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Joint Customer Success Story:
Building your Private Cloud with Red Hat OpenStack & Red Hat CEPH Storage - from POC to production deployment in 2 weeks

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Agenda

- Customer Description and Challenges
- Proposed Solution
- Project Methodology
- The Design Process for OSP Project (Storage and Network Architecture)
- Best Practices
- Deployment Methodology
- Day two Operations
- Lesson Learned from a Successful Deployments
- Q & A

Customer Description and Challenges

Big media organization - creating media boxes and

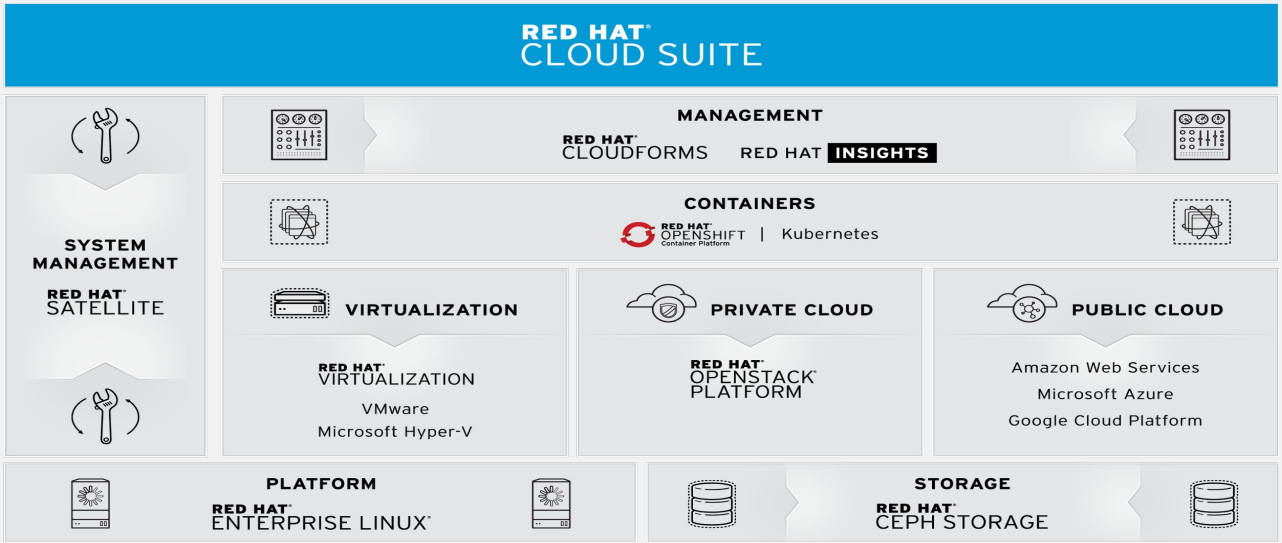
streaming TV application (“TV in the cloud”)

- Long time to market
- Rapid tenant deployment – ~270 instances per tenant
- Automatic deployments with Heat Templates

Proposed Solution

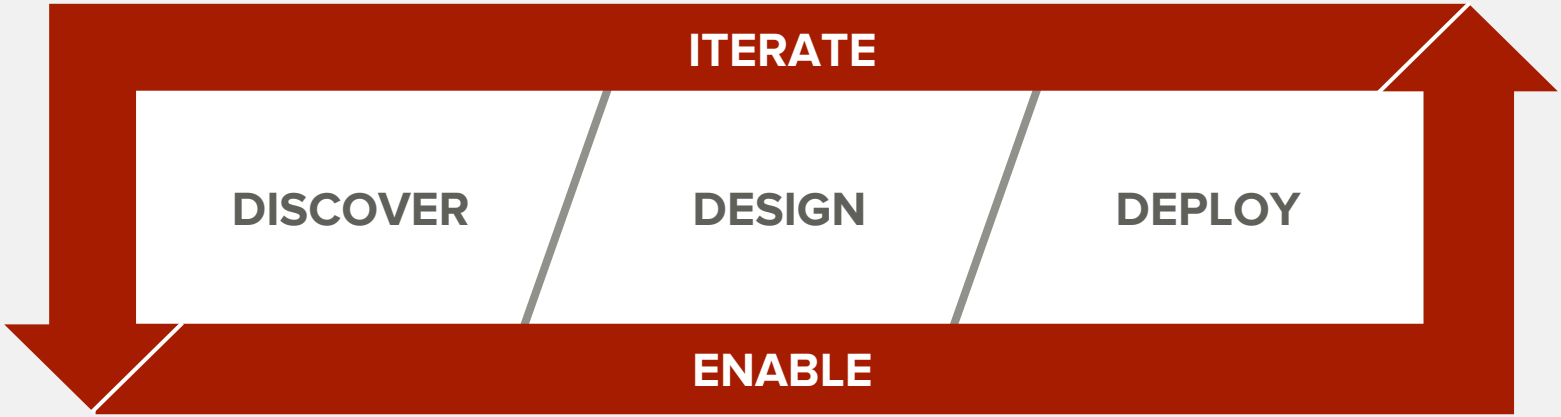
Private cloud based on Red Hat OpenStack

Platform and Red Hat Ceph Storage

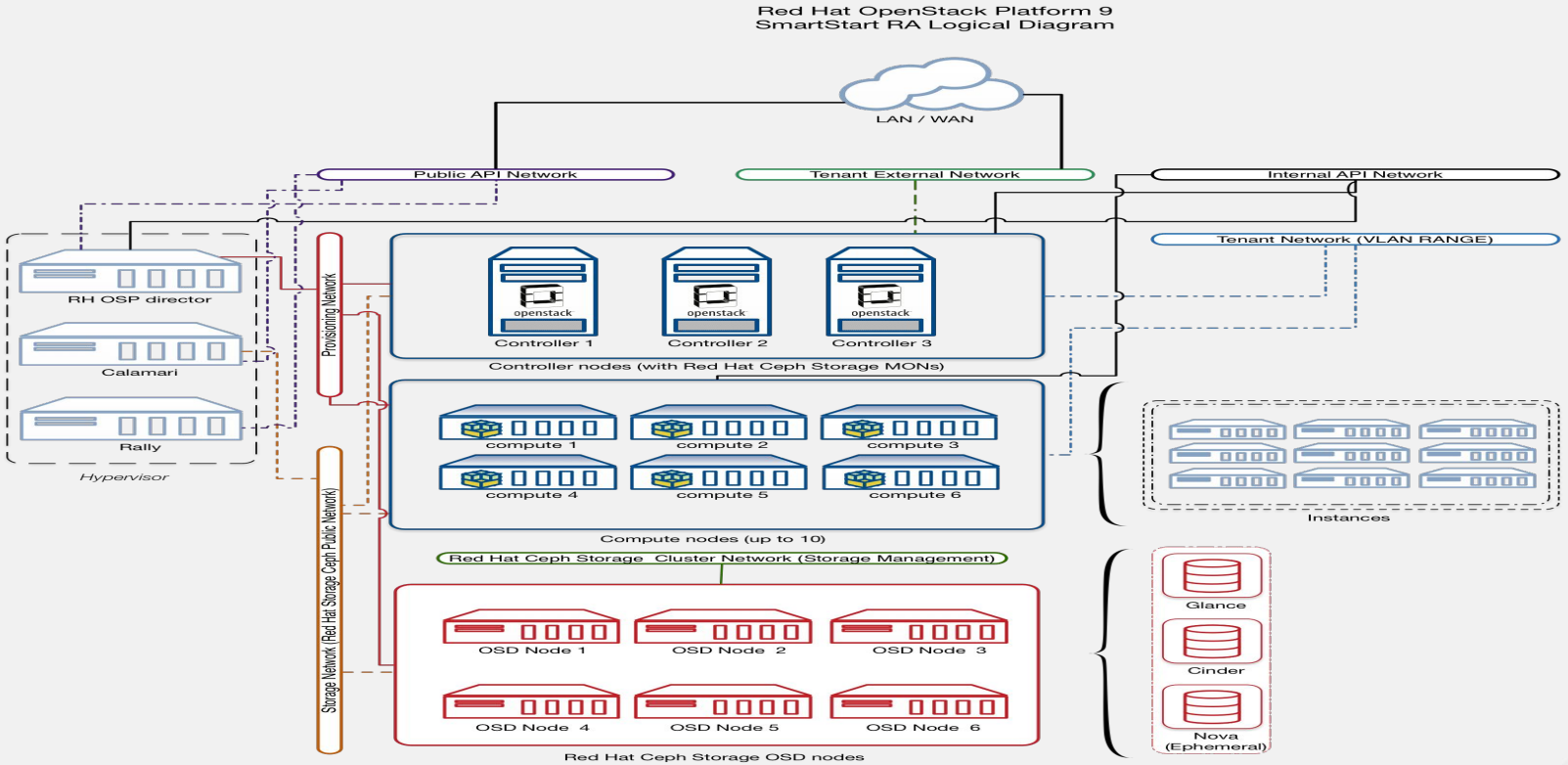


Project Methodology

RED HAT CONSULTING
SOLUTION DELIVERY FRAMEWORK



Architecture

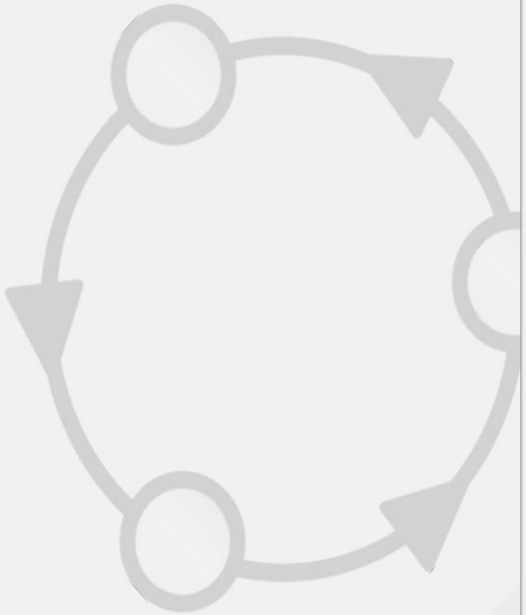


Best practices for infrastructure validation

- Installing RH Linux for basic server validation
- Validate the network/Vlans
- Checking IPMI access
- Director Installation
- Running Introspection

Red Hat OpenStack Platform director

Lifecycle



Faster release

- beginning of Newton, release few weeks after upstream release
- alignment with upstream milestones

Automated in-place minor **updates** and major **upgrades**

Compatibility with previous Red Hat OpenStack Platform release

- Red Hat OpenStack Platform director 8 supports deployment and management of version 7, etc.

Support for Red Hat OpenStack Platform director is aligned with core product

Red Hat OpenStack Platform director

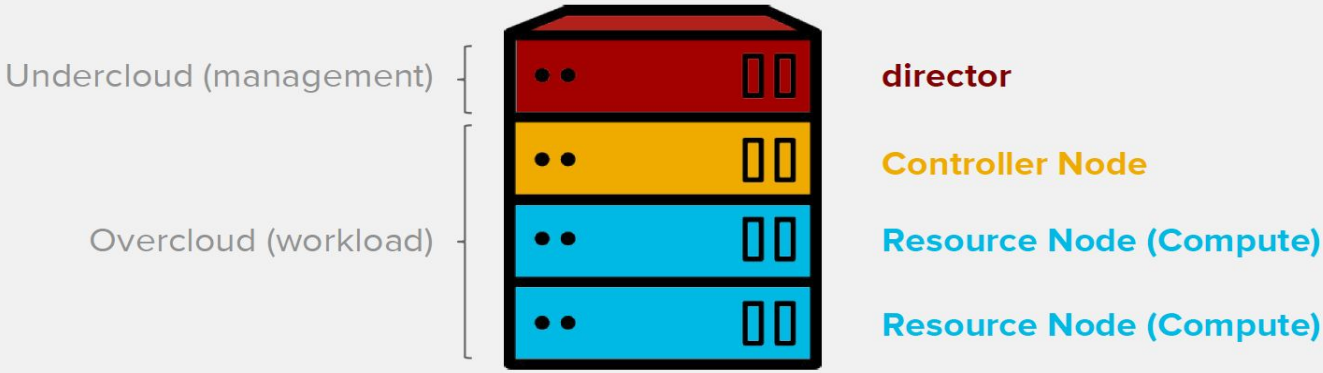
Key values

Red Hat OpenStack Platform director is providing a solution which is:

- solving for complete OpenStack **lifecycle**,
- built on top of previous **experience**,
- part of upstream OpenStack **community**,
- rich on **partner ecosystem**,
- solving for deployments in **scale**,
- strong in community & product **support**.

Deployment Flow

Deployed Red Hat OpenStack Platform



Ceph Integration

Red Hat Ceph has been the default block storage solution for Red Hat OpenStack Platform with **built-in support** from the director. Red Hat OpenStack Platform director:

- **deploys** one Ceph cluster as the default back-end for Cinder, Glance and shared storage for Compute nodes, (monitor nodes are collocated with controller nodes),
- supports minor **updates** of the Ceph cluster as per the deployment profile described above,
- supports **integration** of **externally** configured Ceph clusters (director does not manage these clusters).


Post-Deployment Tasks

Post-deployment tests

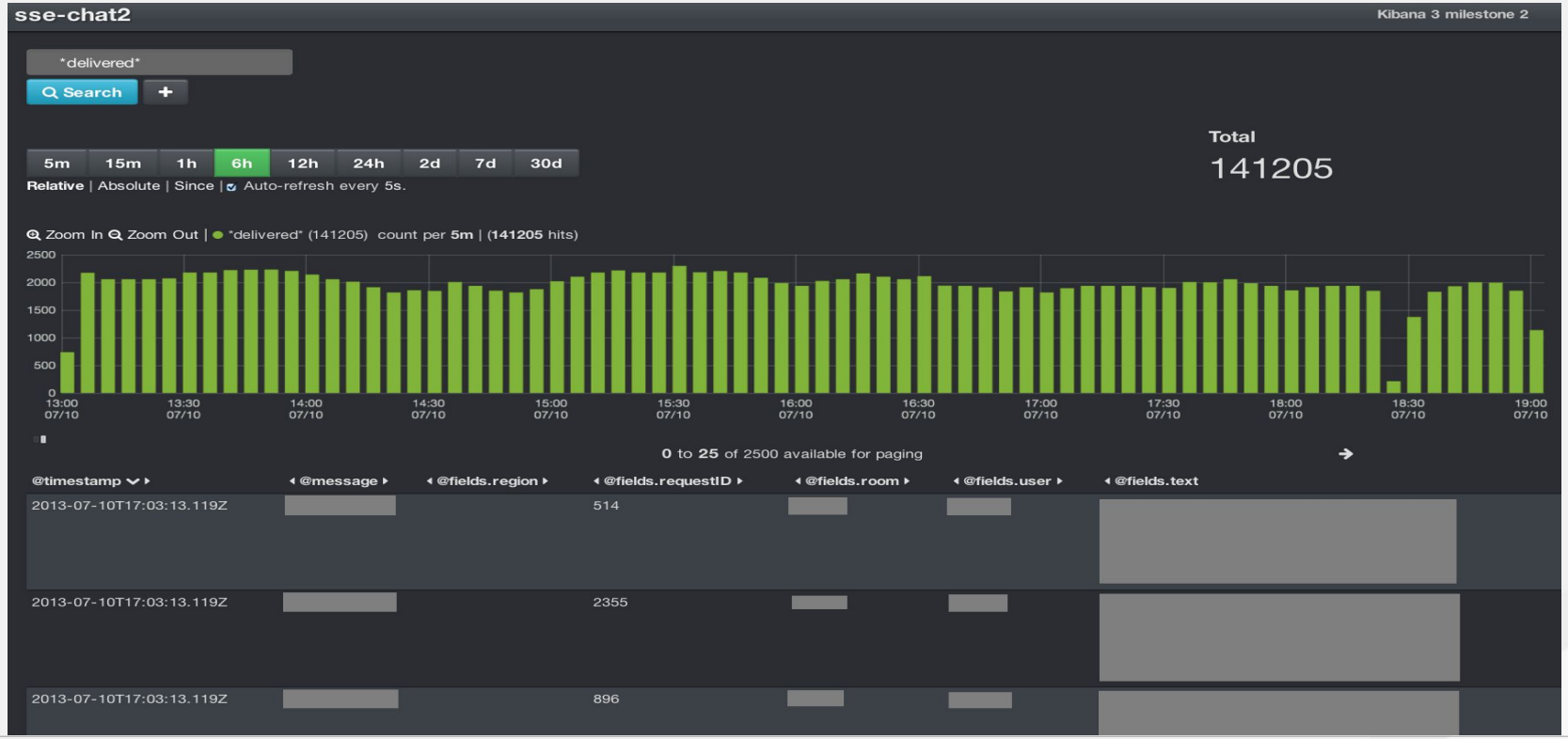
- Running basic tests (creating user, provision instance, adding image and attaching Volume to the instance)
- Benchmarking the Storage layer using rados bench
- Customer validation - Deploying their application using Heat (270 Instances)
- Adding reporting and monitoring Tools


Day two Operations

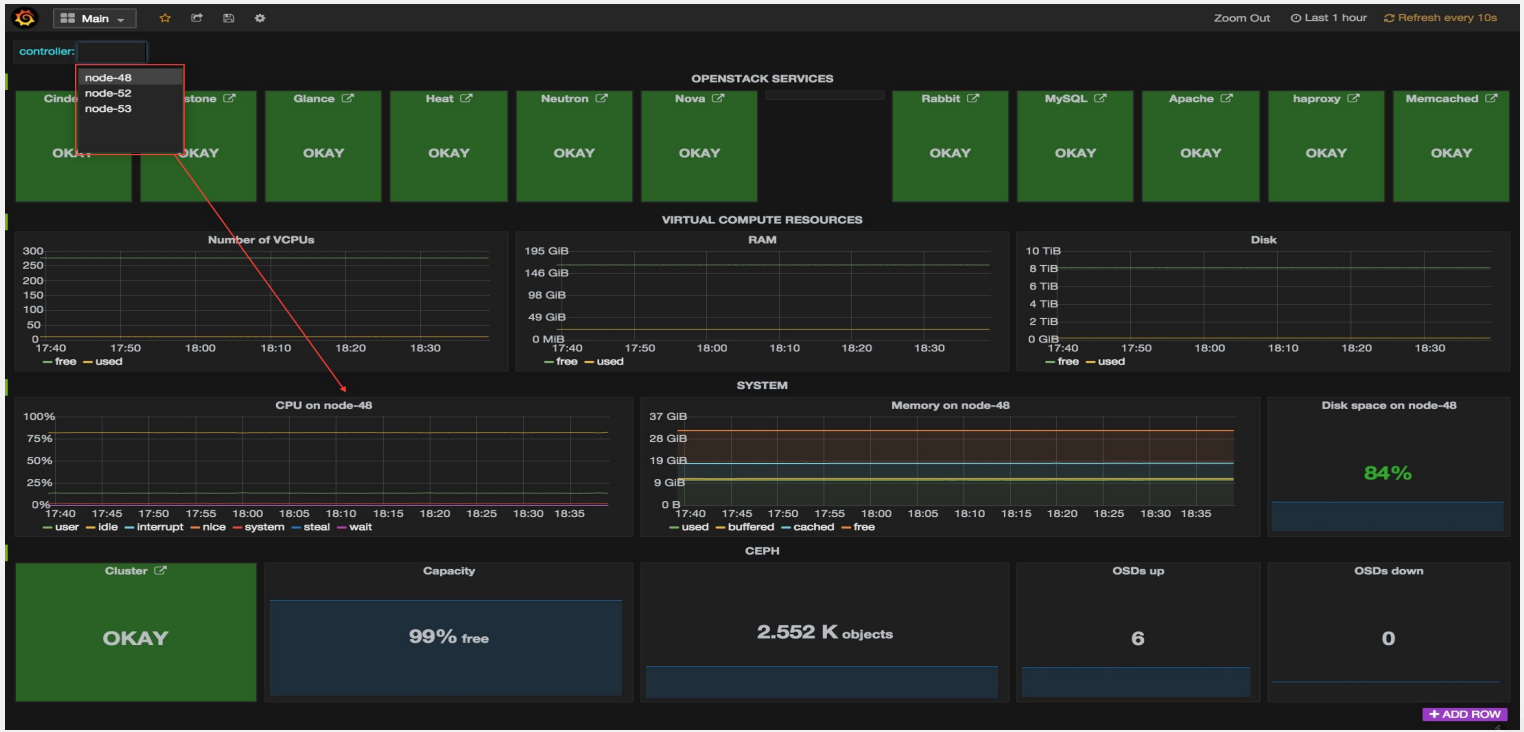
Advanced Analytics

- Centralized Logging – Fluentd, Elasticsearch, Kibana
- Performance Monitoring – collectd, Graphite,Grafana
- Ceph Monitoring and Administration - Calamari
- Cloud Management Platform – Red Hat CloudForms

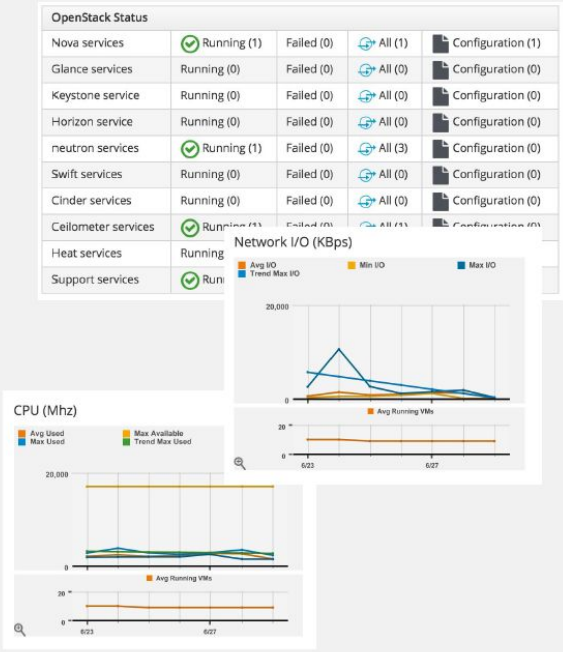
Centralized Logging via Kibana



Performance Monitoring via Grafana



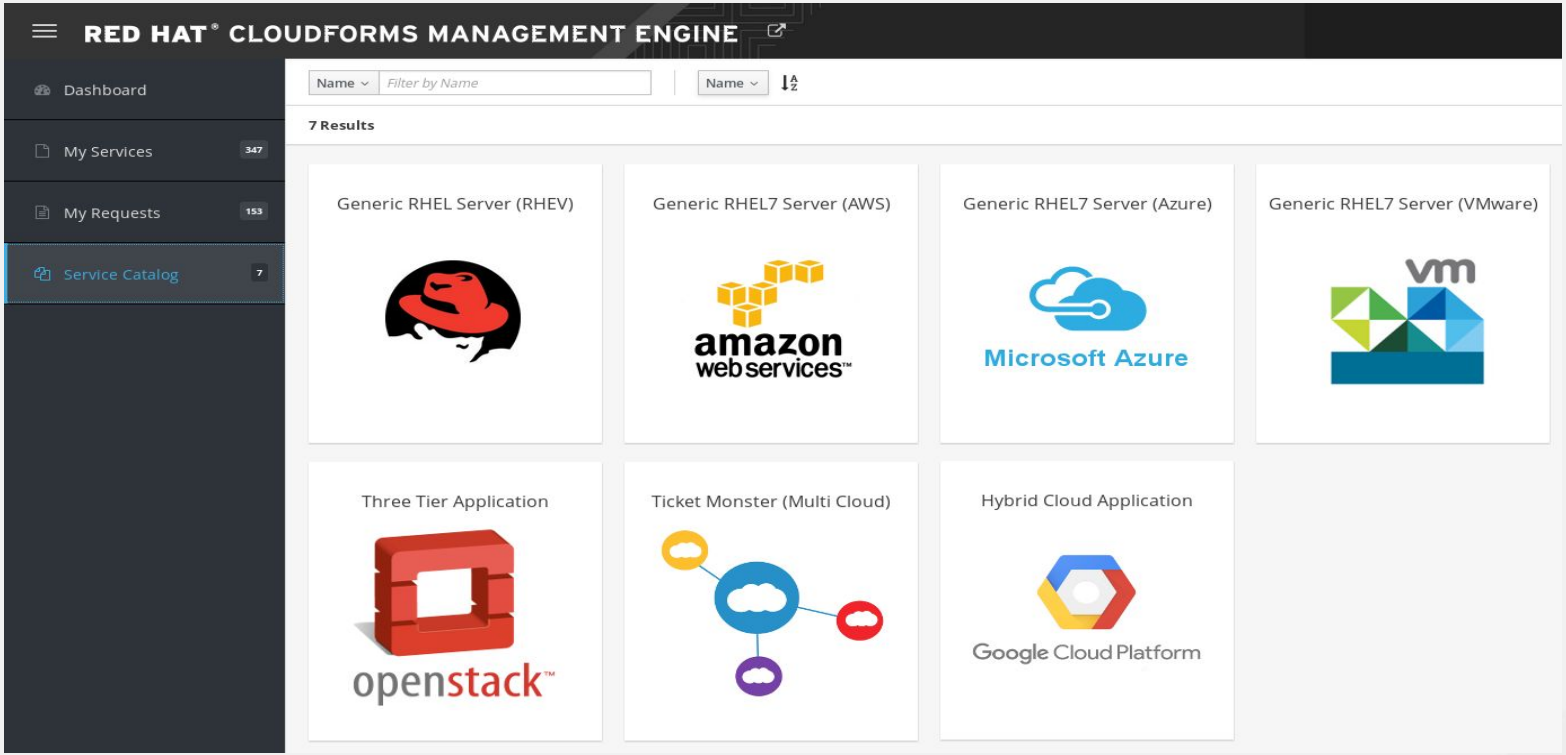
CloudForms Integration



Integration with CloudForms is done on two layers:

- **OpenStack management** (w/ Red Hat OpenStack Platform)
  - admin/tenant facing
- **OpenStack infrastructure management** (w/ director)
  - operator facing
  - correlation with Red Hat OpenStack Platform deployment
    - deployment details, service monitoring, drift history
  - scaling
    - power of combining policies and infrastructure management

Self-Service Portal



Lesson learned from successful deployments

Lesson Learned from a Successful Deployments

- Flexible - Customer can change the architecture during the project ...
- Hardware quality is very important
- Customer Infrastructure knowledge
- Working in a modular approach
- Working with the architecture reference **Red Hat OpenStack Architecture on Cisco UCS Platform**


Q & A

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