

Using Elastic or Splunk for collaboration



Q: How many testers does it take to change a lightbulb?

Albert Witteveen

At the helm

- ~ 50% of IT projects fail.
- NL 1.6 billion EURO annually lost
- Integration phase: AKA test phase



Collaboration

- Devops
- Elastic stack or Splunk: enabling collaboration



*Coming together is a beginning; keeping together is progress;
working together is success.*

Henry Ford

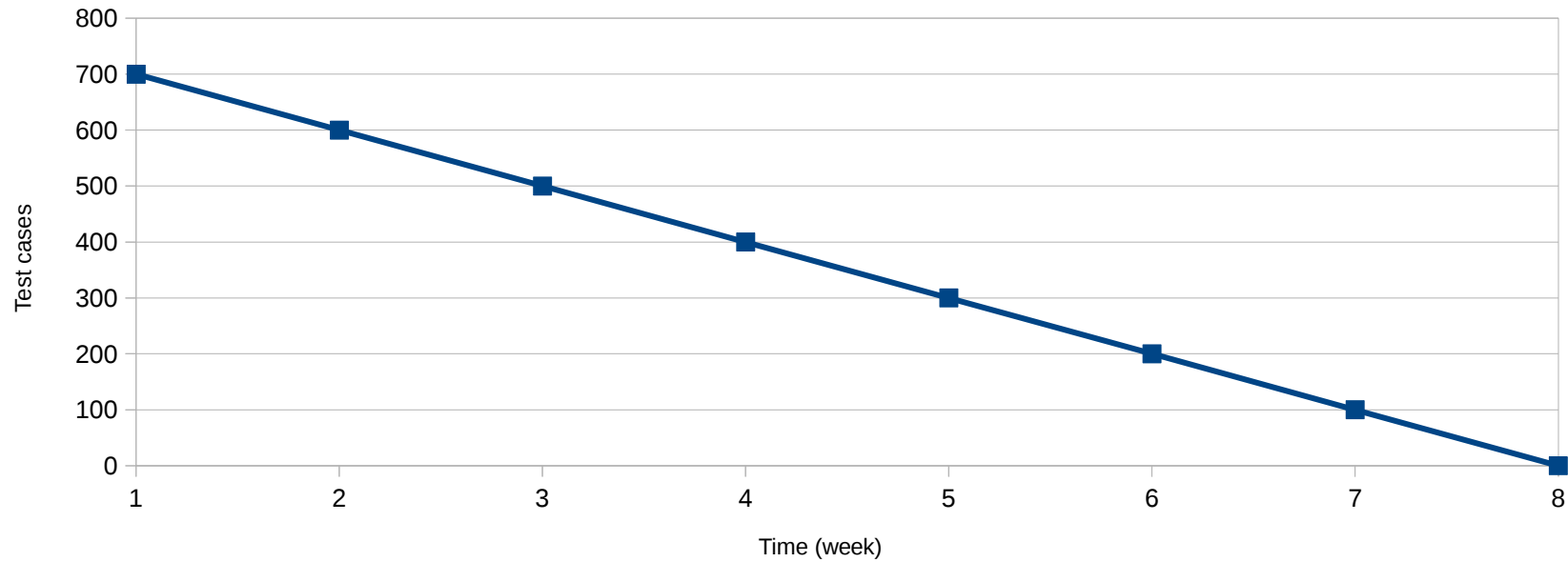
A story

- Large multi million project
- Many different teams
- Stuck in the integration phase



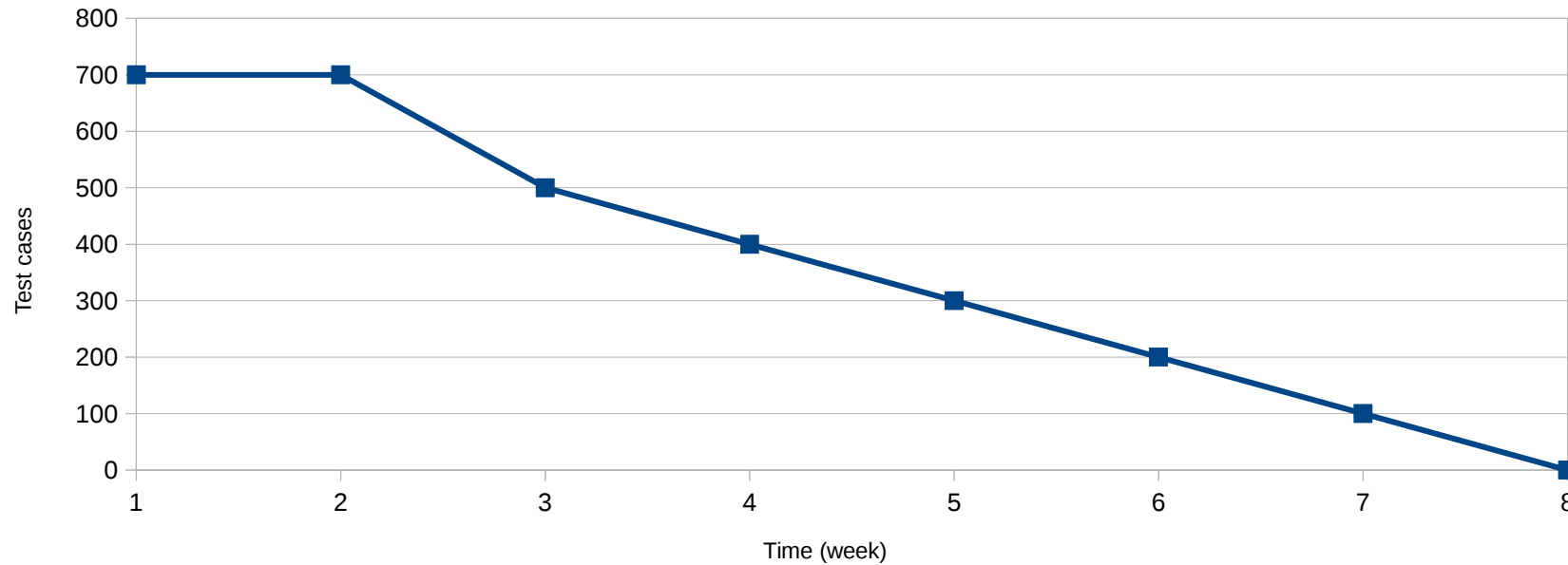
Week 1

Burndown chart



Week 2

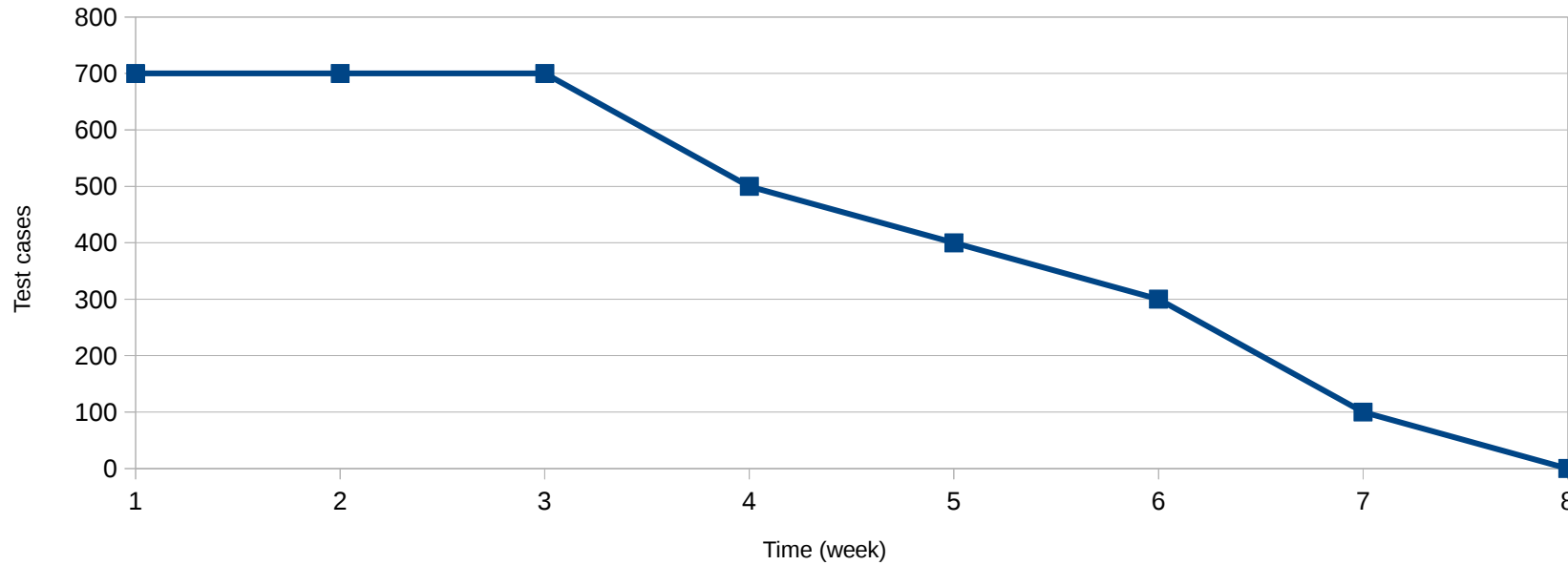
Burndown chart



Adjusted planning

Week 3

Burndown chart



Adjusted planning

Issues

- Multiple (new) systems: many teams
- No business process getting through
- “Hey test manager, you are delaying”
- Testers were looking at frontends not ‘under the hood’
- Rising amount of issues
- Issues ping ponging



We're test phase managers!

“Testing is not responsible for the bugs inserted into software any more than the sun is responsible for creating dust in the air.”— Dorothy Graham

Operational intelligence system

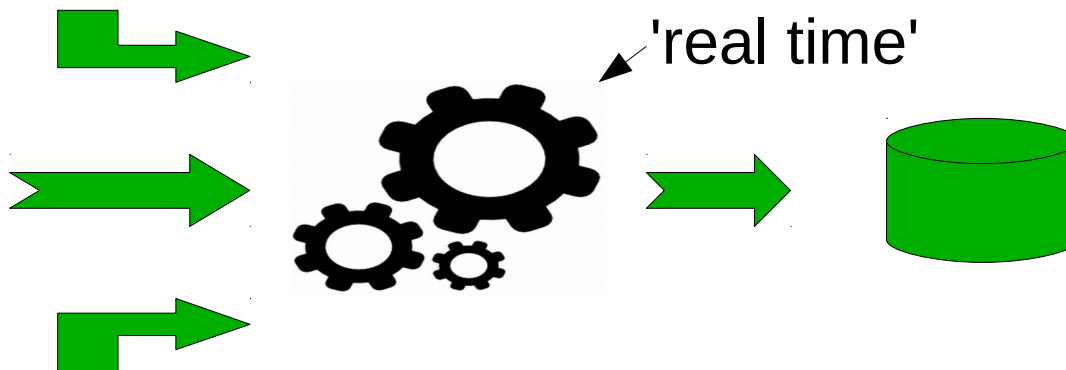
```
64.242.88.10 - - [07/Mar/2015:16:05:49 -0800] "GET /twiki/bin/edit/Main/Double_bounce_sender?topicparent=Main.ConfigurationVariables HTTP/1.1" 401 12846
64.242.88.10 - - [07/Mar/2015:16:06:51 -0800] "GET /twiki/bin/rdiff/TWiki/NewUserTemplate?rev1=1.3&rev2=1.2 HTTP/1.1" 200 4523
64.242.88.10 - - [07/Mar/2015:16:10:02 -0800] "GET /mailman/listinfo/hsdivision HTTP/1.1" 200 6291
64.242.88.10 - - [07/Mar/2015:16:11:58 -0800] "GET /twiki/bin/view/TWiki/WikiSyntax HTTP/1.1" 200 7352
64.242.88.10 - - [07/Mar/2015:16:20:55 -0800] "GET /twiki/bin/view/Main/DCCAndPostFix HTTP/1.1" 200 5253
64.242.88.10 - - [07/Mar/2015:16:23:12 -0800] "GET /twiki/bin/oops/TWiki/AppendixFileSystem?template=oopsmore&m1=1.12&m2=1.12 HTTP/1.1" 200 11382
64.242.88.10 - - [07/Mar/2015:16:24:16 -0800] "GET /twiki/bin/view/Main/PeterThoeny HTTP/1.1" 200 4924
64.242.88.10 - - [07/Mar/2015:16:29:16 -0800] "GET /twiki/bin/edit/Main/Header_checks?topicparent=Main.ConfigurationVariables HTTP/1.1" 401
```

Order ID	Status	CorrelationID
O1254486	completed	C24ec540d000ee0b7d2304bc34c769a4
O1254487	in progress	a2a551a6458a8de22446cc76d639a9e9
O1254488	in progress	be121740bf988b2225a313falf107ca1
O1254489	error	b0293108cc2a2aa7c88738c2215b1a05
O1254490	completed	68c4283db8074b12df1660b31c0220a9
O1254491	completed	9a1f30943126974075dbd4d13c8018ac

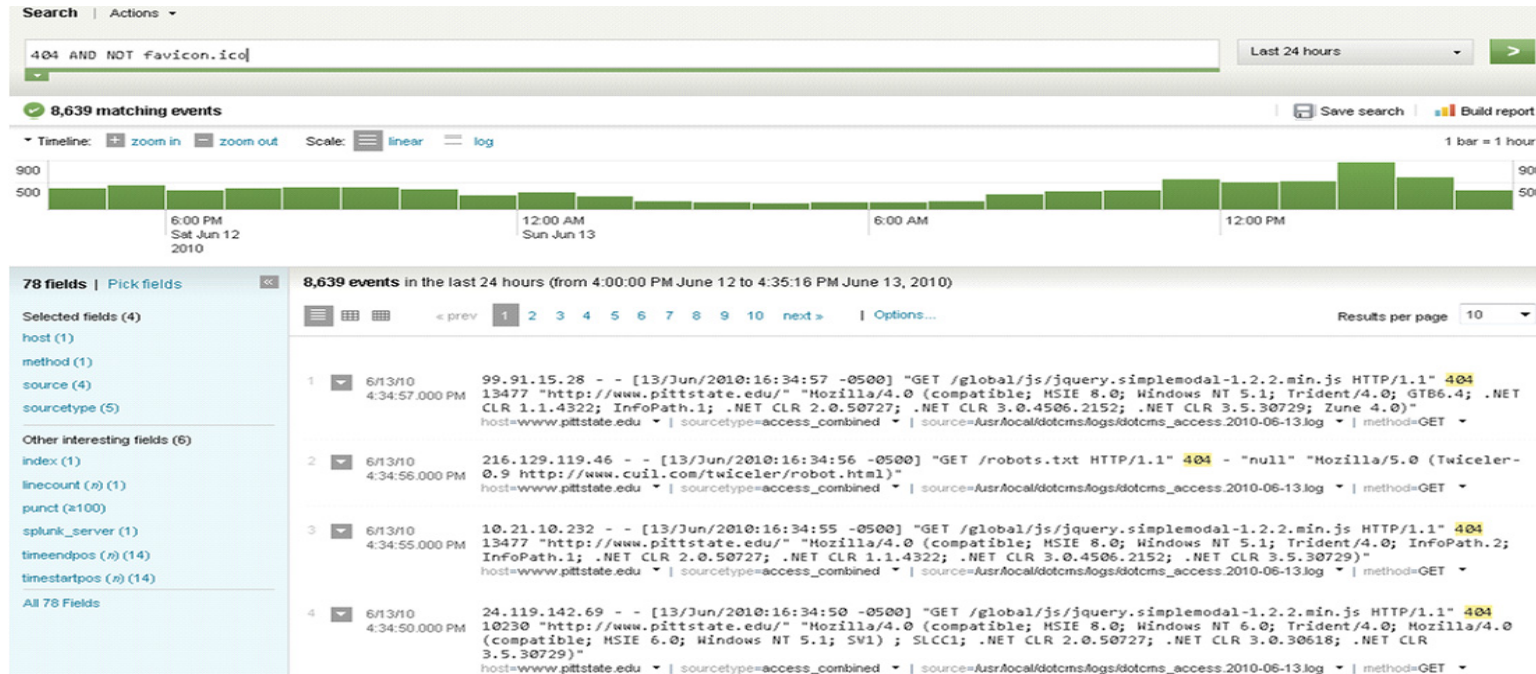
```
<?xml version="1.0" standalone="yes" ?>
-<shop location="Birmingham" size="Large">
- <food>
  <Name>Apple</Name>
  <type>fruit</type>
  <cost>15</cost>
</food>
- <food>
  <Name>Carrot</Name>
  <type>vegetable</type>
  <cost>10</cost>
</food>
</shop>
```

```
%1 server CRON[14748]: (root) CMD ( cd / && run-parts --report /etc/cron.hourly)
%1 server CRON[15493]: (root) CMD ( cd / && run-parts --report /etc/cron.hourly)
%4 server dbus[426]: [system] Activating service name='org.freedesktop.ConsoleKit' (using servicehelper)
%5 server dbus[426]: [system] Activating service name='org.freedesktop.PolicyKit1' (using servicehelper)
%5 server polkitd[15604]: started daemon version 0.105 using authority implementation 'local' version '0.105'
%5 server dbus[426]: [system] Successfully activated service 'org.freedesktop.PolicyKit1'
%5 server dbus[426]: [system] Successfully activated service 'org.freedesktop.ConsoleKit'
:/var/log$
```

Index and time stamp in
'real time'



Search



“Pay attention to zeros. If there is a zero, someone will divide by it.” Dr. Cem Kaner

The needle and the haystack

The needle

Splunk App Tibco

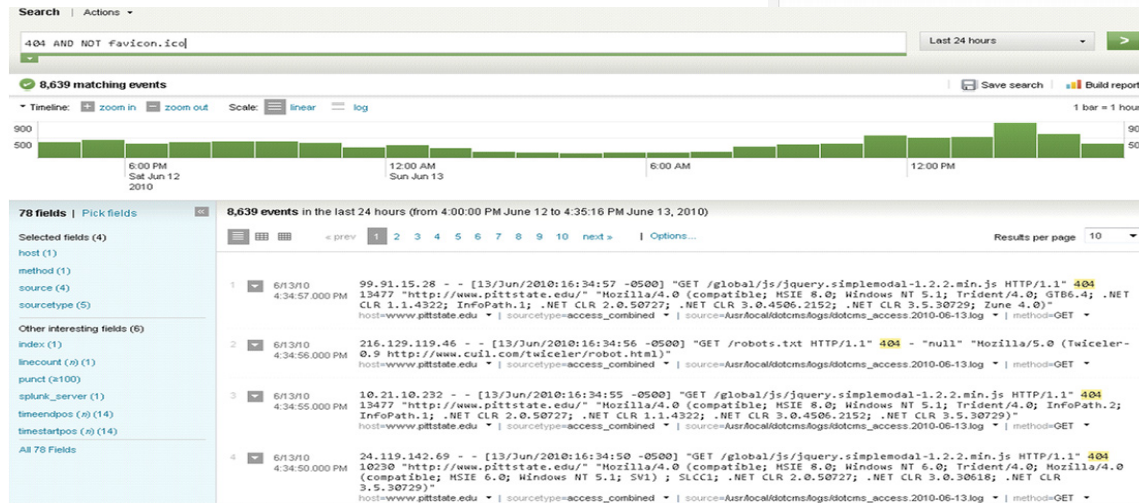
Tibco Main

Select a time: Today Severity: Error TransactionID: Operation: Component:

Usage Info: This page's content is updated every 5 minutes for faster searching and statistics generation. You can filter by Severity, Operation and TransactionID

Order processing overview

time	businessTransactionID	processingTime	message_type	application	operation	severity	classification	message
2014-09-11 11:09:08	753a69a9f4197a16b792a267bce	45.031	ERROR	adspExpertDesk	EdmIncidentUpdated_1	ERROR	TECHNICAL	Timed out waiting for a response
2014-09-11 11:02:16	ED_CREATE_TICKET_2014-09-11_11:02:12.000	3.203	ERROR	adspExpert	NcCreateIncident_1	ERROR	FUNCTIONAL	The back-end system returned an un-attributable error
2014-09-11 11:02:15	ED_CREATE_TICKET_2014-09-11_11:02:12.000	3.046	ERROR	adspExpertDesk	EdmCreateIncident_1	ERROR	UNDETERMINED	The back-end system returned an un-attributable error
2014-09-11 10:58:55	e1226a7c-62c6-4d8f-94cf-c0d8933a2c5e	30.031	ERROR	adspConceptWave	CwGetCustomerDetails_1	ERROR	TECHNICAL	Timed out waiting for a response
2014-09-11 10:58:36	8085935	30.047	ERROR	adspConceptWave	CwUpdateCustomerInstalledBase_1	ERROR	TECHNICAL	Timed out waiting for a response
2014-09-11 10:58:08	753a69a9f4197a16b792a267bce	40.016	ERROR	adspExpertDesk	EdmIncidentUpdated_1	ERROR	TECHNICAL	Timed out waiting for a response
2014-09-11 10:58:01	8085935	6.078	ERROR	adspConceptWave	CwServiceOrderUpdated_1	ERROR	TECHNICAL	Message parsing error
2014-09-11 10:57:47	c363ceea-6788-4d5f-8b02-c42ac547aabb	35.048	ERROR	prcCustomer	CwGetCustomerDetails_1	ERROR	TECHNICAL	Timed out waiting for a response
2014-09-11 10:57:42	c363ceea-6788-4d5f-8b02-c42ac547aabb	30.016	ERROR	adspConceptWave	CwGetCustomerDetails_1	ERROR	TECHNICAL	Timed out waiting for a response
2014-09-11 10:50:46	RTCS_diagnose_d864fad5-cf99-4e38-80a0-d9e05353697a	52.719	ERROR	adspDmp	SmpGetRoutingConfiguration_1	ERROR	TECHNICAL	Timed out waiting for a response
2014-09-11 10:50:33	RTCS_diagnose_d864fad5-cf99-4e38-80a0-d9e05353697a	40.015	ERROR	adspPcis	RscGetRoutingConfiguration_1	ERROR	TECHNICAL	Timed out waiting for a response
2014-09-11 10:50:26	UF02SIGMA_PS490005	1.593	ERROR	adspDmp	SmpSubmitServiceOrder_1	ERROR	UNDETERMINED	Invalid data



Application count by Severity

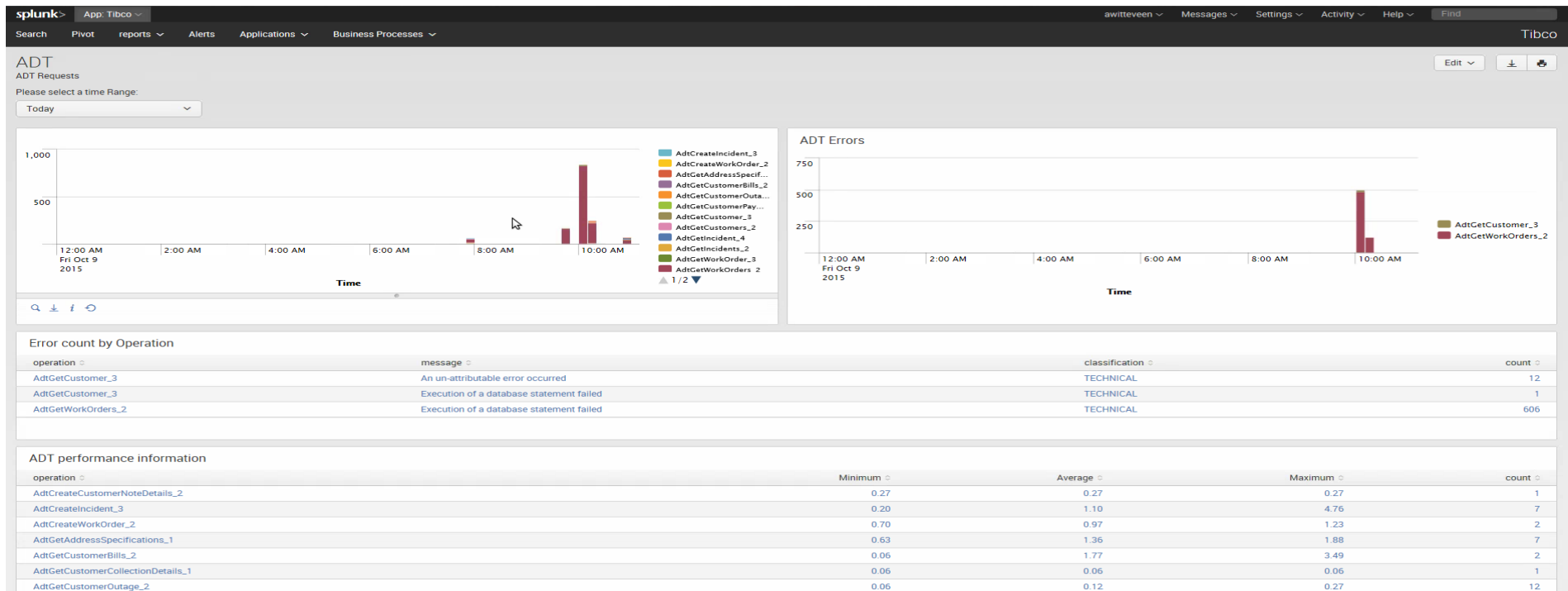
application	severity	count
adspDmp	ERROR	5515
adspPcis	ERROR	4471
adspRtos	ERROR	2734
adspConceptWave	ERROR	22
adspInfo	ERROR	13
prcCustomer	ERROR	9
adspExpertDesk	ERROR	7
prcService	ERROR	4
OdsoMBackendAdapter	ERROR	2
VoipAppServices	ERROR	2

Message count by Severity

message	count
Message parsing error	5375
Invalid data	4463
Timed out waiting for a response	2125
The back-end system returned an un-attributable error	807
An un-attributable error occurred	14
There is already an open order for customer 10423673	2
There is already an open order for customer 12340740	2
Customer not found	1
Request rejected by external system	1

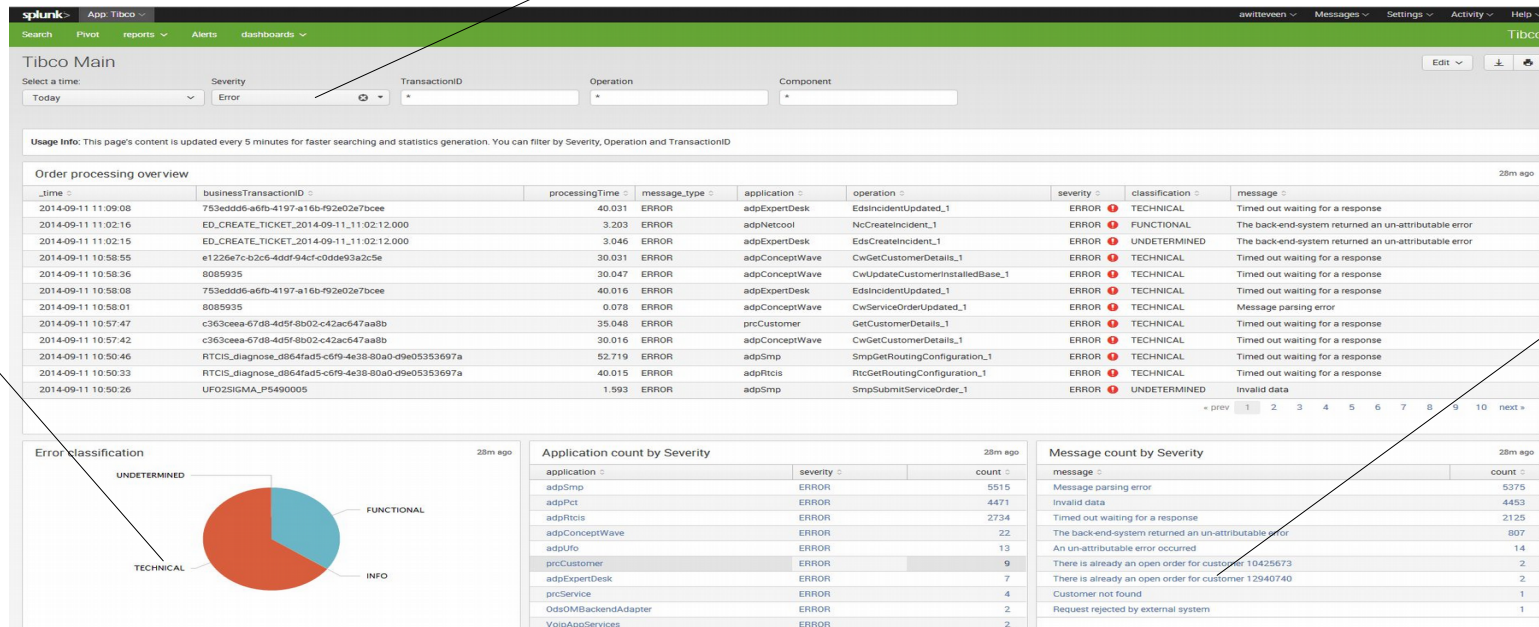
The haystack

Application errors



For the project

Filtered on severity



Error type

Top 10

For the tester

Id for his/her case

All events in chronological order

T1 - Tibco Detail page

Transaction ID: Job ID: Severity: Time Stamp:

Master 5m ago

_time	businessTransactionID	job_id	message_type	filename	operation	severity	classification	message
2014-09-11 10:49:53	RTCIS_diagnose_d864fad5-c6f9-4e38-80a0-d9e05353697a	97122	DEBUG	adpRtcis-adpRtcis.log	RtcGetRoutingConfiguration_1	DEBUG		Request to SmpGetRoutingConfiguration_1
2014-09-11 10:49:53	RTCIS_diagnose_d864fad5-c6f9-4e38-80a0-d9e05353697a	97122	INFO	adpRtcis-adpRtcis.log	RtcGetRoutingConfiguration_1	INFO		REQUEST message received
2014-09-11 10:49:53	RTCIS_diagnose_d864fad5-c6f9-4e38-80a0-d9e05353697a	1367859	INFO	adpSmp-adpSmp.log	SmpGetRoutingConfiguration_1	INFO		REQUEST message received
2014-09-11 10:49:53	RTCIS_diagnose_d864fad5-c6f9-4e38-80a0-d9e05353697a	1367859	DEBUG	adpSmp-adpSmp.log	SmpGetRoutingConfiguration_1	DEBUG		Log request message to Sigma SMP
2014-09-11 10:50:16	RTCIS_diagnose_d864fad5-c6f9-4e38-80a0-d9e05353697a	1367859	DEBUG	adpSmp-adpSmp.log	SmpGetRoutingConfiguration_1	DEBUG		ConsersationID to get message form SMP Topic
2014-09-11 10:50:16	RTCIS_diagnose_d864fad5-c6f9-4e38-80a0-d9e05353697a	1367859	DEBUG	adpSmp-adpSmp.log	SmpGetRoutingConfiguration_1	DEBUG		Log Response from Sigma SMP
2014-09-11 10:50:33	RTCIS_diagnose_d864fad5-c6f9-4e38-80a0-d9e05353697a	97122	ERROR	adpRtcis-adpRtcis.log	RtcGetRoutingConfiguration_1	ERROR	TECHNICAL	Timed out waiting for a response
2014-09-11 10:50:46	RTCIS_diagnose_d864fad5-c6f9-4e38-80a0-d9e05353697a	1367859	ERROR	adpSmp-adpSmp.log	SmpGetRoutingConfiguration_1	ERROR	TECHNICAL	Timed out waiting for a response

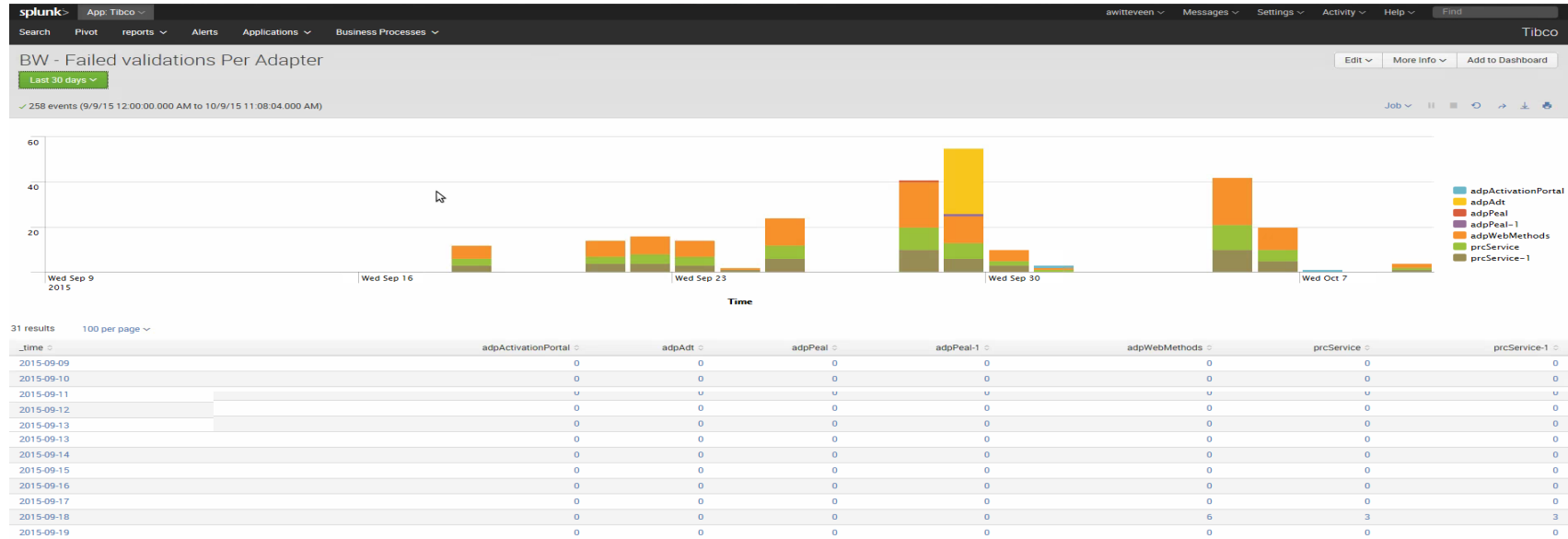
Transaction ID: RTCIS_diagnose_d864fad5-c6f9-4e38-80a0-d9e05353697a Job-ID: 1367859 Time: 2014-09-11T10:50:46.163+02:00 4m ago

Event

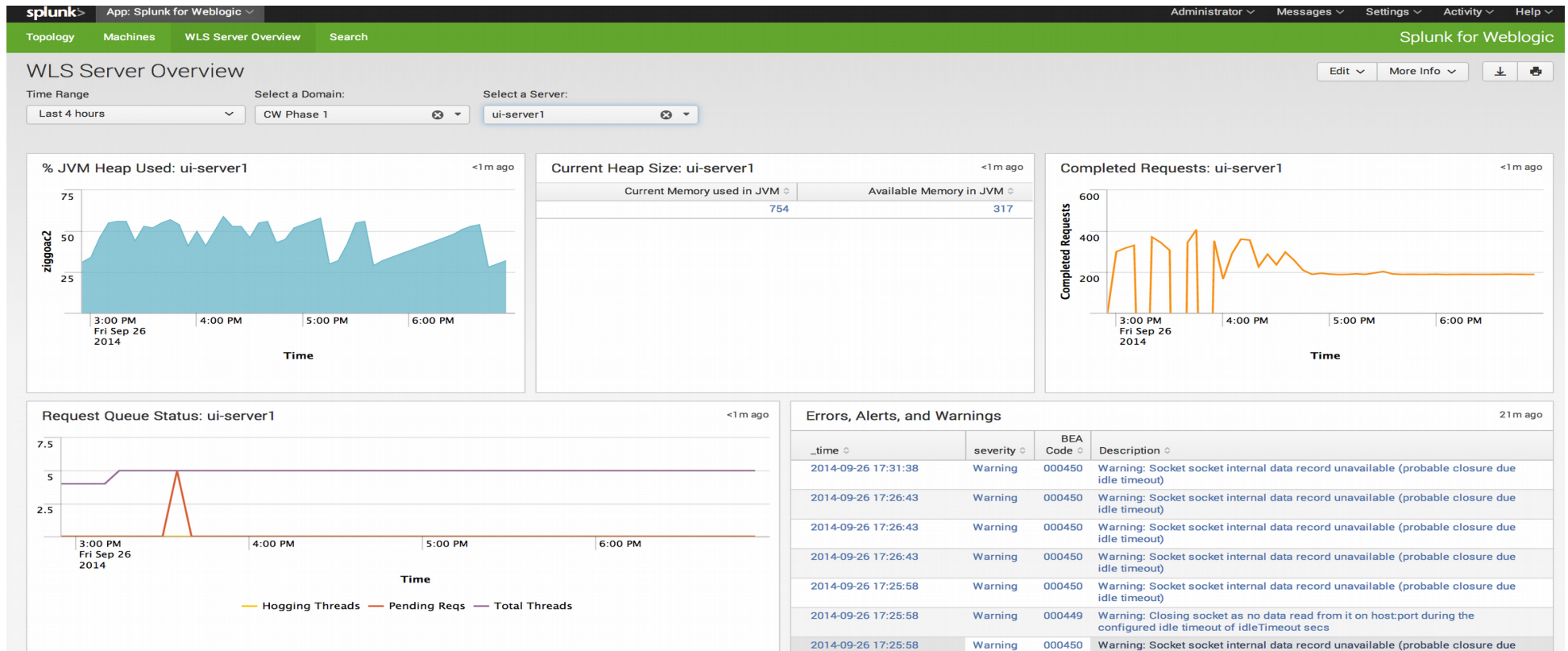
```
<LoggingEvent
  <severity>ERROR</severity>
  <message>Error RESPONSE sent</message>
  <sourceContext>
    <host>ESB-BW-WAV01</host>
    <application>adpSmp</application>
    <operation>SmpGetRoutingConfiguration_1</operation>
  </sourceContext>
  <keyFields>
    <attribute>
      <key>cm:businessTransactionID</key>
      <value>RTCIS_diagnose_d864fad5-c6f9-4e38-80a0-d9e05353697a</value>
    </attribute>
    <attribute>
      <key>cm:externalCorrelationID</key>
      <value>e1db908-5861-4dba-9b9e-91eff34776bb</value>
    </attribute>
    <attribute>
      <key>cm:messageID</key>
      <value>5f1c8d40-85eb-4ff7-9e0d-32c24f341dcc</value>
    </attribute>
    <attribute>
      <key>cm:correlationID</key>
      <value>28c4f23e-f405-44bc-b7a5-9e79da503fc4</value>
    </attribute>
    <attribute>
      <key>cm:conversationID</key>
      <value>28c4f23e-f405-44bc-b7a5-9e79da503fc4</value>
    </attribute>
  </keyFields>
  </LoggingEvent>
```

The message

As a test manager I get objective information on the reliability



Correlate



The result

- We got a view on the real issues
- We fixed the real issues
- Testers fixed their own test data issues
- Testers loved the software
- Testers and engineers huddled over one screen
- We made the deadline (sort of)



“You can see a lot by just looking.”— Yogi Berra

Visualisation

- Most testers have insight, but neither access nor training
- Operational intelligence system offers
 - visual information
 - view under the hood
 - accessible information

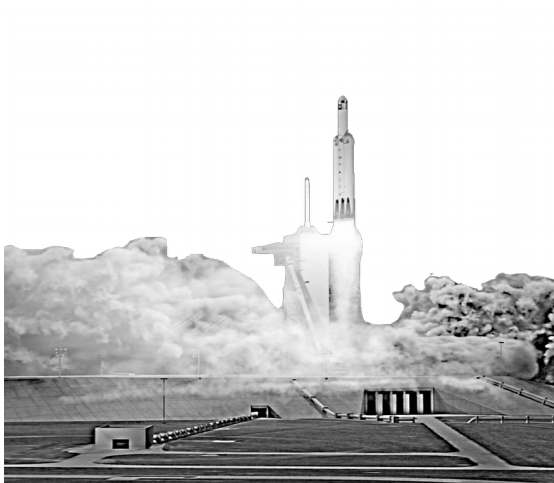


Volunteers feedback

*“We only see what we know.”—
Goethe*

A look in the mirror

- Is this just a patch for bad design?



“We cannot solve our problems with the same thinking we used when we created them.” Albert Einstein

The options

- Free software



elastic

graylog

- Proprietary

splunk>

+ sumologic

papertrail

Before you start

- License
- Data (size, accessibility, privacy)
- Experience
- Time for support
- Do a POC



Feed it data

- Application data (log4j, custom)
- HTTP Logs, change logformat! Enable cookie logging
- Messages! (if needed ask dev to log)
- Technical data (i.e. Java Garbage collections)
- System data (/var/log)
- Database tables (rising tables)
- Location (change log location?)
- Higher log level



Throw the first stone

- Searches (error, fatal, nullpointer, ORA-, 404 etc.)
- Dashboards



Experience matters

- Train
- Try
- Get advise (support?)
- Help
- Demand



Follow the process

- With dev/test follow a full process
 - Insight
 - Collaborate
 - Share knowledge
- Build an app



Collaborate

- Testers are technical enough with help
- Improves total quality
- We can help get the integration right
- OI systems are not just for production
- Not the end of project failures

*Testers don't change the
lightbulb....*

