

How to Participate Open Source development

- Open Source development tooling and community in the upstream -

Masayuki Igawa: masayuki@igawa.io

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>

This work is licensed under a Creative Commons Attribution 4.0 International License



Agenda

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

DISCLAIMER

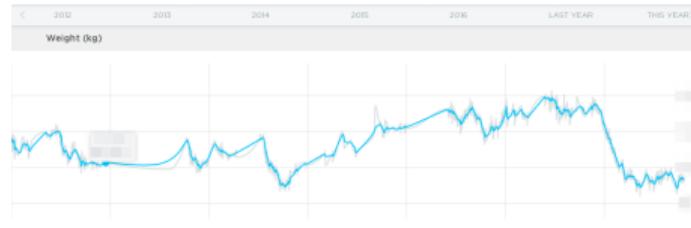
These slides are my own opinion

Who am I?

- ▶ 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 QE(Quality Engineering) 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

Today's Goal

- ▶ Development ways/tools in OpenStack/OSS communities
- ▶ To understand essence of OSS development, and it's fun

Open Source Communities?

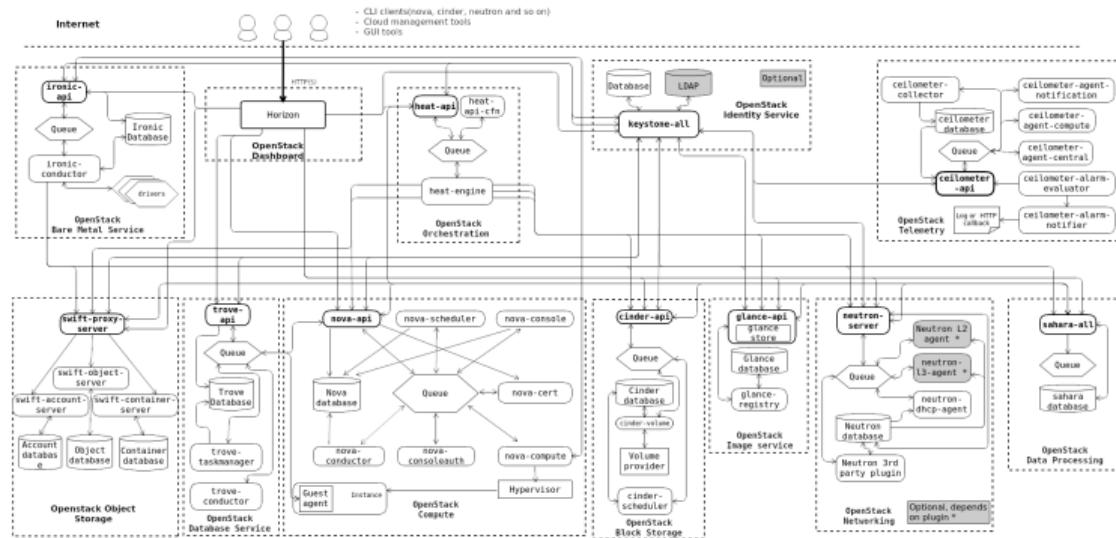
Led by

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

There are a lot differences among OSS projects. Let's take a look at the OpenStack community as an example.

What is the “OpenStack”?

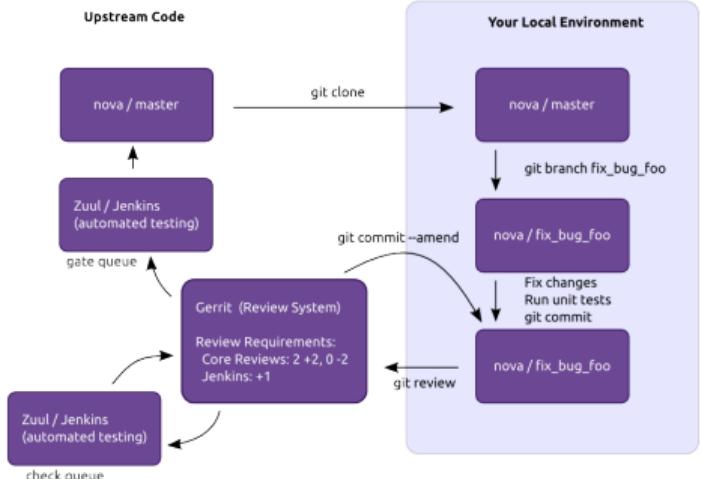
- Written in Python, Open Source Cloud Operation System: Apache License 2.0
- One of the top three active OSS communities
- There are a lot of ‘OpenStack’ projects: [63 projects\(2019-10-05\)](https://www.openstack.org/projects/)
- Released every 6 month: Latest version is called ‘Queens’
- Users: AT&T,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



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.openstack.org/>

The screenshot shows the freenode homepage. At the top, there's a green header bar with the word "freenode" in white. To the right of the header is a search bar containing "Search using Google" and a magnifying glass icon. Below the header, the main content area has a white background. It features a large, bold, dark blue title "Welcome to freenode — supporting free and open source communities since 1998". Below the title are three dark blue rectangular buttons with white text and icons: "Chat" with a speech bubble icon, "Register a group" with a people icon, and "Knowledge Base" with a question mark icon.

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

A little over a month from now, the second freenode [#live](#) will take place at the Curious in Bristol, with talks from many free and open source community leaders such as Leslie Hawthorn, VM Brasseur, Chris Lamb and Bradley Kuhn. Freenode [#live](#) once again brings an international free software gathering to the South West.

Other exhibitors at this year's event will be the returning main sponsor, [Private Internet Access](#), as well as the Free Software Foundation, OpenSUSE, Minetest, Linux Journal and the Hailstone Project.

[Handshake](#) is a new decentralized alternative DNS root, and for a short time before

lists.openstack.org Mailing Lists	
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 edit the general information page for an unauthenticated list, open a URL similar to this one, but with a <code>?y</code> , and the list name appended.	
List administrators, you can visit the list admin's 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
Admin-control	(no description available)
App-categories-admin	(no description available)
Ceph	The OpenStack Ceph Community team is the main contact point for anybody managing a local OpenStack Group.
Icehouse-committers	(no description available)
Iloha-committers	(no description available)
Icehouse-rc	The Enterprise work group
Icehouse-req	General discussion list for activities of the OpenStack Foundation
Icehouse-board	OpenStack Foundation Board of Directors
Icehouse-testing	working group to set the openstack foundation testing standards for drivers not drivers
Icehouse-req	Icehouse Working Group Mailing List
Icehouse-legal	Discussions on legal matters related to the project
Marketing	The OpenStack Marketing list is the major to facilitate discussion and best practice sharing among marketers and event organizers in the OpenStack community.
Openstack-101	(no description available)
Openstack-advisories	Key announcements about OpenStack & Security advisories
Openstack-committers	(no description available)
Openstack-constant	The team responsible to write content for openstack.org domain
Openstack-de	List for German speaking OpenStack users



OpenStack

OpenStack is a cloud computing platform that provides an open source infrastructure for building public and private clouds. It is designed to be highly modular and extensible, allowing users to easily add new features and services as needed.

The OpenStack Open Source Cloud Mission is 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://www.openstack.org>
Wiki: <http://wiki.openstack.org>
Mailing List: openstack@lists.launchpad.net - see <http://lists.openstack.org/cgi-bin/mailman/listinfo/openstack>
IRC: #openstack on freenode.net
Documentation: <http://docs.openstack.org>

[Report a bug](#) [Ask a question](#) [Help translate](#) [Register & Migrate](#)

Get Involved

[Report a bug](#) [Ask a question](#) [Help translate](#) [Register & Migrate](#)

Announcements

OpenStack 10.0 released!
A few days ago the Infra Team released Tonic to the general community.

Octavia project is migrating to Storybook
As part of an OpenStack 10.0 release, Octavia has been migrated from Neutron to its own GitHub repository.

Triton 1.0.0 released(Dash)
An Infra team release for enhancing automation across Neutron 1.0.

Project group information

Metastore **Diesel**
OpenStack Administrators Not yet selected

Bug tracker:
None specified

[Download EPEL metadata](#)

FAQs for OpenStack

All Plugins

- Port Control plugin
- Audit
- Avi
- Avi MRI
- Avi Ruby Client
- Adara
- Barbican
- Baremetal
- Banner
- Blazar
- Blueflood
- Barevn
- Cloudmeter

How to use one-click glance-object-create

Answers for the top projects (Images for hierarchical multi-level projects)

[Search](#)

Project management by StoryBoard - What's "StoryBoard"

- ▶ Story management tool developed by the OpenStack community
- ▶ Built from scratch
- ▶ 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 icons for Search, Dashboard, Worklists & Boards, Project Groups, Projects (selected), and Stories. The main area shows a list of stories for the project 'openstack-infra/storyboard'. The list includes:

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

Gerrit review system - What's “Gerrit”

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

Gerrit Code Review

About News Issues Code Docs Feedback

status:open

Projects Documentation

status:open

Changes Search Sign In

Gerrit Code Review



Discuss code
and boost your team's code fu by talking about specifics.
[Learn More](#)

Serve Git
An integrated experience with the larger code review flow.
[Learn More](#)

Manage workflows
with deeply integrated and delegatable access controls.
[Learn More](#)

Download
Our latest release is:
[2.15.6](#)
[Download ZIP](#)

Search for status:open

Subject	Status	Owner	Project	Branch	Updated	Size	CR	V	W
[PATCH] New policy vdu_ishealing	Open	BhagyaShrawan	openstack/tacker	master (beta/vdu-auto-healing)	3:25 PM	1.6 MB	1	1	1
[PATCH] Remove ha guide from index	Merged	Andreas Jaeger	openstack/openstack-manuals	master (tag/1799811)	3:25 PM	1.6 MB	1	1	1
[PATCH] Add native OVSDB implementation for Bindaries	Open	Rodrigo Alonso Hernandez	openstack/neutron	master (tag/179598)	3:25 PM	1.6 MB	1	1	1
[Patch Exporter] allows to set collectors enable/disable	Open	Jawee Chee	openstack/openstack-helix-infra	master (heat_collectors)	3:25 PM	1.6 MB	1	1	1
Add charts for Elastic Beats	Open	Steve Wikerson	openstack/openstack-helix-infra	master (add_elastic_beats)	3:25 PM	1.6 MB	1	1	1
Check pep8 without ignoring D030	Open	Dao Cong Tien	openstack/calculator	master	3:24 PM	1.6 MB	1	1	1
Further performance tuning changes for Ceph	Open	Matthew Hepler	openstack/openstack-helix-infra	master (tag/ceph_tuning)	3:24 PM	1.6 MB	1	1	1
Add jobs file for bp-add-myosig-support-for-freezer	Open	gongzhic2	openstack/freezer-api	master (tag/add_myosig-support-for-freezer)	3:24 PM	1.6 MB	1	1	1
Add session api for bp-add-myosig-support-for-freezer	Open	gongzhic	openstack/freezer-api	master (tag/add_myosig-support-for-freezer)	3:24 PM	1.6 MB	1	1	1
Add session table for bp-add-myosig-support-for-freezer	Open	gongzhic	openstack/freezer-api	master (tag/add_myosig-support-for-freezer)	3:24 PM	1.6 MB	1	1	1
[jenkins35] Create Armada manifest file to deploy Range	Open	Chi Lo	openstack/openstack-helix-infra	master (range_manifest)	3:24 PM	1.6 MB	1	1	1
Release for Stein milestone1 for tripleo	Open	Juan Antonio Osorio Robles	openstack/releases	master (tripleo/release)	3:23 PM	1.6 MB	1	1	1
Implement Ceph Client helm test	Open	Reinis Kalnaka	openstack/openstack-helix-infra	master (999919)	3:23 PM	1.6 MB	1	1	1
ceph: relog log directory configurable	Open	chinashubuddhi	tripleo-varnish	master	3:23 PM	1.6 MB	1	1	1
Add startingDeadlineSeconds field to cronjobs	Open	Dmitri Kaluzhev	openstack/openstack-helix-infra	master	3:23 PM	1.6 MB	1	1	1
Remove untag logging module	Open	Mike Chee	openstack/kuryr-neutron	master (trivial)	3:23 PM	1.6 MB	1	1	1
Add deliverable file for amulet role-openstack	Open	Juan Antonio Osorio Robles	openstack/releases	master (tripleo/release)	3:22 PM	1.6 MB	1	1	1
Add openstack-upgrade check command	Open	Rajat Dhusarana	openstack/zapar	master (upgrade-checkers)	3:22 PM	1.6 MB	1	1	1

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 Ressi	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

Continuous Integration by Zuul - What's "Zuul"

- Set a gate by automated testing - only properly working code can be merged
- CI/CD powered by Ansible
- Dependencies across different projects can be tested

The screenshot shows the Zuul CI interface with several project queues:

- Queue: openstack/tripleo-heat-templates**
 - openstack/tripleo-heat-templates 612249.1 (Status: Pending, 0 min)
 - openstack/tripleo-heat-templates 612316.1 (Status: Pending, 0 min)
 - openstack/tripleo-heat-templates 612601.1 (Status: Pending, 0 min)
 - openstack/tripleo-heat-templates 612602.1 (Status: Pending, 3 hr 51 min)
- Queue: openstack/networking-own**
 - openstack/networking-own 608252.4 (Status: Pending, 0 min)
- Queue: openstack/mistral**
 - openstack/mistral 610461.12 (Status: Pending, 0 min)
- Queue: triple**
 - openstack/tripleo-quickstart-extras 609550.3 (Status: Pending, 15 min)
 - openstack/tripleo-quickstart 612289.1 (Status: Pending, 2 hr 5 min)
 - openstack/tripleo-heat-templates 611309.3 (Status: Pending, 2 hr 20 min)
- Queue: integrated**
 - openstack/nova 612230.1 (Status: Pending, 1 hr 5 min)
 - openstack/neutron 610191.2 (Status: Pending, 1 hr 5 min)
 - openstack/neutron 610737.2 (Status: Pending, 1 hr 19 min)
- Queue: openstack-infra/zuul-jobs**
 - (Status: Pending, 2 hr 54 min)

Global statistics: Queue lengths: 0 events, 0 management events, 0 results.

Buttons: Documentation, Tenant: openstack, refresh, auto reload.

Check, Gate, Post, Promote, Pre-release, Release, Periodic, Release-post, Tag, Periodic-stable.

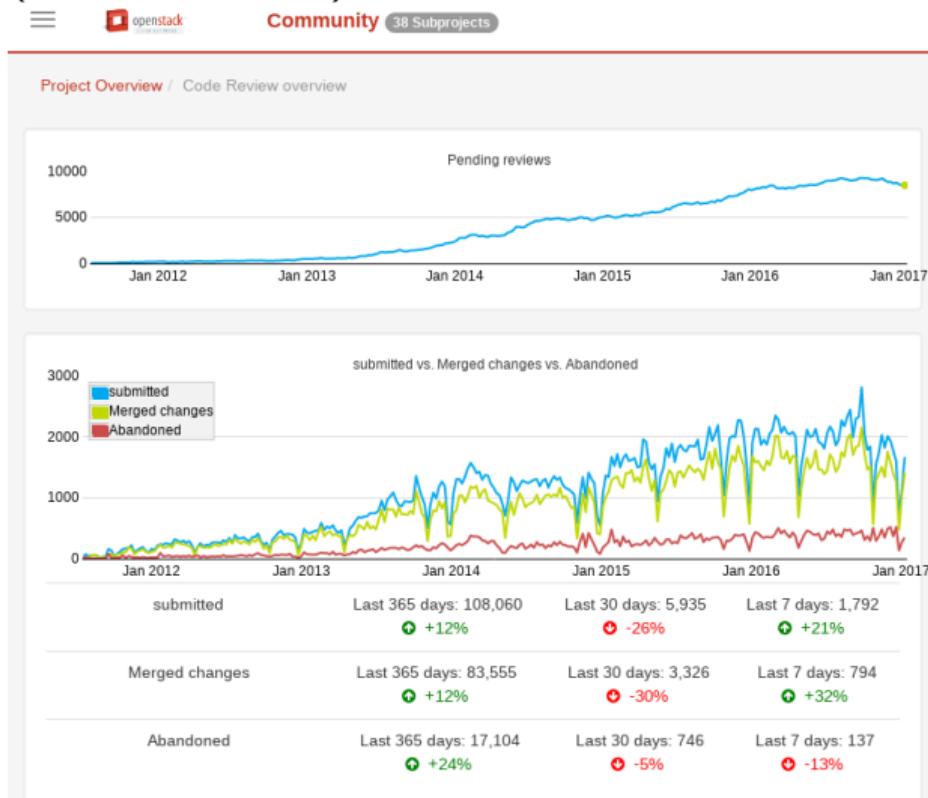
Inside Story

1. It takes a long time to get merged. Reason?
2. Unstable CI
3. Communication is important

1. It takes a long time to get merged. Reason?

- ▶ Project size \div Number of stakeholders
- ▶ Less communication (sending an email isn't a good idea)
- ▶ Less reviewers (next slide)
- ▶ Unstable and Slow CI

1. Less reviewers (cont. Reason)



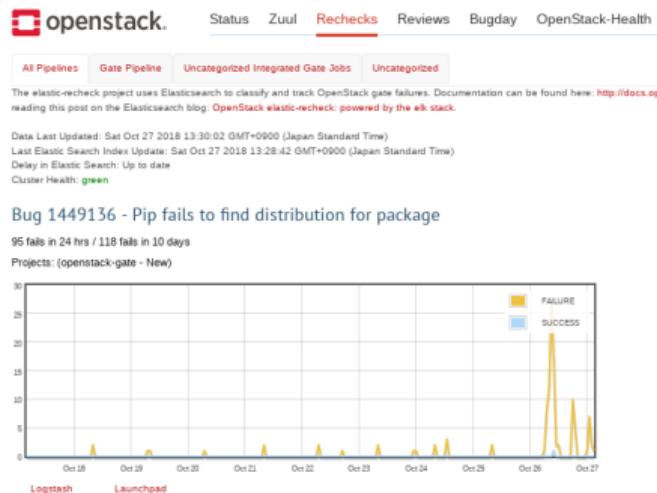
<http://activity.openstack.org/dash/browser/scr.html>

2. Unstable CI

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

2. Elastic Recheck (cont. Unstable CI)

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



The screenshot shows a code editor displaying a YAML configuration file for a log query. The file contains the following code:

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

Below the code are standard GitHub-style interface buttons: Raw, Permalink, Blame, History, a pencil icon for edit, and a trash bin icon for delete.

<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))

How to participate Open Source development

- ▶ As a study, hobby or job?
- ▶ Find a project which you are interested in
- ▶ Find online/offline mentor(s) and friends
- ▶ Not only code, using/testing, submit bugs/issues, documentation, translation, etc.

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>