



Octavia

Project Onboarding, OpenStack Summit Berlin

Carlos Goncalves IRC: cgoncalves  redhat.

German Eichberger IRC: xgerman  *rackspace*.

Michael Johnson IRC: johnsom  *rackspace*.

What is Octavia?

Load Balancing as a Service for OpenStack.

- Octavia provides scalable, on demand, and self-service access to load balancer services, in a technology agnostic manner, for OpenStack.
- The reference load balancing driver provides a highly available load balancer that scales with your compute environment.
- Founded during the Juno release of OpenStack.
- 78 contributors from 29 companies for latest release
- Moved from a Neutron sub-project to a top level OpenStack project during the Ocata series.
- #1 Neutron feature “actively using, interested in using, or looking forward to using” for the past two April OpenStack user surveys.



April 2017 OpenStack User Survey

Which features in Neutron are you actively using, interested in using, or looking forward to using?

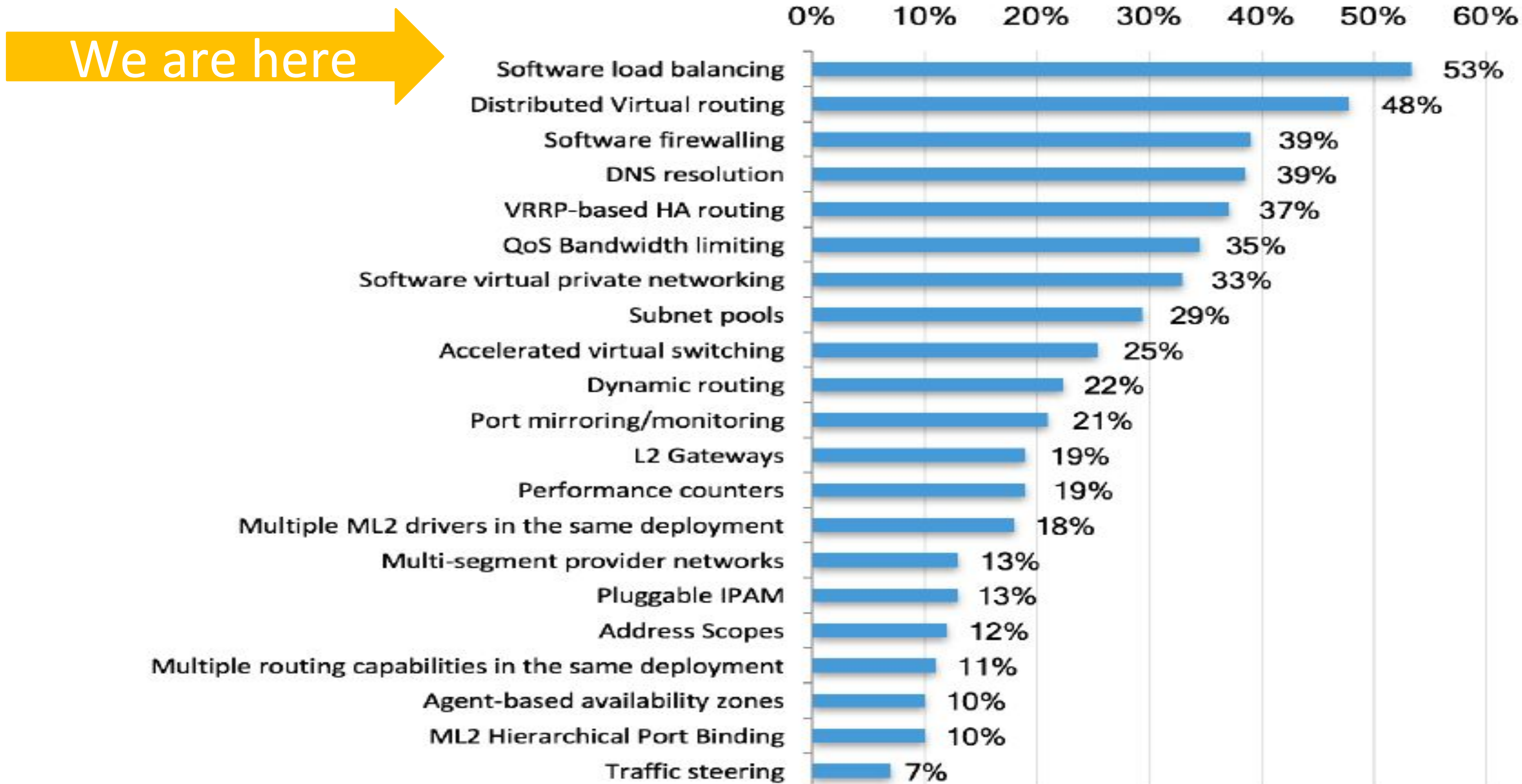
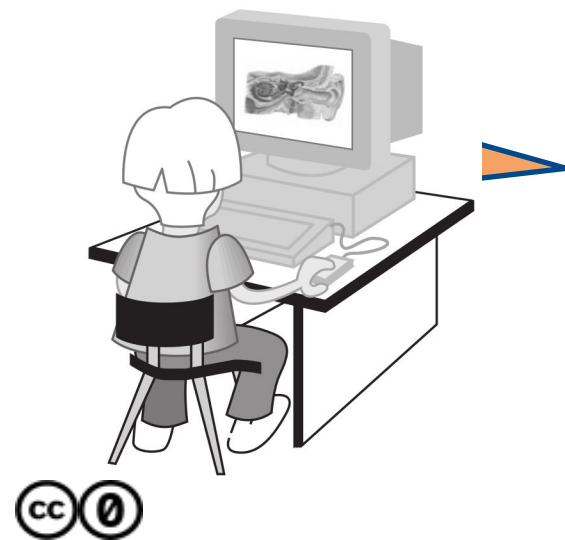


Figure 6.6 n=197

Who is the Current Octavia Core Team?

- Michael Johnson – Octavia PTL (founding member)
 - Adam Harwell – Core Reviewer (founding member)
 - German Eichberger – Core Reviewer (founding member, former PTL)
 - Jacky Hu – Core Reviewer
 - Nir Magnezi – Core Reviewer
 - Carlos Goncalves – Core Reviewer
-
- Many more developers, reviewers, and translators!

What is network load balancing?

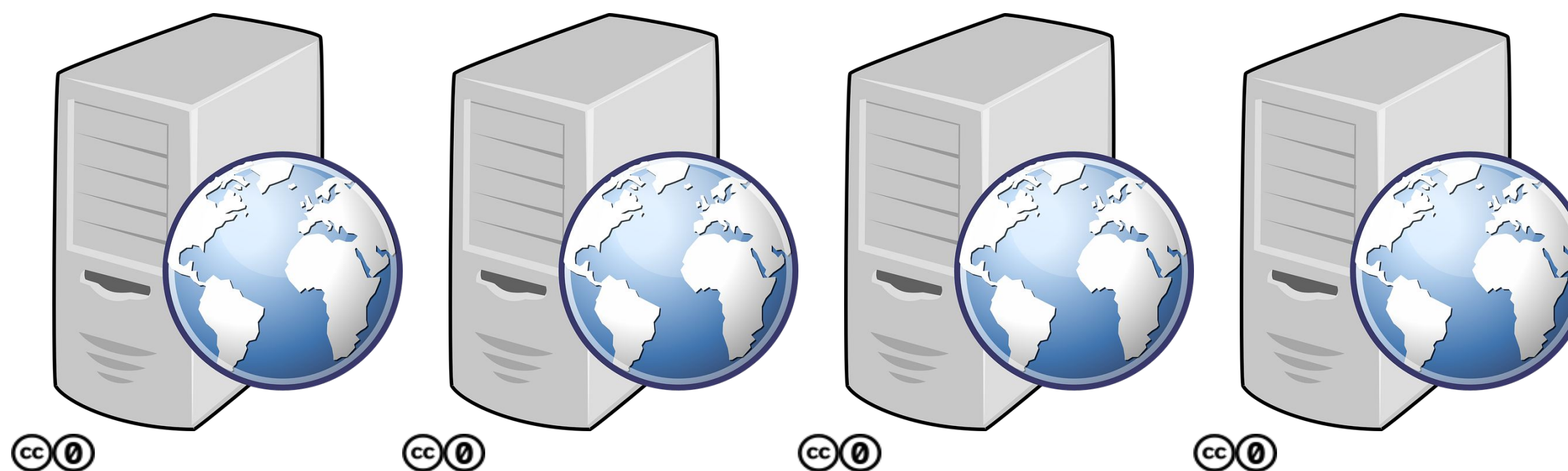


<http://www.openstack.org>

Network
Load Balancer



<http://www.openstack.org>



Use cases for using load balancing

- Distributing the network load between many servers
- Increasing the availability of the served resource
- SSL offload and centralized certificate management
- Protocol conversion
 - IPv6 VIP but IPv4 member servers
- Protocol port conversion
 - VIP may listen on port 80 when member servers listen on 8080
- L7 policies and rules
 - Static image files may be served from different member servers than the web page itself
- Abstracting the physical network topology
 - Ease the upgrade and rollback of applications or equipment
- Many more...

The Octavia Deliverables

Go forward deliverables

- octavia
- octavia-lib
- octavia-dashboard
- octavia-tempest-plugin
- python-octaviaclient

Legacy deliverables (deprecated)

- neutron-lbaas
- neutron-lbaas-dashboard

Octavia Documentation

 OpenStack Documentation ▾

octavia

- Octavia Administration
- Octavia API Reference
- Octavia Command Line Interface
- Octavia Configuration
- Octavia Contributor
- Octavia Installation
- Octavia Reference
- Octavia User

Octavia Documentation

UPDATED: 2018-05-15 10:49 » 

VERSION

Welcome to the OpenStack Octavia project documentation. Octavia brings network load balancing to OpenStack.

See [Introducing Octavia](#) for an overview of Octavia.

To align with the overall OpenStack documentation, the Octavia documentation is grouped into the following topic areas.

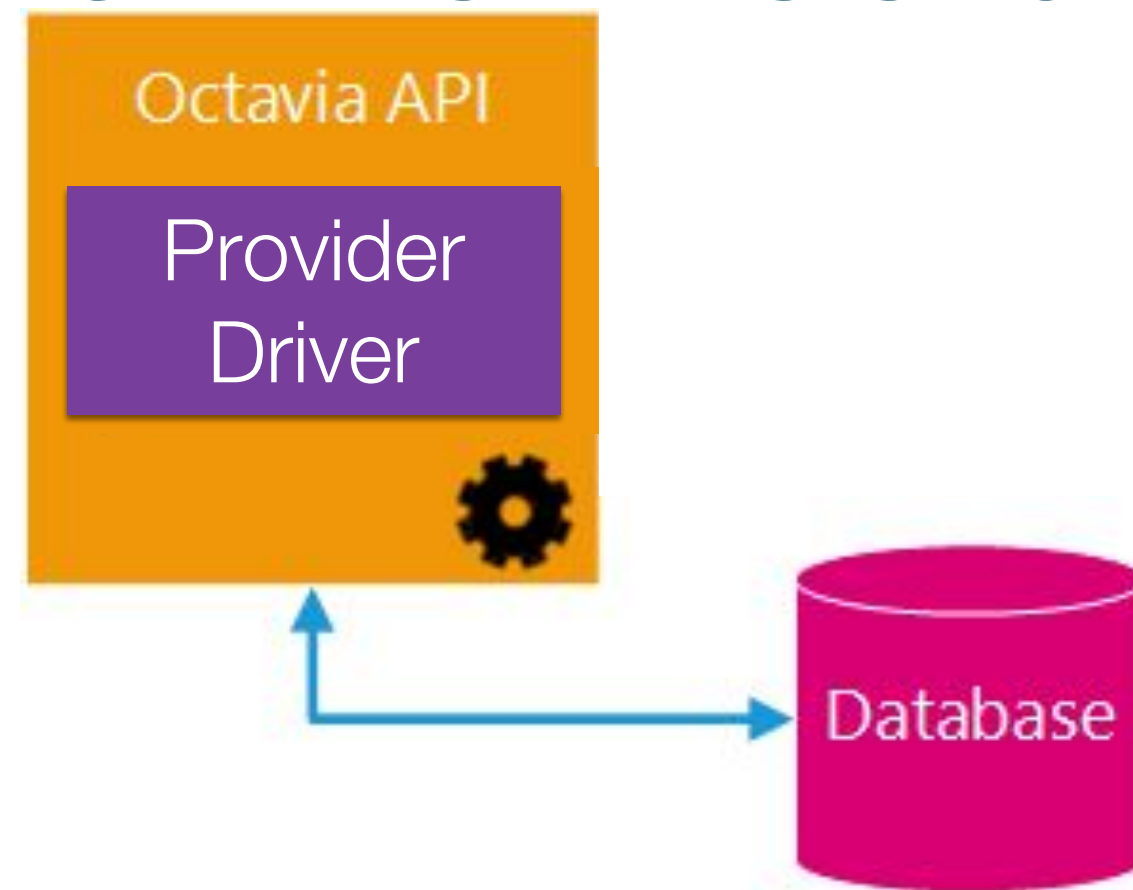
- [Octavia Administration](#)
- [Octavia API Reference](#)
- [Octavia Command Line Interface](#)
- [Octavia Configuration](#)
- [Octavia Contributor](#)
- [Octavia Installation](#)
- [Octavia Reference](#)
- [Octavia User](#)

[Search Page](#)

» 

UPDATED: 2018-05-15 10:49

Octavia Architecture

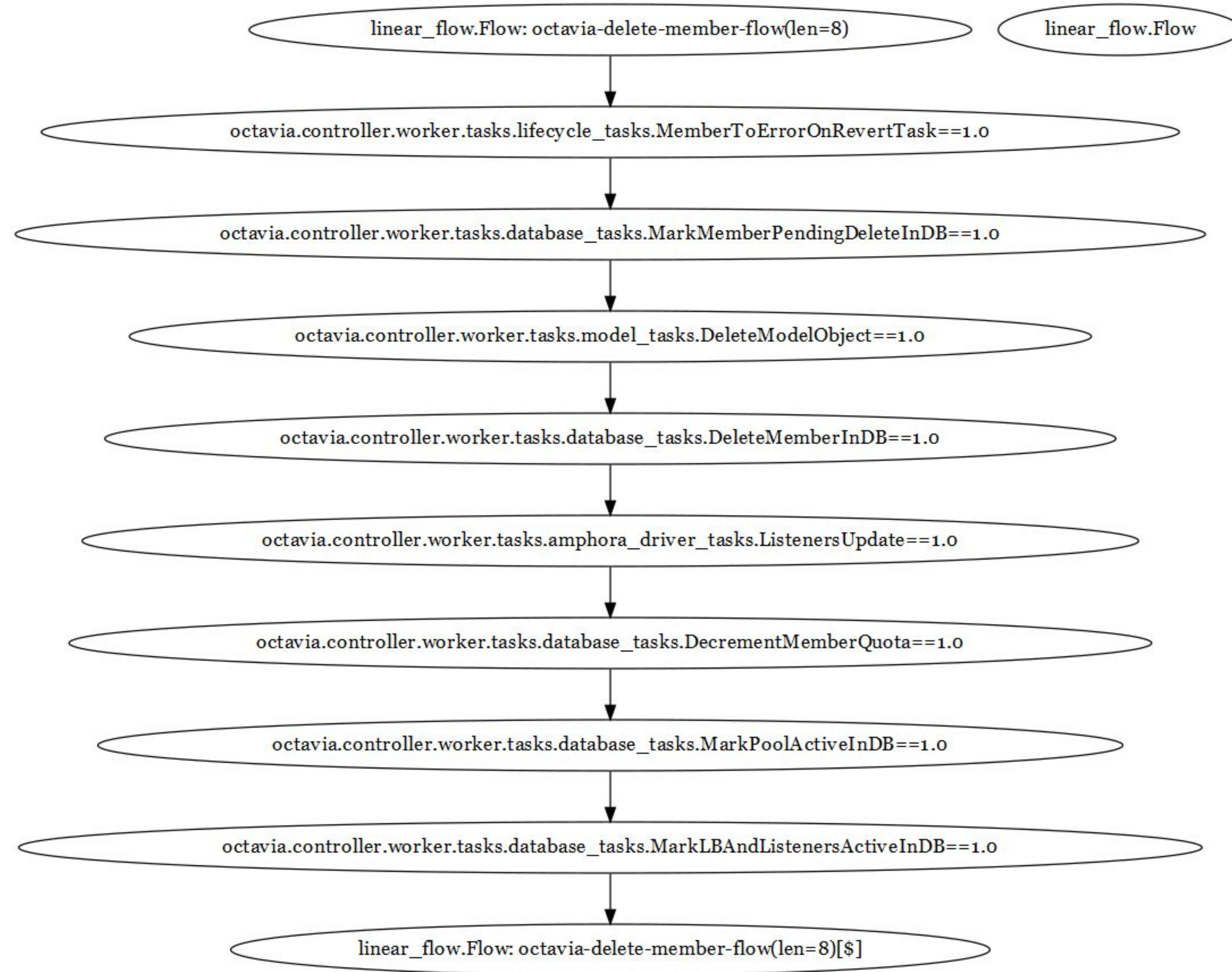


Octavia Code Structure

```
michjohn@devstackpy27:~/.../OpenStack/octavia$ ls
api-ref          HACKING.rst      setup.py
babel.cfg        httpd            specs
bin              LICENSE          specs-tests
CONSTITUTION.rst lower-constraints.txt TESTING.rst
CONTRIBUTING.rst octavia          test-requirements.txt
devstack         playbooks        tools
diskimage-create README.rst        tox.ini
doc              releasenotes     zuul.d
elements         requirements.txt
etc              setup.cfg

michjohn@devstackpy27:~/.../OpenStack/octavia$ cd octavia/
michjohn@devstackpy27:~/.../octavia/octavia$ ls
amphorae        cmd              controller      hacking         network         tests
api              common           db              il8n.py         opts.py         version.py
certificates     compute          distributor     __init__.py    policies
michjohn@devstackpy27:~/.../octavia/octavia$ █
```


Octavia TaskFlow Flow – Member Delete



Increase log level

- ➔ Edit `/etc/octavia/octavia-*.conf`
 - Uncomment `debug = False` and replace `False` with `True`.
- ➔ Restart `o-cw`, `o-api`, `o-hm`, `o-hk`:
 - E.g. `systemctl restart devstack@o-*`
 - repeat until all services you like to debug are restarted

Log files on the host

- ➔ Review `/opt/stack/logs`
 - `ls /opt/stack/logs/o-*.log` = o-api.log o-cw.log o-hk.log o-hm.log`
- ➔ **o-api.log** - logs the api server. Useful to see if requests made it to the system and if they actually got executed
- ➔ **o-cw.log (amphora driver)** - logs the controller worker. This does most of the work and this logs will usually aid in debugging problems with nova, neutron, etc.
- ➔ **o-hk.log** - logs the housekeeping manager. Here we do the deletion of amphora marked for deletion, certificate rotation (the ones on the amphora), etc.
- ➔ **o-hm.log (amphora driver)** - logs the information about the healthmanager and heartbeats the amphorae send; this is good for failover debugging

Octavia Testing

- Currently at 90% code coverage with unit and functional tests
- All tests run using both Python 2.7 and 3.5 using tox
- Unit tests
 - Approximately 1,288 unit tests
- Functional tests
 - Approximately 1,171 functional tests
 - Focused on Amphora agent, API, and database testing
- Tempest tests
 - API validation tests
 - Scenario tests

Octavia StoryBoard

Storyboard Create New... Michael Johnson

octavia ★

Projects

1 to 6 of 6

- [openstack/python-octaviaclient](#) ★
Client components for Octavia
- [openstack/octavia-tempest-plugin](#) ★
Tempest plugin for Octavia
- [openstack/octavia-dashboard](#) ★
Horizon UI support for Octavia
- [openstack/octavia](#) ★
Load Balancing as a Service (LBaaS) for OpenStack
- [openstack/neutron-lbaas-dashboard](#) ★
Horizon UI support for Neutron LBaaS
- [openstack/neutron-lbaas](#) ★
Load balancing services for OpenStack Neutron.

Stories

1 to 10 of 238

- Active Merged Invalid
- [2002057: scenario.v2.test_load_balancer.LoadBalancerScenarioTest.test_load_balancer_ipv4_CRUD fails](#) 14 hours ago 14 hours ago Active ★
2018-05-17 09:21:28.690 229 INFO
tempest.lib.common.ssh [-] Creating ssh connection to '10.0.0...
- [2002055: No connectivity to member - security group rule: testtools.run octavia_tempest_plugin.tests.sc...](#) 15 hours ago 15 hours ago Active ★
Hi I ran the test. Part of it is to create a member vm and check ssh connectivity to it: 20...

Octavia Opportunities

- Provider driver development
- Active/Active
 - Looking for OVS/OpenFlow experience
- Flavors
- Installation guide
- Log offloading
- Amphora in containers
- Backend re-encryption
- Bug fixes

<https://wiki.openstack.org/wiki/Octavia/Roadmap>

How to contribute?

- ➔ Presentations:
 - Tuesday 3.20 pm: Octavia Project Onboarding 7.1a NY2
 - Wednesday 1.40 pm: Migrate from Neutron LBaaS To Octavia Level 1 – Hall A2
 - Thursday 2.35 pm: Octavia project update – Level 3 M3
- ➔ Weekly meetings: Wednesday @ 20:00 UTC in #openstack-lbaas
- ➔ Freenode IRC: #openstack-lbaas
- ➔ <https://wiki.openstack.org/wiki/octavia>
- ➔ <http://www.octavia.cloud>
- ➔ https://storyboard.openstack.org/#!/project_group/70
- ➔ <https://github.com/openstack/octavia>

Q&A

Thank you!



openstack



@OpenStack



openstack



OpenStackFoundation