



OpenStack Denver Meetup

Deploying Network Services LBaaS vs Heat

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January 28, 2016



Overview

- Introduction to LBaaS
- Introduction to Heat and Hot Templates
- LBaaS vs Heat – Which is right for me?
- Demo / Q&A

Load Balancing as a Service Overview

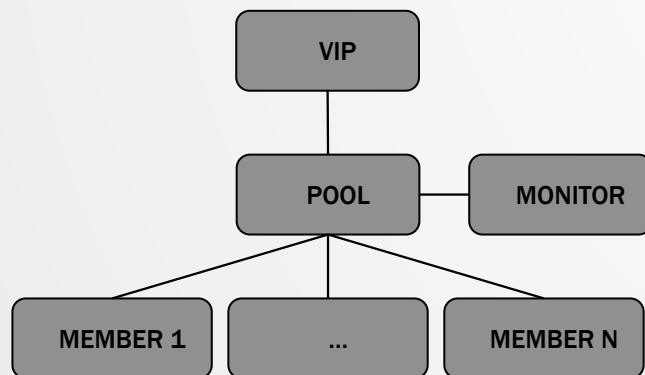
- Neutron advanced service
- Configuration of Load Balancing concepts
 - Pool, Pool Members, Health Monitor, VIP (Virtual IP)
- Community defined Least Common Denominator API
- Supports opensource and proprietary products
 - HAProxy (LBaaSv1)
 - Octavia (LBaaSv2)
 - Corporate contributions via LBaaS plugins/drivers

LBaaS Versions

LBaaSv1 is focused on a pool based model, LBaaSv2 is centered around a load balancer object.

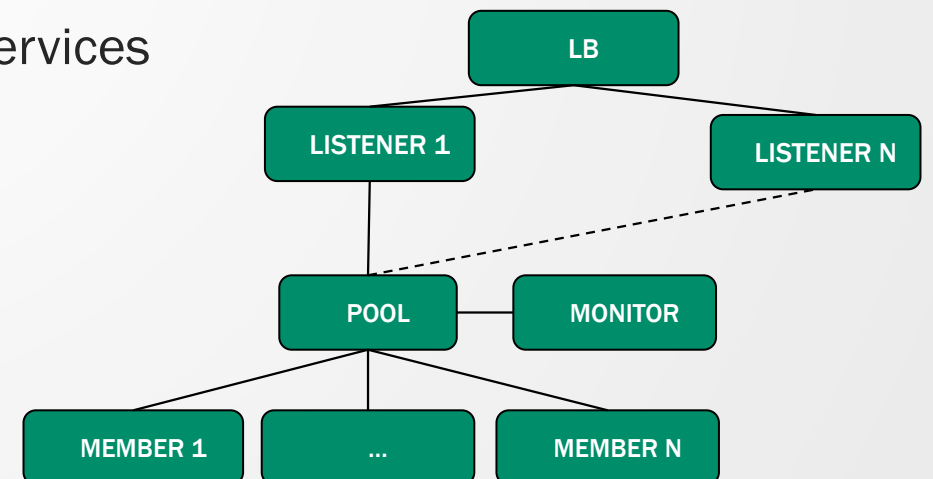
LBaaSv1

- Stable Havana – Kilo, deprecated in Liberty
- Pool Based
- Basic Load Balancing: HTTP, HTTPS, TCP
- Not industry standard terminology/model



LBaaSv2

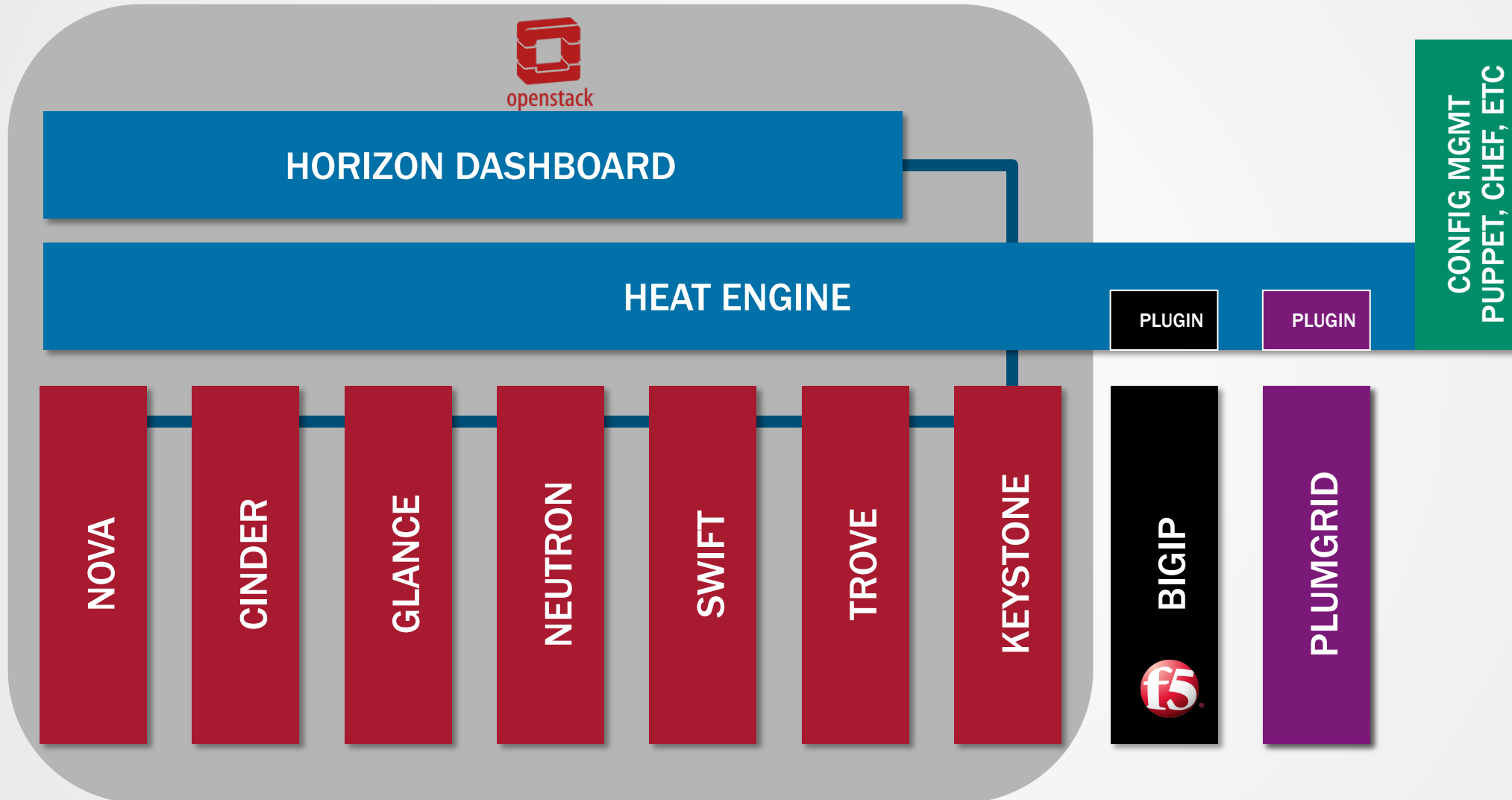
- Stable in Liberty
- Load Balancer Based
- TLS Termination
- Pool Sharing
- L7 Services



Heat – How it Works

- Declarative text files that describe the requirements for a cloud application
 - Human Readable
 - Source control
- Manage the lifecycle of the application
 - Infrastructure and Services
 - Create, Change, Update, Destroy
- Define relationships between resources or services
- Extendable to non-OpenStack resources
- Integration with telemetry services to provide scaling of resources
- Integration with software CM tools (Puppet, Chef, Ansible, Salt)

Heat Architecture



Adapted from: <https://github.com/zaneb/presentations/releases/download/heat-introduction-2013-10-24/heat-introduction.pdf>

Heat Template Example – LBaaSv1 Equivalent

```
ve_pool:
  type: F5::LTM::Pool
  depends_on: ve_wait_condition
  properties:
    name: l4_pool
    health_monitors:
      - health_monitor: tcp
    lb_method: least_sessions
    service_down_action: drop
  members:
    - member: { get_param: l4_pool_member1 }
    - member: { get_param: l4_pool_member2 }
  server: { get_resource: ve_instance }
```

LBaaS vs Heat – Choosing the Right Tool for the Job

LBaaS deploys a network service. Heat orchestrates application infrastructure

LBaaS

- OpenStack Neutron Project
- Community controlled API and behavior
- Basic load balancing
- Vendor agnostic
- Minimal native feature set
- Least common denominator

HEAT

- OpenStack Orchestration Project
- User defined behavior
- Flexible and Extensible
- Composable/Stackable
- Feature enablement
- Access to enhanced non-native OpenStack functionality
- Infrastructure and Application

Demo / Q&A

Deploying LBaaS via the Horizon GUI

Deploying an application with Heat



Solutions for an application world.

References

- <https://wiki.openstack.org/wiki/Neutron/LBaaS>
- <https://wiki.openstack.org/wiki/Heat>
- <http://docs.openstack.org/developer/heat/>
- <https://github.com/zaneb/presentations/releases/download/heat-introduction-2013-10-24/heat-introduction.pdf>