OpenStack Infrastructure tools you will want to borrow

Thierry Carrez (@tcarrez)
Release Manager, OpenStack

openstack™

Crazy loads every day

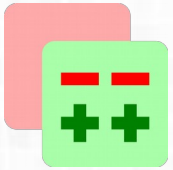
1000 patchsets are proposed

7500 Gerrit comments and votes posted

16000 test environments spawn

250 changes merged

What we use



Gerrit

Puppet

Jenkins

Kibana

Gearman

logstash

elasticsearch.

Fully automated & open source

Everything deployed by Puppet

Only open source tools

Our puppet manifests are open source

Our config files are open source

planet.ini

Reviewed & next⇨

⇦exploreshaifali.png ⇧Up to change

Patch Set Base 1		Patch Set 1	
+10⇧ ... skipped 933 common lines ... +10⇩			
934	[http://en.roozbehshafiee.com/category/openstack/feed]	[http://en.roozbehshafiee.com/category/openstack/feed]	934
935	name = Roozbeh Shafiee	name = Roozbeh Shafiee	935
936	nick = RoozbehShafiee	nick = RoozbehShafiee	936
937	face = roozbehshafiee.png	face = roozbehshafiee.png	937
938			938
939	[https://mcwhirter.com.au/tags/OpenStack/index.atom]	[https://mcwhirter.com.au/tags/OpenStack/index.atom]	939
940	name = Craige McWhirter	name = Craige McWhirter	940
941	nick = craige	nick = craige	941
942	face = craige.jpg	face = craige.jpg	942
943			943
944	[https://arunsag.wordpress.com/tag/openstack/feed/]	[https://arunsag.wordpress.com/tag/openstack/feed/]	944
945	name = Arun S A G	name = Arun S A G	945
946	nick = zer0c00l	nick = zer0c00l	946
947			947
948	[http://blog.briancurtin.com/categories/openstack.xml]	[http://blog.briancurtin.com/categories/openstack.xml]	948
949	name = Brian Curtin	name = Brian Curtin	949
950	face = briancurtin.png	face = briancurtin.png	950
951	nick = briancurtin	nick = briancurtin	951
952	faceheight = 90	faceheight = 90	952
953	facewidth = 100	facewidth = 100	953
954			954
955	[http://mkissam.tumblr.com/tagged/openstack/rss]	[http://mkissam.tumblr.com/tagged/openstack/rss]	955
956	name = Marton Kiss	name = Marton Kiss	956
957	nick = marton-kiss	nick = marton-kiss	957
958	face = marton-kiss.jpg	face = marton-kiss.jpg	958
			959
		[http://shaifaliagrawal.wordpress.com/category/openstack/feed/]	960
		name = Shaifali Agrawal	961
		face = exploreshaifali.png	962
		nick = exploreshaifali	963

⇦exploreshaifali.png ⇧Up to change

Reviewed & next⇨

blob: 4a749634dcf451028250e6a13ab29ae1b49e0f5d (plain)

```
1  define planet::site(
2    $git_url,
3    $vhost_name = "planet.${name}.org"
4  ) {
5    include apache
6
7    apache::vhost { $vhost_name:
8      docroot  => "/srv/planet/${name}",
9      port     => 80,
10     priority => '50',
11     require  => File['/srv/planet'],
12   }
13
14   vcsrepo { "/var/lib/planet/${name}":
15     ensure   => present,
16     provider => git,
17     require  => File['/var/lib/planet'],
18     source   => $git_url,
19   }
20
21   cron { "update_planet_${name}":
22     command => "date >> /var/log/planet/${name}.log && cd /var/lib/planet/${name} && git pull -q --ff-only && planet /var/lib/planet/${name
23     minute  => '*/5',
24     user    => 'root',
25   }
26 }
27
28 # vim:sw=2:ts=2:expandtab:textwidth=79
```

Zuul: a scalable gate system

Only merge changes if tests pass

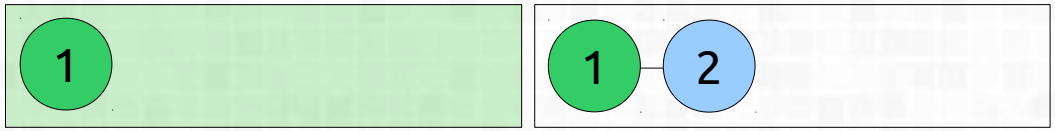
Receives events about proposed changes

Triggers tests and reports back

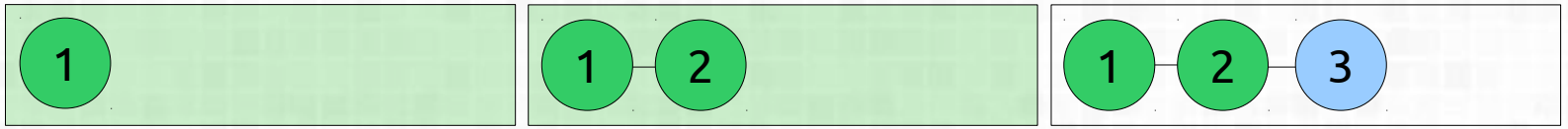
Handles cross-project dependencies

Serial gating

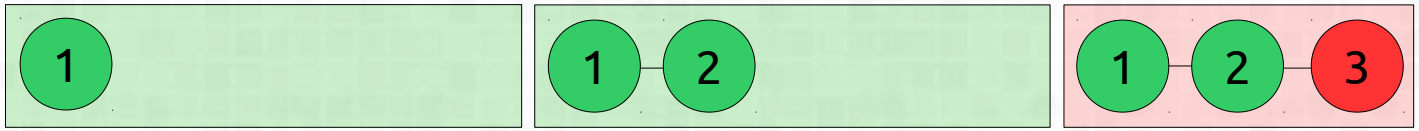
Serial gating



Serial gating

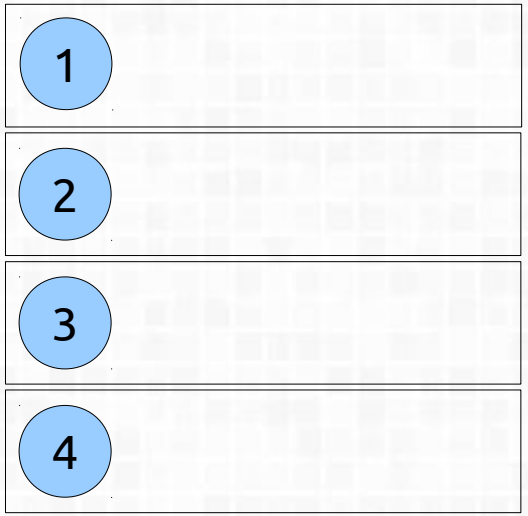


Serial gating

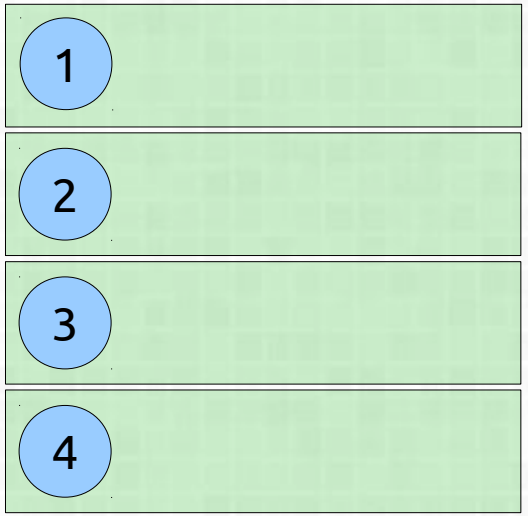


Serial gating

Parallel gating



Parallel gating



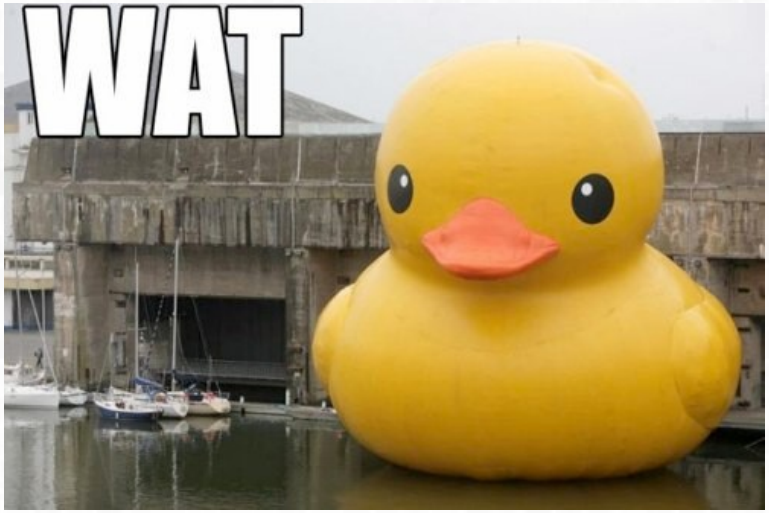
Parallel gating

1

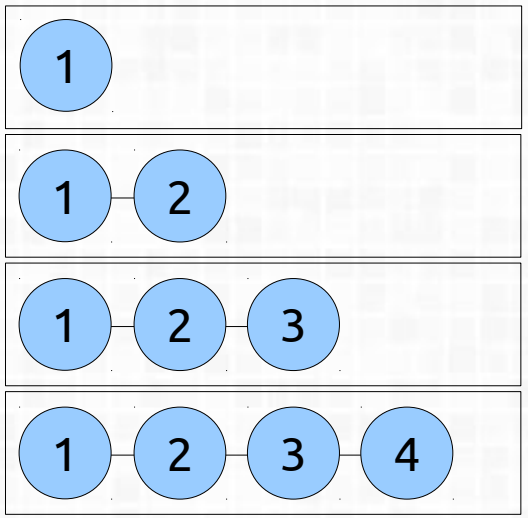
2

3

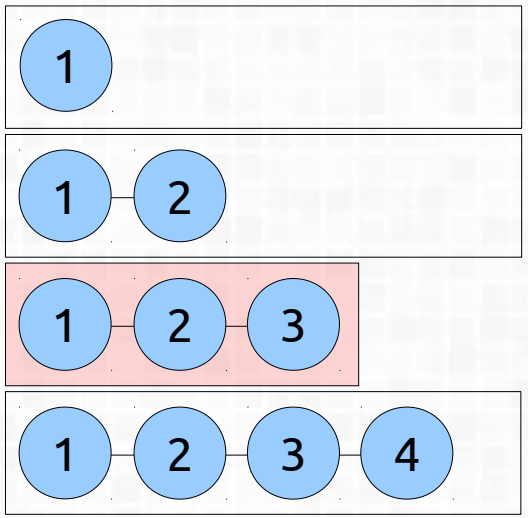
4



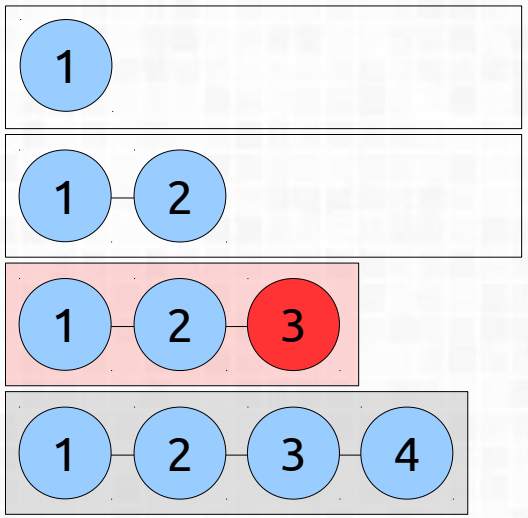
Speculative gating



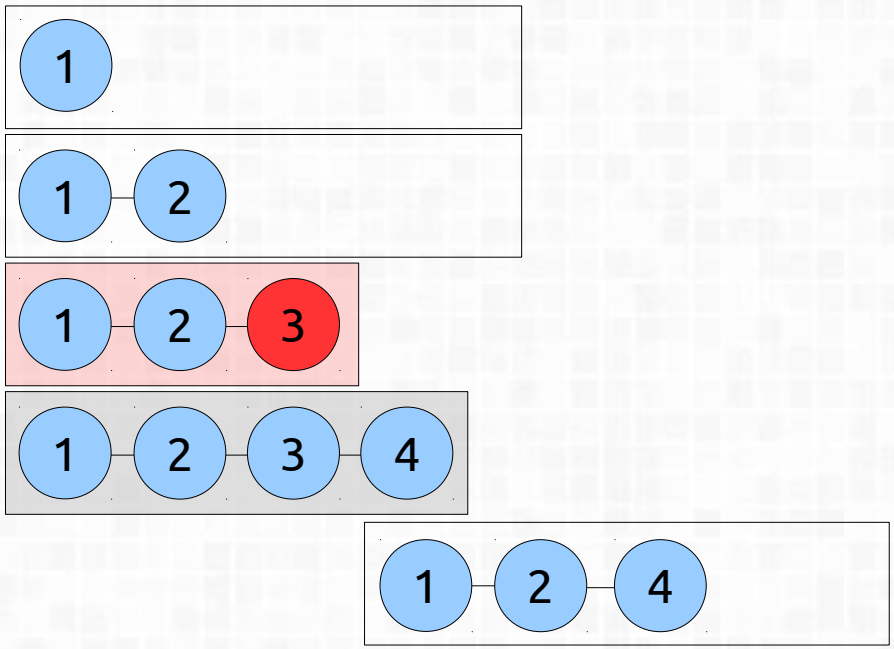
Speculative gating



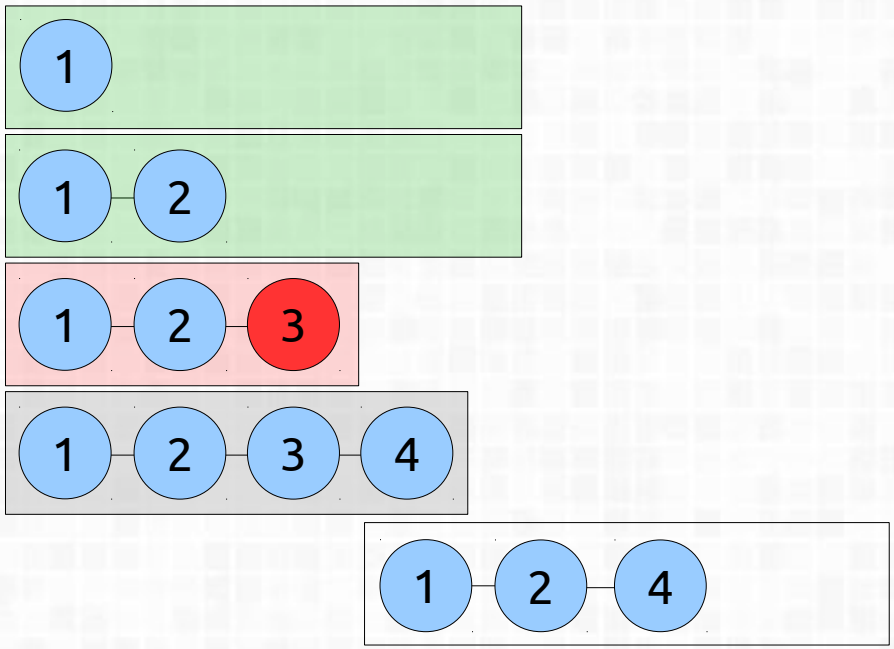
Speculative gating



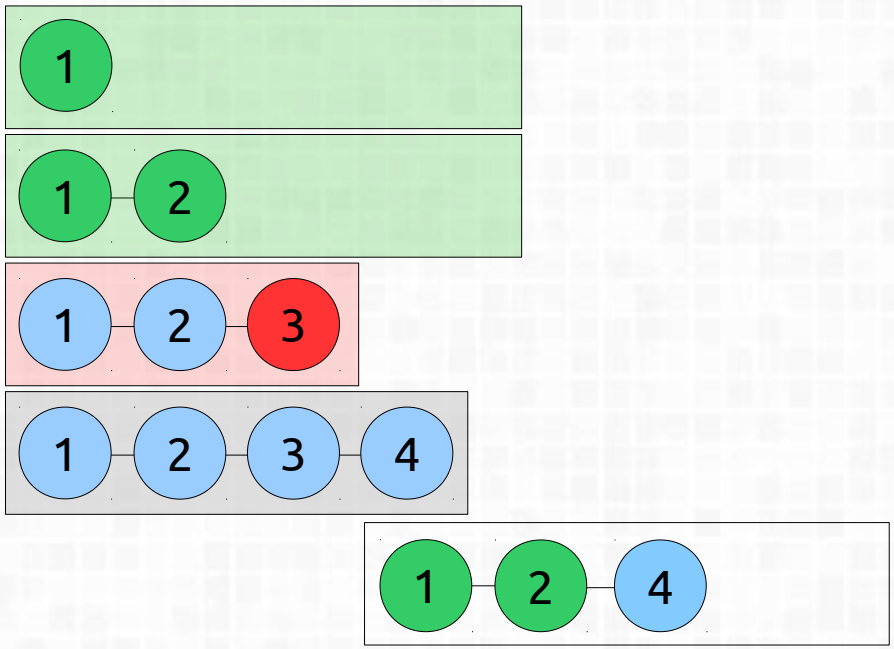
Speculative gating



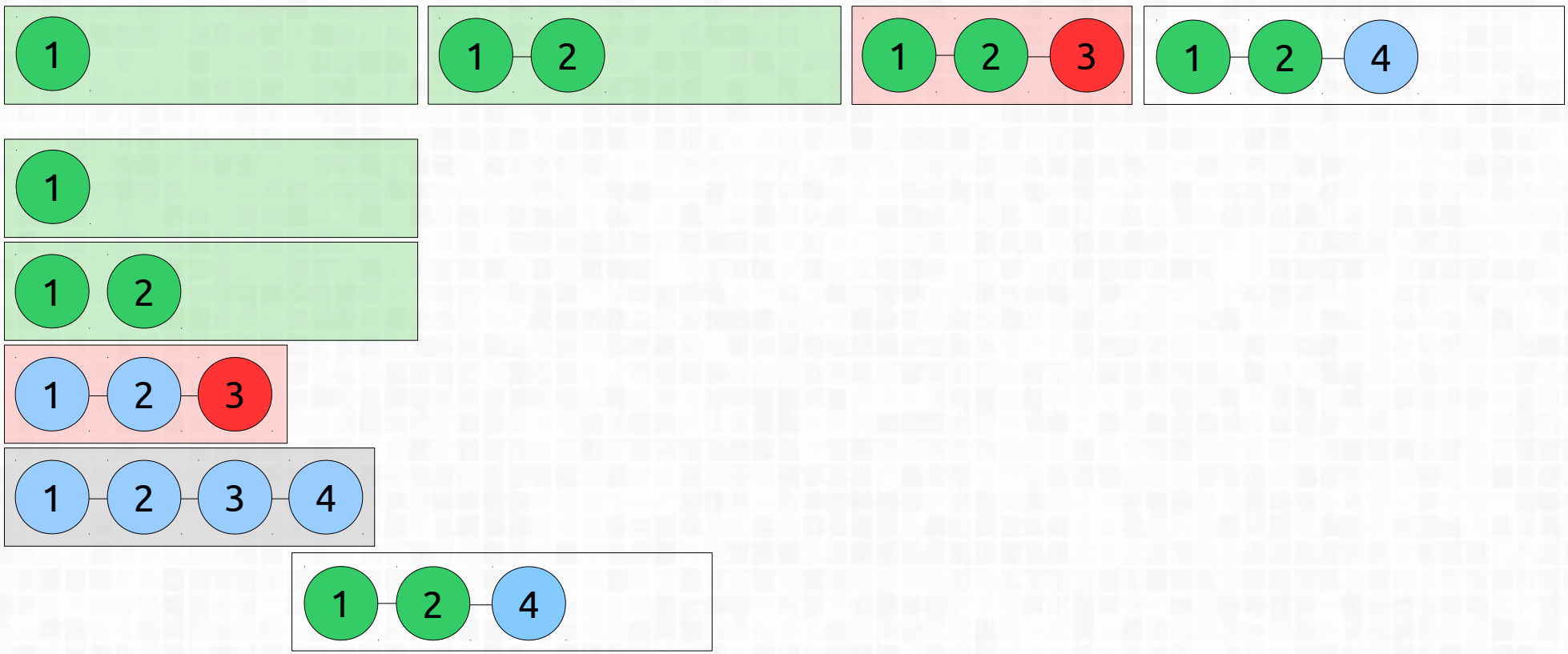
Speculative gating



Speculative gating



Speculative vs. Serial gating



Zuul Speculative Gating

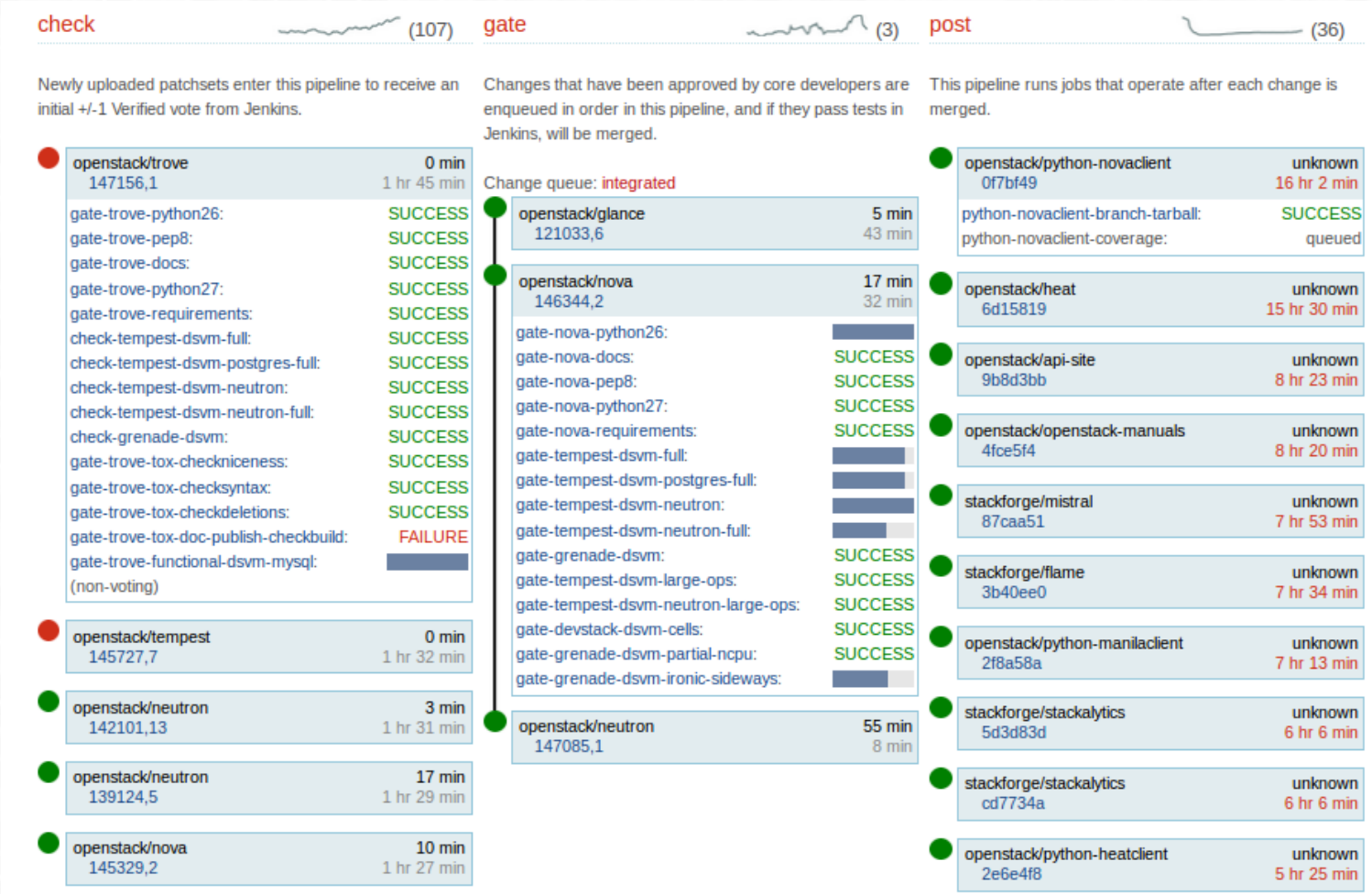
Strict gating

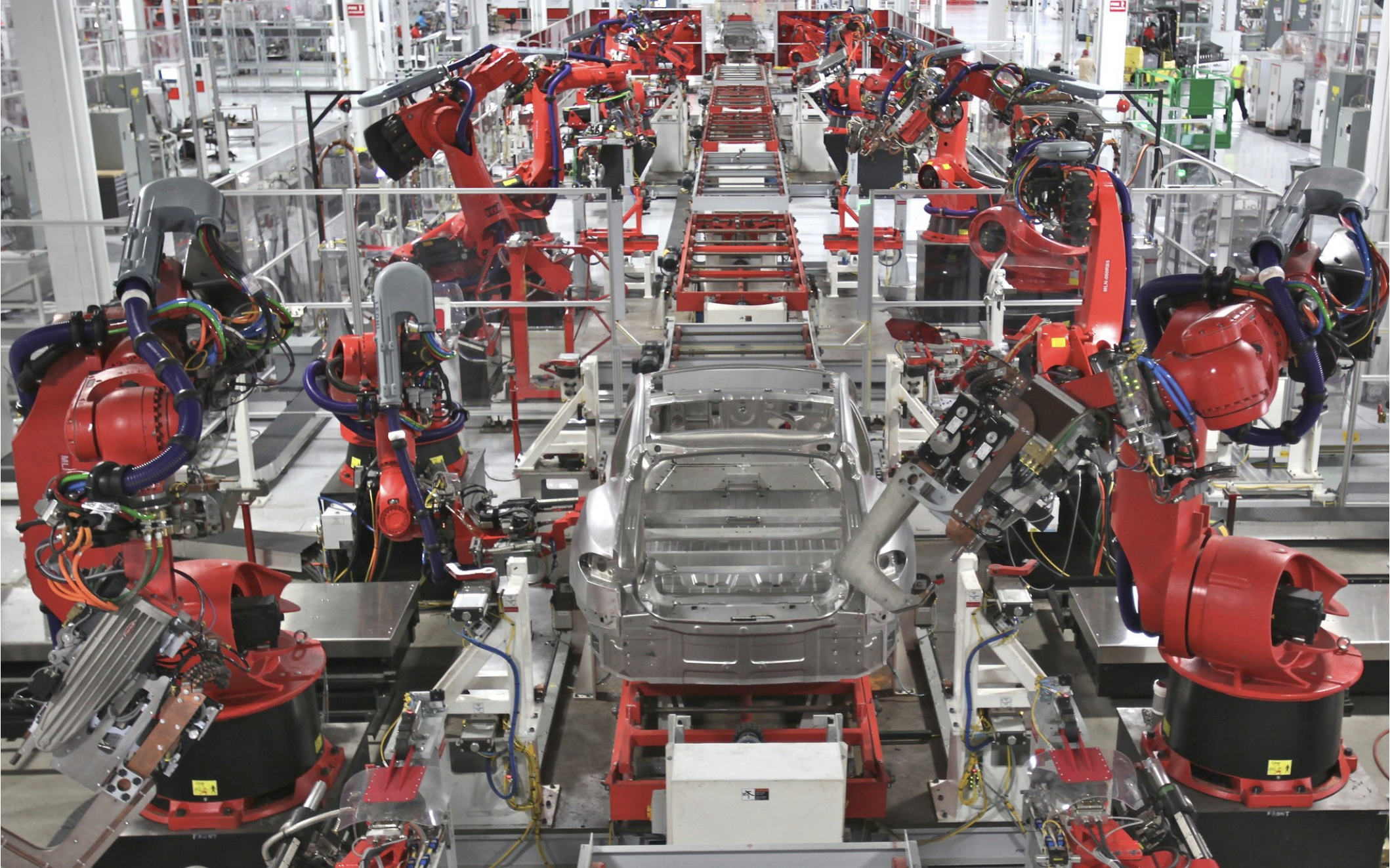
Optimize for speed, not resources

At best, as fast as parallel gating

At worse, as slow as serial gating

Visualizing Zuul





Jenkins-job-builder

Makes handling thousands of jobs easier

YAML descriptions converted to XML jobs

New jobs are sent to Jenkins using the API

Macros and job descriptions

```
- job:
    name: myproject1-docs
    node: bare-trusty

    triggers:
     - zuul

    builders:
     - git-prep
     - docs

    publishers:
     - scp:
         site: 'scp-server'
         files:
          - target: 'dir/ectory'
            source: 'build/html/foo'
            keep-hierarchy: true
     - console-log
```

```
- builder:
    name: git-prep
    builders:
     - shell: "/slave_scripts/git-prep.sh"

- builder:
    name: docs
    builders:
     - shell: "/slave_scripts/run-docs.sh"

- publisher:
    name: console-log
    publishers:
     - scp:
         site: 'scp-server'
         files:
          - target: '$JOB_NAME/$BUILD_NUMBER'
            copy-console: true
            copy-after-failure: true
```

Job templates

```
- job-template:
    name: '{name}-docs'
    node: '{node}'

    triggers:
     - zuul

    builders:
     - git-prep
     - docs

    publishers:
     - scp:
         site: 'scp-server'
         files:
          - target: 'dir/ectory'
            source: 'build/html/foo'
            keep-hierarchy: true
     - console-log
```

```
- project:
    name: myproject1
    node: bare-trusty

    jobs:
      - {name}-docs

- project:
    name: myproject2
    node: bare-centos6

    jobs:
      - {name}-docs
```

Jeepyb

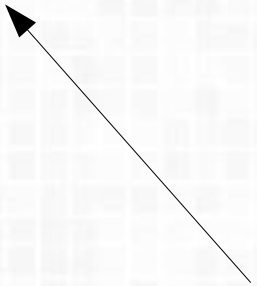
A collection of tools to:

- manage Gerrit projects & groups easily
- integrate Gerrit with GitHub, Launchpad

Describe your Gerrit projects

```
- project: myorg/myproject1
  description: Best project ever.
  remote: git://github.com/ttx/proj.git
  use-storyboard: true

- project: myorg/project2
  description: Another cool project.
  acl-config: /path/to/project2.acl
```



```
[access "refs/heads/*"]
label-Code-Review = -2..+2 group proj2-core
label-Workflow = -1..+1 group proj2-core

[access "refs/heads/proposed/*"]
label-Code-Review = -2..+2 group proj2-lead
label-Workflow = -1..+1 group proj2-lead

[receive]
requireChangeId = true

[submit]
mergeContent = true
```

Jeepyb periodic tasks

manage-projects

Creates Gerrit projects & groups, GitHub mirrors

close-pull-requests

Closes GitHub pull requests for projects managed in Gerrit

expire-old-reviews

Marks old Gerrit changes Abandoned

Jeepyb commit hooks

update-bug, update-blueprint

Launchpad bugs & blueprint integration

notify-impact

Send notification based on commit message

trivial-rebase

Detects trivial rebase and reapplies votes

git-review

A helper to submit changes to Gerrit

Sets up the 'gerrit' remote if missing

Rebases on master by default

Support hooks

git-review workflow

```
ttx@mercury:~$ git clone git://git.openstack.org/openstack/nova.git
ttx@mercury:~$ cd nova
ttx@mercury:~/nova$ # Change a few files here
ttx@mercury:~/nova$ git commit -a
ttx@mercury:~/nova$ git review
remote: Processing changes: new: 1, refs: 1, done
remote:
remote: New Changes:
remote:   http://review.openstack.org/114253
remote:
To ssh://ttx@review.openstack.org:29418/openstack/nova
 * [new branch]      HEAD -> refs/publish/master/branch
```

nova/.gitreview

```
[gerrit]
host=review.openstack.org
port=29418
project=openstack/nova.git
defaultbranch=master
```

Easier reviews with git-review

```
git-review -d 114584
```

downloads change 114584 for review

```
git-review -m 115241,4-10
```

shows changes between patchset 4 and 10

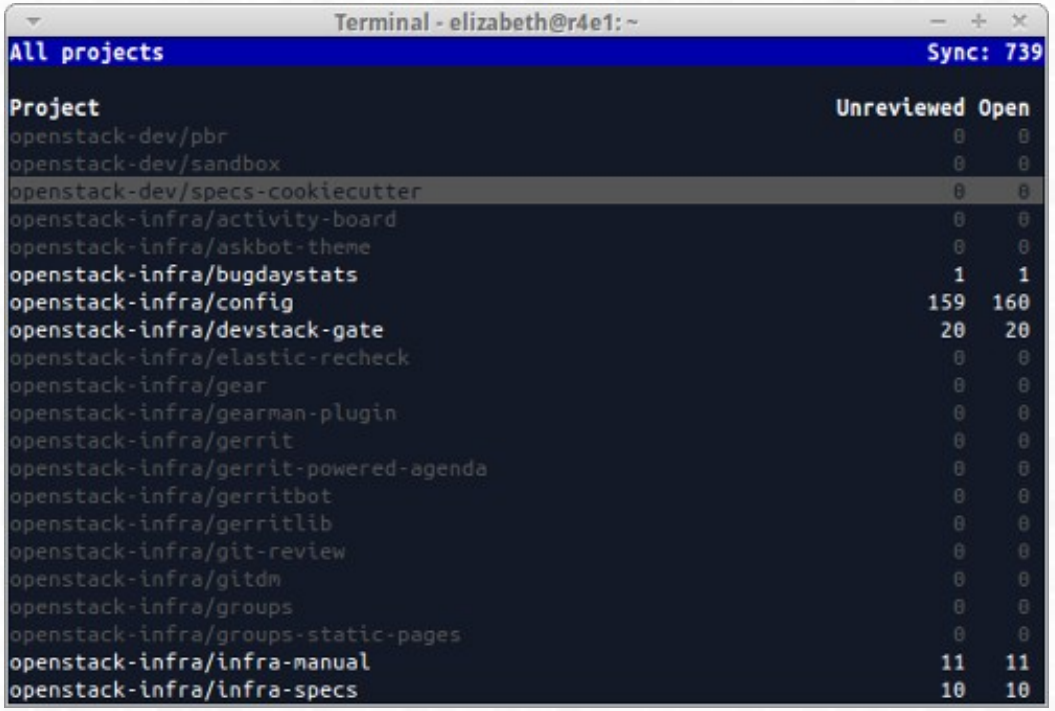
gertty

CLI version of Gerrit web frontend

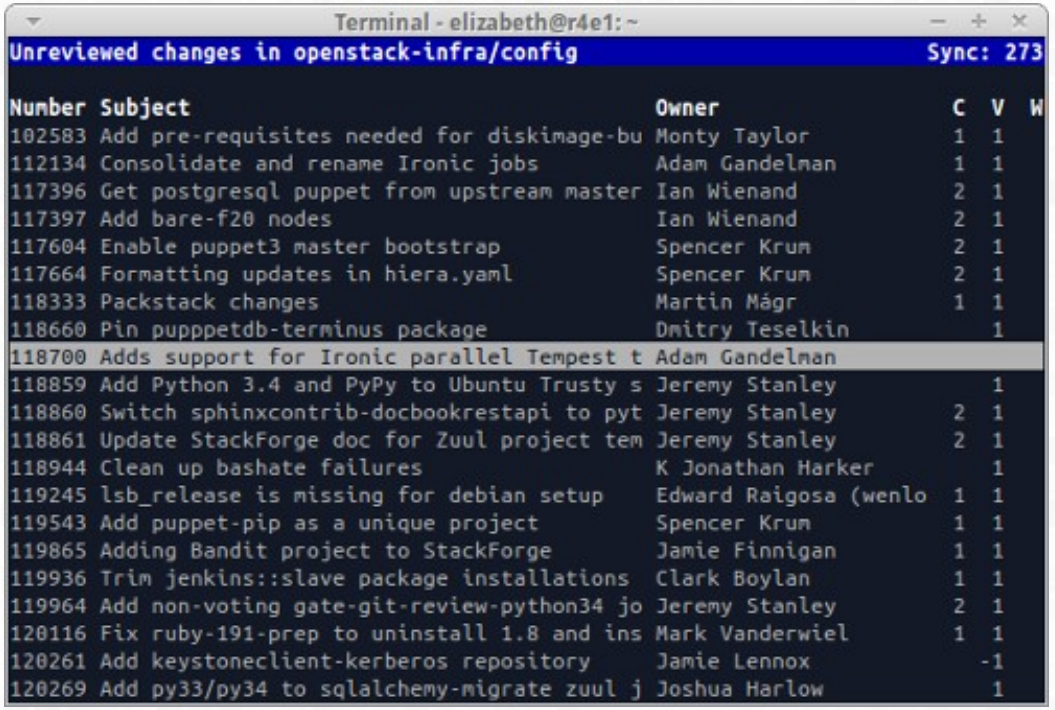
Email/newsgroup reading workflow

Lets your work offline

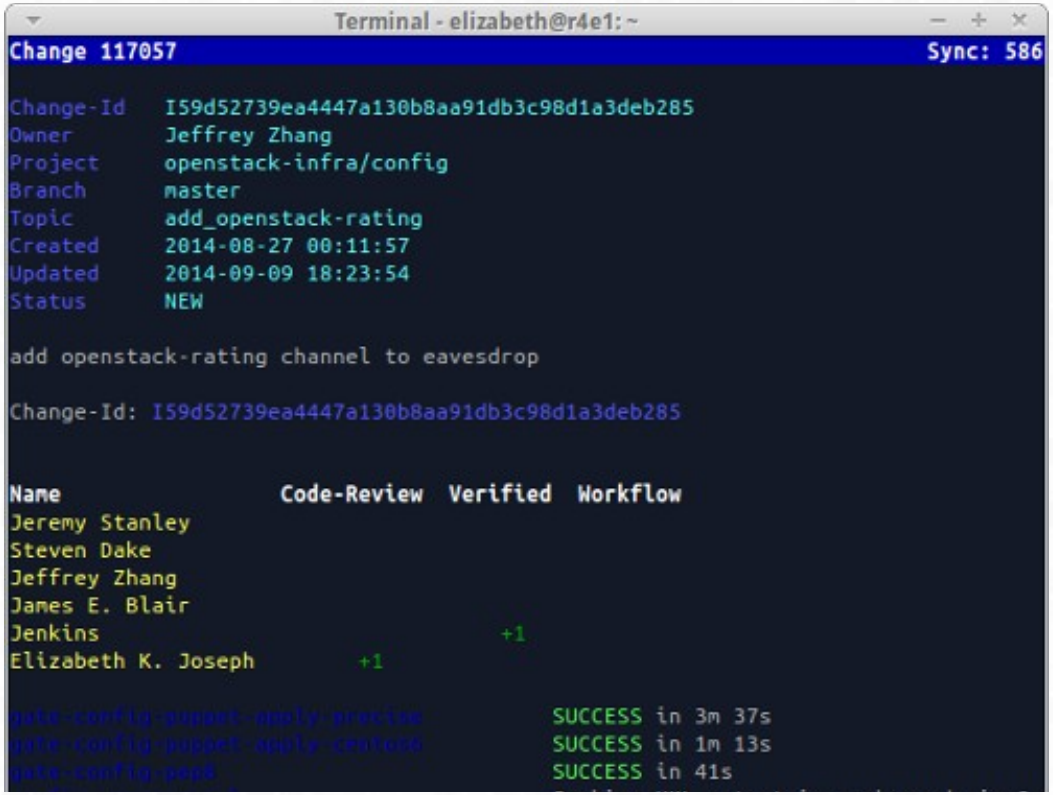
Subscribing to projects



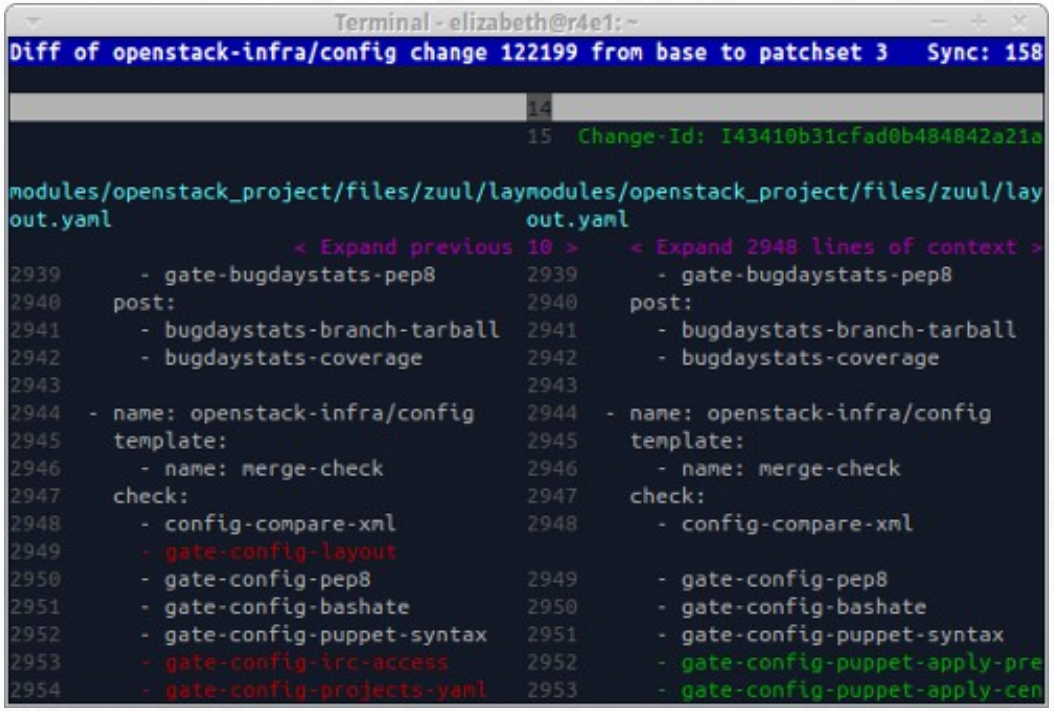
Listing reviews



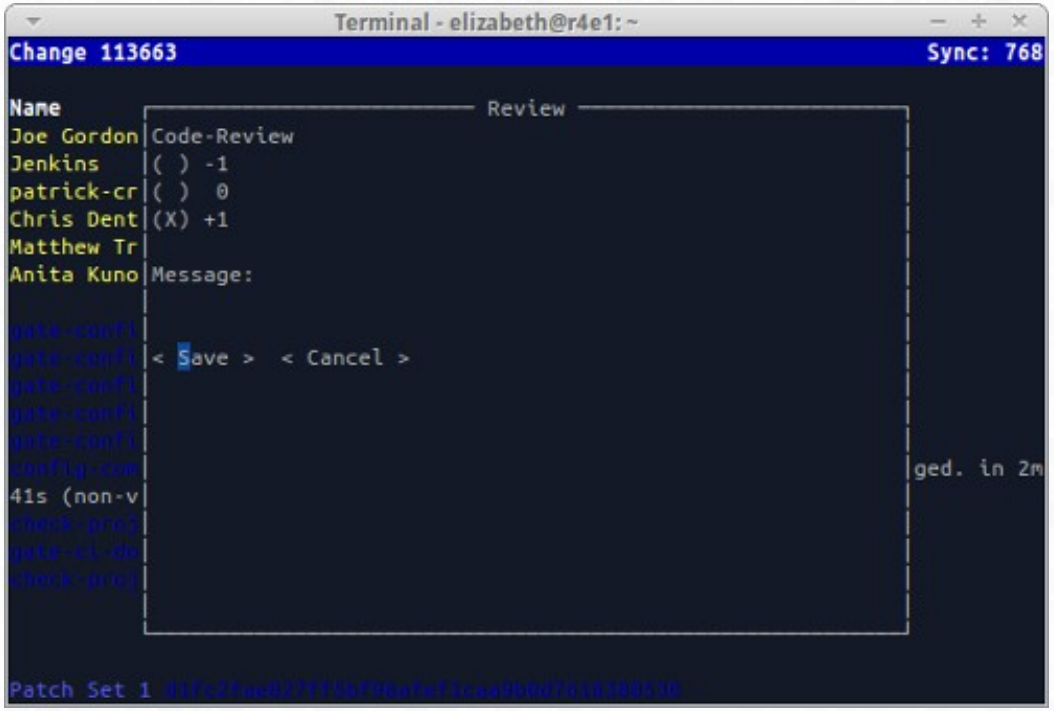
Reviewing a change



Side-by-side diff



Voting


Terminal - elizabeth@r4e1: ~
Change 113663
Sync: 768
Name
Review
Joe Gordon
Code-Review
Jenkins
( ) -1
patrick-cr
( ) 0
Chris Dent
(X) +1
Matthew Tr
Anita Kuno
Message:
< Save > < Cancel >
ged. in 2m
41s (non-v
Patch Set 1

Why StoryBoard

Need for cross-teams coordination

Launchpad Bugs is great

Launchpad Blueprints is not great

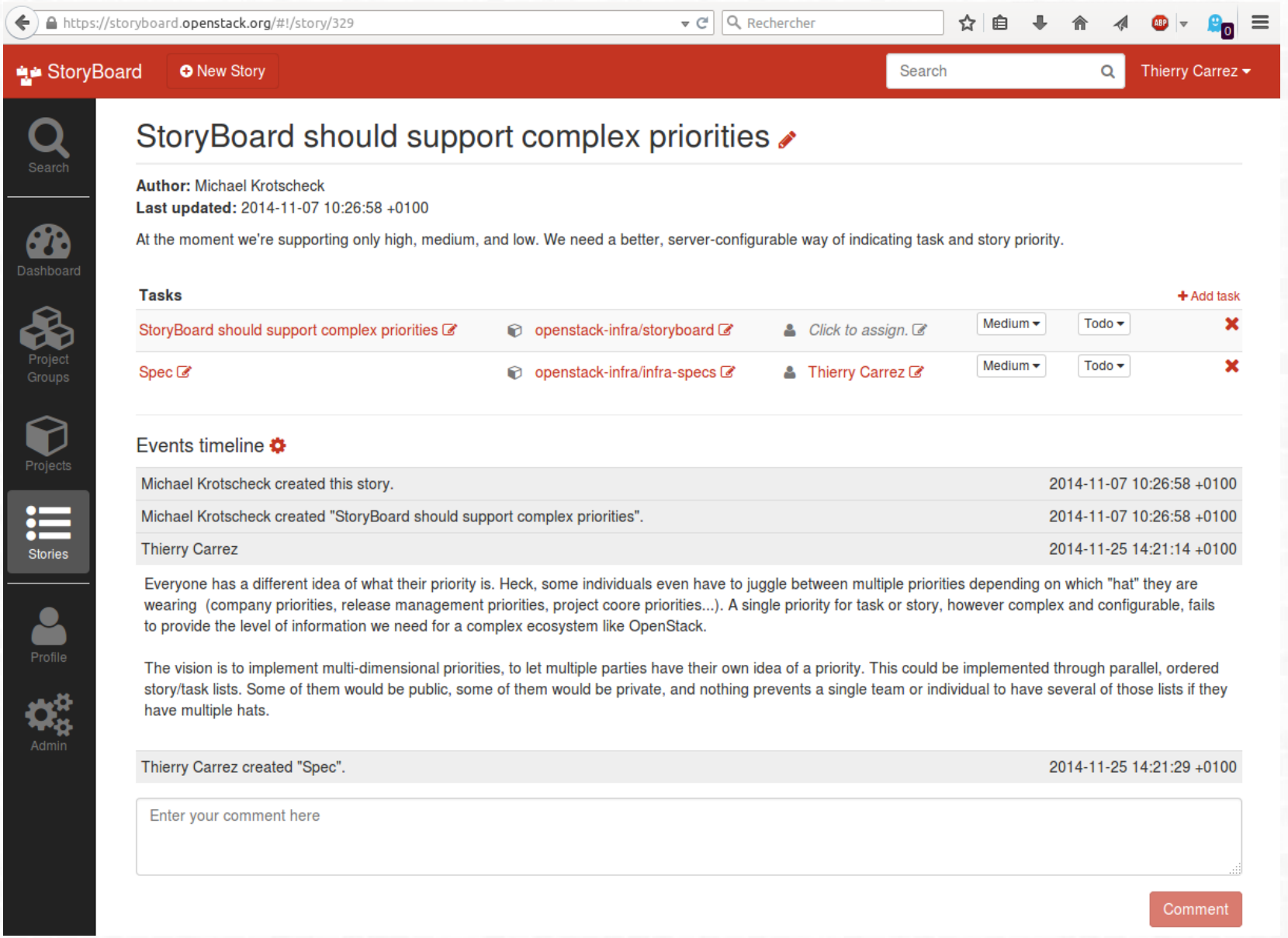
Limits in Launchpad design (scale, API)

StoryBoard base concepts

Stories describe the problem to solve

Stories have tasks affecting projects

API server / Webclient design


https://storyboard.openstack.org/#!/story/329
Rechercher
StoryBoard
New Story
Search
Thierry Carrez
Search
Dashboard
Project Groups
Projects
Stories
Profile
Admin
StoryBoard should support complex priorities
Author: Michael Krotscheck
Last updated: 2014-11-07 10:26:58 +0100
At the moment we're supporting only high, medium, and low. We need a better, server-configurable way of indicating task and story priority.
Tasks
Add task
StoryBoard should support complex priorities
openstack-infra/storyboard
Click to assign.
Medium
Todo
Spec
openstack-infra/infra-specs
Thierry Carrez
Medium
Todo
Events timeline
Michael Krotscheck created this story. 2014-11-07 10:26:58 +0100
Michael Krotscheck created "StoryBoard should support complex priorities". 2014-11-07 10:26:58 +0100
Thierry Carrez 2014-11-25 14:21:14 +0100
Everyone has a different idea of what their priority is. Heck, some individuals even have to juggle between multiple priorities depending on which "hat" they are wearing (company priorities, release management priorities, project coore priorities...). A single priority for task or story, however complex and configurable, fails to provide the level of information we need for a complex ecosystem like OpenStack.
The vision is to implement multi-dimensional priorities, to let multiple parties have their own idea of a priority. This could be implemented through parallel, ordered story/task lists. Some of them would be public, some of them would be private, and nothing prevents a single team or individual to have several of those lists if they have multiple hats.
Thierry Carrez created "Spec". 2014-11-25 14:21:29 +0100
Enter your comment here
Comment

openstack-infra		
openstack-infra/activity-board	Tech community metrics dash of the OpenStack community based on the Metrics Grim...	20 hours
openstack-infra/askbot-theme	Theme for ask.openstack.org.	4 days
openstack-infra/bugdaystats	Tool to produce static HTML that shows progress during a Bug Day	4 days
openstack-infra/devstack-gate	devstack-gate	39 hours
openstack-infra/elastic-recheck	Classify tempest-devstack failures using ElasticSearch	17 hours
openstack-infra/gear	Pure-Python asynchronous interface to Gearman	4 days
openstack-infra/gearman-plugin	The jenkins gearman plugin	4 days
openstack-infra/gerrit	Fork of Gerrit used by OpenStack	4 days
openstack-infra/gerritbot	gerritbot	4 days
openstack-infra/gerritlib	gerritlib	4 days
openstack-infra/git-review	git-review	4 days
openstack-infra/gitdm	A fork of Jonathan Corbet's gitdm for OpenStack	4 days
openstack-infra/groups	OpenStack Groups community portal	45 hours
openstack-infra/groups-static-pages	Community portal static pages	4 days
openstack-infra/infra-manual	infra-manual	4 days
openstack-infra/infra-specs	OpenStack Infrastructure Blueprint Repository	4 days
openstack-infra/irc-meetings	OpenStack IRC meetings schedule	4 days
openstack-infra/jeepyb	Gerrit Project Builder Tools	4 days
openstack-infra/jenkins-job-builder	jenkins-job-builder	3 days
openstack-infra/lodgeit	lodgeit	4 days
openstack-infra/meetbot	meetbot	4 days
openstack-infra/nodepool	Manage a pool of nodes for a distributed test infrastructure	20 hours
openstack-infra/nose-html-output	nose-html-output	4 days
openstack-infra/odsreg	OpenStack Design Summit session management system	4 days
openstack-infra/openstackid	Authentication system for the OpenStack Foundation site	4 days
openstack-infra/openstackweb	OpenStack Foundation web site software	4 days
openstack-infra/os-loganalyze	log analyzer tools for logs.openstack.org	4 days
openstack-infra/project-config	configuration files for project CI systems	**27 min.**
openstack-infra/publications	OpenStack Infra Team conference presentations and papers	4 days
openstack-infra/puppet-apparmor	puppet-apparmor	4 days
openstack-infra/puppet-dashboard	puppet-dashboard	4 days
openstack-infra/puppet-elasticsearch	Puppet module for elasticsearch	4 days
openstack-infra/puppet-github	Puppet module to add github functionality	4 days
openstack-infra/puppet-httpd	Puppet modules for deploying Apache in OpenStack infrastructure	4 days
openstack-infra/puppet-jenkins	Puppet module to add jenkins functionality	18 hours
openstack-infra/puppet-kibana	Puppet module to add kibana functionality	4 days
openstack-infra/puppet-lodgeit	Puppet module to manage LodgeIt	4 days
openstack-infra/puppet-pip	Puppet module to add pip functionality	4 days
openstack-infra/puppet-storyboard	Puppet module to deploy storyboard	4 days
openstack-infra/puppet-vcsrepo	puppet-vcsrepo	4 days
openstack-infra/puppet-vinz	Puppet module to deploy vinz	4 days
openstack-infra/puppet-yum	puppet-yum	4 days
openstack-infra/puppet-zanata	Puppet module to deploy Zanata	4 days
openstack-infra/puppet-zuul	Puppet module to install and configure zuul	4 days
openstack-infra/pypi-mirror	PyPI mirror builder	19 hours
openstack-infra/python-storyboardclient	Python Client library for StoryBoard	4 days
openstack-infra/release-tools	OpenStack Release Tools	4 days
openstack-infra/releasestatus	OpenStack Release Status page generator	4 days
openstack-infra/reviewday	OpenStack code review report generator	4 days
openstack-infra/reviewstats	Scripts for generating OpenStack development community statistics	4 days
openstack-infra/shade	Client library for OpenStack containing Infra business logic	4 days
openstack-infra/statusbot	Infrastructure status update IRC bot	4 days
openstack-infra/storyboard	OpenStack Task Tracking API	2 hours
openstack-infra/storyboard-webclient	OpenStack Task Tracking Browser Client	3 days
openstack-infra/subunit2sql	Tooling for converting subunit streams into a SQL DB	4 days
openstack-infra/system-config	system-config	15 hours
openstack-infra/tripleo-ci	CI for the tripleo project	20 hours
openstack-infra/vinz	Standalone UI replacement for Gerrit API	4 days
openstack-infra/vinz-webclient	Standalone UI replacment for Gerrit	4 days
openstack-infra/yaml2ical	Generate iCal files from a YAML description of meetings	4 days
openstack-infra/zmq-event-publisher	Jenkins plugin to publish build events via ZMQ PUB SUB.	4 days
openstack-infra/zuul	zuul	3 days
openstack-infra/zuul-packaging	Zuul packaging	4 days

Docs at:

ci.openstack.org

Join us on Freenode:

#openstack-infra

Thank you !

thierry@openstack.org
http://ttx.re
@tcarrez on
ttx on IRC

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