

31 - 03 - 2018



OpenStack Queens Release Highlights & Demo

VietOpenStack 18th Meetup

Slide: <https://goo.gl/LXVEBG>

To Thanh Cong@HOCCHUDONG
VietOpenStack Organizer

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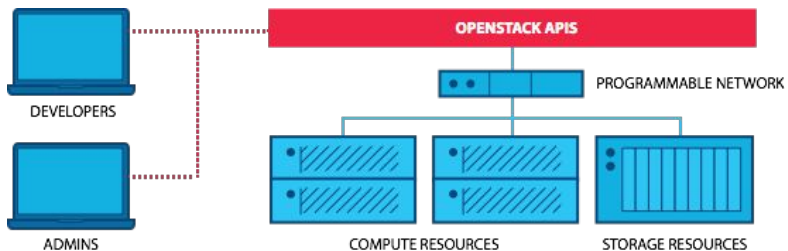
1. Intro OpenStack & History Timeline

4. Summary

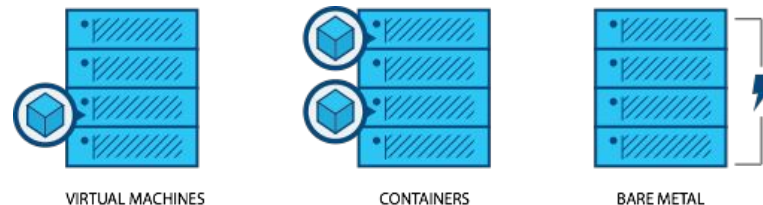
2. OpenStack Queens Release Highlights

5. Thank you & Networking

3. Demo - OpenStack Dashboard
























































Programmable infrastructure that lays a common set of APIs on top of compute, networking and storage



One platform for virtual machines, containers and bare metal

Series	Status	Initial Release Date	Next Phase	EOL Date
Rocky	Under Development	scheduled		TBD
Queens	Phase I – Latest release	2018-02-28	Phase II – Maintained release on 2018-08-27	2019-02-25
Pike	Phase II – Maintained release	2017-08-30	Phase III – Legacy release on 2018-08-27	2018-09-03
Ocata	Phase III – Legacy release	2017-02-22		2018-08-27
Newton	EOL	2016-10-06		2017-10-25
Mitaka	EOL	2016-04-07		2017-04-10
Liberty	EOL	2015-10-15		2016-11-17
Kilo	EOL	2015-04-30		2016-05-02
Juno	EOL	2014-10-16		2015-12-07
Icehouse	EOL	2014-04-17		2015-07-02
Havana	EOL	2013-10-17		2014-09-30
Grizzly	EOL	2013-04-04		2014-03-29
Folsom	EOL	2012-09-27		2013-11-19
Essex	EOL	2012-04-05		2013-05-06
Diablo	EOL	2011-09-22		2013-05-06
Cactus	Deprecated	2011-04-15		
Bexar	Deprecated	2011-02-03		
Austin	Deprecated	2010-10-21		

	BARBICAN		NOVA		HORIZON		SEARCHLIGHT
	CHEF OPENSTACK		OPENSTACK CHARMS		I18N		SECURITY
	CINDER		OPENSTACK-ANSIBLE		INFRASTRUCTURE		SENLIN
	CLOUDKITTY		OSLO		INTEROP		STABLE BRANCH MAINTENANCE
	COMMUNITY APP CATALOG		PACKAGING-DEB		KARBOR		SWIFT (DRAFT)
	CONGRESS		PACKAGING-RPM		KEYSTONE		TACKER
	DESIGNATE		PUPPET OPENSTACK		KOLLA		TELEMETRY
	DOCUMENTATION		QUALITY ASSURANCE		KURYP		TROVE
	DRAGONFLOW		RALLY		MAGNUM		UX
	EC2-API		REFSTACK		MANILA		VITRAGE
	FREEZER		RELEASE MANAGEMENT		MISTRAL		WATCHER
	GLANCE		REQUIREMENTS		MONASCA		WINSTACKERS
	HEAT		SAHARA		MURANO		ZAQAR
					NEUTRON		

1. Fast Forward Upgrades
2. Register and document policy in code
3. OpenStack-Helm
4. Ironi Rescue Mode
5. HOT Drag and Drop Interface
6. Support for vGPUs
7. Cinder Multi-Attach
8. OpenStack Masakari
9. S3 API in Swift Repo
10. OpenStack LOCI
- 11. OpenStack Cyborg**

Source:

- (1) <https://www.openstack.org/assets/software/queens/OpenStack-Queens-Roadmap-PDF.pdf>
- (2) <https://releases.openstack.org/queens/highlights.html>

Queens is the 17th release from the OpenStack project, which is the work of more than 1600 contributors from around the world.

Usecase

- HPC/AI/Machine Learning
- High Availability
- Enterprise Workloads
- Edge Computing
- Containers
- Operator Enhancements

User Experience

- Scalability
- Manageability
- Resiliency



**OPENSTACK
QUEENS**

Source:

(1) <http://stackalytics.com/>

(2) <https://www.openstack.org/assets/software/queens/OpenStack-Queens-Roadmap-PDF.pdf>



DOCUMENTATION

an OpenStack Community Project

Notes:

- <https://docs.openstack.org/queens/>

Source:

- (1) <https://www.openstack.org/project-mascots/>
- (2) <https://releases.openstack.org/queens/highlights.html>



Notes:

- Keystone now offers a better story for applications interacting with OpenStack APIs with the use of application credentials.
- A new assignment type has been added to allow for more secure RBAC called system scope.
- Keystone introduced an experimental unified limits API to help improve quota enforcement, see the documentation for more information.
- **Not update docs: port 35357**

Source:

(1) <https://www.openstack.org/project-mascots/>

(2) <https://releases.openstack.org/queens/highlights.html>



NEUTRON
an OpenStack Community Project

Notes:

- ML2 implements Quality of Service rate limits for floating IPs
- **ML2 implements a logging API for security groups (Only OVS support).**
- API supports filtering port with IP address substring.
- FWaaS V2.0 now supports L2 VM ports and L3 router ports.
- FWaaS V2.0 co-exists with Neutron security groups.
-more....

Source:

(1) <https://www.openstack.org/project-mascots/>

(2) <https://releases.openstack.org/queens/highlights.html>



Notes:

- Added support for vGPUs.
- The libvirt compute driver supports volume multi-attach when using the 2.60 compute API microversion.
- Rescheduling during a server create or resize operation is now supported in a split-MQ multi-cell cells v2 deployment.

Source:

(1) <https://www.openstack.org/project-mascots/>

(2) <https://releases.openstack.org/queens/highlights.html>



Notes:

- Introduced the Image API v2.6, including interoperable image import
- Added a new import-method, 'web-download'
- Added import plugin scaffolding and a new import plugin that injects image metadata upon import
- Updated the glance-manage and glance-scrubber tools
-

Source:

(1) <https://www.openstack.org/project-mascots/>

(2) <https://releases.openstack.org/queens/highlights.html>



Notes:

- Migrated the Roles and Key Pairs panels to be AngularJS panels
- Use server side filtering across the UI
- Added support for MKS consoles, Neutron Trunks, and loading multiple policy files
- Updated all project related documentation
- Moved Heat dashboard into a separate Horizon plugin and merged Django OpenStack Auth into Horizon

Source:

(1) <https://www.openstack.org/project-mascots/>

(2) <https://releases.openstack.org/queens/highlights.html>



CINDER
an OpenStack Community Project

Source:

(1) <https://www.openstack.org/project-mascots/>

(2) <https://releases.openstack.org/queens/highlights.html>

Notes:

- Support for attaching a single Cinder volume to multiple VM instances. (X)
- Add ability to report backend state in service list.
- Default policies moved to code from policy.json.
- Migration from ConfKeyManagers fixed-key to Barbican.
- Support for creating a volume from a backup.
- Support for standardized over-provisioning calculations



Notes:

- Heat Orchestration Templates Drag and Drop Interface (X)

Source:

(1) <https://www.openstack.org/project-mascots/>

(2) <https://releases.openstack.org/queens/highlights.html>



Notes:

- Added drivers for Infinidat, MapR-FS, and Veritas back ends.
- Added APIs for listing export locations per share and per share instance.
- Added IPv6 support for Dell-EMC and NetApp back ends.

Source:

(1) <https://www.openstack.org/project-mascots/>

(2) <https://releases.openstack.org/queens/highlights.html>



Source:

(1) <https://www.openstack.org/project-mascots/>

(2) <https://releases.openstack.org/queens/highlights.html>

Notes:

- Migration to openstack client.
- Currency for operating system level; full support for Xenial
- Currency for databases; MySQL 5.7, Vertica 9.0, Cassandra 3.11
- Currency of databases; DB2 11.1, Postgres 9.6
- Implement root-enable/root-disable for Redis
- Add support for the IBM Power architecture
- Migration to Zuul v3, policy-in-code, keystone v2 deprecation
-



OCTAVIA
an OpenStack Community Project

Source:

(1) <https://www.openstack.org/project-mascots/>

(2) <https://releases.openstack.org/queens/highlights.html>

Notes:

- The neutron-lbaas and neutron-lbaas-dashboard projects are now deprecated.
- Added the ability to batch update pool members.
- A Neutron Quality of Service (QoS) policy can now be applied to Octavia load balancers.
- Octavia now supports using Castellan and PKCS12 bundles for TLS termination.
- The Octavia OpenStack client plugin now supports quotas, load balancer QoS policies, load balancer failover, listener statistics, and filtering by load balancer ID.
- ...more...



KOLLA
an OpenStack Community Project

Source:

- (1) <https://www.openstack.org/project-mascots/>
- (2) <https://releases.openstack.org/queens/highlights.html>

Notes:

- Implemented support for using ansible-vault passwords in kolla-ansible command to decrypt /etc/kolla/passwords.yml.
- Allow use of separate backends for oslo.messaging rpc and notification.
- Implement cephfs service
- Add vitrage ansible role
- Implement minimal downtime for keystone and cinder service
- Add use_preconfigured_databases flag in order to add support for previously created databases / users
- **Upgrade to ceph luminous**
- Add almanach, certmonger, ceph-nfs, ptp, rsyslog, sensu and tripleo ui image
- Support to squash newly built layers into a single new layer



Source:

(1) <https://www.openstack.org/project-mascots/>

(2) <https://releases.openstack.org/queens/highlights.html>

Notes:

- Update kubernetes dashboard to v1.8.3 which is compatible via kubectl proxy.
- Support passing an availability zone where all cluster nodes should be deployed, via the new availability_zone label
- k8s_fedora_atomic clusters are deployed with RBAC support. Along with RBAC Node authorization is added so the appropriate certificates are generated.
- Update k8s_fedora_atomic driver to the latest Fedora Atomic 27 release and run etcd and flanneld in system containers which are removed from the base OS

New projects in the Queens cycle focus on HA and containers

OpenStack-Helm

Full lifecycle management for OpenStack services atop K8s

OpenStack Masakari

Automated rescue for HA support

OpenStack LOCI

OCI (Open Container Initiative) images of OpenStack services for containerization

OpenStack Cyborg

Managing software and hardware acceleration resources

Source:

(1) <https://releases.openstack.org/queens/highlights.html>

(2) <https://youtu.be/Lt8EhrDg4IU>



At the suggestion of the community, the OpenStack Technical Committee has dedicated the Queens release to the memory of Shawn Pearce, who passed away in January.

Shawn was the founder of [Gerrit](#) which has been at the center of OpenStack's development process since the Diablo release.

- August 28, 2018
 - Fast Forward Upgrades
 - Minimum bandwidth and bandwidth-based scheduling
 - Enable mutable configuration (reconfig without service restart)
-
- May 21-24, 2018
 - Vancouver Summit
 - Early bird tickets end in early April: openstack.org/summit/vancouver-2018



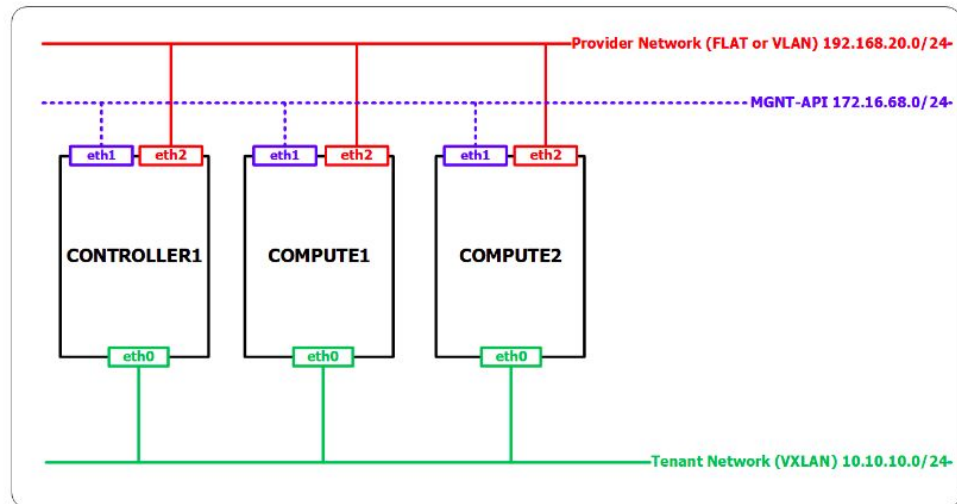
1.3. Mô hình

OpenStack Queen - Packstack

<https://goo.gl/6GZc9S>

OPENSTACK LAYOUT NETWORKING

(VietStack – Hocchudong)

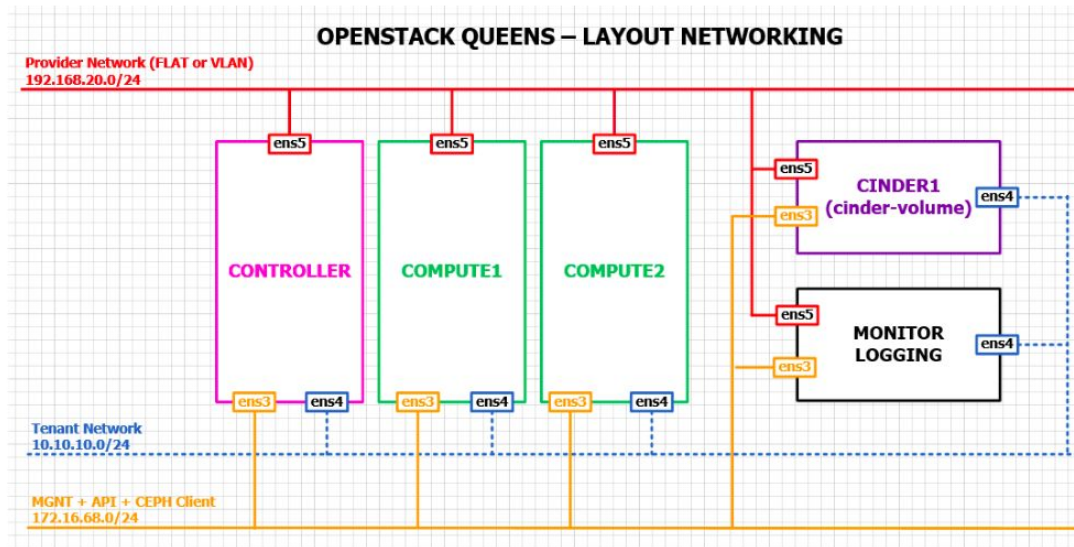


1.4. IP Planning

[illegible]

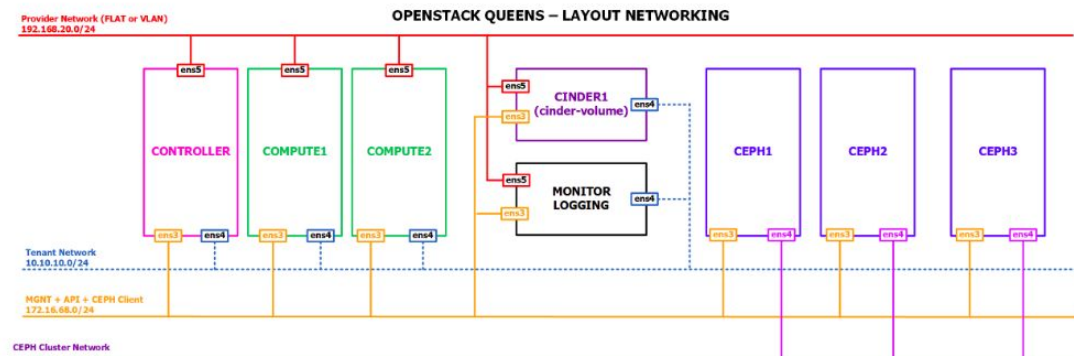
OpenStack Queens - Scripts

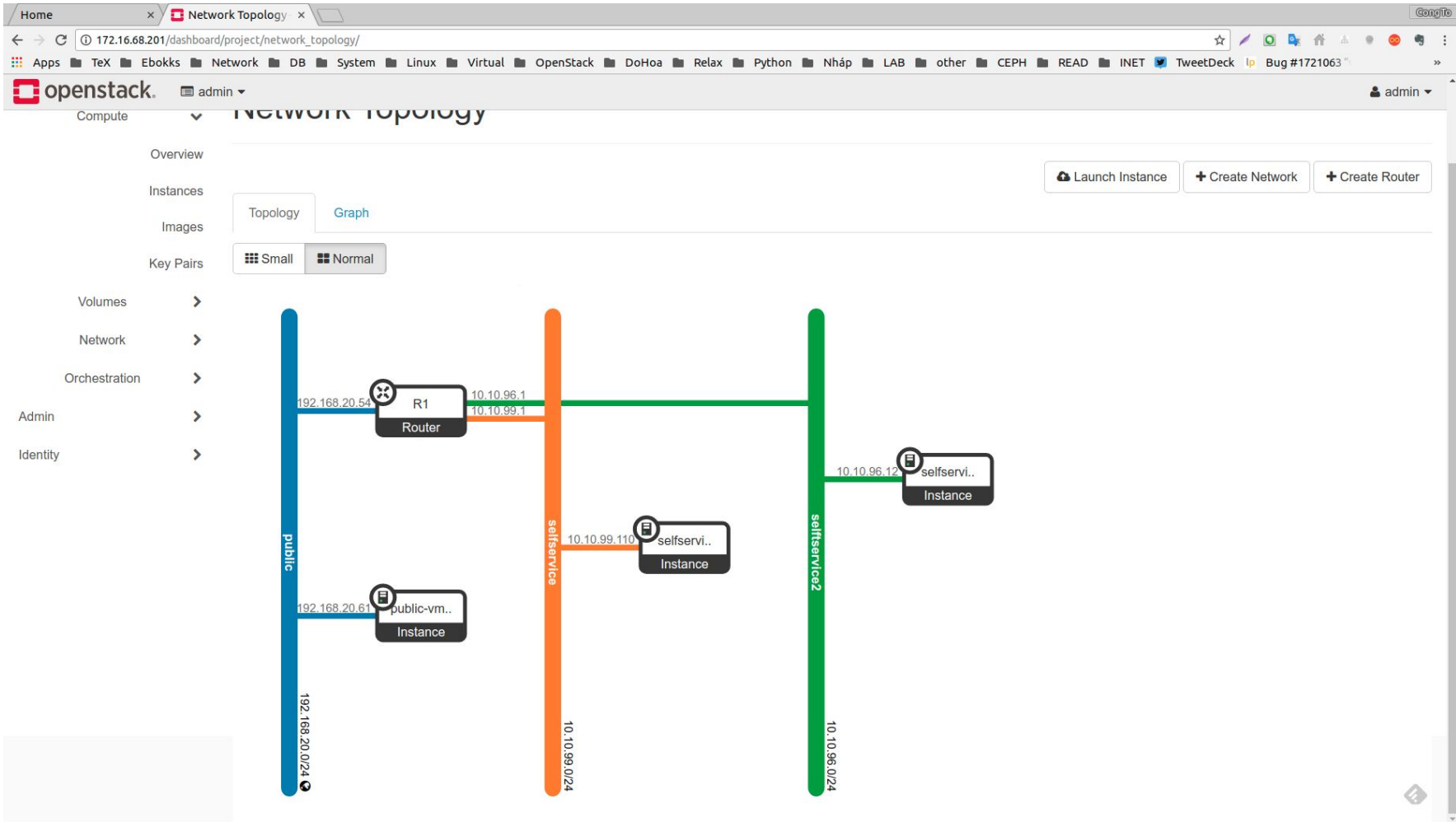
<https://goo.gl/eq2VDr>



Mô hình đầy đủ

=





Tài liệu OpenStack HEAT

<https://goo.gl/3VsmW2>

GHI CHÉP VỀ HEAT PROJECT

Lý thuyết

- Giới thiệu Heat
- Cài đặt Heat Ubuntu
- Kiến trúc và workflow của Heat
- Heat engine
- Template của HEAT
- Template cơ bản
- OpenStack Resource Types
- Heat command line

Thực hành

- Template 1 số ứng dụng

Tài liệu tham khảo

- Tài liệu tham khảo

THANK YOU