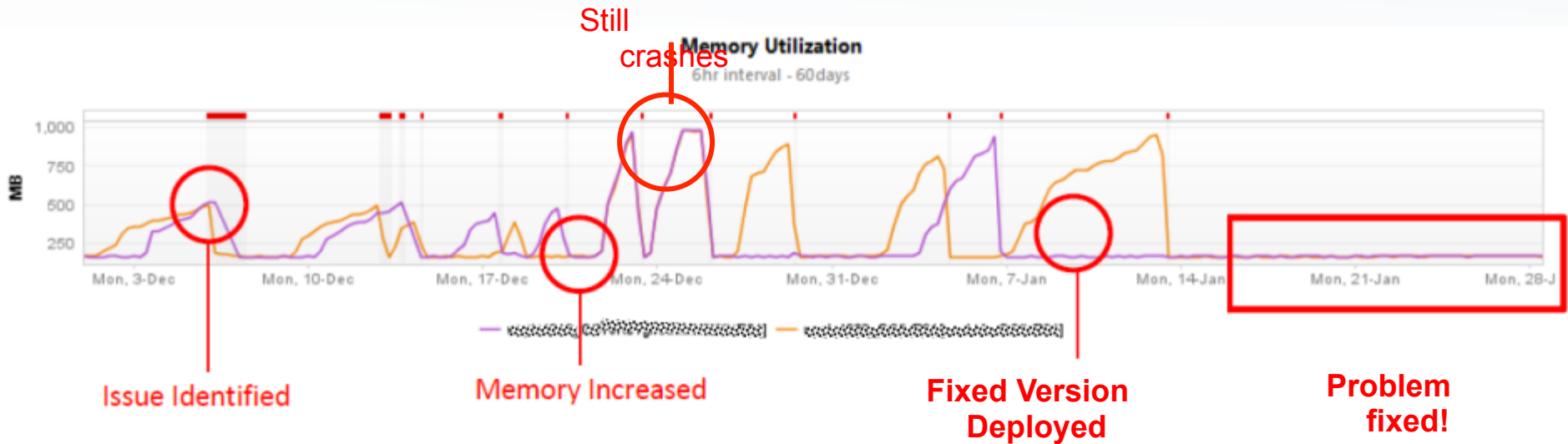
prepare()	SELECT value FROM variable WHERE name = :name	0.02	cpu (93.0%) io	PDO	Database
execute()	SELECT value FROM variable WHERE name = :name	1.41	io (97.0%)	PDOStatement	Database
prepare()	SELECT value FROM variable WHERE name = :name	0.02	cpu (92.0%) io	PDO	Database
execute()	SELECT value FROM variable WHERE name = :name	0.52	io (90.0%)	PDOStatement	Database
prepare()	SELECT value FROM variable WHERE name = :name	0.02	cpu (93.0%) io	PDO	Database
execute()	SELECT value FROM variable WHERE name = :name	0.53	io (91.0%)	PDOStatement	Database
prepare()	SELECT value FROM variable WHERE name = :name	0.02	cpu (90.0%) io	PDO	Database
execute()	SELECT value FROM variable WHERE name = :name	0.53	cpu io (88.0%)	PDOStatement	Database
prepare()	SELECT value FROM variable WHERE name = :name	0.01	cpu (92.0%) io	PDO	Database
execute()	SELECT value FROM variable WHERE name = :name	0.52	io (90.0%)	PDOStatement	Database
prepare()	SELECT value FROM variable WHERE name = :name	0.03	cpu (92.0%) io	PDO	Database
execute()	SELECT value FROM variable WHERE name = :name	0.76	cpu io (88.0%)	PDOStatement	Database
prepare()	SELECT value FROM variable WHERE name = :name	0.01	cpu (92.0%) io	PDO	Database
execute()	SELECT value FROM variable WHERE name = :name	1.58	io (96.0%)	PDOStatement	Database
prepare()	SELECT value FROM variable WHERE name = :name	0.02	cpu (92.0%) io	PDO	Database
execute()	SELECT value FROM variable WHERE name = :name	2.06	io (97.0%)	PDOStatement	Database
prepare()	SELECT value FROM variable WHERE name = :name	0.02	cpu (91.0%) io	PDO	Database
execute()	SELECT value FROM variable WHERE name = :name	0.79	io (93.0%)	PDOStatement	Database
prepare()	SELECT value FROM variable WHERE name = :name	0.02	cpu (92.0%) io	PDO	Database

#7: Misconfigured Caching Framework



Database and Connection Pool	RT/Trans [ms]	Execution	Exec Avg [ms]	Exec Min [ms]	Exec Max [ms]
es_live@eserver.world:pu1 (defaultDB)	29.73	798772	13.51	0.84	14914.98
/*search/ProductSearchQuery (Cartridge swa_b2c_app)*/ select a.productID as productID,a.catalog	0.02	1	6284.08	6284.08	6284.08
/*search/GetOrderForSearch (Cartridge swa_enterprise_app)*/ SELECT opi.uid AS opiuid, COUNT(	0.02	1	5614.66	5614.66	5614.66
/*search/ProductSearchQuery (Cartridge swa_b2c_app)*/ select a.productID as productID,a.catalog	0.01	1	3720.67	3720.67	3720.67
/*search/GetOrderForSearch (Cartridge swa_enterprise_app)*/ SELECT opi.uid AS opiuid, COUNT(	0.01	1	3446.98	3446.98	3446.98
/*search/ProductSearchQuery (Cartridge swa_b2c_app)*/ select a.productID as productID,a.catalog	0.01	1	2151.42	2151.42	2151.42
/*search/ProductSearchQuery (Cartridge swa_b2c_app)*/ select a.productID as productID,a.catalog	0.01	2	2012.36	1967.03	2057.69
/*search/GetOrderForSearch (Cartridge swa_enterprise_app)*/ SELECT opi.uid AS opiuid, COUNT(	0.02	5	1575.58	905.66	3205.31
/*search/ProductSearchQuery (Cartridge swa_b2c_app)*/ select a.productID as productID,a.catalog	0.00	1	1460.08	1460.08	1460.08
/*search/GetOrderForSearch (Cartridge swa_enterprise_app)*/ SELECT opi.uid AS opiuid, COUNT(	0.03	7	1325.69	834.60	2707.77






#8: Memory Leaks



#9: Bloated Web Sites

17! JS Files – 1.7MB in Size

Traffic by Content Type

MIME	Count	Total Bytes	Cacheable	Cacheable ...	Short Cach...	Short Cache...	Non-cac...	Non-cach...
 JavaScript	32	1707235	24	1522822	20	1082548	8	184413
 Image	100	846955	79	845492	76	837470	21	1463
 CSS	6	238585	6	238585	4	214615	0	0
 HTML	13	146958	4	34033	4	34033	9	112925
 Flash	1	3289	1	3289	0	0	0	0

```
<div class="side">
<!--
Open Container
Content ID : 102711_XXXXXXXXXXXXXXXXXXXX
Source : *****
Developer : 56c
Added : 10/25/11
Updated : 11/1/11 *****
-->
<style type="text/css">
.XXXXXXXXXXXXXXXXXXXXX {
width:135px;
background:none;
```

Useless Information!
Even might be a security risk!

Recent example: Healthcare.gov

URL	MIME	Size [b...
https://www.healthcare.gov/marketplace/global/en_US/registration	text/html	104654
https://www.healthcare.gov/marketplace/global/en_US/css/publicUI/reset.css	text/css	1196
https://www.healthcare.gov/marketplace/global/en_US/css/publicUI/bootstrap_ee.css	text/css	149221
https://www.healthcare.gov/marketplace/global/en_US/css/publicUI/bootstrap-responsiv...	text/css	2180
https://www.healthcare.gov/marketplace/global/en_US/css/publicUI/jquery-ui.css	text/css	221
https://www.healthcare.gov/marketplace/global/en_US/css/publicUI/datepicker.css	text/css	9069
https://www.healthcare.gov/marketplace/global/en_US/css/publicUI/datatables.css	text/css	530
https://www.healthcare.gov/marketplace/global/en_US/css/publicUI/print.css	text/css	21818
https://www.healthcare.gov/marketplace/global/en_US/css/publicUI/glyphicon.css	text/css	3592
https://www.healthcare.gov/marketplace/global/en_US/css/publicUI/globalHeaderFooter...	text/css	120477
https://www.healthcare.gov/marketplace/global/en_US/css/publicUI/main_styles.css	text/css	25211
https://www.healthcare.gov/marketplace/global/en_US/css/publicUI/symbol.css	text/css	93436
https://www.healthcare.gov/marketplace/global/en_US/js/jquery.min.js	text/javascri...	260863
https://www.healthcare.gov/marketplace/global/en_US/js/jquery-ui.js	text/javascri...	12647
https://www.healthcare.gov/marketplace/global/en_US/js/underscore-1.3.1.full.js	text/javascri...	3441
https://www.healthcare.gov/marketplace/global/en_US/js/json2.js	text/javascri...	17748
https://www.healthcare.gov/marketplace/global/en_US/js/backbone-0.9.2.full.js	text/javascri...	2050
https://www.healthcare.gov/marketplace/global/en_US/js/crypto-min.js	text/javascri...	4918
https://www.healthcare.gov/marketplace/global/en_US/js/backbone.validations-fork.js	text/javascri...	2941
https://www.healthcare.gov/marketplace/global/en_US/js/backbone-nested-1.1.2-fork.js	text/javascri...	2917
https://www.healthcare.gov/marketplace/global/en_US/js/cms-common.js	text/javascri...	221
https://www.healthcare.gov/marketplace/global/en_US/js/jquery.alerts.js	text/javascri...	7395
https://www.healthcare.gov/marketplace/global/en_US/js/jquery.blockUI.js	text/javascri...	2694
https://www.healthcare.gov/marketplace/global/en_US/js/jquery.formatCurrency-1.4.0.js	text/javascri...	1150
https://www.healthcare.gov/marketplace/global/en_US/js/jQuery.collapsible.js	text/javascri...	5912
https://www.healthcare.gov/marketplace/global/en_US/js/wait.js	text/javascri...	15324
https://www.healthcare.gov/marketplace/global/en_US/js/jquery.hcmode-detection.js	text/javascri...	57308
https://www.healthcare.gov/marketplace/global/en_US/js/jquery.ui.widget.js	text/javascri...	10049
https://www.healthcare.gov/marketplace/global/en_US/js/jquery.iframe-transport.js	text/javascri...	214522
https://www.healthcare.gov/marketplace/global/en_US/js/datepicker.js	text/javascri...	3570
https://www.healthcare.gov/marketplace/global/en_US/js/tipsy.js	text/javascri...	388
https://www.healthcare.gov/marketplace/global/en_US/js/ee/eeBackbone.js	text/javascri...	22166
https://www.healthcare.gov/marketplace/global/en_US/js/ee/eeCommon.js	text/javascri...	433
https://www.healthcare.gov/marketplace/global/en_US/js/ee/eeConstants.js	text/javascri...	

55 JS Files,
16 jQuery related!

Merging files can reduce
roundtrips by 95%

#10: Browser caches

Summary (E) Caching (F) Network (D) Server-Side (F) JavaScript/AJAX (E) TimeLine KPI's

F(9) is your calculated Browser Caching Performance Rank

Implement the following suggestions to improve performance for revisiting users. Read more on [Best Practices on Browser Caching](#) on the dynaTrace Community Portal

See how your rank compares to other sites:

62! Resources not cached

Following 62 resources have no or past date cache settings. 53 are static requests. 48 requests impact the Rank. [Specifying Expires Headers](#) can save up to 259.45kb in transfer size and up to 15112.23ms in download time

URL	Size [byt...]	Total [s]	MIME	Cache expiration
http://content.usatoday.com/weather/content/_weatherprovisioner.ashx?type...	1128	5.78	application/javascript	-
http://i.usatoday.net/news/snapshots/vall115/v115-10-14-retirement.png	2233	0.57	image/png	-
http://i.usatoday.net/communitymanager/_photos/paw-print-post/2010/10/12/...	3674	0.56	image/jpeg	-
http://i.usatoday.net/community/_photos/carryon-th.jpg	1866	0.54	image/jpeg	-

Following 49 resources have a short expiration. [Specifying Expires Expires Headers](#) can save up to 259.45kb in transfer size and up to 15112.23ms in download time

49! Resources with short expiration

URL	Size [byt...]	Total [s]	MIME	Cache expiration
http://i.usatoday.net/_fronts2010/_home/_i/_community/icon-gameon.gif	633	0.54	image/gif	15 Oct 2010 10:07:43...
http://i.usatoday.net/_fronts2010/_i/v2/belt-button.png	2223	0.53	image/png	15 Oct 2010 10:07:28...
http://i.usatoday.net/_fronts2010/_i/v2/media-icons-belt.png	776	0.50	image/png	15 Oct 2010 10:06:56...
http://i.usatoday.net/_fronts2010/_i/directional-icons.png	699	0.49	image/png	15 Oct 2010 10:06:50...

Problems that could have been avoided

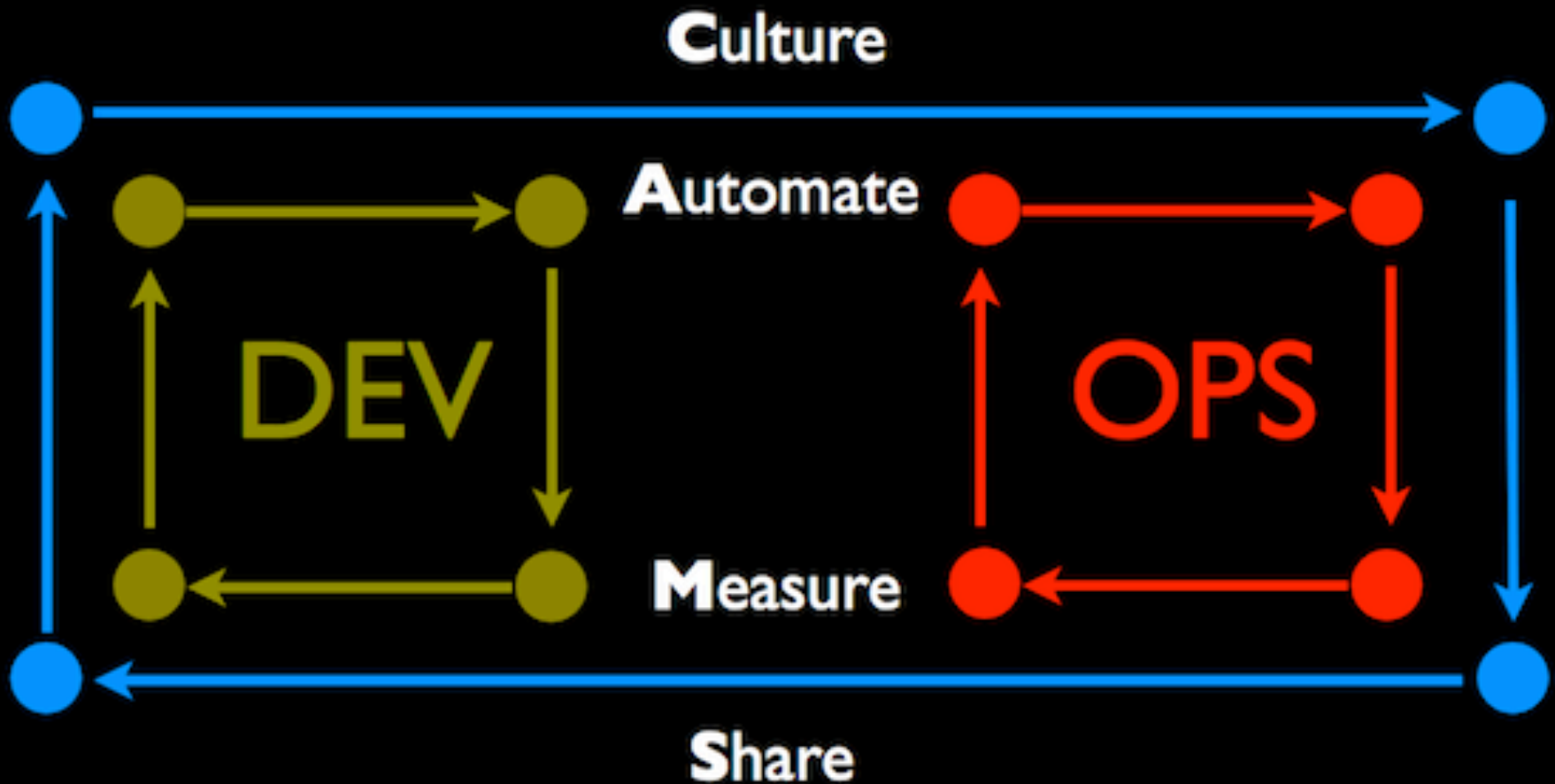
BUT **WHY** are they still making it to Production?
HOW can we catch them earlier?



Root Cause: Disconnected Teams



Solution: DevOps + Performance Focus



Become ONE Team



Testability



Performance



Scalability



Deployment



Tools



How? Performance Focus in Test Automation

Lets look behind the scenes

Test Framework Results

Build #	Test Case	Status
Build 17	testPurchase	OK
	testSearch	OK
Build 18	testPurchase	FAILED
	testSearch	OK
Build 19	testPurchase	OK
	testSearch	OK
Build 20	testPurchase	OK
	testSe	OK

Architectural Data

# SQL	# Excep	CPU
12	0	120ms
3	1	68ms
12	5	60ms
3	1	68ms
75	0	230ms
3	1	68ms
3	0	120ms
3	0	120ms

We identified a regression

Problem solved

Exceptions probably caused by regression

Problem fixed but now we have an architectural regression

Now we have the functional and architectural confidence

How? Performance Focus in Test Automation

Jenkins search

Jenkins > easyTravel > ENABLE AUTO REFRESH

Project easyTravel

[Back to Dashboard](#)
[Status](#)
[Changes](#)
[Workspace](#)
[Build Now](#)
[Delete Project](#)
[Configure](#)
[dynaTrace Test Automation Dashboard](#)

[Workspace](#)
[Recent Changes](#)

Build History (trend)

#31	Sep 11, 2013 1:29:43 PM
#30	Sep 11, 2013 12:32:47 PM
#29	Sep 11, 2013 12:26:57 PM
#28	Sep 11, 2013 12:04:13 PM
#27	Sep 11, 2013 11:23:26 AM
#26	Sep 10, 2013 6:32:12 PM
#25	Sep 10, 2013 6:28:25 PM

[RSS for all](#) [RSS for failures](#)

Permalinks

- [Last build \(#30\), 56 min ago](#)
- [Last stable build \(#30\), 56 min ago](#)
- [Last successful build \(#30\), 56 min ago](#)
- [Last failed build \(#29\), 1 hr 2 min ago](#)
- [Last unsuccessful build \(#29\), 1 hr 2 min ago](#)

dynaTrace Test Automation Results

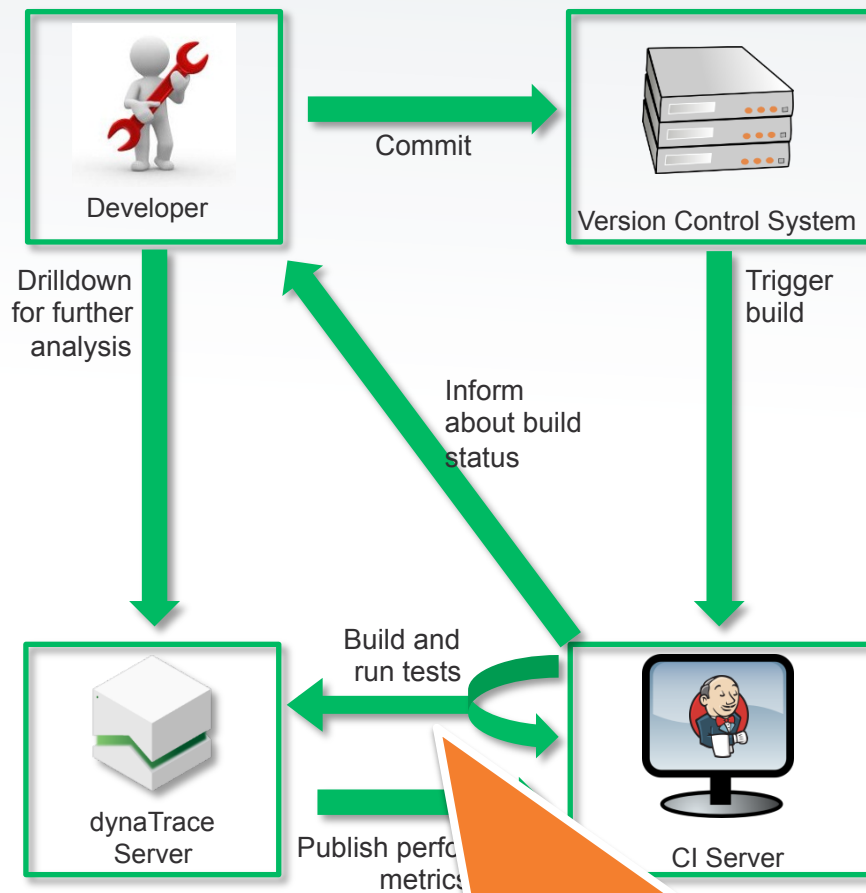
Tests

Build

Legend: Degraded (pink), Failed (red), Improved (blue), Passed (green), Volatile (yellow)

Build	Degraded	Failed	Improved	Passed	Volatile
#25	1	0	0	23	12
#26	1	1	0	23	12
#30	1	4	0	31	10

Embed your Architectural Results in Jenkins



Look beyond test pass/fail!

How? Performance Focus in Test Automation

dynaTrace Client

Test Automation

Analyzing All Unit / Performance Tests

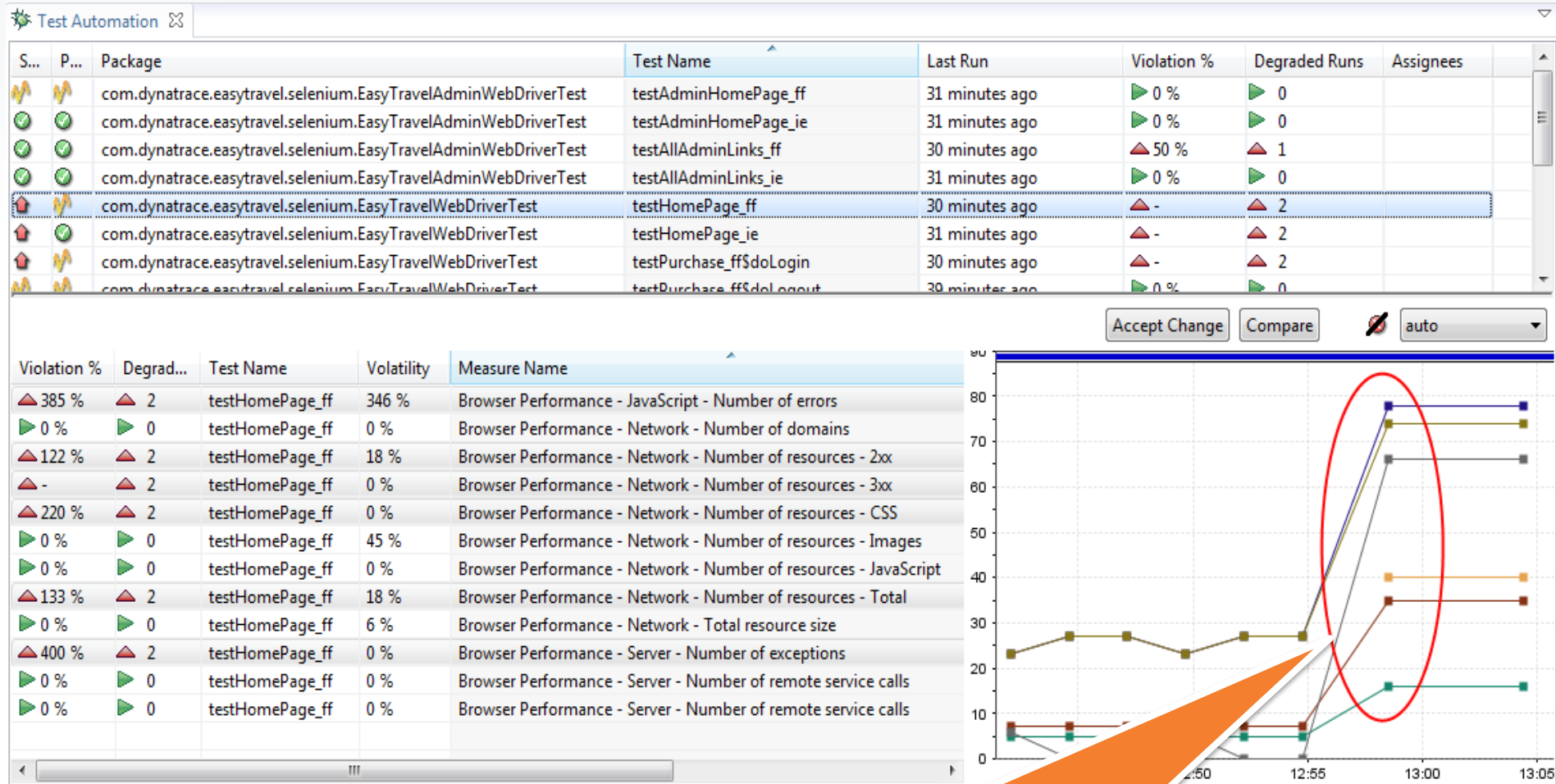
S...	P...	Test Name	Package	Last Run	Violation %	Assignees
D...	D...	Unit Tests				
✓	✓	DBExecuteTest.testExecute	com.dynatrace.easytravel.database	53 seconds ago	0 %	
✓	✓	JourneyTest.testJourney	com.dynatrace.easytravel.database	45 seconds ago	0 %	
✓	✓	JourneyTest.testJourney	com.dynatrace.easytravel.database	44 seconds ago	0 %	
D...	D...	UI-driven Tests				
D...	D...	Performance Tests				
✓	✓	LoginTest.testLogin1	com.dynatrace.easytravel.spring	21 seconds ago	-	
⚠	⚠	LoginTest.testLogin2	com.dynatrace.easytravel.spring	2 minutes and 27 seconds ago	-	
⚠	⚠	UpdateThreadTest.testSlow	com.dynatrace.easytravel.database	36 seconds ago	-	
⚠	⚠	UpdateThreadTest.testFast	com.dynatrace.easytravel.database	36 seconds ago	-	
✓	✓	StartFrontendTest.testStartFrontend	com.dynatrace.easytravel.spring	2 minutes and 5 seconds ago	-	
✓	✓	LoginTest.testPrivateConstructor	com.dynatrace.easytravel.spring	a few seconds ago	-	
⚠	⚠	BookingTest.testBook	com.dynatrace.easytravel.spring	31 seconds ago	-	
⚠	⚠	FindJourneysTest.testFind	com.dynatrace.easytravel.spring	27 seconds ago	-	
✓	✓	LoginTest.testGetPassword	com.dynatrace.easytravel.spring	2 minutes and 1 seconds ago	-	
D...	D...	Load Tests				

Identify Regressions

Degraded Run	Violation %	Volatility	Platform	Measure Name	Expected Maximum
2	-	0 %	Windows	AG_Invocation QueryImpl.getResult...	0.00
2	2200 %	0 %	Windows	DB Count	3.00
2	66 %	13 %	Windows	PurePath Duration w/o Suspension	1223.68
2	65 %	13 %	Windows	PurePath Duration	1237.55
2	65 %	13 %	Windows	PurePath Response Time	1237.55
			Windows	Failed Transaction Count of Web Se...	0.00
			Windows	Failed Transaction Count of Web Se...	0.00
			Windows	Failed Transaction Count of Web Se...	0.00
			Windows	Failed Transaction Count	0.00
			Windows	Failed Transaction Count of Web Se...	0.00
			Windows	PurePath CPU Duration	994.12

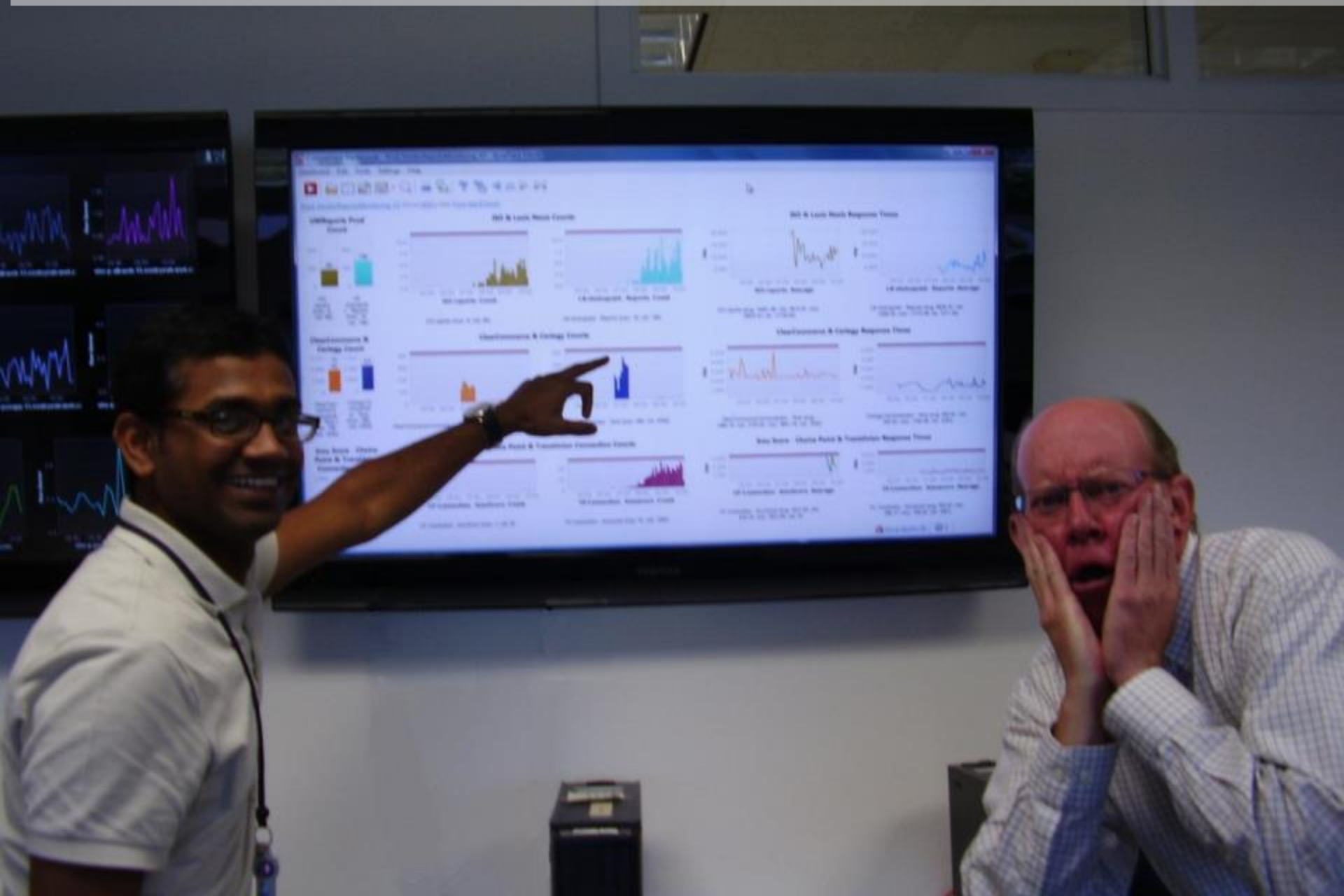
Analyze Perf Metrics

How? Performance Focus in Test Automation



Cross Impact of KPIs

Results





Compuware
APM
Simply Smarter