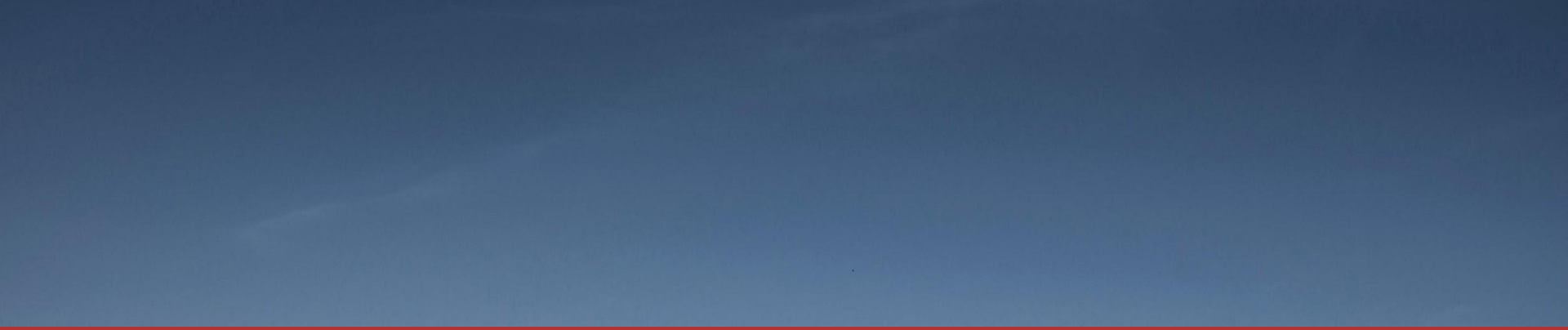


How to Contribute to ONOS

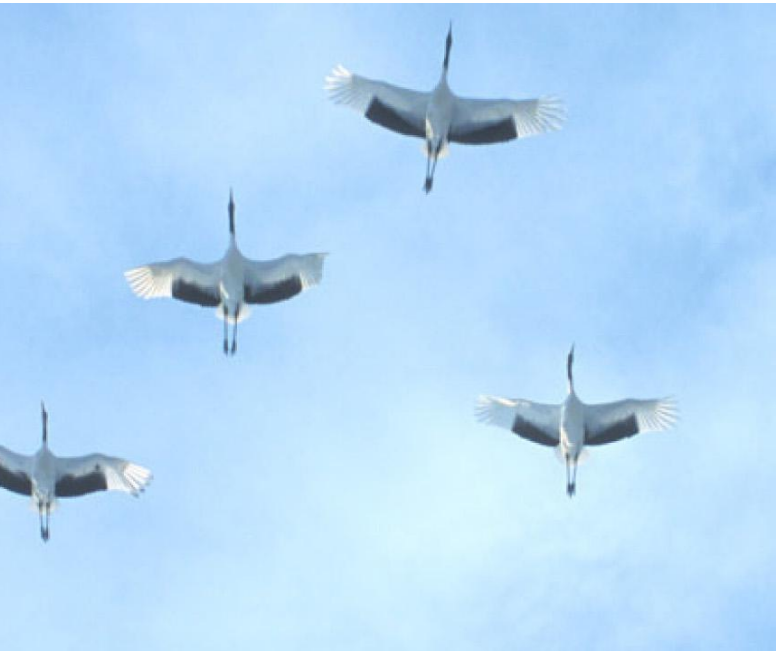
David Boswell, *ON.Lab* @ ONS2016

onos
Open Network Operating System

Outline

- The ONOS Mission
- The ONOS Community
- Where To Start
- Contribution Opportunities
  - Coding
  - Documentation
  - Spreading the word
  - Design
  - And more

The ONOS Mission

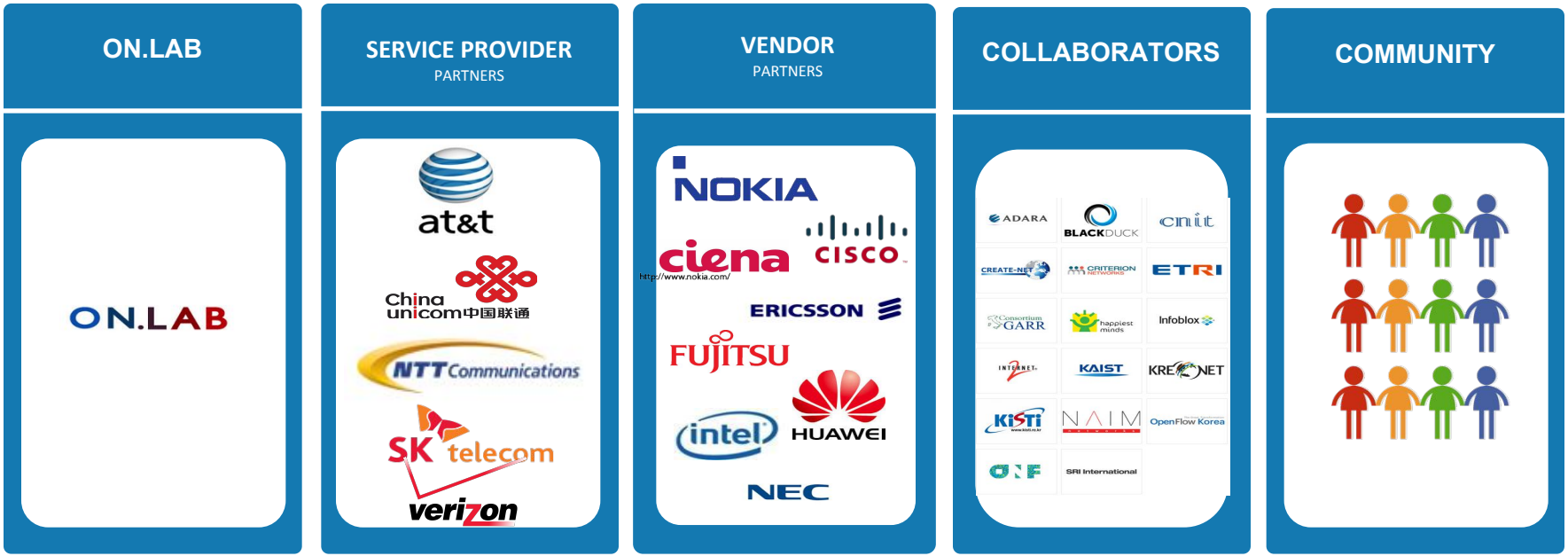


ONOS is building a better network

- We are pursuing our vision of what networking could be for the public good
- We want to fix closed, proprietary, complex, expensive and inflexible networks
- We want networks that are enabling innovation rather than impeding innovation

Join us on our mission!

The ONOS Community



- ON.Lab provides architecture shepherding and core engineering with focus
- Leading service providers make ONOS & SDN/NFV solutions relevant to them
- Leading vendors help make ONOS and SDN/NFV solutions real: ready for deployment
- Collaborating organizations help grow the community and grow the impact

#ONOSProject

The ONOS Community

- Both organizations and individuals are welcome
- Formal membership is available to organizations at both the Partner and Collaborator tiers
- Membership can include participation in our Board, joint marketing activities and ability to learn from experts in SDN & NFV
- **Membership is not required** to take part in the community -- any person or organization is welcome to join and participate

The ONOS Community

ONOS A Year Ago	ONOS Today
Partners: 1 Service Provider and 6 Vendors	Partners: 5 Service Providers and 8 Vendors
Collaborators: A handful of organizations	Collaborators: Over 40+ organizations
Registered Users: A small group	Registered Users: Over 950
Contributions: Mostly from ON.Lab	Contributions: Diversifying quickly (Huawei, Fujitsu, NEC, SK Telecom, ONF, Create-Net, Ericsson…)

Where To Start: Communication

Say hi and ask for help at:

- Mailing lists
- Slack
- Twitter
- Meetings

Find this on the wiki at: http://onosproject.org/login/

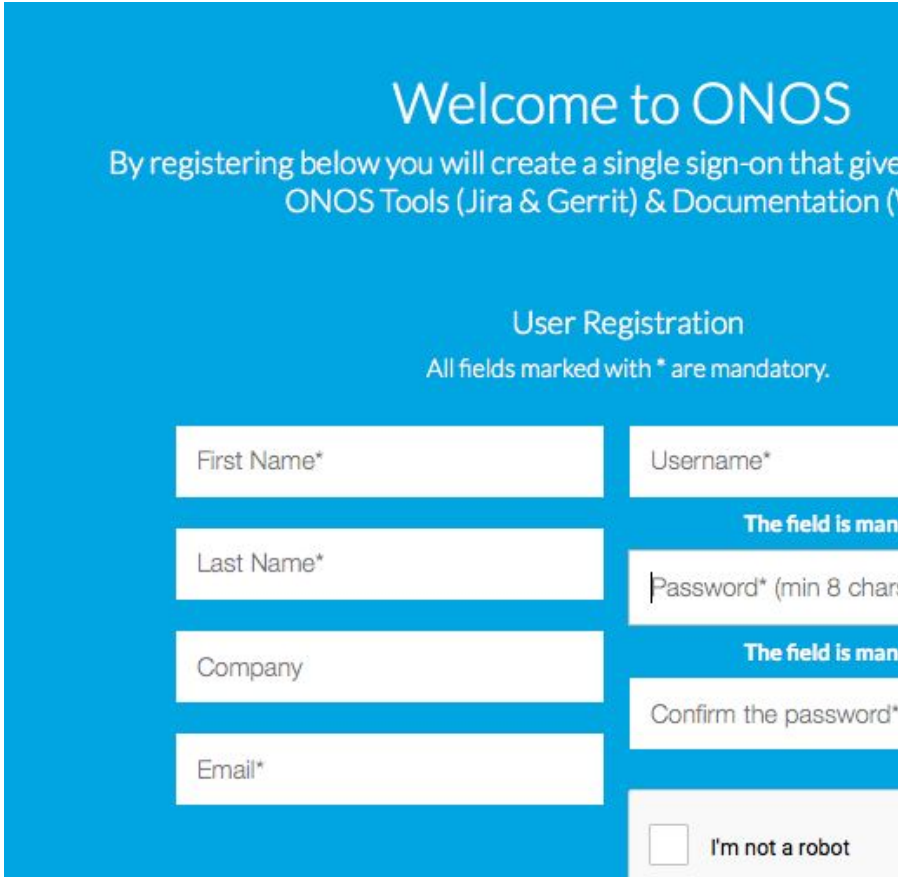
Where To Start: Documentation

Learn the basics at:

- Tutorials
- Screencasts
- Guides
- Javadocs
- FAQs

Where To Start: Tools

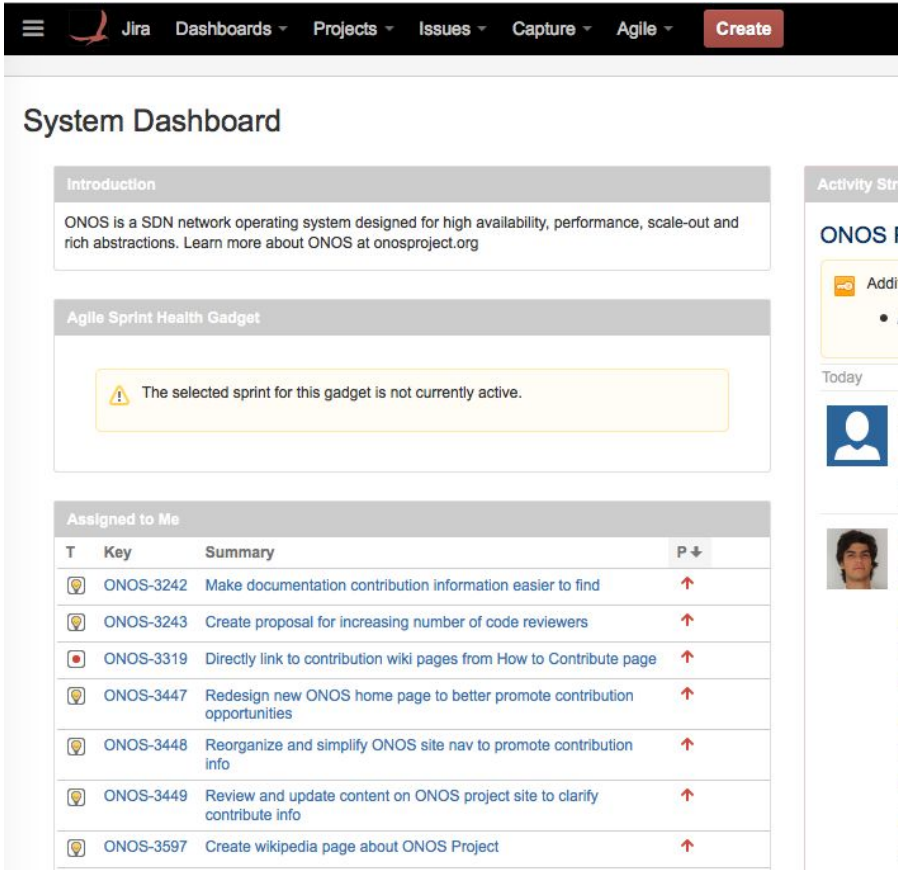
Register for an account at:
http://onosproject.org/register/



Where To Start: Tools

Issue tracking and project management at:

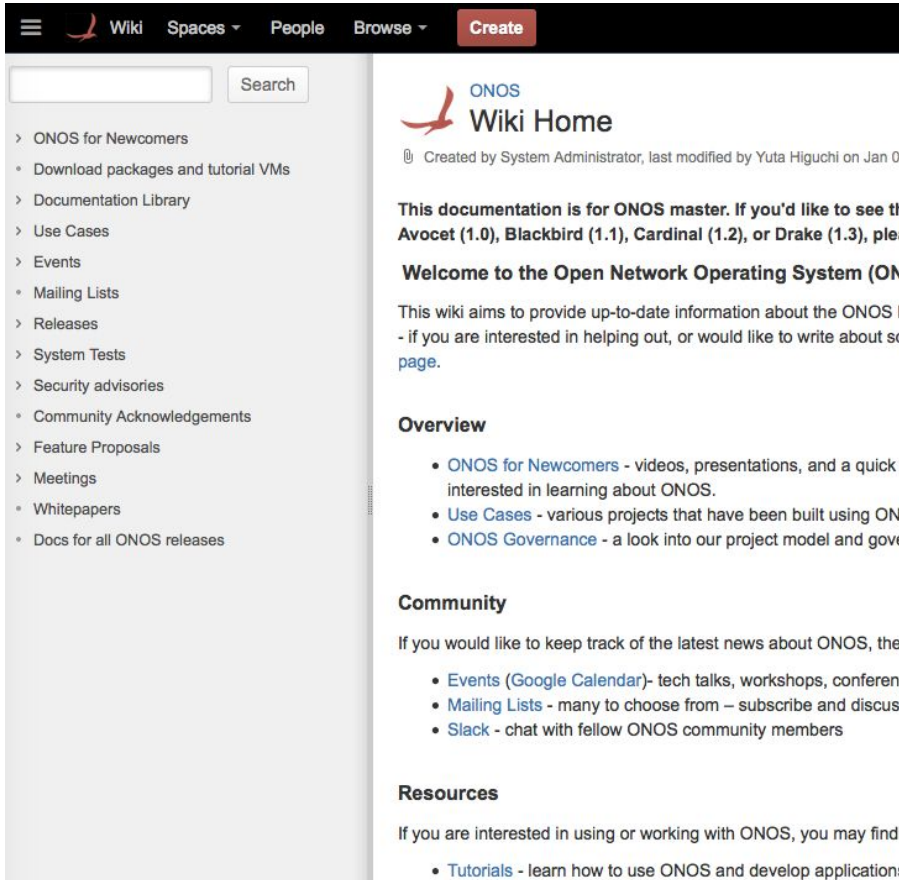
https://jira.onosproject.org/



Where To Start: Tools

Project documentation wiki at:

https://wiki.onosproject.org/



Where To Start: Tools

Code repo and review tool at:

https://gerrit.onosproject.org/

Subject	Status	Owner	Project
More APIs permission for new ONOS APIs	Merge Conflict	Heedo Kang	onos
Refactor: Narrow data provided to method		Sho Shimizu	onos
Refactor: Inline method	Merge Conflict	Sho Shimizu	onos
Support for watching changes to static cluster metadata file		Madan Jampani	onos
Refactor: Rename		Sho Shimizu	onos
Refactor: Narrow data provided to method		Sho Shimizu	onos
Refactor: Extract method		Sho Shimizu	onos
Refactor: Narrow data provided to method		Sho Shimizu	onos
[ONOS-3952] Implement FloatingIP Handler for OpenstackRoutingService	Merge Conflict	kyuhwi choi	onos
Override toString for flow objectives		Charles Chan	onos
Added SegmentRouting tests 0.0	Merge Conflict	Flavio Augusto De Castro Junior	OnosSystemTe
Framework of the new CHOtest		You Wang	OnosSystemTe
SM-ONOS performance improvement		Heedo Kang	onos
removed code duplication in translator, and addressed review comments	Merge Conflict	VinodKumarS-Huawei	onos
Add path intent compiler that generates flow objective intents		Ray Milkey	onos
PCEP modificaton to support PCEP-LS		Mahesh Poojary Huawei	onos
Add MPLS encapsulation behaviour ONOS-3467		Michele Santuari	onos
Removed leftover openstack applications		Hyunsun Moon	onos
Added E-CORD metro path provisioner.		Naoki Shiota	onos-app-samples
Add support for OTU ports in TributarySlotQuery		Rimon Ashkenazy	onos
[ONOS-3946] Implement IcmpHandler for OpenstackRoutingService - Process Icmp ...	Merge Conflict	Daniel Park	onos
Separated OpenstackInterface feature from OpenstackNetworking application.		Sangho Shin	onos
Separate options for disabling upstart/init.d installation		Bob Lantz	onos
YANG construct collision detection framework added		GauravAgrawal-Huawei	onos

Where To Start: Tools

Code review scores

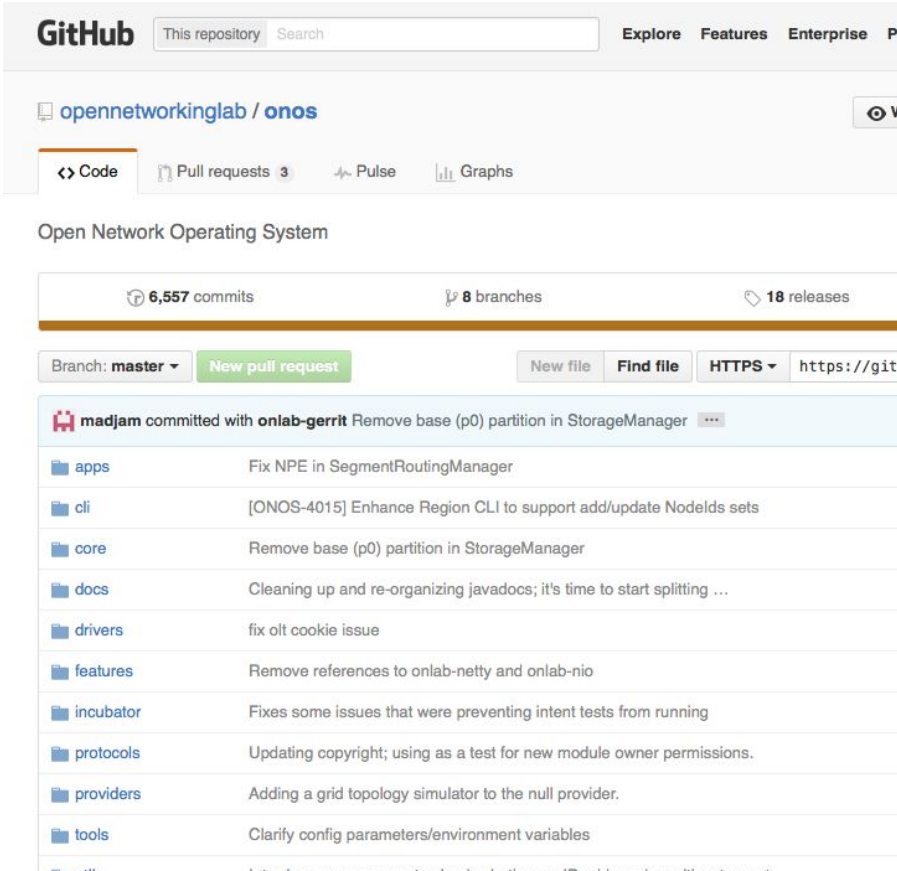
- -2: the patchset will not be merged
- -1: the patchset requires major changes
- 0: not reviewed or some minor changes are required
- +1: looks good to reviewer but require other reviewers' confirmation
- +2: looks good and approved by module owner

Note: two +1s is not equal to +2

Where To Start: Tools

ONOS is on Github at:
https://github.com/opennetworkinglab/onos

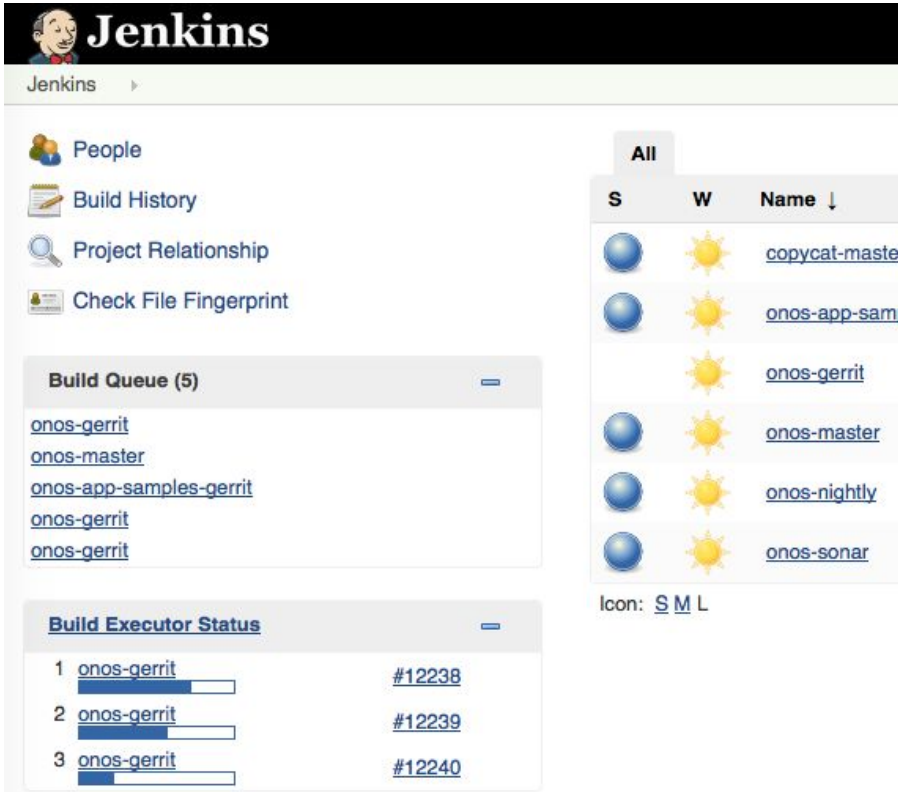
Note: this is a read-only mirror -- don't submit code through Github



Where To Start: Tools

Continuous integration at:

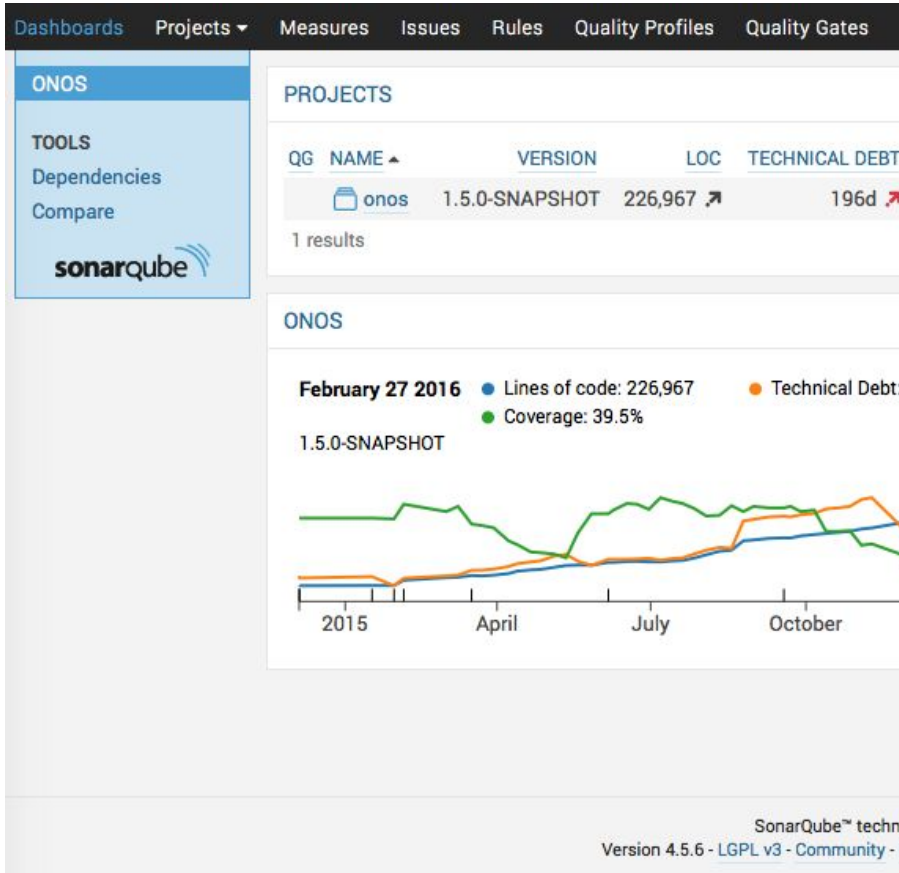
https://jenkins.onosproject.org/



Where To Start: Tools

Code quality tool at:

https://sonar.onosproject.org/

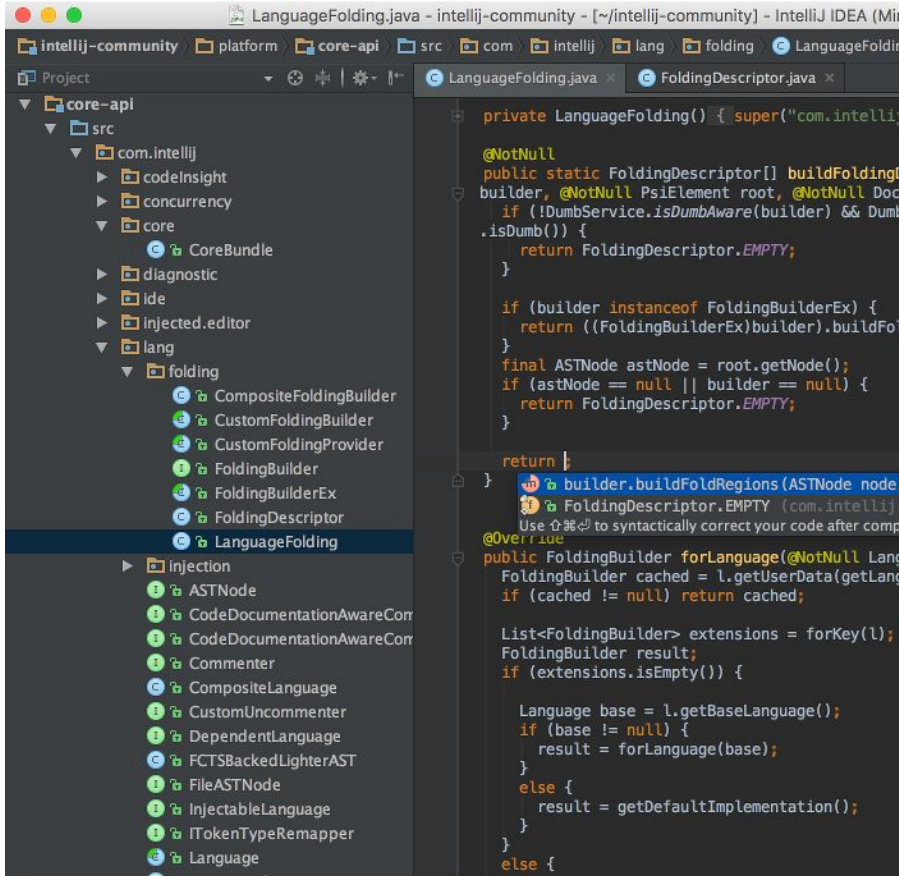


Where To Start: Tools

IntelliJ IDEA Java IDE at:

https://www.jetbrains.com/idea/

Note: There is a free Community Edition available



Contribution Opportunities

- Coding
- Documentation
- Spreading the word
- Design
- And more

Find this on the wiki at: A Beginner's Guide to Contribution

Contribution Opportunities

Keep your eye on our Twitter account after ONS:

https://twitter.com/ONLab_ONOS

Prizes, recognition and bragging rights available!

Coding Contributions

- Scratching your own itch
- Helping the core team with the roadmap
- Building apps on top of ONOS

Find this on the wiki at: Contributing to the ONOS Codebase

Scratching Your Own Itch

- For small fixes, submit a patch for review
- For larger fixes or for new features, please submit a proposal to the Tech Steering list before submitting code
- Proposals help us support you by giving feedback early and will help us determine how your change fits in with future releases

Steps For Submitting Code

1. Create and switch to a new branch
2. Make changes to the code
3. Test the changes
4. Commit the changes
5. Pull upstream changes
6. Sync the branch with updated master
7. Submit code for review

Find this on the wiki at: Sample Gerrit Workflow

Also note our Code Style and Unit Test Guidelines

Example of a Feature Proposal

There is no set structure to follow, but the IPv6 Feature Proposal provides a nice template you can follow.

- Project Contributors
- Overview
- Design
- Completed Tasks
- Remaining Tasks

Helping Core Team With Roadmap

- Get familiar with our processes by working on a starter bug
- Next take a bounty bug -- we'll be happy to thank you with some ONOS swag for fixes to bounties
- Start attending sprint planning and sprint demo meetings
- Help wanted with virtualization, build infrastructure, GUI refresh and more

Building Apps On Top Of ONOS

- Stay right here for a demo of how to get started building apps for ONOS
- 4:00 - 4:40 PM: Developing Apps with ONOS -- Live Demos of SDK
- Find this on the wiki at: Creating and deploying an ONOS application

Documentation Contributions

- Join us on #onos-docs on Slack or on the Docs Community call every other Wednesday
- Take a documentation bounty bug -- we'll be happy to thank you with some ONOS swag for fixes to bounties
- The documentation contribution area is new and we welcome your help in shaping it -- if you love docs and want to help us build a doc community, join us

Spreading The Word Contributions

- Share about ONOS and use the **#ONOSProject** hashtag on your social networks
- Share more than technical information — social activity, like having a lunch with other ONOS community members, is great content to post too
- Subscribe to our Twitter account and retweet posts that you think are interesting
- Like us on our new ON.Lab Facebook page

Spreading The Word Contributions

- We’re starting an ONOS Ambassadors program and want people from around the world to take part
- We’re looking for people who want to give presentations and talk to people about ONOS in the areas where you live
- If this sounds like something you’re interested in, please reach out to david@onlab.us

Design Contributions

- We’re looking for people who are interested in design, UX and UI who want to get involved with the ONOS community
- Many open source communities have vibrant design communities, such as the Fedora Design Team
- The design contribution area is a new effort and we welcome your help in shaping it -- if you want to help, please reach out to david@onlab.us

Other Contributions

- **Testing:** Submit any ONOS bugs you find and learn about our System Test setup
- **Code review:** We encourage people to help with code review and we grant Module Owner status to people who do exceptional reviews
- **Community:** Help us create and execute a strategy to strengthen the ONOS community by joining the Community Steering Team
- **Bring your idea to us:** As an open source project, we welcome your ideas. If you have a contribution idea not listed here, share your idea on the onos-discuss list.

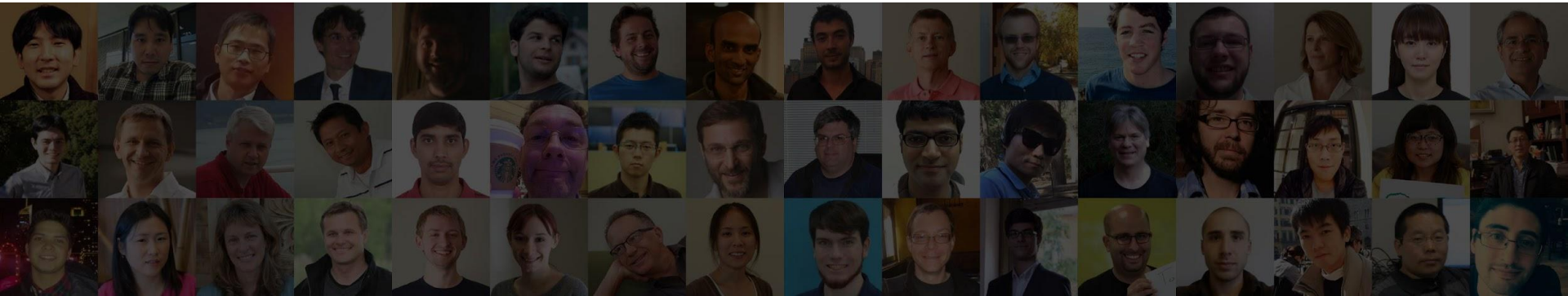
One More Thing…

- A CORD Community will be launching soon in May
- There will be many contribution opportunities there to get involved with
- Learn more at http://www.opencord.org/

Speak with Community Members

Stop by our booths in the SDN Solutions Showcase to ask questions, share ideas and get involved

- ONOS booth SU4
- Global Deployment Powered by ONOS (25B)
- R-CORD (25J), E-CORD (25N), M-CORD (25O)



Any Questions?