

How to Participate Open Source development

- Open Source development tooling and community in the upstream -

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masayukig on Freenode, GitHub, Twitter, LinkedIn

@Room 201, 13:45-14:30, October 6, 2019

@openSUSE.Asia Summit 2019

<https://github.com/masayukig/oss-development-inside-story>

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Agenda

1. About me
2. Today's Goal
3. Open Source Communities
4. OpenStack as an example
5. True Stories
6. How to Participate
7. Summary

DISCLAIMER

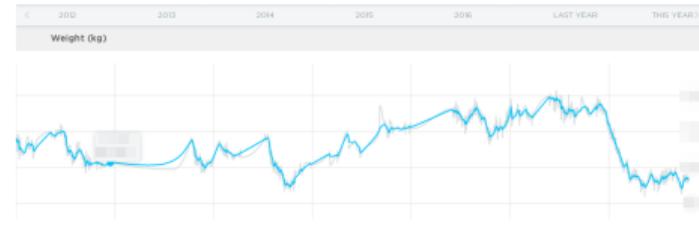
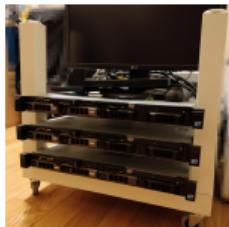
These slides are my own opinion

About me

- ▶ Company : 1998.4-2015.12 Traditional IT company in Japan,
2016.1-2017.3 HPE -> 2017.3- SUSE -> 2019("Further Independence for SUSE")
 - ▶ SUSE OpenStack Cloud Team
- ▶ Job: Senior Software Engineer/Open Source Programmer
 - ▶ [OpenStack QA](#) Up/Downstream development, Core Reviewer
(Tempest, OpenStack-Health, Subunit2SQL, Stackviz,etc.), [stestr](#)
 - ▶ stackalytics.com/?user_id=igawa, github.com/masayukig



- ▶ Books
 - ▶ [OpenStack Cloud Integration](#) (Japanese book) (one of the authors)
 - ▶ [Infra CI Pragmatic Guide - Ansible/GitLab](#) (Japanese book) (as a reviewer)
- ▶ Hobby: Bike(BMC SLR02), Clouds(OpenStack...), Diet(Low-carb), etc.



Introduction

Are you a User/Developer/Operator?

- ▶ An Open Source Software isn't generate by automatically
- ▶ Someone wrote, tested, developed
- ▶ If you're just a user, why not join development?

Today's Goal

- ▶ Development ways/tools in OpenStack/OSS communities
- ▶ Challenges in OSS development, but it's fun :)

Open Source Communities?

There are a lot styles. All OSS projects are different.

Examples: Led by

- ▶ Individual (so many, you can find a lot on github)
- ▶ One company (openSUSE, Ansible, Elastic Search, ...)
- ▶ Foundation (OpenStack, Kubernetes, Linux kernel, ...)



openstack®

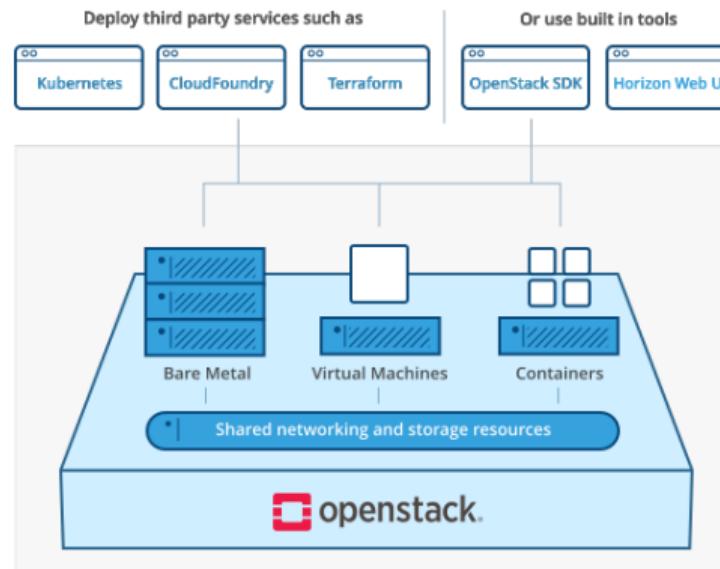


Let's take a look at the OpenStack community as an example.

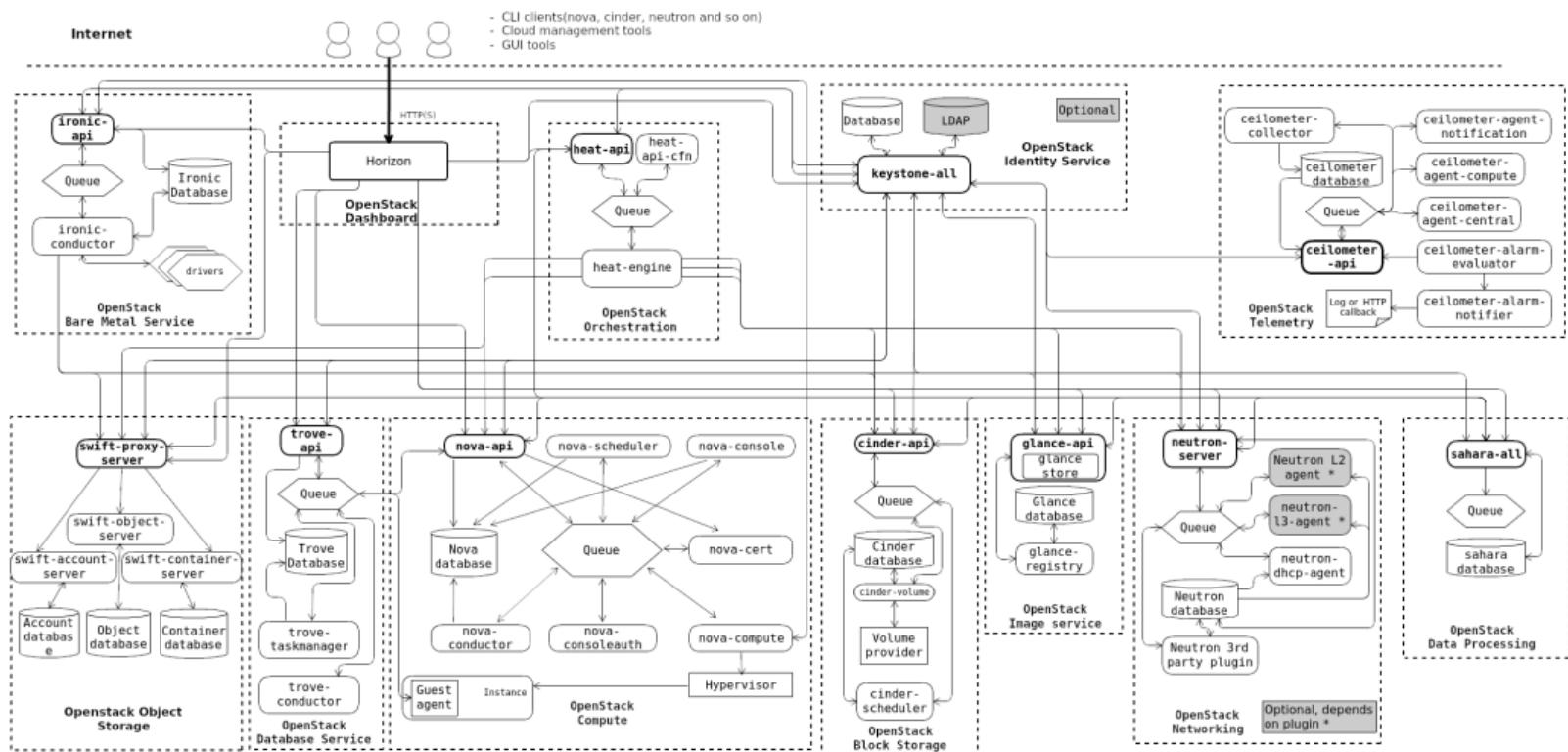
OpenStack community as an example

What is the “OpenStack”?

- Written in Python, Open Source Cloud Operation System: Apache License 2.0
- One of the top three active OSS communities
- There are a lot of ‘OpenStack’ projects: [63 projects\(2019-10-05\)](https://www.openstack.org/projects/)
- Released every 6 month: Latest version is called ‘Train’
- Users: AT&T, AA, BBVA, Bloomberg, CERN, China Mobile, Gap, VEXXHOST, Volkswagen, WALMART, etc.. <https://www.openstack.org/user-stories/>



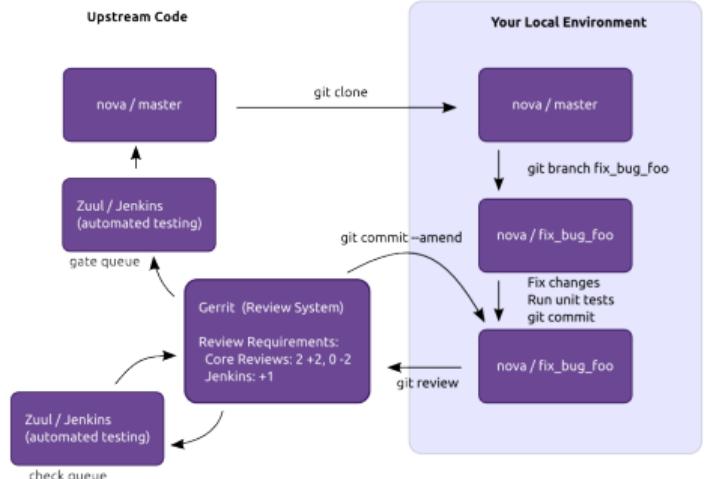
Actual (What is the “OpenStack”?)



Development Workflow in OpenStack

<https://docs.openstack.org/infra/manual/developers.html>

1. Submit a story to StoryBoard & discuss (Option)
2. Make a patch and submit it to Gerrit
3. Automated testing by Zuul
4. Review it on Gerrit
5. Automated testing by Zuul, and merge



Tools

- IRC on Freenode: `#openstack-*`(dev,nova,glance,qa,..) <https://freenode.net/>
- Mailing List: <http://lists.openstack.org/>
- StoryBoard: <https://storyboard.openstack.org/>
- Launchpad: <https://launchpad.net>
- Gerrit: <https://review.opendev.org/>
- Gitea: <https://opendev.org/openstack/>
- Zuul: <https://zuul.openstack.org>
- OpenStack-Health: <http://status.openstack.org/openstack-health/>

Welcome to freenode — supporting free and open source communities since 1998

Chat Register a group Knowledge Base

Did you hear? freenode #live is coming to town!

most from Handshake on 2018-10-01

A little over a month from now, the second freenode #live will take place at me the Comes in Bristol. With talks from many free and open source community leaders such as Leslie Hawthorn, VM brenton, Chris Lamb and Bradley Kuhn, freenode #live once again brings an international free software gathering to the South West.

Other exhibits at this years event will be the returning main sponsor, [Private Internet Access](#), as well as the Free Software Foundation, OpenSUSE, Mintez, Linux journal and the Handshake Project.

Handshake is a new decentralized alternative DNS root, and for a short time before

Welcome!

Below is a listing of all the public mailing lists on lists.openstack.org. Click on a list name to get more information about the list, or to subscribe, unsubscribe, and change the preferences on your subscription. To visit the general information page for an unadvertised list, open a URL similar to this one, but with a ? and the list name appended.

For administrators, you can visit [the list admin overview page](#) to find the management interface for your list.

If you are having trouble using the lists, please contact [mail-admin@lists.openstack.org](#).

List	Description
lists.openstack.org	[no description available]
lists.openstack-admin	[no description available]
lists.openstack-announce	The OpenStack Community team is the main contact point for anybody running a local OpenStack Group. [no description available]
lists.openstack-candidate	The Enterprise working group [no description available]
lists.openstack-communications	The Enterprise working group [no description available]
lists.openstack-dev	General discussion list for activities of the OpenStack Foundation
lists.openstack-board	OpenStack Foundation Board of Directors
lists.openstack-testing	working group to set the openstack foundation testing standards for libraries and drivers
lists.openstack-translations	Translating the OpenStack project
lists.openstack-meeting	Meeting Working Group Mailing List
lists.openstack-legal	Discussions on legal matters related to the project
lists.openstack-marketing	The OpenStack Marketing list is the means to facilitate discussion and best practice sharing among marketers and event organizers in the OpenStack community
lists.openstack-general	The OpenStack General mailing list
lists.openstack-advisance	Announcements and OpenStack & Security advisories [no description available]
lists.openstack-operators	The operators mailing list
lists.openstack-content	The team responsible to write content for openstack.org domain
lists.openstack-de	List for German speaking OpenStack users

Log In / Register

openStack

Search Code Bugs Blueprints Translations Answers

Registered 2010-01-01 · Home · Help · Terms

The OpenStack Open Source Closed Mission: to produce the ubiquitous Open Source Cloud Computing platform that will meet the needs of public and private clouds regardless of size, by being simple to implement and massively scalable.

Website: <http://openstack.org>
Wiki: <http://wiki.openstack.org>
Blog: <http://blog.openstack.org>
Mailing List: lists.openstack@openstack.org - see <https://lists.openstack.org/glists/mailing/>
IRC: [irc://irc.freenode.net/openstack](#)
Documentation: <http://docs.openstack.org>
Home page: <http://openstack.org>

Get involved

Report a bug Ask a question Register a blueprint Register a bug

Announcements

Shifting features upstream and bug fixes have been moved to Storyboard on 2018-01-19 <https://Storyboard.openstack.org>

Storyboard on 2017-09-27

Most recent activity on 2018-02-06
a few days ago the Infra Team enabled YubiKey in Jenkins CI pipelines.

OpenStack project is migrating to Storyboard on 2017-09-26

As part of an OpenStack migration, the project has been integrated into Storyboard. Please migrate bugs from here to Storyboard.

Trunk 3.0.0 released(Distro) on 2017-09-22

Trunk is a project dedicated to the development and promotion across Horizon in ...

Project group information

Maintainers: [OpenStack Administrators](#) Not yet selected

Bug tracker: None specified

Download ZIP metadata

FAQs for OpenStack

All DIs

How to use cinder glance and object-create
Answers for top project integrations for hierarchical multi-tenancy projects

Project management by StoryBoard - What's "StoryBoard"

- ▶ Story management tool developed by the OpenStack community
- ▶ Built from scratch, <https://opendev.org/opendev/storyboard/>
- ▶ Architecture: Frontend: JS/Angular, Backend: Python/Pecan
- ▶ 100% open source (Apache2.0)

The screenshot shows the StoryBoard application interface. The left sidebar has a dark theme with white icons and labels: Search (magnifying glass), Dashboard (cloud), Worklists & Boards (two overlapping squares), Project Groups (cube), Projects (box), Stories (document), and About. The main area has a light background. At the top, there's a red header bar with the StoryBoard logo, a 'Create New...' button, a search bar labeled 'Jump to...', and a user dropdown for 'Masayuki Igawa'. Below the header is a title bar for the project 'openstack-infra/storyboard' with a star icon. Underneath is a section titled 'OpenStack Task Tracking API' with tabs for 'Active' (selected), 'Merged', and 'Invalid'. A list of 14 stories is displayed, each with a summary, reporter, status, and two buttons: 'Active' and a star icon. The stories are:

Reporter	Summary	Status	Action
2004103	unable to install mariadb on multinode architecture	Active	Active
2004098	Create New fails to create stories	Active	Active
2004097	story lists in project view should only show stories with active tasks for that project	Active	Active
2003944	Auto populate assignee to task when review is pushed	Active	Active
2003886	Project Group Descriptions	Active	Active
2003719	BUG: Card links don't work in boards	Active	Active
2003701	Mixed Story & Task Automatic Worklist Error	Active	Active
2003698	Feature Request: Enforce flavor extended parameters	Active	Active
2003663	Browsing tasks on the search view sometimes gives an error	Active	Active
2003554	Unicode issue with (at least) reporter names in migration from Launchpad	Active	Active

Gerrit review system - What's "Gerrit"

- Android development community is using it
- Java, 100% open source, <https://www.gerritcodereview.com>
- Not Pull Request, submit a patch and merge it into a central repo
- A terminal client exists > Gerty: <https://gerty.readthedocs.io/>

The screenshot shows the Gerrit Code Review interface. At the top, there are two navigation bars: one for Gerrit Code Review with links to About, News, Issues, Code, Docs, Feedback, and a search bar; and another for openstack with links to Projects, Documentation, Open, Merged, and Abandoned. Below these are several sections:

- Discuss code:** Shows a code diff between `master (origin)` and `openstack (origin)`. It highlights a conflict in `gerrit/gerrit/reviews/patchsetdifferencer.java` at line 124. The conflict is described as: "diff --git a/gerrit/reviews/patchsetdifferencer.java b/gerrit/reviews/patchsetdifferencer.java index 12345678..12345679 100644 --- a/gerrit/reviews/patchsetdifferencer.java +++b/gerrit/reviews/patchsetdifferencer.java @@ -123,1 +124,1 @@ private void handlePatchset(ChangeData changeData, PatchSet patchSet, PatchSetDifferencer differencer) { - if (changeData.getPatchSets().size() > 1) { + if (changeData.getPatchSets().size() > 1 || !changeData.isMerged()) { differencer.setMergeConflict(true); } } }
- Serve GR:** Describes an integrated experience within the larger code review flow.
- Manage workflows:** Offers deeply integrated and delegatable access controls.
- Download:** Provides the latest release (2.15.6) for download.

FYI: Gerty - Gerrit in TTY

- Terminal client
- <https://gerty.readthedocs.io/>
- Demo

File Edit View Bookmarks Settings Help

Unreviewed 51 changes in openstack/tempest Error Sync: 0

Number	Subject	Branch	Topic	Owner	Updated	Size	C	V	W
570287	Deprecate available filters in favor of enabled	master	bug/1628443	Arton Llfshitz	2018-10-24	1	1	1	1
549111	Add test test_create_server_with_bdm_source_image	master	bdm_image	zhufl	2018-10-24	1	1	1	1
602981	Update REVIEWING docs with fast-track approval process	master	reviewing	Felipe Montelro	2018-10-24	1	1	1	1
612277	[Negative] Extend volume over quota limit	master	extend_volume_negati	Liron Kuchlani	2018-10-23	1	1	1	1
588120	Set max microversion 2.35 for nova floatingip and securitygroup	master	bp/clear-deprecated-	zhufl	2018-10-23	2	1	1	1
611068	Make connectivity test less backend dependent	master	bug/1798317	Lucas Alvares Gomes	2018-10-23	1	1	1	1
523935	Add profiler support into Tempest	master	profiler	Ilya Shakhat	2018-10-23	1	1	1	1
602415	Use tempest run command directly for full job	master	use-tempest-run	Masayuki Igawa	2018-10-22	1	1	1	1
560073	Forbid oslo.log to write to STDOUT	master	bug/1764375	Federico Rossi	2018-10-19	1	1	1	1
606909	Adding missing test case of account generator resources	master	606880	Manik Bindlish	2018-10-18	2	1	1	1
609644	Add response schema validation for volume limits	master	bp/volume-response-s	zhufl	2018-10-18	1	1	1	1
608706	Add ipv6 tempest jobs	master	ipv6job	Antonio Ojea	2018-10-17	1	1	1	1
587748	Adding missing test cases in "test_run.py"	master	bp/tempest-cli-unit-	Manik Bindlish	2018-10-17	1	1	1	1
594037	Add testcase for getting hypervisor servers in 2.53	master	hypervisor-252	zhufl	2018-10-16	1	1	1	1
600921	Add response schema validation for snapshot manage	master	bp/volume-response-s	zhufl	2018-10-13	1	1	1	1
605600	Add response schema validation for volume quota classes	master	bp/volume-response-s	zhufl	2018-10-13	1	1	1	1
609624	Add response schema validation for volume snapshots	master	bp/volume-response-s	zhufl	2018-10-12	1	1	1	1
606809	Add response schema validation for encryption types	master	bp/volume-response-s	zhufl	2018-10-12	1	1	1	1
608875	Add response schema validation for volume manage	master	bp/volume-response-s	zhufl	2018-10-12	1	1	1	1
534250	Check network connectivity of the instance before and after live migration	master	scenario.live_migrat	Liang Hao	2018-10-11	1	1	1	1
608898	Add response schema validation for volume transfer	master	bp/volume-response-s	zhufl	2018-10-11	1	1	1	1
605595	Add response schema validation for volume extensions	master	bp/volume-response-s	zhufl	2018-10-10	2	1	1	1
605985	Add response schema validation for volume types	master	bp/volume-response-s	zhufl	2018-10-10	1	1	1	1
606772	Add response schema validation for volume group snapshots	master	bp/volume-response-s	zhufl	2018-10-10	1	1	1	1
603339	Add response schema validation for volume quota set	master	bp/volume-response-s	zhufl	2018-10-10	1	1	1	1
605917	Add response schema validation for volume pools	master	bp/volume-response-s	zhufl	2018-10-09	1	1	1	1
606328	Add response schema validation for volume groups	master	bp/volume-response-s	zhufl	2018-10-09	1	1	1	1
606244	Add response schema validation for volume group types	master	bp/volume-response-s	zhufl	2018-10-08	1	1	1	1
603580	Add response schema validation for volume messages	master	bp/volume-response-s	zhufl	2018-10-08	1	1	1	1
605574	Add response schema validation for volume capabilities	master	bp/volume-response-s	zhufl	2018-10-08	1	1	1	1
589279	Immutable user source: test_llst_users	master	bug/1777847	Anna Pankiewicz	2018-10-05	1	1	1	1
587878	Immutable user source: test_credentials	master	bug/1777847	Anna Pankiewicz	2018-09-27	1	1	1	1
588393	Immutable user source: test_default_project_id	master	bug/1777847	Anna Pankiewicz	2018-09-27	1	1	1	1
588395	Immutable user source: test_users_negative	master	bug/1777847	Anna Pankiewicz	2018-09-27	1	1	1	1
607726	Use system creds for system operations	master	system-creds	Jamie Lennox	2018-09-25	1	1	1	1
384528	Adds protocol options for test_cross_tenant_traffic	master	bug/1363986	Claudiu Belu	2018-09-20	2	1	1	1
603295	Add response schema validation for volume hosts	master	bp/volume-response-s	zhufl	2018-09-20	1	1	1	1

↳ Subscribed projects

Gitea - Git with a cup of tea

- A painless self-hosted Git service
- Golang, MIT license
- <https://gitea.io>

The screenshot shows the Gitea interface for the `openstack / tempest` repository. The top navigation bar includes links for Home, Explore, and Help. Below the repository name, there are tabs for Code and Issues. The main area displays a list of 13059 commits, each with a author, commit ID, subject, and timestamp. A search bar labeled "Search repository" is located at the top right. The URL <https://opendev.org/openstack/tempest> is shown in the address bar.

This screenshot shows the same Gitea interface for the `openstack / tempest` repository, but with a specific branch selected: `tempest / tempest : manager`. The commit list is now filtered to show only commits from this branch. One commit is highlighted, showing its details: "Add release note for log_req_body_kwarg" by Matthew Treinish, commit ID `13c13003526`, made 14 hours ago. The commit message is: "Bump the openstack/docstheme extension to 1.20". The URL <https://opendev.org/openstack/tempest> is again visible in the address bar. The code editor on the right shows the contents of the `manager.go` file, which contains Apache License 2.0 code.

Continuous Integration by Zuul - What's "Zuul"

- <https://zuul-ci.org/>
- Set a gate by automated testing - Stop Merging Broken Code
- CI/CD powered by Ansible
- Cross-Project Dependencies can be tested

ZUUL

Status Jobs Builds Documentation Tenant openstack

Queue lengths: 0 events:0 management events:0 results.

change or project name Expand by default:

check [110]

Newly uploaded patchsets enter this pipeline to receive an initial +/−1 Verified vote.

Queue: openstack/tripleo-heat-templates

openstack/tripleo-heat-templates
612249.1

openstack/tripleo-heat-templates
612316.1

openstack/tripleo-heat-templates
612601.1

openstack/tripleo-heat-templates
612602.1 0 min 3 hr 51 min

Queue: openstack/networking-own

openstack/networking-own
608252.4 0 min 3 hr 50 min

Queue: openstack/mistral

openstack/mistral
610461.12 0 min 2 hr 54 min

gate [15]

Changes that have been approved by core reviewers are enqueued in order in this pipeline, and if they pass tests, will be merged. For documentation on how gating with Zuul works, please see <https://zuul-ci.org/docs/zuul/user/gating.html>

Queue: tripleo

openstack/tripleo-quickstart-extras
609550.3 15 min 2 hr 39 min

openstack/tripleo-quickstart
612289.1 25 min 2 hr 5 min

openstack/tripleo-heat-templates
611309.3 2 hr 20 min 46 min

post [0]

This pipeline runs jobs that operate after each change is merged. Queue items are identified by the abbreviated hash (git log --format=%h) of the merge commit.

promote [0]

This pipeline runs jobs that operate after each change is merged in order to promote artifacts generated in the gate pipeline.

pre-release [0]

When a commit is tagged with a pre-release tag, this pipeline runs jobs that publish archives and documentation.

release [0]

When a commit is tagged as a release, this pipeline runs jobs that publish archives and documentation.

periodic [0]

Jobs in this queue are triggered on a timer.

release-post [0]

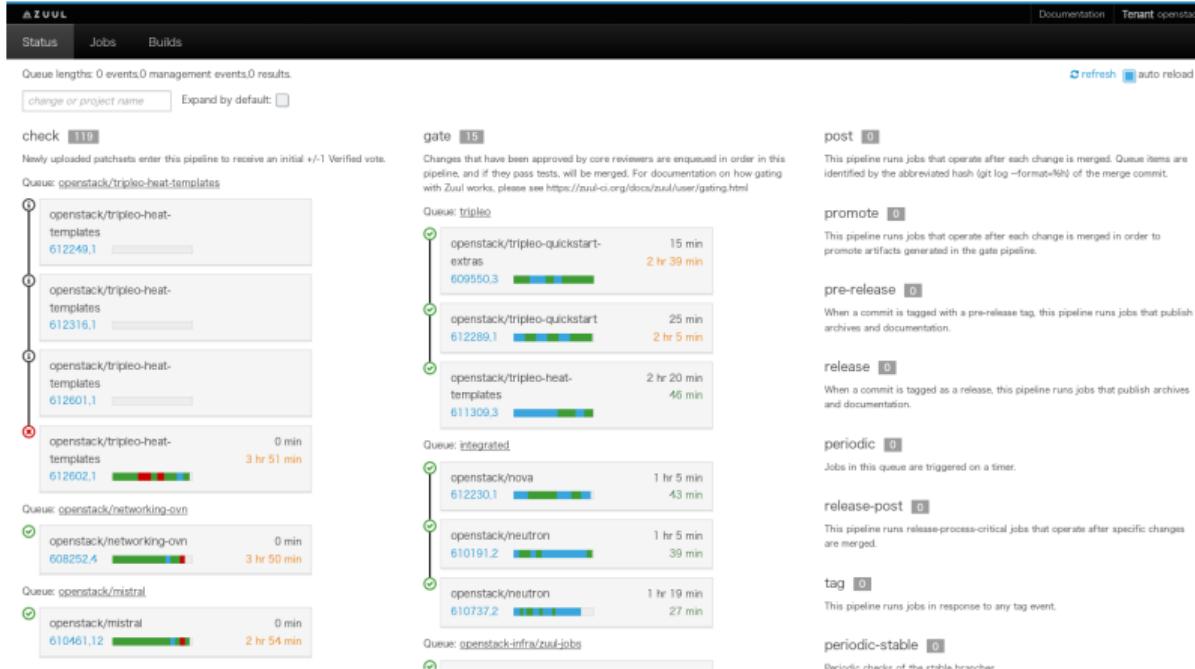
This pipeline runs release-process-critical jobs that operate after specific changes are merged.

tag [0]

This pipeline runs jobs in response to any tag event.

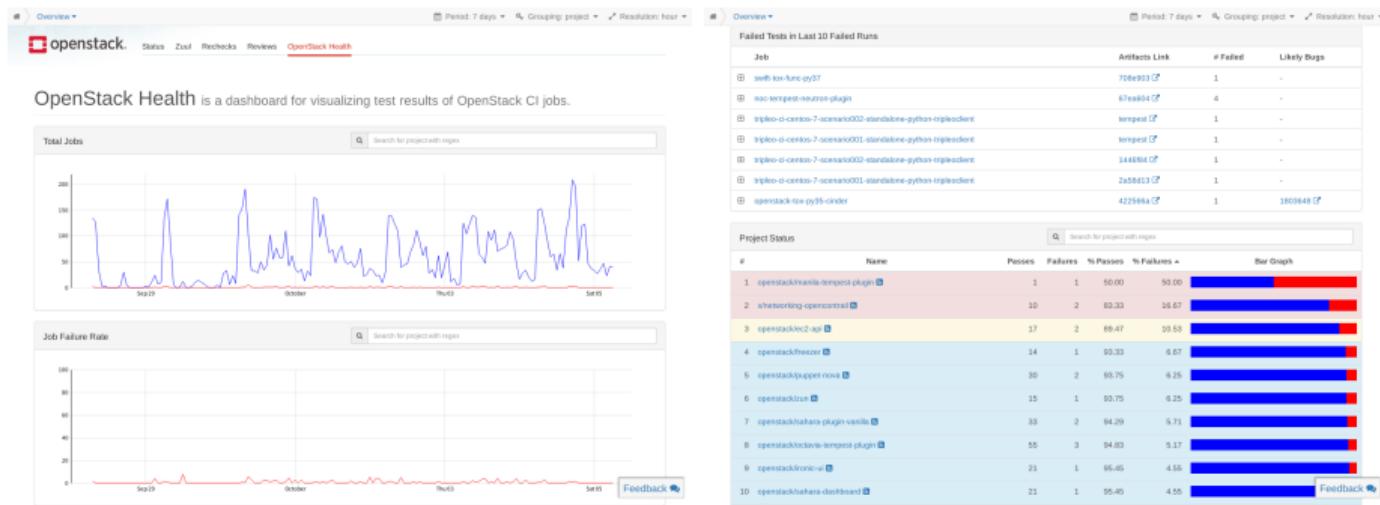
periodic-stable [0]

Periodic checks of the stable branches



Gate Health check by OpenStack Health

- A dashboard for visualizing test results of OpenStack CI jobs
- Built from scratch, <https://opendev.org/openstack/openstack-health/>
- Architecture: Frontend: JS/Angular, Backend: Python/Flask
- 100% open source (Apache2.0)



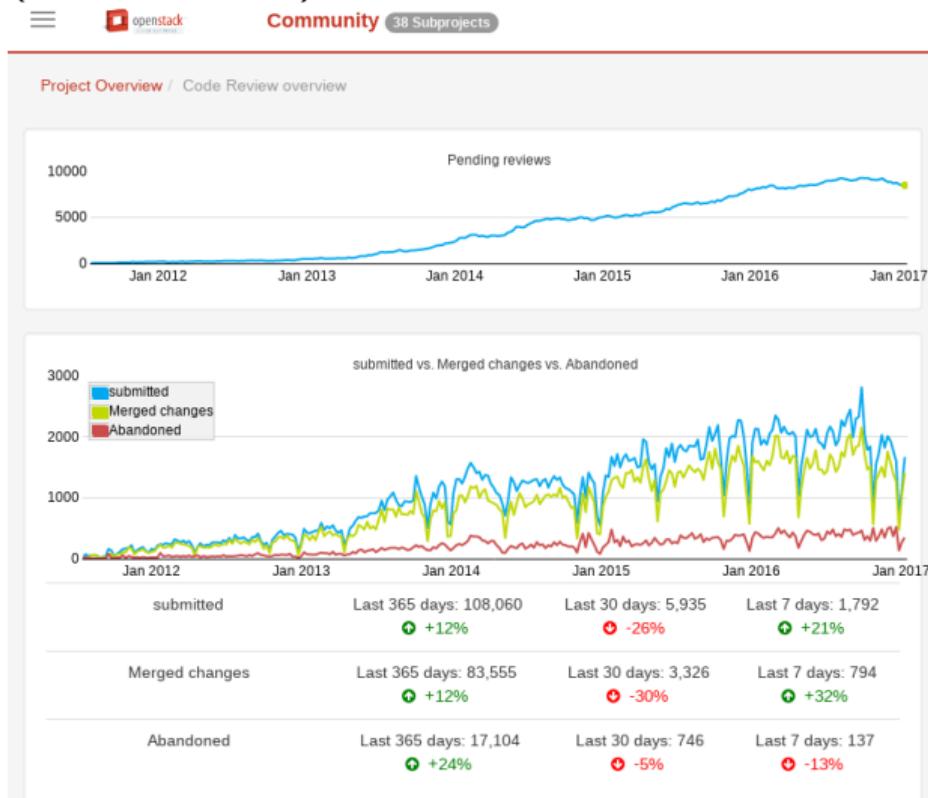
Inside Story

1. Very long time to get merged, why?
2. Unstable and Slow CI
3. Communication is important

1. Very long time to get merged, why?

- ▶ Project size \div Number of stakeholders
- ▶ Less communication
- ▶ Less reviewers (next slide)
- ▶ Unstable and Slow CI

1. Less reviewers (cont. Why?)



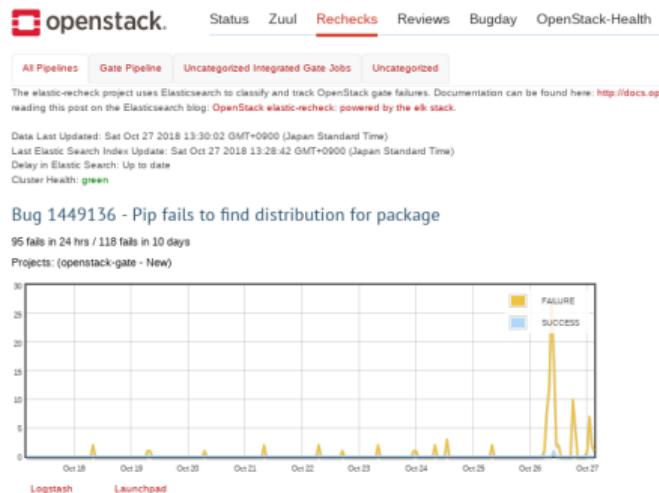
<http://activity.openstack.org/dash/browser/scr.html>

2. Unstable and Slow CI

- ▶ Easily rot if the code doesn't work in CI
- ▶ “CI” is not perfect
- ▶ Busy neighbors problem
- ▶ Rapid fixing is necessary - next slide

2. Elastic Recheck (cont. Unstable and Slow CI)

Correlate a bug to a signature in a log, and detect the bug automatically



A screenshot of a GitHub Gist titled "1737039.yaml 105B". The gist contains the following search query:

```
query: >-
  message:"Kernel panic - not syncing" AND
  message:"timer doesn't work" AND
  tags:"console"
```

Below the code, there are buttons for Raw, Permalink, Blame, History, and edit/delete icons.

<http://status.openstack.org/elastic-recheck/>, <https://opendev.org/opendev/elastic-recheck/src/branch/master/queries/1737039.yaml>

3. Communication is important (English is hard)

- ▶ Discussion
- ▶ Find a job (e.g. difficult to get good salary as a programmer basically in Japan)
- ▶ Fun (Take care of yourself! :)

Masayuki Igawa @ [@masayukig](#)

#aftersoc #afterstack #OpenStackSummit
#openstack #suse



1:45 PM - 26 May 2018

12 Likes 

Comment Share Like 12 More

Kendall Nelson  Following

Kicking off the #OpenStackSummit early with #OpenStackUpstreamInstitute! 19 attendees and 14 mentors made it today :)
@tonybreeds @jungleboyj @ldikoVancsa @vkmc @kmarc @marton_kiss @spotzz_ @ghanshyammann @masayukig



6:59 AM - 20 May 2018

7 Retweets 31 Likes 

Comment Share Like 7 More

3. English as a second language (cont. Communication is important)

- We have a document: <https://docs.openstack.org/doc-contrib-guide/non-native-english-speakers.html>
- Not only language but also culture (For example: Zensho shimasu (善処します))

The screenshot shows the OpenStack Documentation website. The top navigation bar includes links for Software, Users, Community, Marketplace, Events, Learn, Docs, Join, and Log In. The main content area has a header "Non-native English speakers" with a "Note" icon. Below the header, a note states: "OpenStack projects communicate in English, and our documentation is written in US English. However, many documentation contributors have English as a second (or third, or fourth) language. This poses many challenges for non-native English speakers, but there are some things that native English speakers can do to make it easier to include non-native speakers in our community. This chapter contains some suggestions for both native and non-native English speakers to help make our community more inclusive and welcoming for all people." A "Note" section below this includes a note about a talk at linux.conf.au 2017 and links to YouTube and opensource.com. The sidebar on the left lists various documentation topics like Quickstart, Non-native English speakers, and RST conventions.

Non-native English speakers

THIS PAGE LAST UPDATED: 2019-09-30 11:35:45

OpenStack projects communicate in English, and our documentation is written in US English. However, many documentation contributors have English as a second (or third, or fourth) language. This poses many challenges for non-native English speakers, but there are some things that native English speakers can do to make it easier to include non-native speakers in our community. This chapter contains some suggestions for both native and non-native English speakers to help make our community more inclusive and welcoming for all people.

Note

This chapter was written based on the wonderful talk given by Masayuki Igawa, Dong Ma, and Samuel De Medeiros Queiroz at linux.conf.au in 2017. Thank you for their permission to use this content, and for their feedback and support during development. You can watch their original talk on YouTube: [Non-native English speakers in Open Source communities: A True Story](#) or read their article on opensource.com: [Tips for non-native English speakers working on open source projects](#).

New contributors with English as a second language

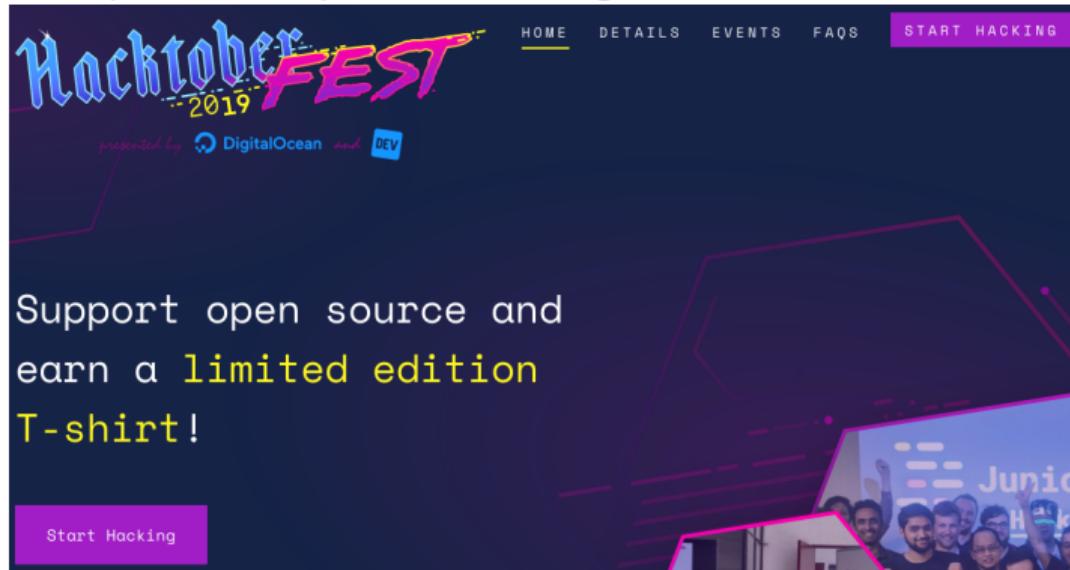
Challenges related to language skills are easier to overcome than cultural ones. Cultural differences need to be respected, while English skills can always be improved.

In order to brush up on your English skills, be in contact with the language as much as you can. Do not think about your limitations. Just do your best and you will improve eventually.

How to participate Open Source Community

How to participate Open Source development

- ▶ Find projects which you are interested in
- ▶ Find online/offline mentor(s) and friends
- ▶ Understand culture of communities
- ▶ Not only code, using/testing, submit bugs/issues, documentation, translation, etc.
- ▶ As a study, hobby or job?
- ▶ Find events: [OpenStack Upstream training](#), [GSoC](#), [Hacktoberfest](#)



Conclusion

- ▶ Gerrit, StoryBoard, Zuul, OSS can be used for non-OSS product
- ▶ Communication is important, and English too
- ▶ Development OSS is fun! and tough sometimes. Why not participate in it?

Appendix

- ▶ Slides: [https://github.com/masayukig/oss-development-inside-story/
blob/master/oss-development-inside-story.pdf](https://github.com/masayukig/oss-development-inside-story/blob/master/oss-development-inside-story.pdf)
- ▶ Contact info: masayukig on [Freenode](#), [GitHub](#), [Twitter](#), [LinkedIn](#)
- ▶ StoryBoad:
<https://docs.openstack.org/infra/system-config/storyboard.html>
- ▶ Gerrit: <https://www.gerritcodereview.com/>
- ▶ Zuul: <https://zuul-ci.org/>
- ▶ Non-native English speakers in Open Source communities:
<http://bit.ly/esl-yvr>