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OpenStack Ussuri

Community Meeting





TC

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Accepted Code Changes in Ussuri

1,003 developers from 188 organizations during Ussuri cycle

Only 3 projects achieve this level of activity: OpenStack, Linux kernel and Chromium.





Community Goals

- Project Specific Contributor + PTL Docs
- Drop Py2.7 Support



The OpenStack Ussuri release is now available at openstack.org/ussuri



Project Teams Gathering (PTG)

• Working event bringing together operators, developers, and active contributors to discuss and work on the next software releases for Openstack and other OSF projects

• Virtual event, June 1-5

- One week prior to original in-person Vancouver dates
- Allows additional development time in the Victoria cycle
- The schedule is now live at <u>openstack.org/ptg</u>
- Individuals wanting to participate can register at <u>openstack.org/ptg</u>
- If your team missed the deadline to register, reach out to ptg@openstack.org
- Thank you to OSF's Platinum and Gold sponsors for helping make PTG happen!





OpenDev Event

- Virtual event series
 - Discussion oriented, collaborative sessions exploring challenges, sharing common architectures, and collaborating around potential solutions
 - Three events, each event held over multiple days (three hours a day)
- Event Schedule
 - Large scale ops
 - June 29-July 1.
 - Hardware Automation
 - July 20-22
 - Containers in Production
 - August 10-12
- Register at openstack.org/events/opendev-2020









Ussuri Project Highlights





CINDER

Brian Rosmaita

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Cinder Ussuri stats

The Cinder project provides:

- the OpenStack Block Storage service (REST API, scheduler, volume service)
- client libraries, os-brick, and cinderlib

Commits

- Stein: 152 contributors (51 companies) 28% RH
- Train: 147 contributors (43 companies) 25% RH
- Ussuri: 30 contributors (13 companies) 66% RH

Content

- Backend drivers: 68 (plus 7 more in "unsupported" status)
- Security: OSSN-0085
- New Features: nothing major, various drivers added capabilities
- All important changes are documented in the Cinder Release Notes
- Stability: added more voting gate jobs and more testing



CIND an OpenStack Comm



Project future

Underway For Victoria Milestone 1

- volume-local-cache (os-brick, cinder, and nova)
- Encrypted volumes for NFS
- New driver (Hitachi), new capabilities for some existing drivers
- gpg encryption support in os-brick

Virtual PTG (June 1-5)

- Not too late to influence/participate in the discussion:
- <u>https://etherpad.openstack.org/p/cinder-victoria-ptg-planning</u>
- iSCSI driver for Ceph
- Keeping 'unsupported' drivers in-tree
- Continued emphasis on stability and improved automated testing





NEUTRON

Slawek Kaplonski

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Neutron Ussuri stats

581 Patches

4 Completed Blueprints

242 Bugs Fixed

58 Individual Contributors





Neutron feature highlights

Merge Networking-ovn Into Neutron

- OVN driver is now one of the in-tree drivers all other drivers (especially OVS and Linuxbridge) are still there,
- Merge core teams of networking-ovn and Neutron,
- Now we can focus on filling gaps in feature parity between ML2/OVN and ML2/OVS drivers.

Stateless Security Groups

- No conntrack for stateless rules,
- All rules from **stateless** security group are **stateless**,
- Supported by *iptables* and *iptables_hybrid* firewall drivers,
- No possibility to mix **stateless** and **stateful** groups for one Neutron port.





Neutron feature highlights

Role Based Access Control (Rbac) For Adress Scopes And Subnetpools

• Address scopes and subnetpools can now be shared with other projects through RBAC mechanism, in same way as it was possible for *networks* or *QoS Policies*.

Tagging Resources During Post Request

- Improved performance of operations like e.g. *create port* in the environments with *Kubernetes,*
- Very useful for **OpenStack Kuryr** the numer of API calls from **Kuryr** to **Neutron** are greatly reduced.





Neutron feature highlights

Igmp Snooping For Ovn And Ovs Drivers

- **IGMP Snooping** can be enabled in the config of the Neutron Openvswitch agent and Neutron OVN
- Useful for the *Multicast traffic*.

List Of Ipv6 Addresses For One Port In Dnsmasq

- Requires dnsmasq 2.81 or higher,
- Needs to be enabled in the Neutron DHCP agent's config file,
- Useful e.g. for **the Ironic** as it allows to reserve multiple addresses for a host which is using different **DUID/IAID** combinations during boot process.



NOVA

Balazs Gibizer

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Nova Ussuri stats

86 Individual Contributors For The Ussuri Release Merged Around 900 Commits Implemented 19 Blueprints





Nova feature highlights

- Cross cell migration and resize
- Pre-caching Glance images on compute host
- Accelerator (FPGAs, GPUs) support via Cyborg
- Supporting live-migration, evacuation and unshelve for servers with minimum bandwidth guarantees
- Support finding and cleaning up orphaned resource allocations
- Support for new API policies roles with scope type capabilities
- Support rescuing servers booted from volumes



KOLLA

Mark Goddard

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Kolla Ussuri stats

663 Patches

25 Completed Features

146 Bugs Fixed

79 Individual Contributors





Kolla feature highlights

- All images, scripts and Ansible playbooks now use Python 3, and support for Python 2 has been dropped
- Added support for CentOS 8 hosts and images
- Added initial support for TLS encryption of backend API services, providing end-to-end encryption of API traffic. Currently Cinder, Glance, Heat, Horizon, Keystone, and Placement are supported
- Added support for deployment of Open Virtual Network (OVN) and integration of it with Neutron
- Streamlined configuration of external Ceph integration, making it easy to go from Ceph-Ansible-deployed Ceph cluster to enabling it in OpenStack





Kolla feature highlights

- Added support for deployment of Zun CNI (Container Networking Interface) components allowing Docker with containerd to support Zun capsules (pods)
- Added support for Elasticsearch Curator to help manage clustered log data
- Added components necessary to use Mellanox networking devices with Neutron





Kayobe

- Added as a Kolla deliverable during the Train cycle
- Kayobe stands on the shoulders of giants:
 - Bifrost discovers and provisions the cloud
 - Kolla builds container images for OpenStack services
 - Kolla Ansible delivers painless deployment and upgrade of containerised OpenStack services
- Try it out: https://github.com/stackhpc/a-universe-from-nothing/



Kolla Klub

- A biweekly meeting bridging the gap between operators and contributors
- Objectives:
 - $\circ\,$ Grow and strengthen the Kolla community
 - \circ Improve communication between operators and upstream
 - Reduce upstream barriers for operators
 - Increase knowledge sharing
- Get involved: <u>https://etherpad.openstack.org/p/kolla-sig</u>





OCTAVIA

Michael Johnson IRC: johnsom







Octavia Ussuri stats

188 patches

13 Completed Features

45 Bugs Fixed

37 Individual Contributors

Mentored four college students







Octavia Ussuri Highlights

- Load Balancer Availability Zones
 - Operators can now define load balancer availability zones that users can select from when creating a new load balancer.

- For the Amphora driver, load balancer availability zones define the compute availability zone, management network, and valid VIP networks to use during load balancer provisioning.
- This enables load balancer deployment to edge sites, such as cellular sites or retail locations.
- Octavia OpenStack Client --wait
 - Commands that can cause load balancers to enter an immutable status (Create, Update, and Delete operations) now have a --wait argument. If set, the client will continue to poll until the status is no longer immutable.
 - The --wait option makes management automation easier.







Octavia Ussuri Highlights

- Customizable TLS Ciphers
 - $\circ\,$ A student led effort in partnership with North Dakota State University.
 - $\circ\,$ Users can now specify the list of TLS ciphers acceptable for listener and pool connections.
 - With TLS cipher lists, users can ensure security policy compliance.

\$ openstack loadbalancer listener create --protocol-port 443 --protocol TERMINATED_HT
TPS --name HTTPS-messaging-listener --default-tls-container=http://10.21.21.77/key-ma
nager/v1/secrets/8e333a3f-a2a2-4844-a472-b8da5f7248f9 --tls-ciphers TLS_AES_256_GCM_S
HA384:TLS_AES_128_GCM_SHA256 tower-12345-loadbalancer-3

- Technology Preview Control Plane Resiliency
 - Should a control plane host go down **during** a load balancer provisioning operation, an alternate controller can resume the in-process provisioning and complete the request.
 - $\circ\,$ This is in addition to the existing multi-instance Octavia control plane support.



MANILA

Goutham Pacha Ravi

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Manila Ussuri stats

149 commits

5 new features

48 bugs resolved

77 contributors





Manila Ussuri Highlights

- Manila API version bumped from v2.51 in the Train release to v2.55 in the Ussuri release
- Quota control for share replicas by number and capacity from API version 2.53
- The CRUD APIs for share group types, share group type specifications, share group snapshots have graduated from their "experimental" status in API version 2.55.
- Capabilities filter enhancements case insensitive comparisons and matches are now allowed, provisioned capacity estimations are smarter
- Ability to clone snapshots across storage pools and availability zones.





Manila Ussuri Highlights

- Changes in "shrink" and "extend" APIs to use Asynchronous User Messages to alert users rather than statuses. User messages API improved to allow queries by time intervals.
- Storage driver enhancements: ZFSOnLinux, NetApp, Dell/EMC
- OSC support: Can create/update/delete shares, access rules and share types. More subcommands planned through the Victoria Cycle.
- Manila UI now supports manila API v2.39, bringing in support for IPv6 ACLs and Share Group capabilities



Questions?

