



Automating OpenStack Testing

Improving the quality of OpenStack on Ubuntu

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Overview



- OpenStack Dev and QA 101
- OpenStack QA Challenges for Ubuntu
- The Ubuntu OpenStack QA Pipeline
- Future Plans



OpenStack Dev and QA 101



OpenStack Development Process



- Gated Trunk
- Devstack - <http://devstack.org/>
- Github – <http://github.com/openstack>
- Gerrit – <http://gerrit.openstack.org>
- Smokestack - <http://smokestack.openstack.org/>
- Jenkins – <http://jenkins.openstack.org>
- Bare-metal Testing

- <http://docs.openstack.org/developer/>

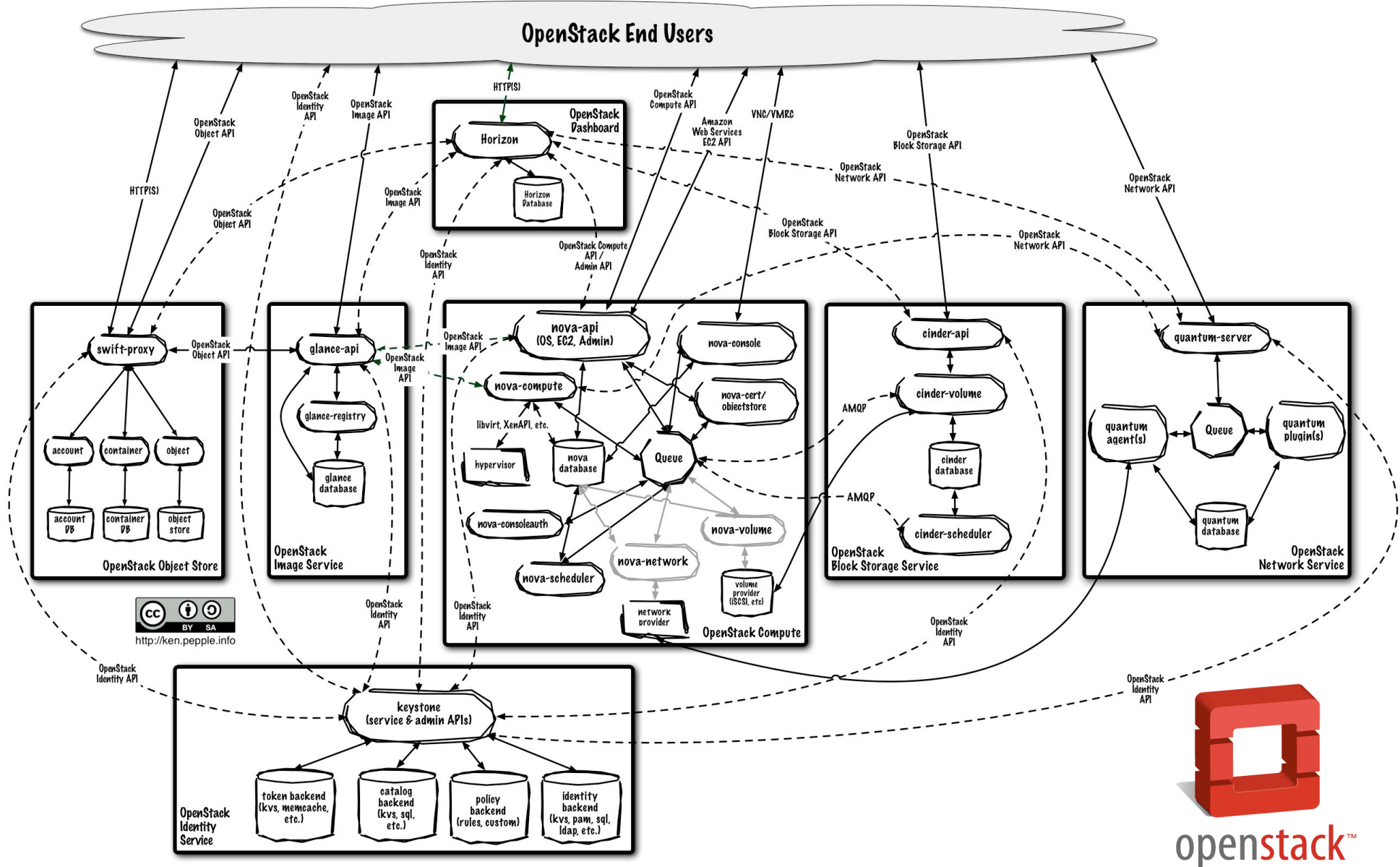




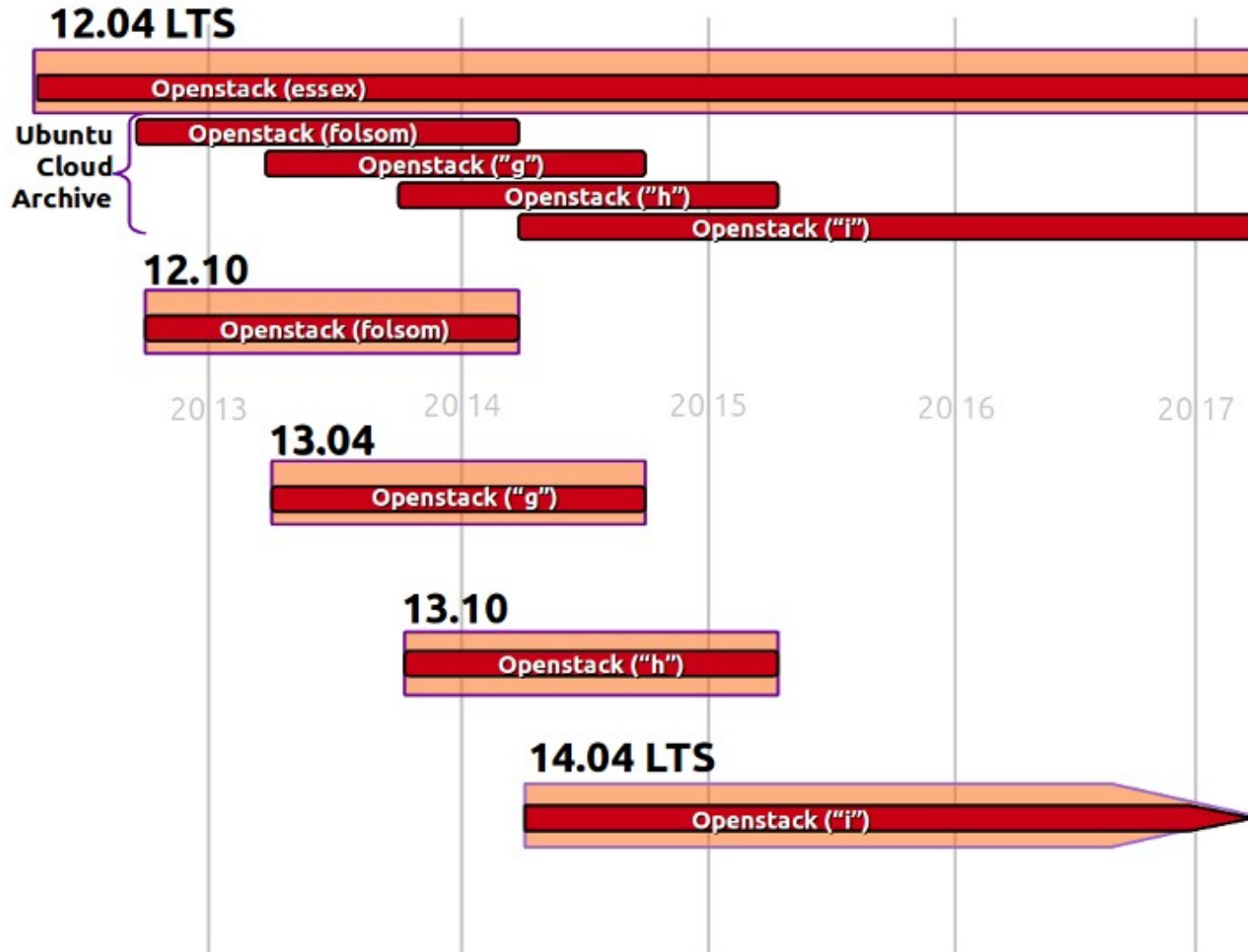
OpenStack QA Challenges for Ubuntu



Challenges - Complexity



Challenges - Multiple Releases



Challenges - Support and Testing Matrix

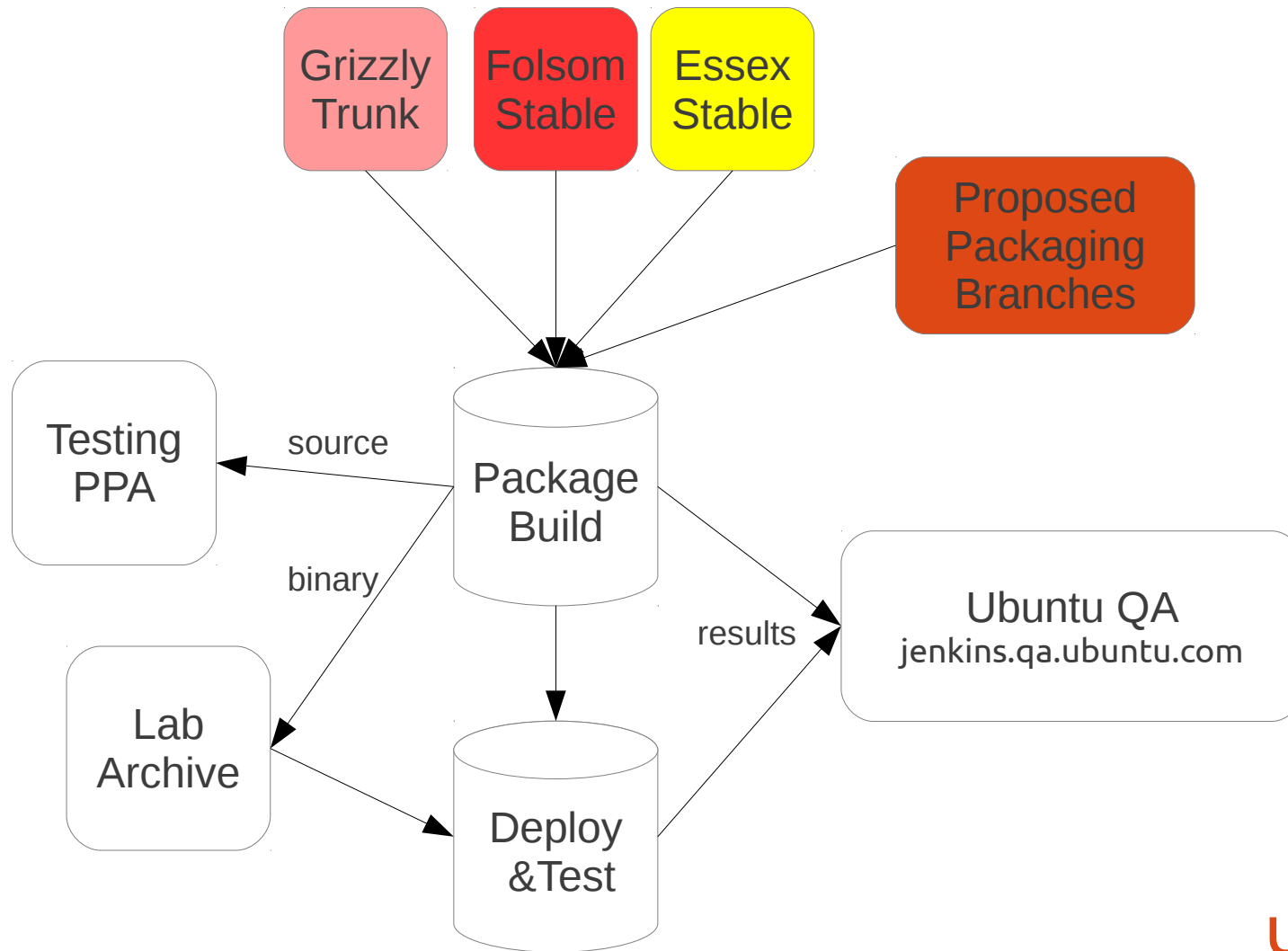


	Essex	Folsom	Grizzly	'H'	'I'
12.04	Nova Net. Nova Vol.	Nova Net. Nova Vol. Cinder Quantum Ceph	Nova Net. Quantum Ceph	Nova Net.? Quantum Ceph	Nova Net.? Quantum Ceph
12.10		Nova Net. Nova Vol. Cinder Quantum Ceph			
13.04			Nova Net. Quantum Ceph		
13.10				Nova Net.? Quantum Ceph	
14.04					Nova Net.? Quantum Ceph

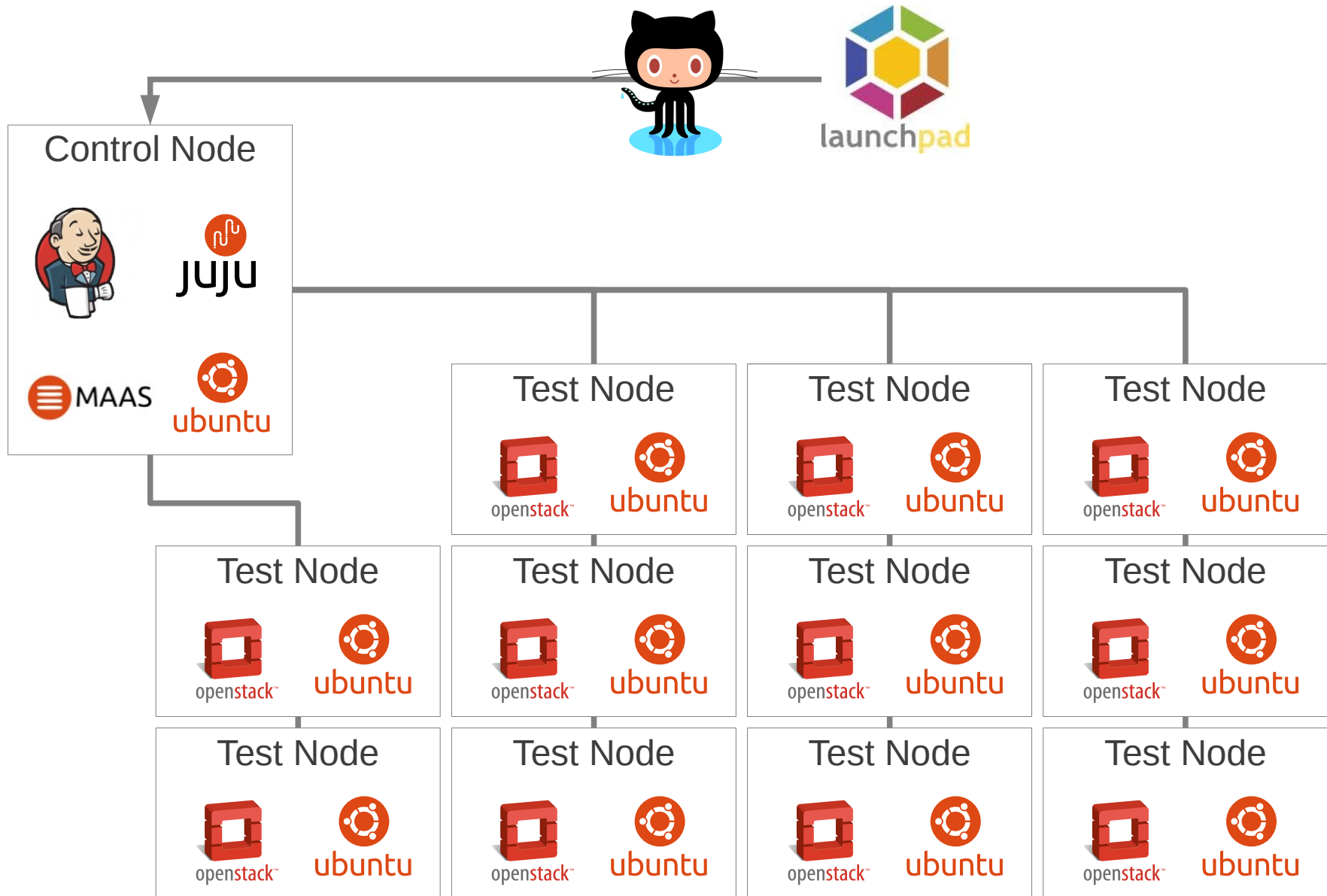


Ubuntu OpenStack QA Pipeline

Ubuntu OpenStack QA – Build, Deploy and Test Pipeline



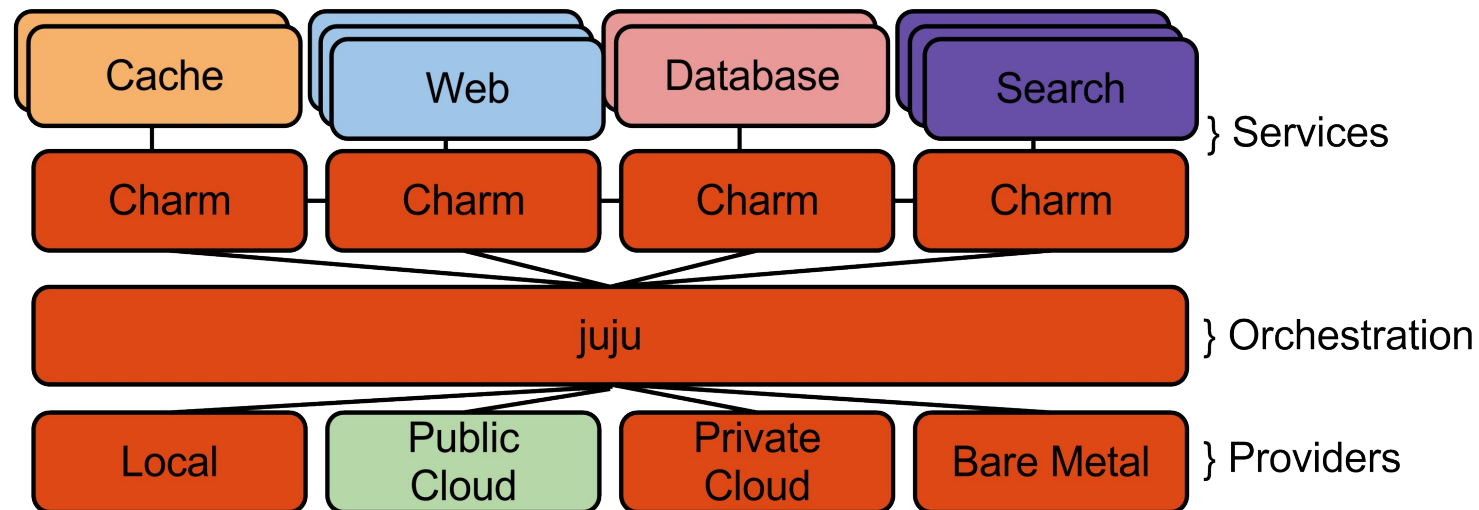
How?



Juju: Service Orchestration



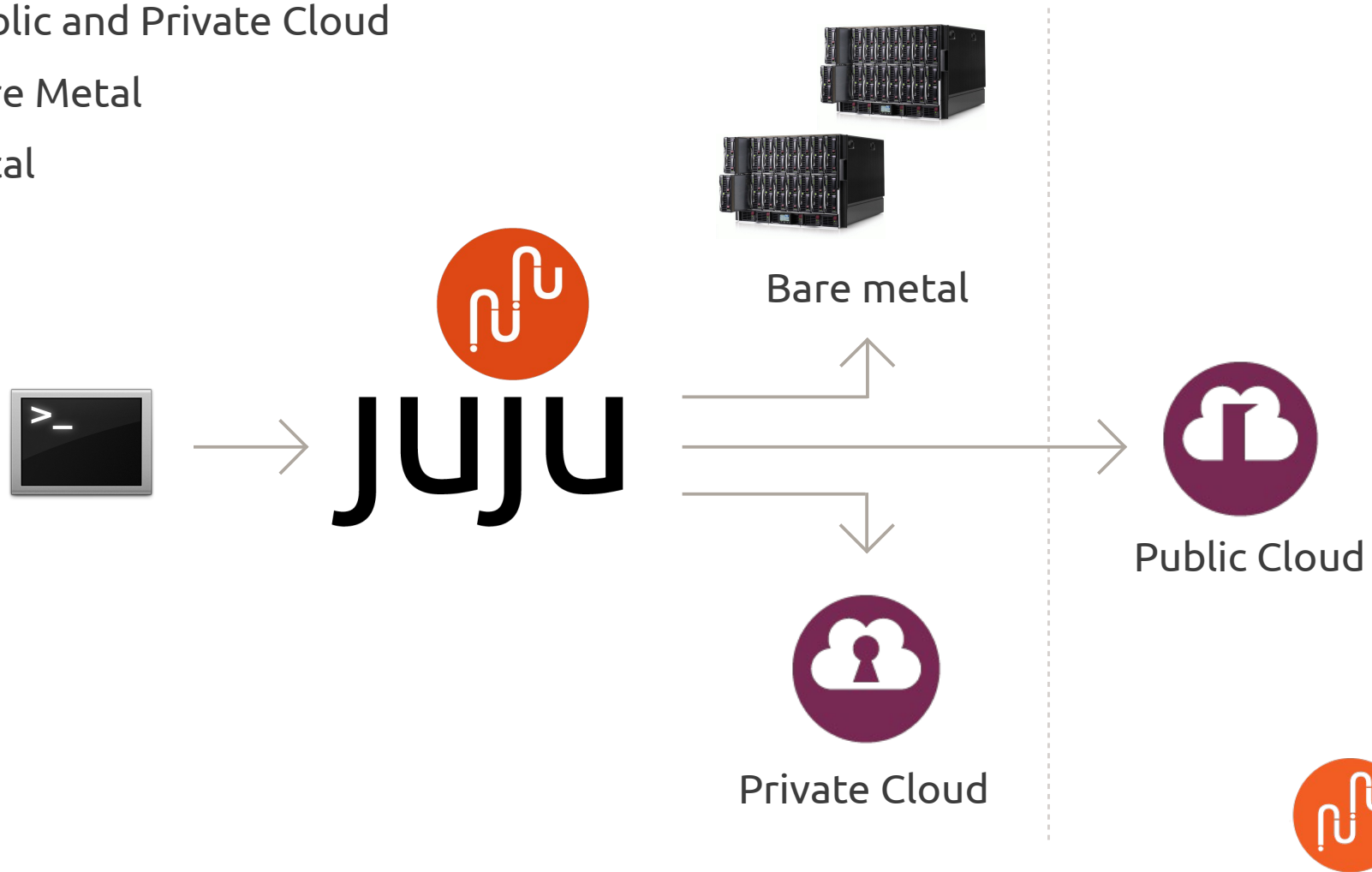
- High Level Orchestration
- Service Coordination
- Scale up; and down
- Provider Abstraction...



Juju: Provider Abstraction



- Public and Private Cloud
- Bare Metal
- Local





- DevOps Knowledge Distilled
- Any language
- Metadata
- Configuration
- Hooks

```
.
├── config.yaml
├── copyright
├── hooks
│   ├── install
│   ├── mongodb-relation-changed
│   ├── mongodb-relation-departed
│   ├── start
│   ├── stop
│   ├── upgrade-charm -> install
│   └── website-relation-changed
├── metadata.yaml
├── README.markdown
└── revision
```



Juju: Charm Store



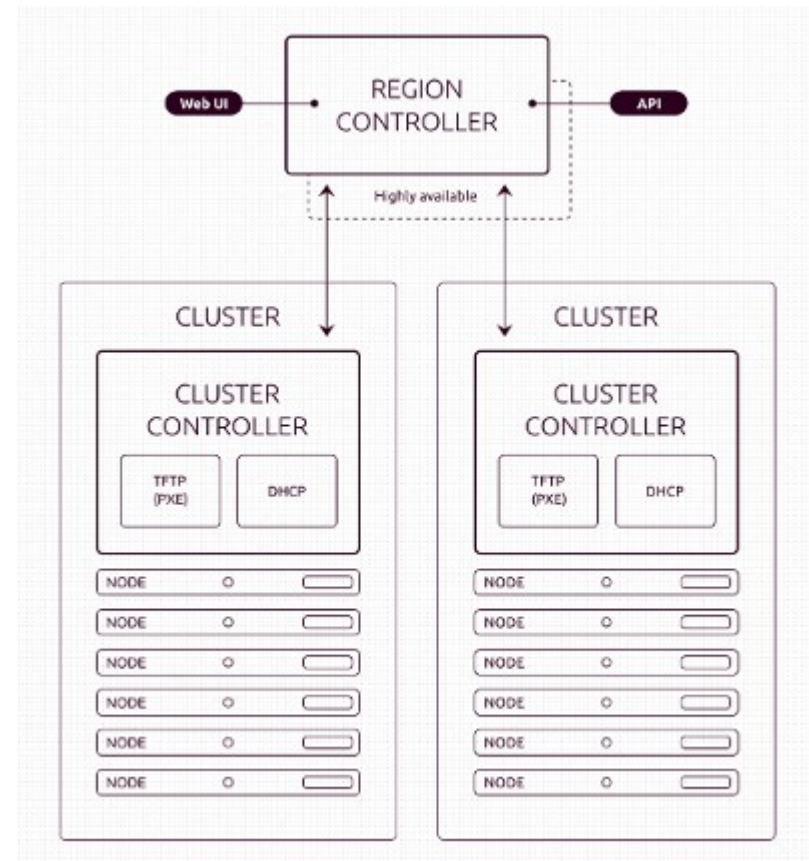
- Easy deploy with Juju
- <http://jujucharms.com>



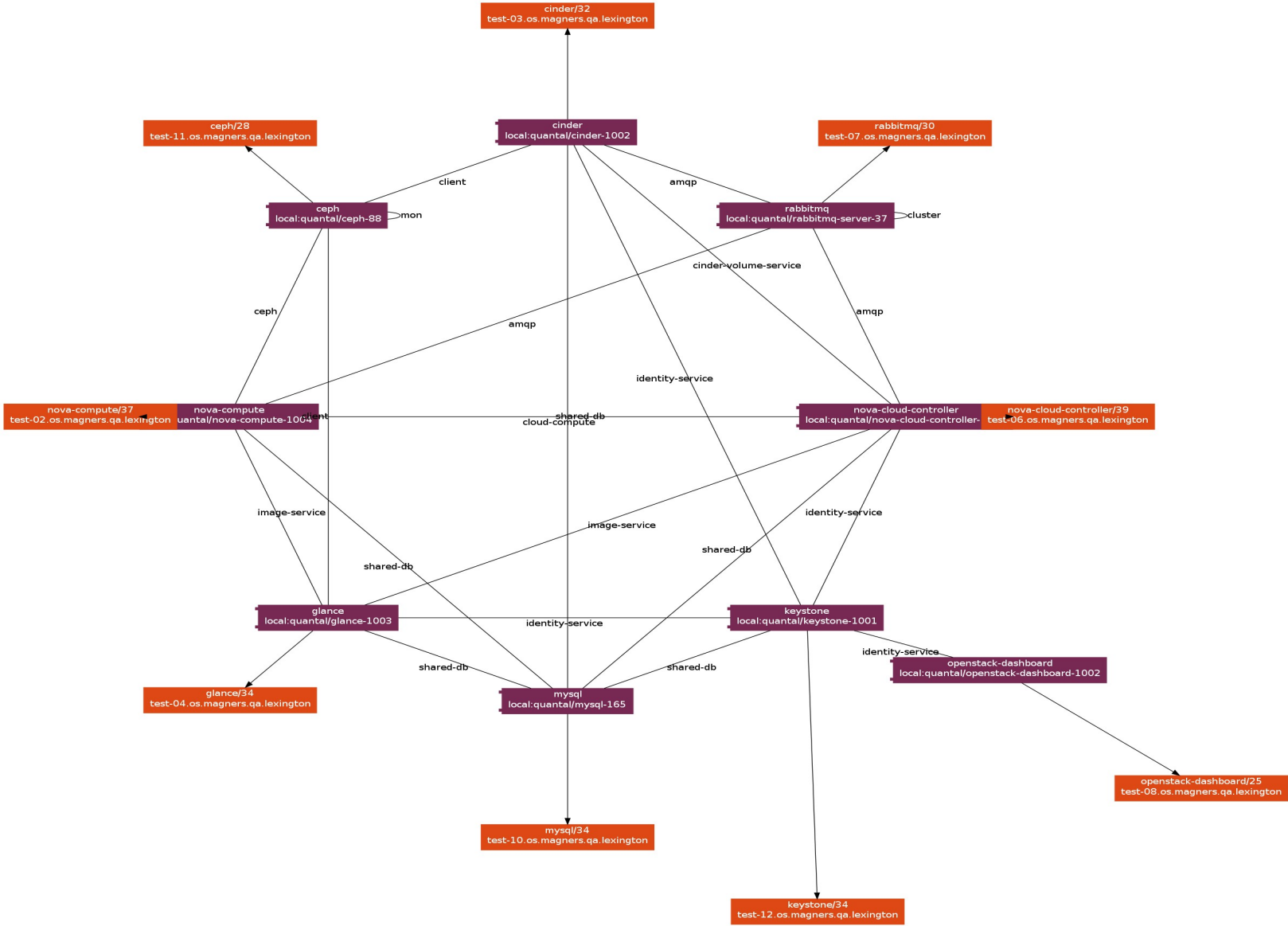
MAAS - Metal-as-a-Service



- Cloud-like management of physical servers
- Juju integrated
- Fast Path Install



Result?



Summary



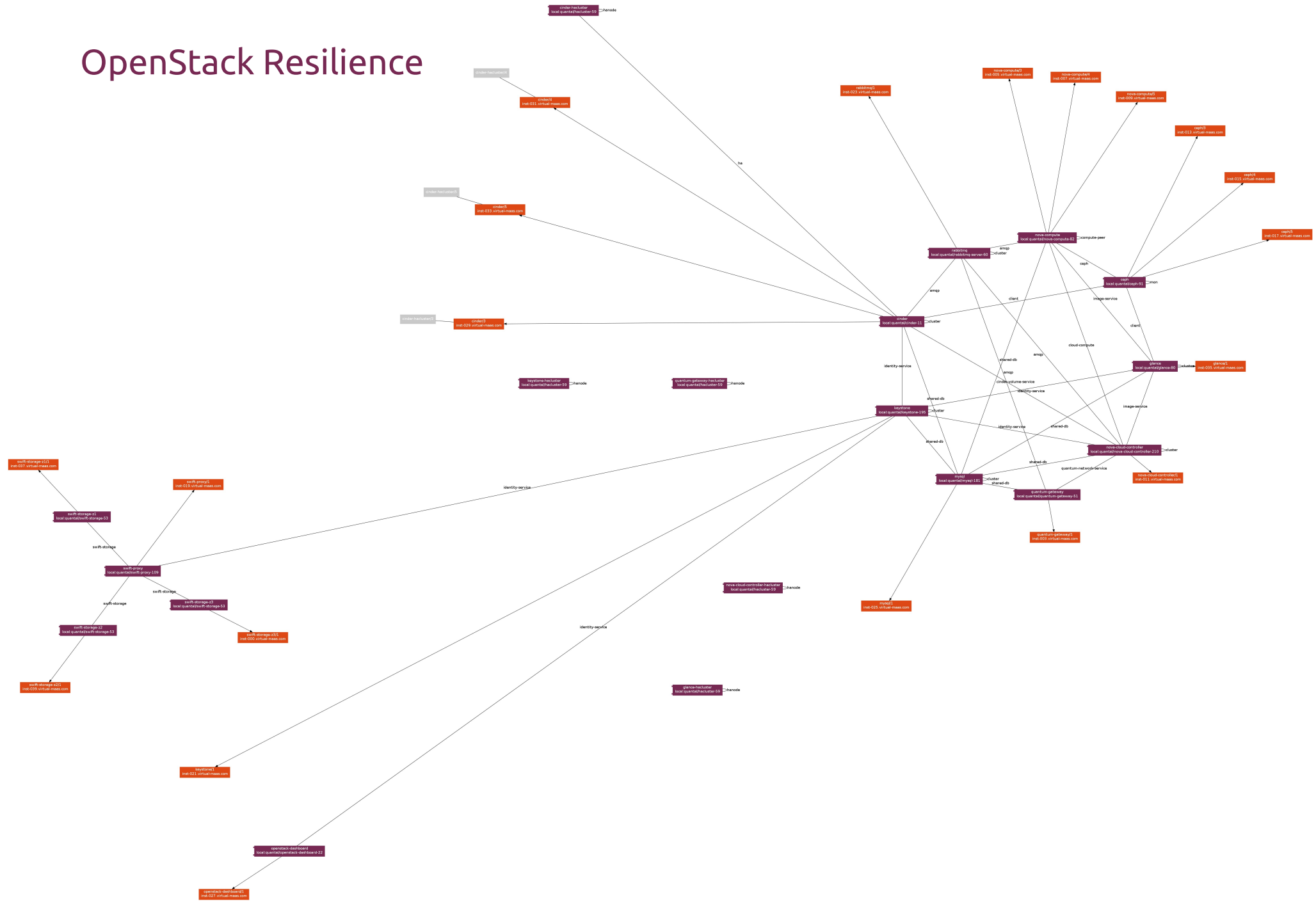
- Repeatable deployment on hardware
- Great for identifying cross project integration issues
- Invaluable both for tracking master and testing updates to stable releases

Future Plans



- 'Virtualized' MAAS – capacity expander
- HA and rolling upgrade testing
- OpenStack upgrade testing

OpenStack Resilience





Questions?

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