

How to Participate Open Source development

- Open Source development tooling and community in the upstream -

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Freenode GitHub Twitter LinkedIn

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@openSUSE.Asia Summit 2019

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

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Agenda

1. Who am I?
2. Today's Goal
3. What is Open Source?
4. Examples
5. What is OpenStack?
6. Development Work Flow
7. Tools
8. True Stories
9. Summary

DISCLAIMER

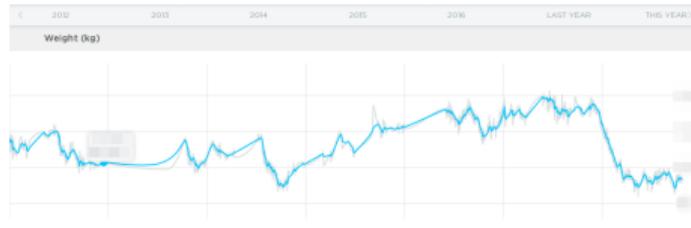
These slides are my own opinion

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), [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.



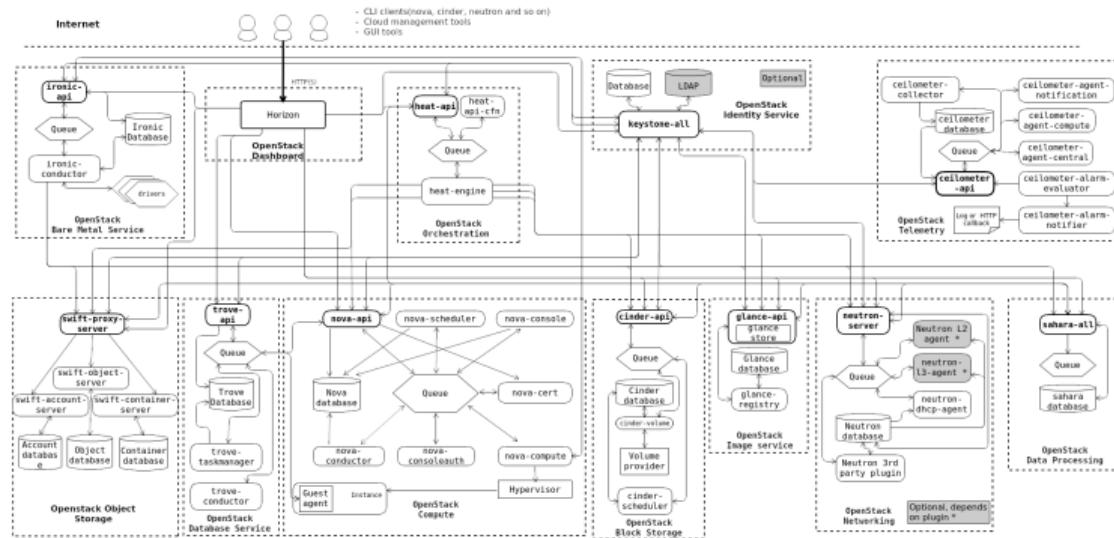
Introduction

Goal of today

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

What is the “OpenStack”?

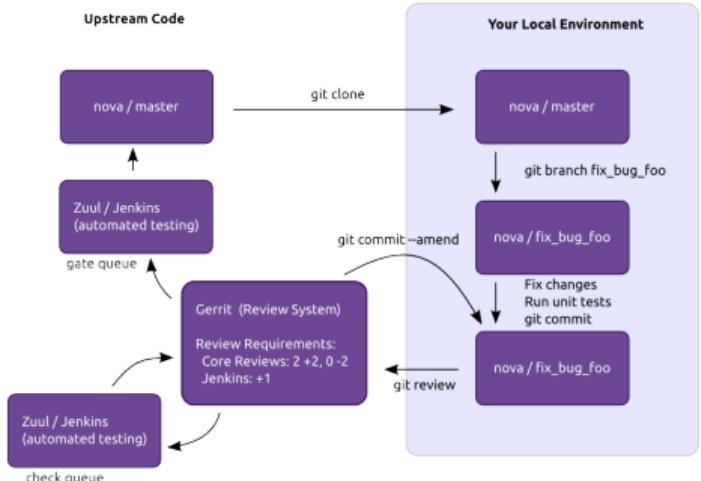
- ▶ Open Source Cloud Operation System: Apache License Version 2.0
 - ▶ Written in Python
 - ▶ There are a lot of 'OpenStack' projects: [63 projects\(2018-10-23\)](#)
 - ▶ Released every 6 month: Latest version is called 'Queens'
 - ▶ Users: AT&T, AA, BBVA, Bloomberg, CERN, China Mobile, Gap, VEXXHOST, 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



Communication tools

- ▶ IRC on Freenode: #openstack-*(dev,nova,glance,qa,..) <https://freenode.net/>
 - ▶ Mailing List: <http://lists.openstack.org/>
 - ▶ StoryBoard: <https://storyboard.openstack.org/>
 - ▶ Gerrit: <https://review.openstack.org/>
 - ▶ Launchpad: <https://launchpad.net>

The image shows the top navigation bar of the freenode website. It features the 'freenode' logo on the left, a search bar with the placeholder 'Search using Google' in the middle, and a magnifying glass icon and a green circular icon with the letters 'PIA' on the right.

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

A little over a month from now, the second freenode #live will take place at me the Curious in Bristol, with talks from many free and open source community leaders such as Leslie Hawthorn, VM Brassey, 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 Houseshake 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 visit the general information page for an unauthenticated list, open a URL similar to this one , but with <code>at=1</code> and the list name appended.	
List administrators, you can visit the admin overview page to find the management interface for your list.	
If you are having trouble using the lists, please contact mail@lists.openstack.org .	
List	Description
Admin-test-list	(no description available)
App Catalog Admin	(no description available)
Bugs	The OpenStack Community Team is the main contact point for anybody running a local OpenStack Group.
Bug-compling	(no description available)
Decisions committee	(no description available)
Enterprise	The Enterprise work group
Foundation	General discussion list for activities of the OpenStack Foundation
Foundation-board	OpenStack Foundation Board of Directors
Foundation-testing	working group to set the openstack foundation testing standards for drivers not drivers
Icinga-ml	Icinga Working Group Mailing List
Legal-discuss	Discussions on Legal matters related to the project
Marketing	The OpenStack Marketing list is the source to facilitate discussion and best practice sharing among marketers and event organizers in the OpenStack community.
OpenStack-announce	Key announcements about OpenStack & Security advisories
OpenStack-apis-committers	(no description available)
Openstack-dev	The team responsible to write content for openstack.org domain
Openstack-test	List for German speaking OpenStack users

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 is titled 'OpenStack Task Tracking API' and includes the following stories:

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]

At the top right, there are buttons for 'Add story', 'Jump to...', and user information (Masayuki Igawa). The bottom right corner shows the page number '9 / 20'.

Gerrit review system - What's "Gerrit"

- Android development community is using it
- Language: Java
- 100% open source
- 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's a navigation bar with links for About, News, Issues, Code+, Docs+, Feedback, and a search bar. Below the navigation is a header for the 'openstack' project, showing tabs for All, Open, Merged, and Abandoned, along with a status filter for 'status:open' and a search bar.

The main area is titled 'Search for status:open' and displays a list of patches. The columns in the table include Subject, Status, Owner, Project, Branch, Updated, Size, and a set of four colored buttons (OR, V, W, I). The table lists several patches, such as 'Add new policy action: vdu_autohealing' by Bhagat Sri Shwale, 'Temporarily remove ha guide from index' by Andreas Jaeger, and 'DNSPI Add native DNSLIB implementation for DisksManager' by Rodolfo Alonso Hernandez.

On the left side of the page, there's a sidebar with sections for 'Discuss code', 'Serve Git', 'Manage workflows', and 'Download'. Each section has a large blue icon and a brief description. The 'Discuss code' section includes a 'Learn More' button.

At the bottom, there's a code editor window showing a Java file named 'PatchBuilder.java'. The code contains various methods and annotations, with some parts highlighted in red and green, indicating syntax errors or differences. A tooltip 'Golden-Refer' is visible over one of the code snippets.

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**
 - check [111]: Newly uploaded patchsets enter this pipeline to receive an initial +/-1 Verified vote.
 - openstack/tripleo-heat-templates 612249.1
 - openstack/tripleo-heat-templates 612316.1
 - openstack/tripleo-heat-templates 612601.1
 - openstack/tripleo-heat-templates 612602.1 (status: 3 hr 51 min)
- Queue: openstack/networking-ovn**
 - openstack/networking-ovn 608252.4 (status: 3 hr 50 min)
- Queue: openstack/mistral**
 - openstack/mistral 610461.12 (status: 2 hr 54 min)
- gate [16]**
 - 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 (status: 15 min)
 - openstack/tripleo-quickstart 612289.1 (status: 25 min)
 - openstack/tripleo-heat-templates 611309.3 (status: 2 hr 20 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=hex) 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

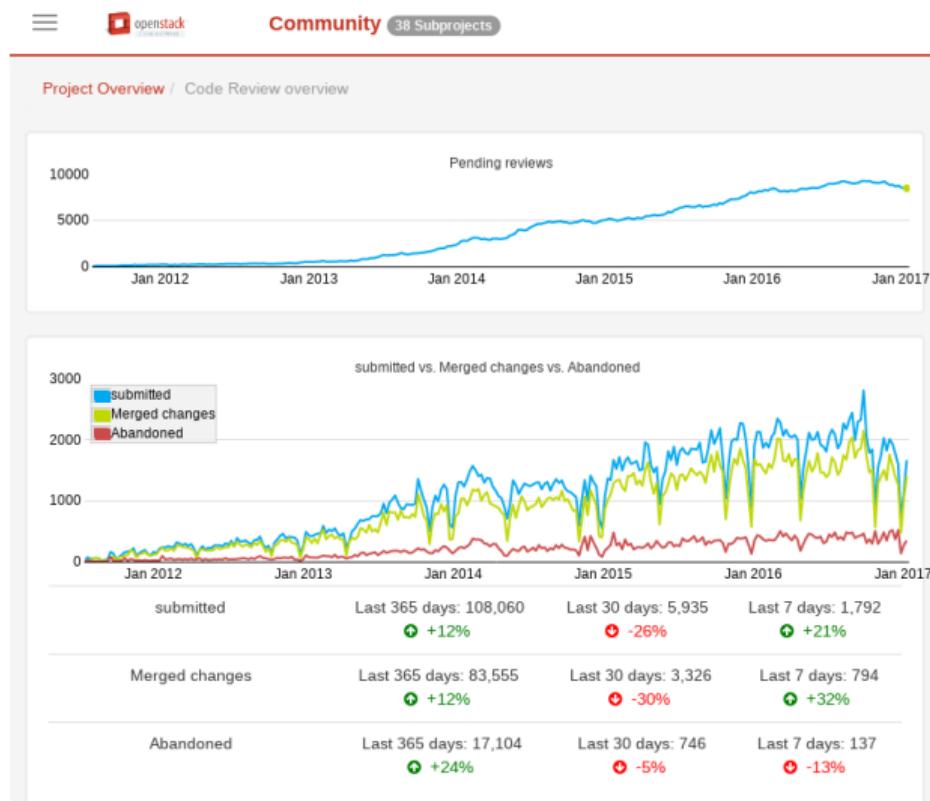
Inside Story

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 \asymp Number of stakeholders
- ▶ Less communication
- ▶ Less reviewers

1. cont. Less reviewers



<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

2. cont. - Elastic Recheck

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



<http://status.openstack.org/elastic-recheck/>

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. cont. English as a second language

- 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))

Masayuki Igawa @ ●
@masayukig

#aftersoc #afterstack #OpenStackSummit
#openstack #suse



1:45 PM - 26 May 2018

12 Likes

1 12 1

Kendall Nelson
@knelson92

Following

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6:59 AM - 20 May 2018

7 Retweets 31 Likes

1 7 1 31

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: <http://bit.ly/osc-2018fall-oss>
- ▶ 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>