

Whamcloud Quality

- Chris Gearing
Sr. Software Engineer
Whamcloud, Inc.

Agenda

- Whamcloud Community Wide Quality
- Repeatable Landing Process
- Scalable Quality Community Tools
- How you can help

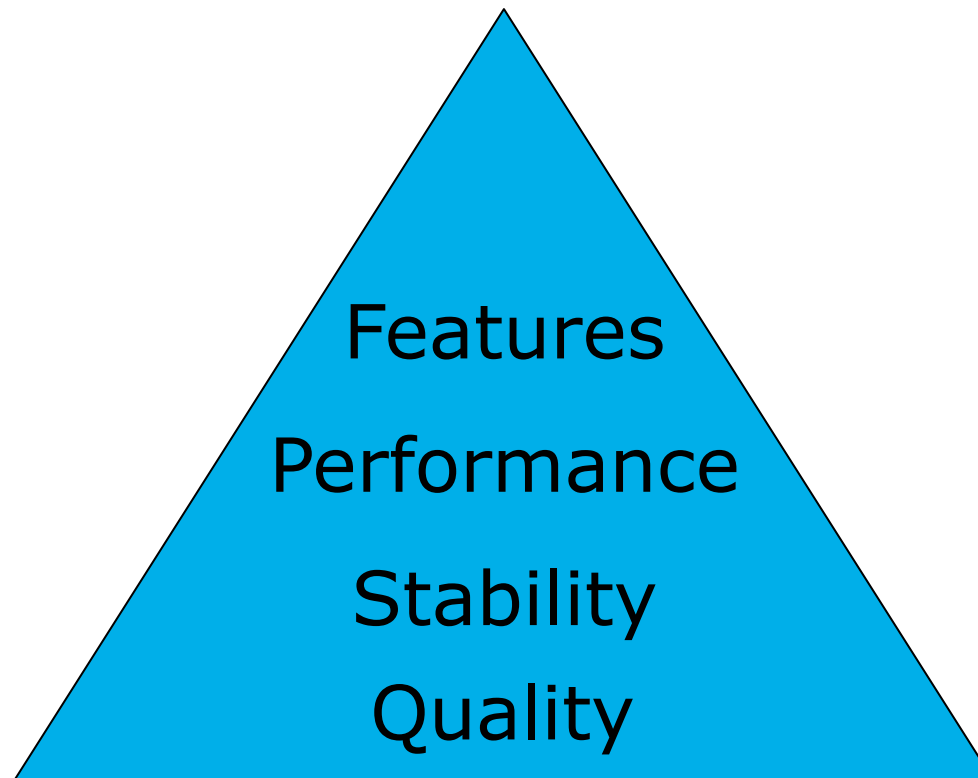
Whamcloud Community Wide Quality

“ Whamcloud is leading the charge to raise the quality bar for Lustre to equal the best of file systems in the world ”

Brent Gorda
CEO Whamcloud

Whamcloud Community Wide Quality

- Whamcloud's base value is that Lustre must be a stable quality product



Whamcloud Community Wide Quality

- Whamcloud is investing money, time and expertise in Quality
- ...is developing tools to enhance the Lustre community
- The whole of its engineering team is orientating itself around quality principles

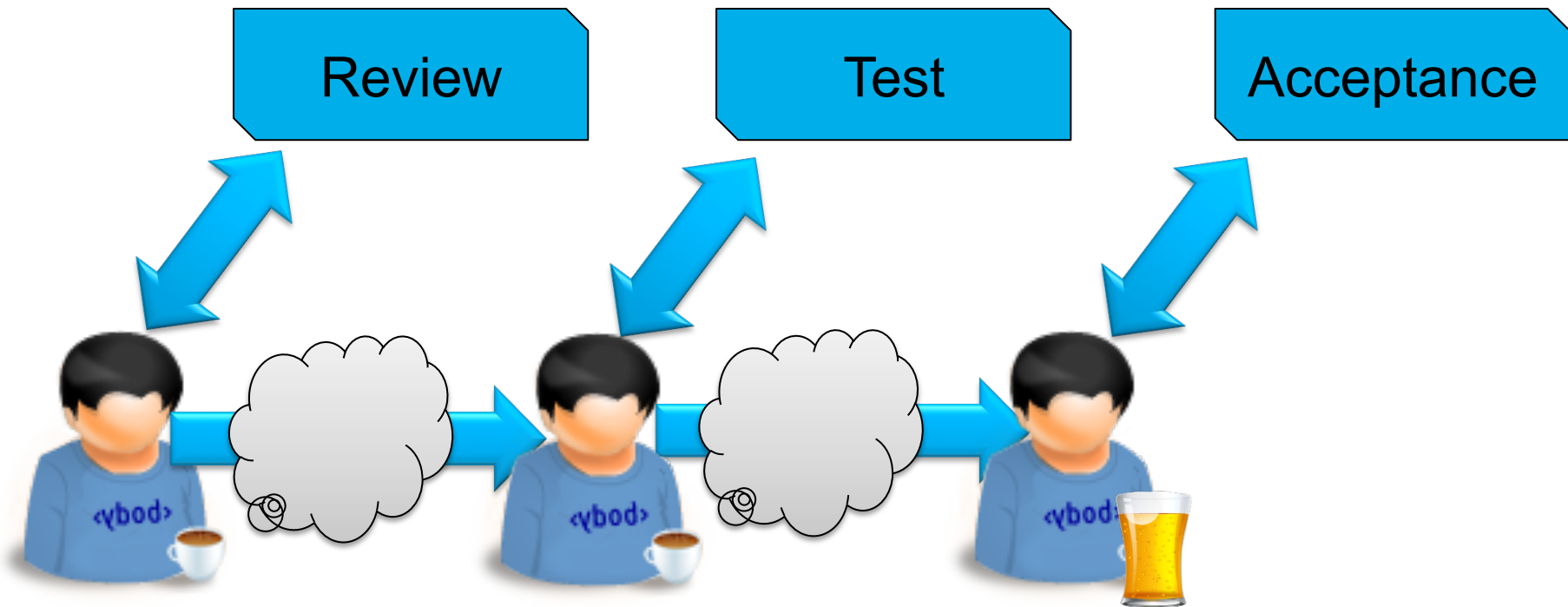
Repeatable Landing Process

- To improve the quality of any product the number one requirement is to have control of the process that produces the product
- In a Quality system the Quality runs through out the process, quality is not just measured at the end

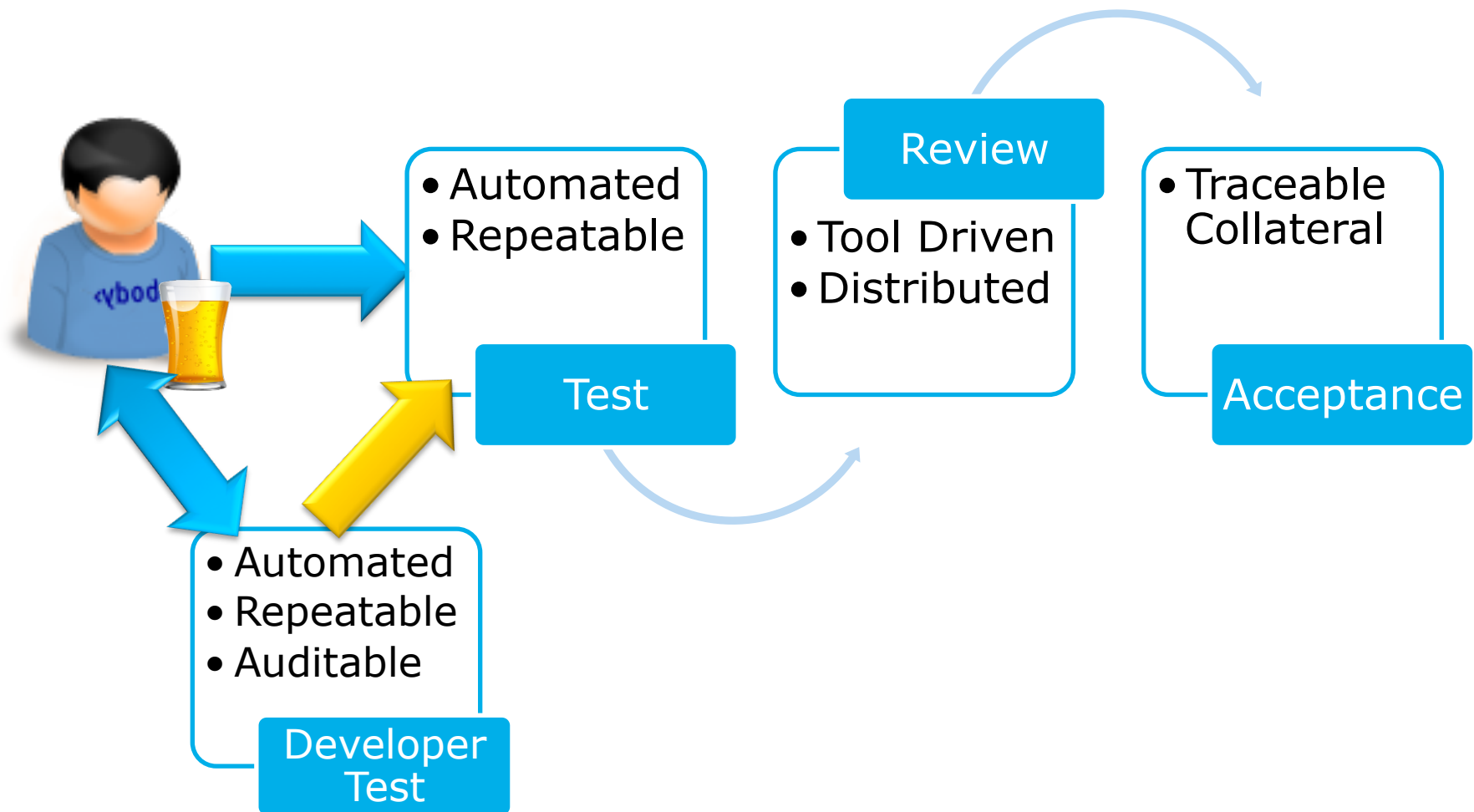
Repeatable Landing Process

- Repeatable landing process from patch submission to patch acceptance
- Increase the quality of the patches being presented for acceptance
- Use the new landing process to push quality further forward in development cycle

Historical Landing Process



Repeatable Landing Process



Scalable Quality Community Tools

Jira, Jenkins
and Gerrit

Casco
Validation
Tool

Maloo
Database



Scalable Quality Community Tools

Jira, Jenkins
and Gerrit

Tools Live Today

jira.whamcloud.com
build.whamcloud.com
review.whamcloud.com

- **JIRA** is Whamcloud's Issue and Agile management tool
- **JENKINS** is the build tool that continuously builds mainstream branches and all patches submitted by the community
- **GERRIT** is code review tool that allows the whole community to be part of the code review process

Scalable Quality Community Tools



Casco
Validation
Tool

- Allows anybody to automatically test builds on Lustre Clusters
- Developers can request pre-landing test sessions using Casco
- Casco enables all landings to be to automatically tested prior to review
- Casco will run on many clusters to allow automated testing on your cluster

Scalable Quality Community Tools

Maloo
Database

Maloo Live Today

maloo.whamcloud.com

- Community results database
- Anyone can store results on Whamcloud's instance
- Anyone can setup their own Maloo instance
- Results from any Maloo can be used as landing collateral

Maloo Screen Shots



Maloo - Lustre Results Da... x

https://maloo.whamcloud.com/test_sets

latest results | latest sessions | search results | test statistics | upload results

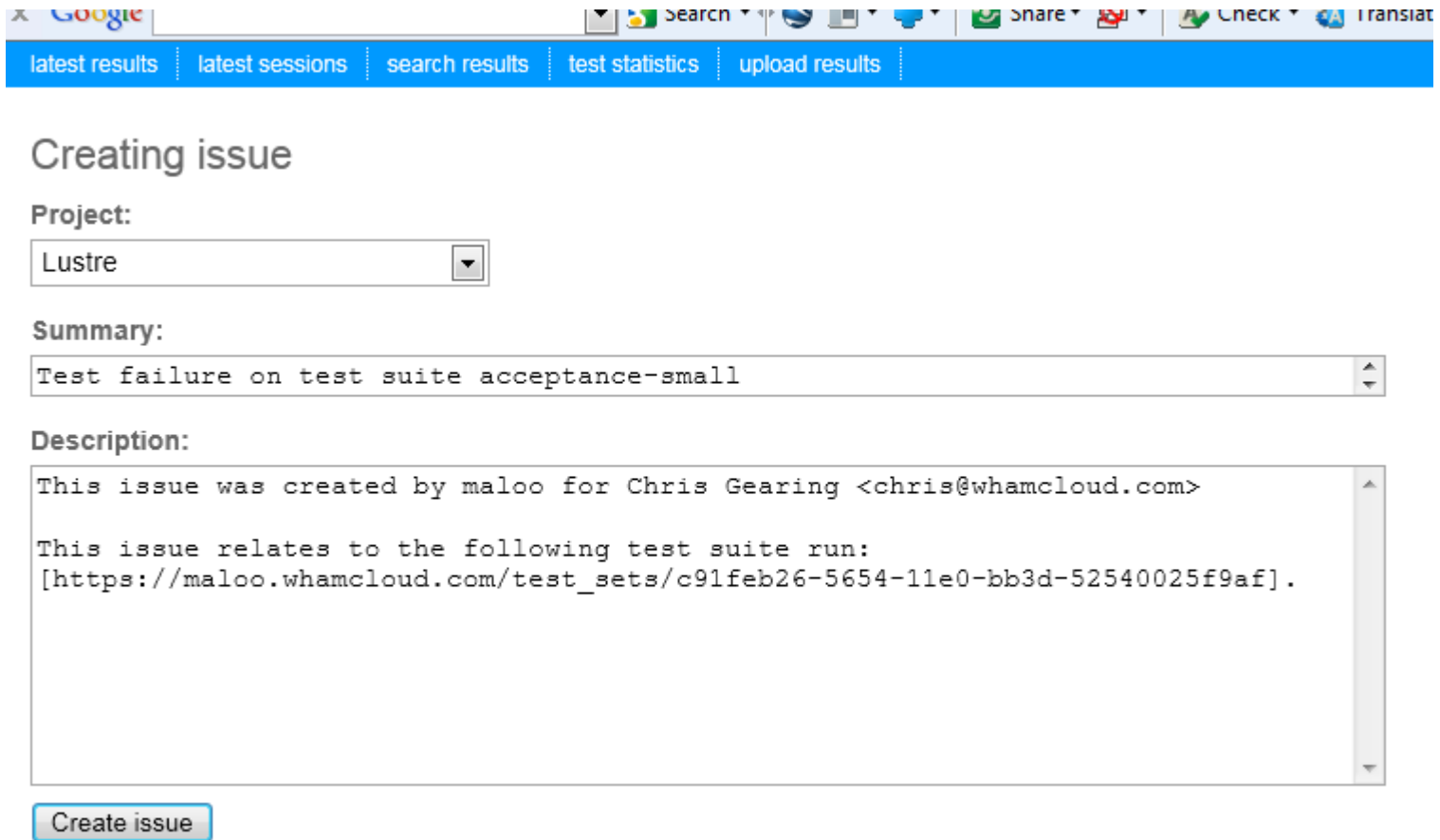
Chris Gearing [settings | logout] whamcloud

Latest test set results

1 2 3 4 5 6 7 8 9 ... 13 14 Next →

Name	Test group	Test host	User	Run at	Status	Duration	Subtests passed	Bugs
parallel-scale	acc-sm-client-5.lab.whamcloud.com	client-5.lab.whamcloud.com	sarah	2011-03-24 03:12:40 UTC	FAIL	1272	8/10	
parallel-scale	acc-sm-client-5.lab.whamcloud.com	client-5.lab.whamcloud.com	sarah	2011-03-24 01:27:34 UTC	FAIL	707	3/4	
parallel-scale	acc-sm-client-5.lab.whamcloud.com	client-5.lab.whamcloud.com	sarah	2011-03-24 00:02:36 UTC	FAIL	787	2/3	
replay-single	basic	client-20-ib	Whamcloud Autotest	2011-03-23 10:58:42 UTC	TIMEOUT	3600	5/6	
sanity-benchmark	basic	client-20-ib	Whamcloud Autotest	2011-03-23 10:47:00 UTC	PASS	702	5/5	
sanity	basic	client-20-ib	Whamcloud Autotest	2011-03-23 10:25:35 UTC	PASS	1285	365/365	
replay-single	basic	client-20-ib	Whamcloud Autotest	2011-03-22 14:35:53 UTC	TIMEOUT	3600	9/10	
sanity-benchmark	basic	client-20-ib	Whamcloud Autotest	2011-03-22 14:24:11 UTC	PASS	702	5/5	
sanity	basic	client-20-ib	Whamcloud Autotest	2011-03-22 14:02:20 UTC	PASS	1311	365/365	
replay-single	basic	client-20-ib	Whamcloud Autotest	2011-03-22 03:15:33 UTC	TIMEOUT	3600	15/16	
sanity-benchmark	basic	client-20-ib	Whamcloud Autotest	2011-03-22 03:03:56 UTC	PASS	697	5/5	
sanity	basic	client-20-ib	Whamcloud Autotest	2011-03-22 02:42:30 UTC	PASS	1286	365/365	
replay-single	basic	client-20-ib	Whamcloud Autotest	2011-03-22 00:39:10 UTC	TIMEOUT	3600	22/23	
sanity-benchmark	basic	client-20-ib	Whamcloud Autotest	2011-03-22 00:27:25 UTC	PASS	705	5/5	
sanity	basic	client-20-ib	Whamcloud Autotest	2011-03-22 00:05:51 UTC	PASS	1294	365/365	
replay-single	basic	client-20-ib	Whamcloud Autotest	2011-03-21 22:48:09 UTC	TIMEOUT	3600	7/8	
sanity-benchmark	basic	client-20-ib	Whamcloud Autotest	2011-03-21 22:36:28 UTC	PASS	701	5/5	
sanity	basic	client-20-ib	Whamcloud Autotest	2011-03-21 22:14:56 UTC	PASS	1292	365/365	
sanity	acc-sm-client-1.lab.whamcloud.com	client-1.lab.whamcloud.com	sarah	2011-03-21 22:14:04 UTC	FAIL	1575	363/365	
replay-single	basic	client-20-ib	Whamcloud Autotest	2011-03-21 12:50:49 UTC	TIMEOUT	3600	7/8	
sanity-benchmark	basic	client-20-ib	Whamcloud Autotest	2011-03-21 12:39:07 UTC	PASS	702	5/5	
sanity	basic	client-20-ib	Whamcloud Autotest	2011-03-21 12:17:36 UTC	PASS	1291	365/365	
conf-sanity	basic	client-20-ib	Whamcloud Autotest	2011-03-19 16:21:54 UTC	PASS	3313	76/76	
ost-pools	basic	client-20-ib	Whamcloud Autotest	2011-03-19 15:54:24 UTC	PASS	1650	31/31	
sanity-quota	basic	client-20-ib	Whamcloud Autotest	2011-03-19 15:34:37 UTC	PASS	1186	32/32	
sanityn	basic	client-20-ib	Whamcloud Autotest	2011-03-19 15:20:03 UTC	FAIL	874	99/105	
replay-ost-single	basic	client-20-ib	Whamcloud Autotest	2011-03-19 15:16:13 UTC	PASS	230	8/8	
recovery-small	basic	client-20-ib	Whamcloud Autotest	2011-03-19 14:49:47 UTC	PASS	1586	49/49	
replay-single	basic	client-20-ib	Whamcloud Autotest	2011-03-19 14:41:28 UTC	FAIL	499	3/4	
sanity-benchmark	basic	client-20-ib	Whamcloud Autotest	2011-03-19 14:27:17 UTC	PASS	851	5/5	

1 2 3 4 5 6 7 8 9 ... 13 14 Next →



The screenshot shows a web browser window with a navigation bar containing links for 'latest results', 'latest sessions', 'search results', 'test statistics', and 'upload results'. The main content area is titled 'Creating issue' and contains the following fields:

- Project:** A dropdown menu with 'Lustre' selected.
- Summary:** A text input field containing 'Test failure on test suite acceptance-small'.
- Description:** A text area containing the following text:

```
This issue was created by maloo for Chris Gearing <chris@whamcloud.com>  
  
This issue relates to the following test suite run:  
[https://maloo.whamcloud.com/test_sets/c91feb26-5654-11e0-bb3d-52540025f9af].
```

At the bottom of the form is a 'Create issue' button.

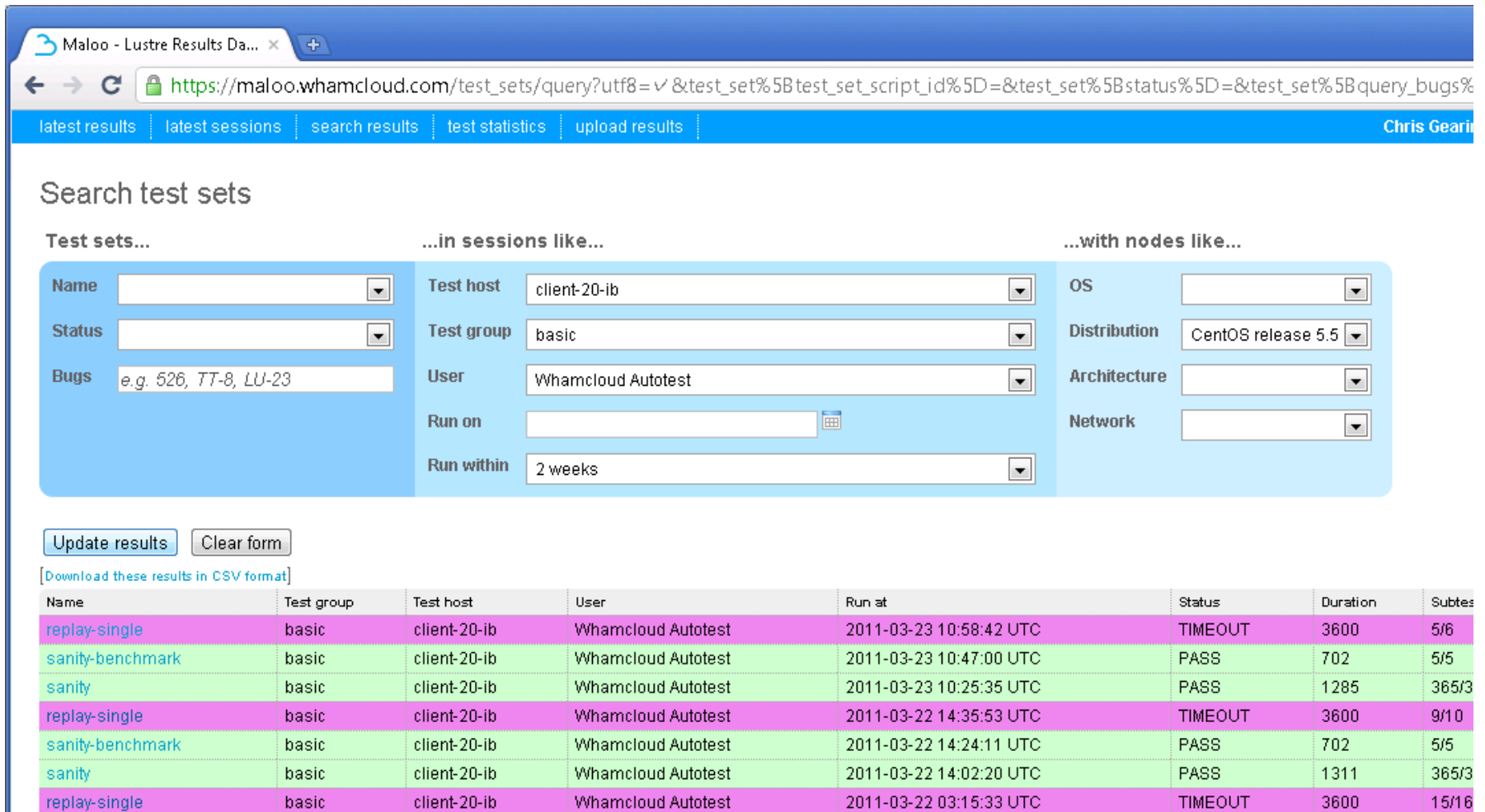
Maloo Screen Shots

Chris Gearing [settings | logout] 

1 2 3 4 5 6 7 8 9 ... 13 14 Next →

	Status	Duration	Subtests passed	Bugs
ITC	FAIL	64	0/0	
ITC	ABORT	0	0/0	
ITC	FAIL	1514	8/10	10494
ITC	FAIL	693	1/2	LU-157
ITC	FAIL	1323	337/366	23930, LU-151, LU-160, 22074
ITC	FAIL	1272	8/10	LU-158
ITC	FAIL	707	3/4	
ITC	FAIL	787	2/3	
ITC	TIMEOUT	3600	5/6	
ITC	PASS	702	5/5	
ITC	PASS	1285	365/365	
ITC	TIMEOUT	3600	9/10	
ITC	PASS	702	5/5	

Maloo Screen Shots



Maloo - Lustre Results Da... x

https://maloo.whamcloud.com/test_sets/query?utf8=✓&test_set%5Btest_set_script_id%5D=&test_set%5Bstatus%5D=&test_set%5Bquery_bugs%

latest results | latest sessions | search results | test statistics | upload results | Chris Gearin

Search test sets

Test sets... **...in sessions like...** **...with nodes like...**

Name: Test host: client-20-ib OS:

Status: Test group: basic Distribution: CentOS release 5.5

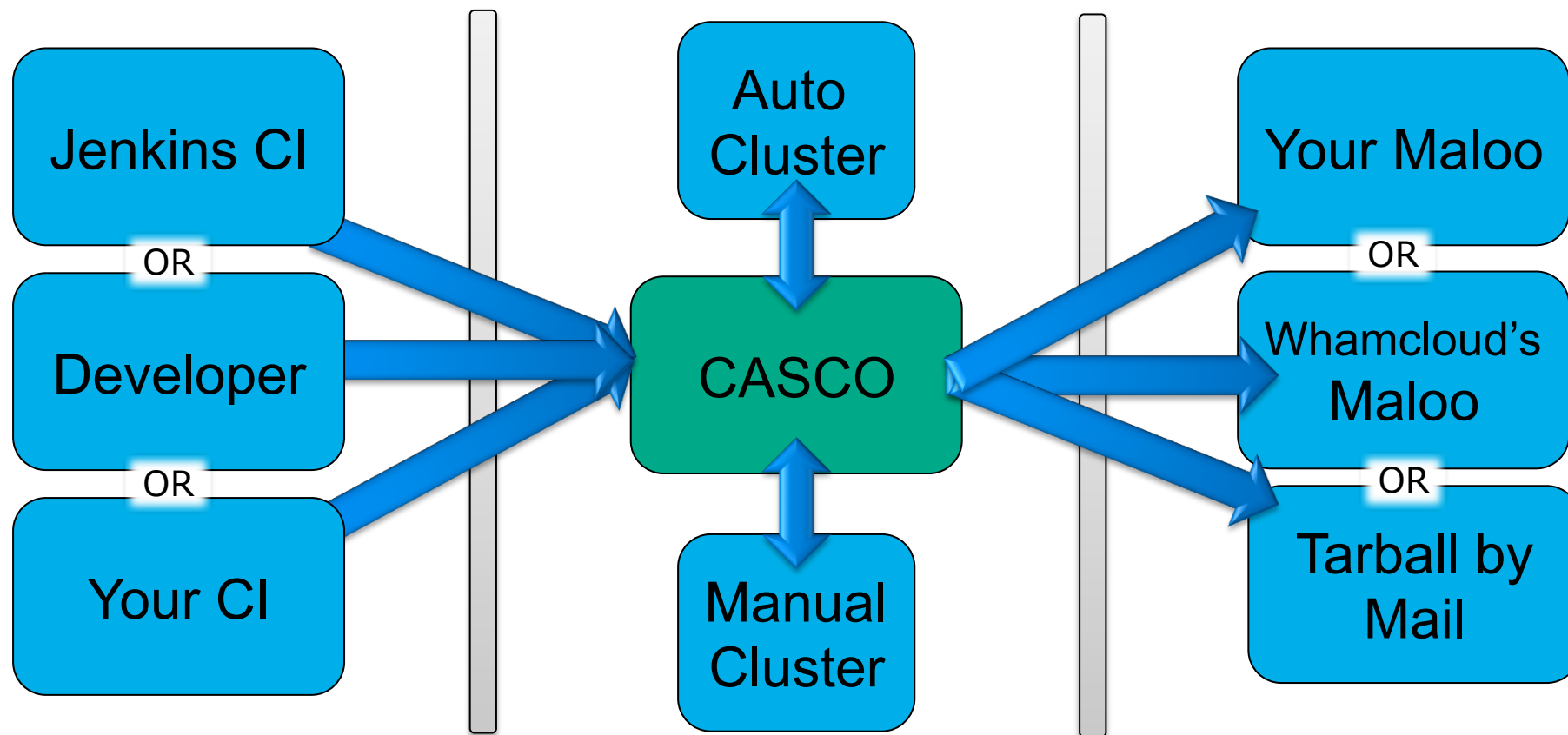
Bugs: e.g. 526, TT-8, LU-23 User: Whamcloud Autotest Architecture:

Run on: Run within: 2 weeks Network:

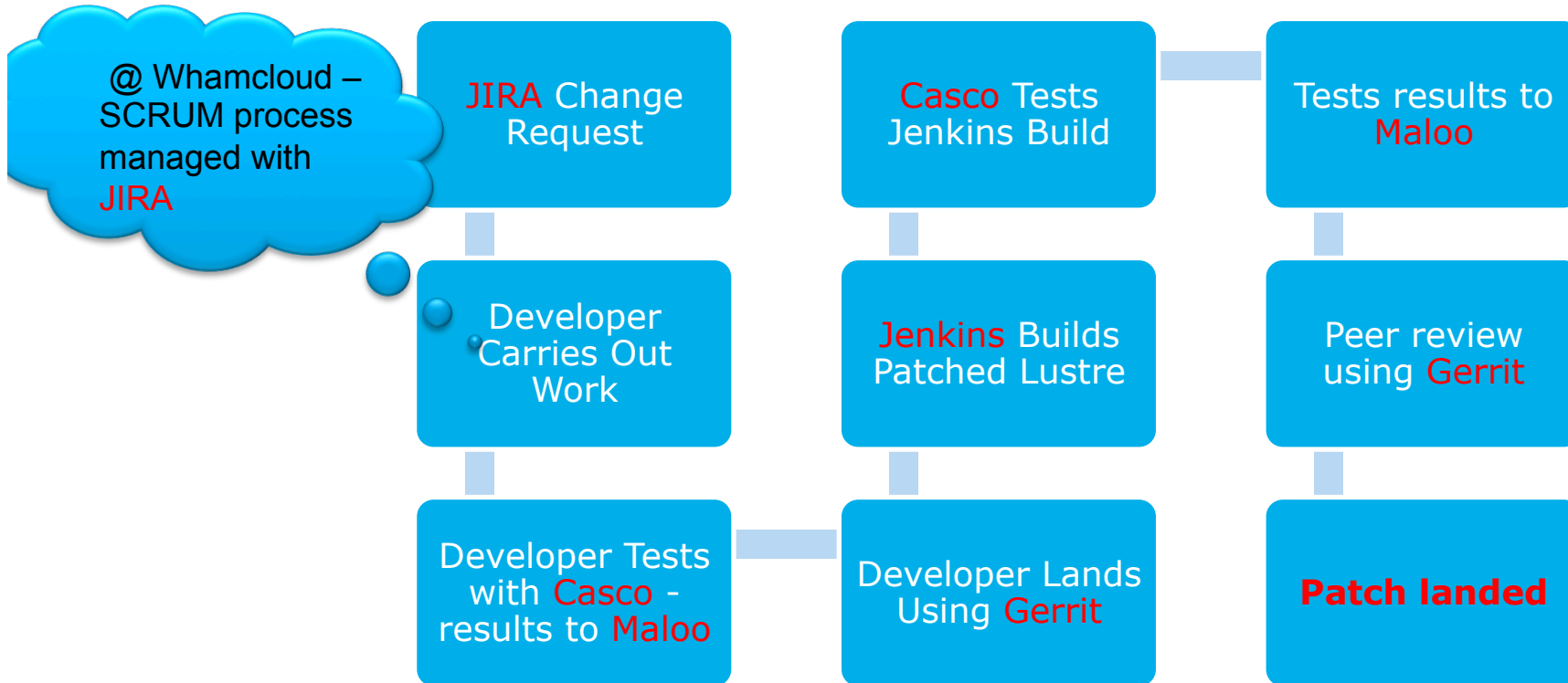
[\[Download these results in CSV format\]](#)

Name	Test group	Test host	User	Run at	Status	Duration	Subtes
replay-single	basic	client-20-ib	Whamcloud Autotest	2011-03-23 10:58:42 UTC	TIMEOUT	3600	5/6
sanity-benchmark	basic	client-20-ib	Whamcloud Autotest	2011-03-23 10:47:00 UTC	PASS	702	5/5
sanity	basic	client-20-ib	Whamcloud Autotest	2011-03-23 10:25:35 UTC	PASS	1285	365/3
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sanity-benchmark	basic	client-20-ib	Whamcloud Autotest	2011-03-22 14:24:11 UTC	PASS	702	5/5
sanity	basic	client-20-ib	Whamcloud Autotest	2011-03-22 14:02:20 UTC	PASS	1311	365/3
replay-single	basic	client-20-ib	Whamcloud Autotest	2011-03-22 03:15:33 UTC	TIMEOUT	3600	15/16

Scalable Quality Community Tools



Scalable Quality Community Tools



How Can You Help

- Lustre needs contributors to ensure successful development
- Help by being a Lustre code reviewer
- To release 2.1 on time we need more systems testing with results arriving in Maloo
- If you can help increase the value of the Lustre then please contact Whamcloud

Chris@Whamcloud.com

Summary

- Whamcloud Community Wide Quality
- Repeatable Landing Process
- Scalable Quality Community Tools
- You Can You Help

Thank you very much