How OpenStack became boring (and successful)

CentOS DOJO 2021

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Agenda

● OpenStack's journey to stabilization
● Evolution of OpenStack deployments
● How RDO helped
● How the Cloud SIG helped
● But it's not all done yet!
OpenStack's journey to stabilization
OpenStack and the hype cycle

Source: Gartner
OpenStack in use

- **Telco**
  - China Mobile
  - SK Telecom
- **Manufacturing**
  - Volvo
  - BMW
- **SaaS**
  - Workday
- **Research**
  - CERN
- **Cloud providers**
  - Vexxhost
  - OVH
- **Finance**
  - Unionpay
  - BBVA
- **Videogames**
  - Blizzard
  - Ubisoft
OpenStack’s market

- 451 Research projects a $7.7 billion USD OpenStack market by 2023, from around $5 billion in 2020.
- More than 10 million cores in production in 2020.
- NFV use case is very strong
- Massive usage growth in some regions like Asia

Source: https://www.openstack.org/blog/thank-you-to-the-last-decade-hello-to-the-next/
Evolution of OpenStack deployments
Cloud size

2015

2019

Source: https://www.openstack.org/analytics
Deployment status

In what stage is your OpenStack deployment?

2015

- Production: 58%
- Under development/in testing: 29%
- Proof of Concept: 13%

n=380

2019

- Production or Full Operational Use: 76%
- Under development/in testing: 17%
- Proof of Concept: 6%

n=433

Source: https://www.openstack.org/analytics
Workloads

Which workloads are you currently using?

Source: https://www.openstack.org/analytics
Net promoters

How likely are you to recommend OpenStack?

2015

Promoter: 47%
Neutral: 31%
Detractor: 22%
NPS: 25
n=967

How likely are you to recommend OpenStack to a friend or colleague?

2019

Promoter: 45%
Neutral: 36%
Detractor: 17%
NPS: 29
n=689

Source: https://www.openstack.org/analytics
Operating system (I)

What is the main operating system running this OpenStack cloud deployment?

2015

Source: https://www.openstack.org/analytics
Operating system (II)

What is the main operating system running this OpenStack cloud deployment?

- CentOS: 40%
- Debian: 4%
- Fedora Server: 1%
- Microsoft Windows Server: 1%
- Red Hat Enterprise Linux: 2%
- SUSE Linux Enterprise Server: 15%
- Scientific Linux: 1%
- Ubuntu Server: 0%
- openSUSE Server: 35%
- Other: 2%

n=400

Source: https://www.openstack.org/analytics

2019
How RDO helped
Open OpenStack packaging for CentOS
RDO Community numbers

Some numbers for 2020:

- Two new major releases: Ussuri and Victoria
- 320 OpenStack repos included
- 2431 CloudSIG builds
- \( \sim 1500 \) commits in master branches
- \( > 50000 \) lines of code changes
- \( > 60 \) authors
One size doesn’t fit all

CloudSIG repos:
- Stability
- Controlled
- Operators

RDO Trunk repos:
- Velocity
- Updated
- Developers
Continuous delivery in OpenStack distro

Provide RDO Trunk repos with packages for last commits as soon as possible:

- Deployment tool developers need updated packages to test/deploy.
- Users willing to follow updated branches instead of releases.
- To be used as hotfixes for existing bugs in releases.

RDO follows a Continuous Delivery approach for our RDO Trunk repositories.

- Thousands of packages processed each month
- DLRN tool and infra to maintain these repos
Automate as much as possible

RDO can be considered a distro by itself:
- 350 OpenStack packages
- 400+ non-OpenStack dependencies

Automate the more usual processes:
- Builds for new OpenStack releases
- Updates of dependencies
- Validation of new builds
- Promotion of new packages to CentOS mirrors
How the Cloud SIG helped
Ease consumption

Make users experience as smooth as possible:

- Providing CloudSIG OpenStack repos in CentOS official mirrors
- Release RPMs to configure repos in an easy and consistent way
  ```bash
dnf install -y centos-release-openstack-victoria
  
packstack --allinone
```
- Integrated with other SIGs repos
- Providing simplistic deployment tool to PoC cases (packstack)
  ```bash
packstack --allinone
```
- Cooperation with other production-ready deployment tools as TripleO, Kolla, etc.
Security and quality

• Controlled supply-chain:
  ○ Controlled infra to build, sign and push packages
  ○ Koji dedicated instance provides controlled build environments
  ○ Visibility on what and how packages are created, signed and shipped
  ○ CentOS mirrors provide a highly available and distributed network

• Continuous validation of packages
  ○ CentOS updates
  ○ Other SIGs updates
Collaboration among projects

CentOS SIGs as framework for collaboration between projects

- Collaboration among SIGs in shared packages:
  - Virt SIG: virtualization related packages
  - NFV SIG: OpenvSwitch, OVN
  - OpsTools SIG: operational tools
  - Messaging SIG: Rabbitmq
- Common tooling for packages from different SIGs
But it's not all done yet!
Future direction

- CentOS Stream adoption
  - RDO Wallaby released for CentOS Stream 8
  - Earlier releases will be tested on CentOS Stream 8, too

- CentOS Stream 9 approaching fast
  - Will start testing when available

- Revamp Cloud SIG meetings
  - You are welcome to join!!
Contributing to CloudSIG

Join Us

- irc: #centos-devel or #rdo on freenode
- ML: https://lists.rdoproject.org/mailman/listinfo
- Periodic meetings:
  https://etherpad.openstack.org/p/centos-cloud-sig
  https://etherpad.openstack.org/p/RDO-Meeting

CloudSIG != OpenStack