

**RED HAT
SUMMIT**

**BOSTON, MA
JUNE 23-26, 2015**

Red Hat CloudForms : OPENSTACK INFRASTRUCTURE MANAGEMENT

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24rd June 2015

About Me

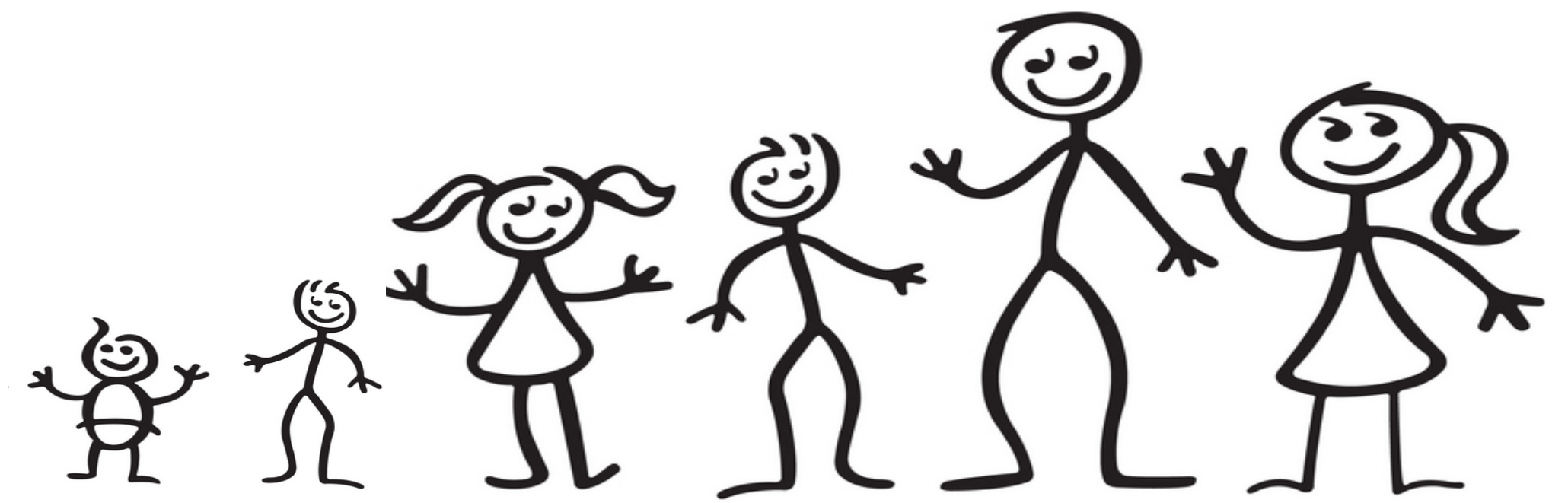
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Agenda

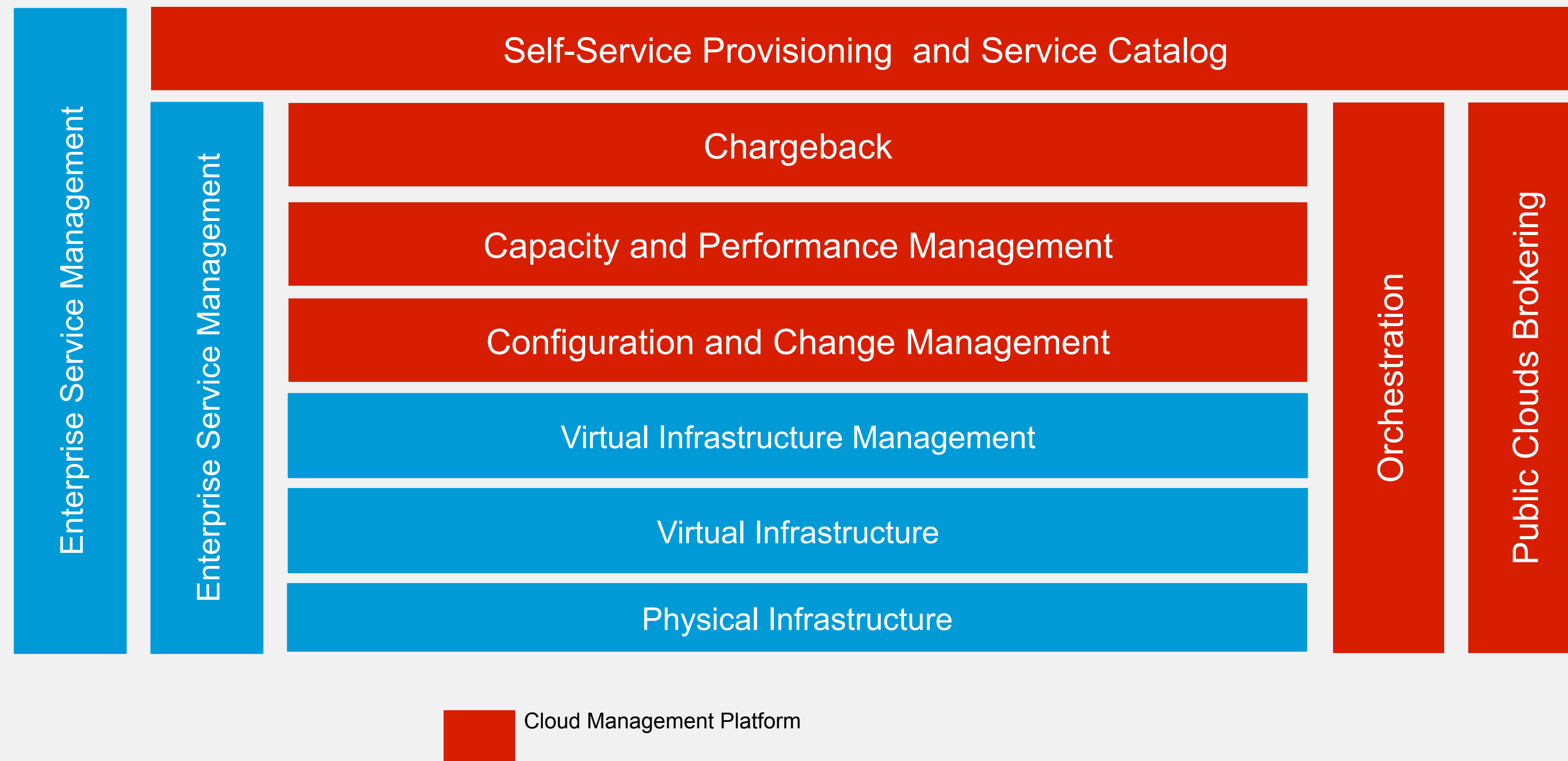
- OpenStack Support
- Management Introduction
- What is a CMP
- Demo's
 - **Power, Provision and Console**
 - **Capacity and Utilization, Under and Over Cloud**
 - **Smart State and Genealogy**
 - **Manual and Automatic Infrastructure Scaling**
- Summary
- Q&A

Version Support



3,4,5,**6** → **7**

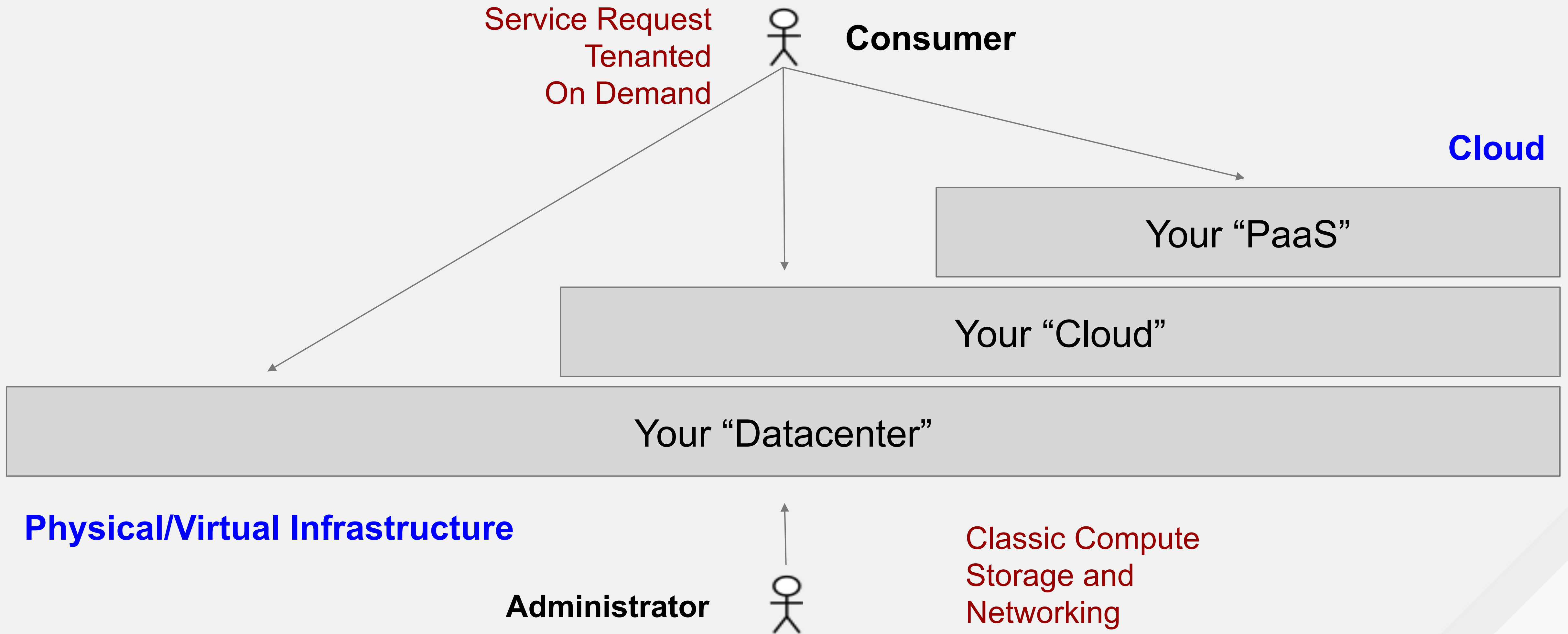
GARTNER: IAAS REFERENCE ARCHITECTURE AND CMPS



Source: Gartner (July 2012)

Infrastructure/Cloud

What is Infrastructure and what is Cloud?



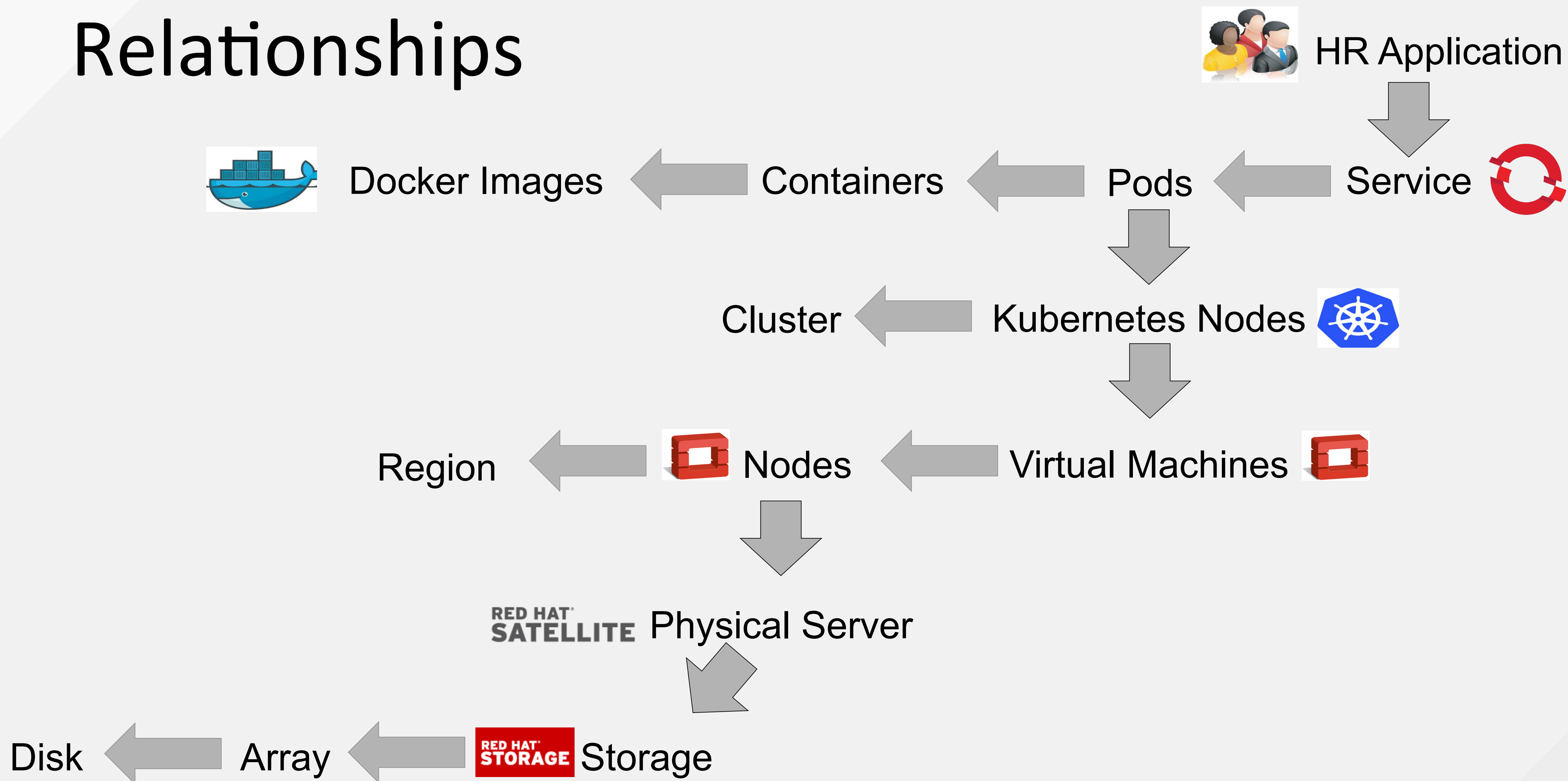
Holistic

Disk **Failure!**



Availability?

Relationships



Demo 1

Power, Provisioning & Console

OpenStack - Power, Provision & Console

<https://youtu.be/ByeCXMM-5z4>

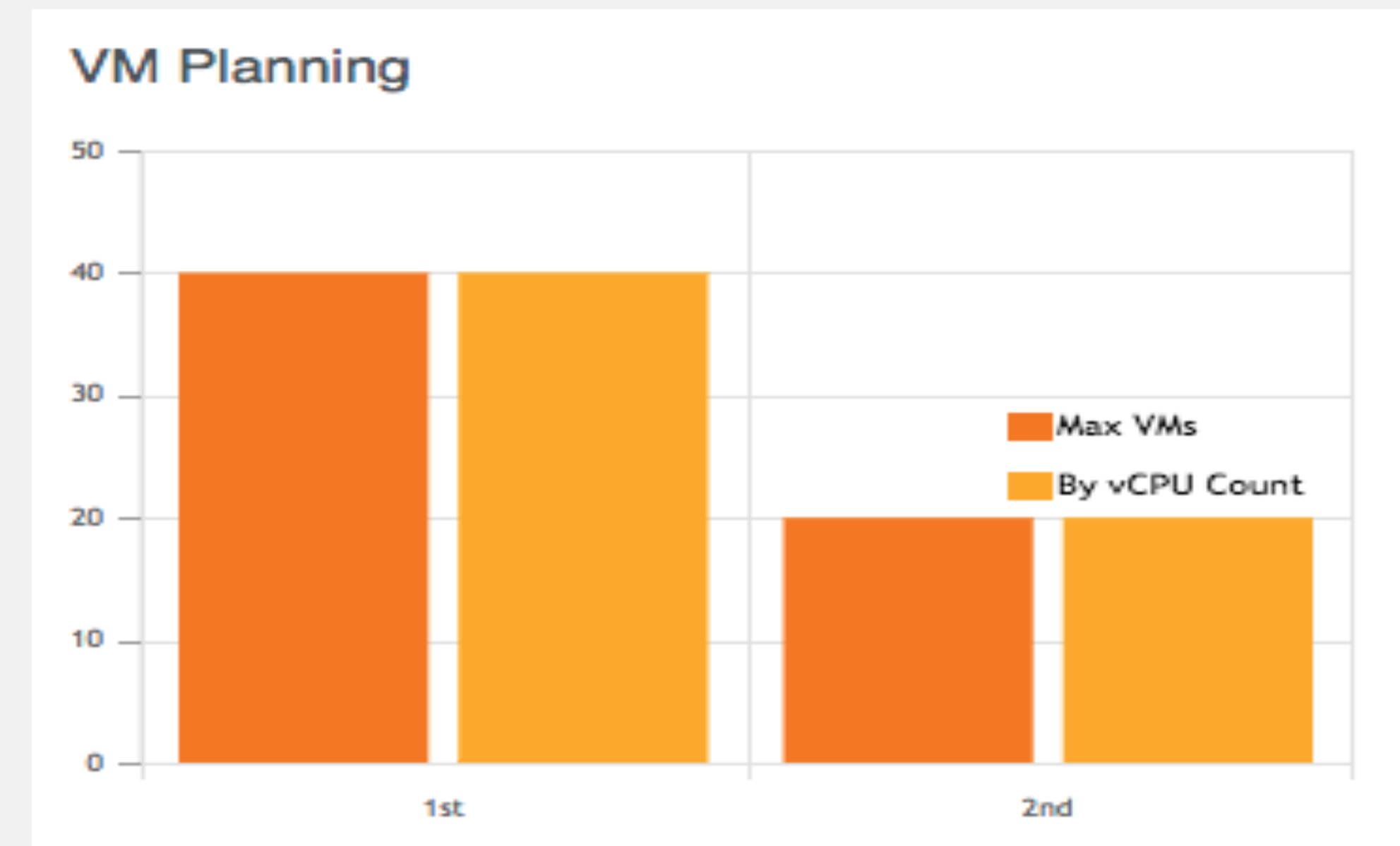
Capacity



The big question, what is the capacity of my environment?

Aggregate Node CPU Resources	51.2 GHz
Aggregate Node Memory	352 GB
Aggregate Node CPUs	6
Aggregate Node CPU Cores	24

- Allocation
- Reservation
- Manual
- Usage



Utilization

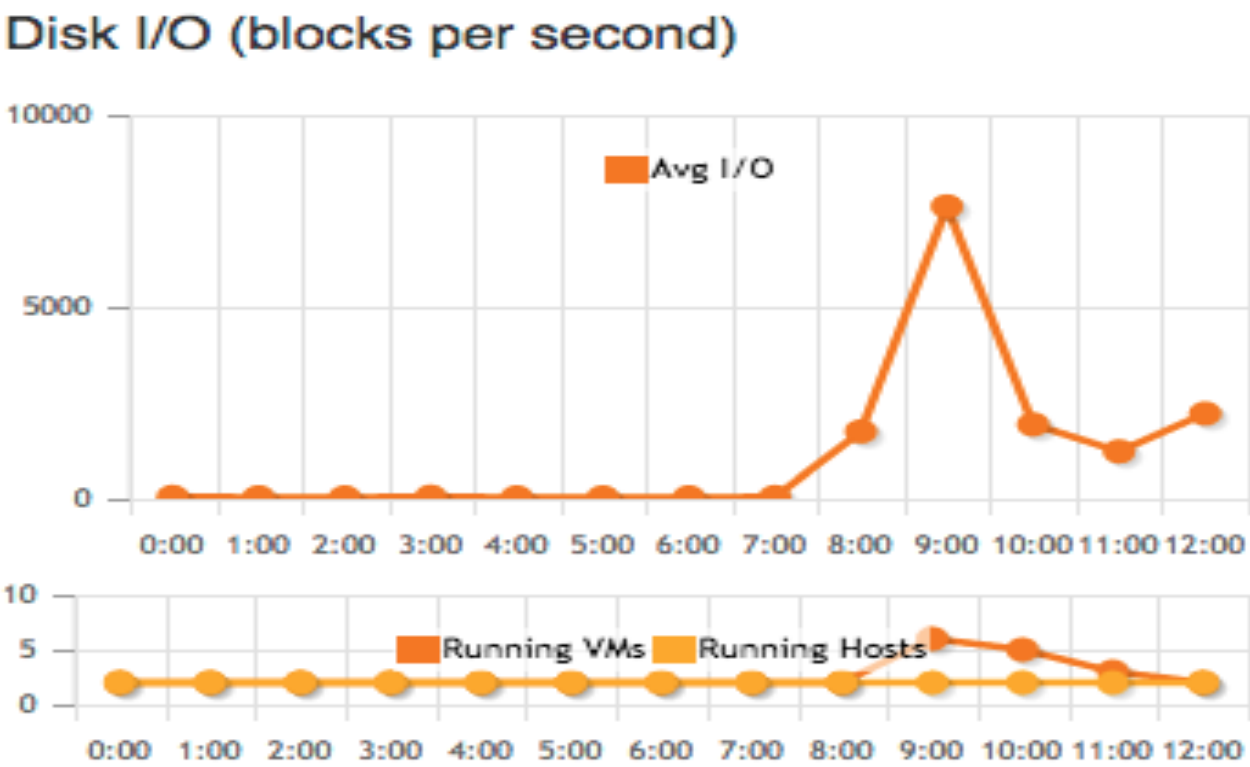
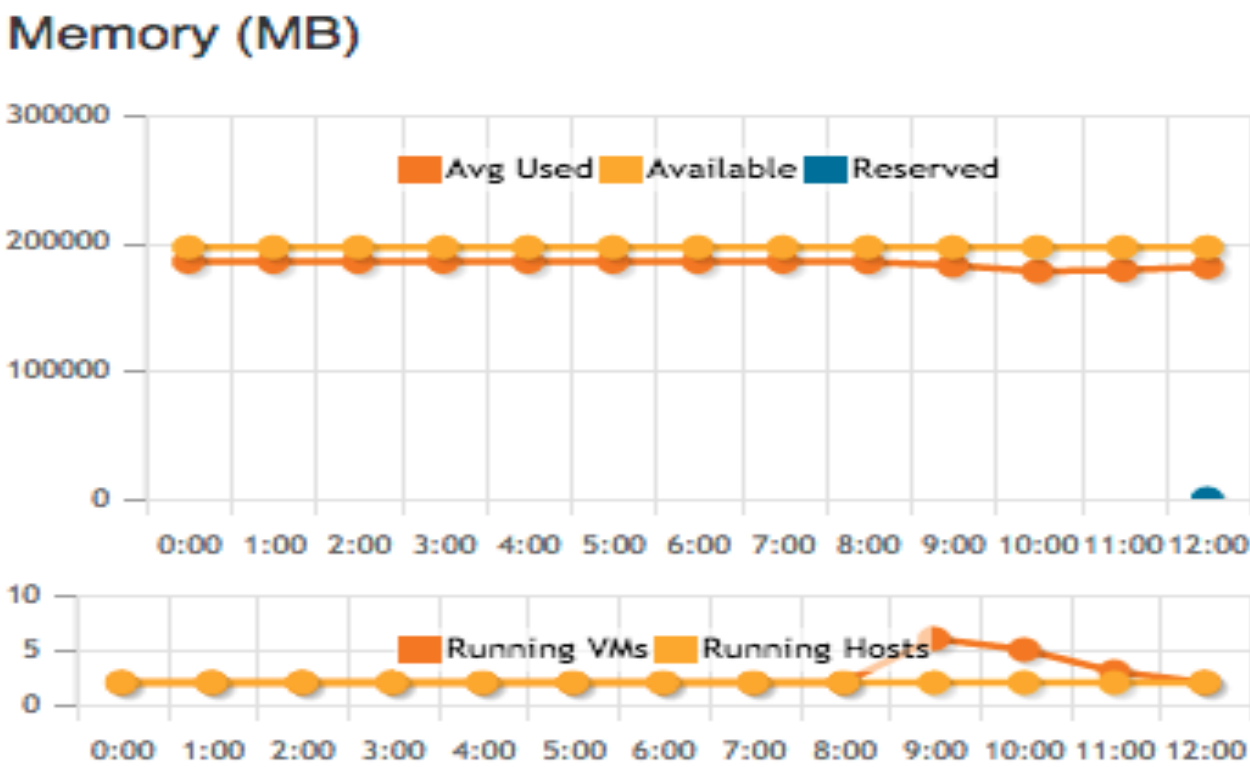
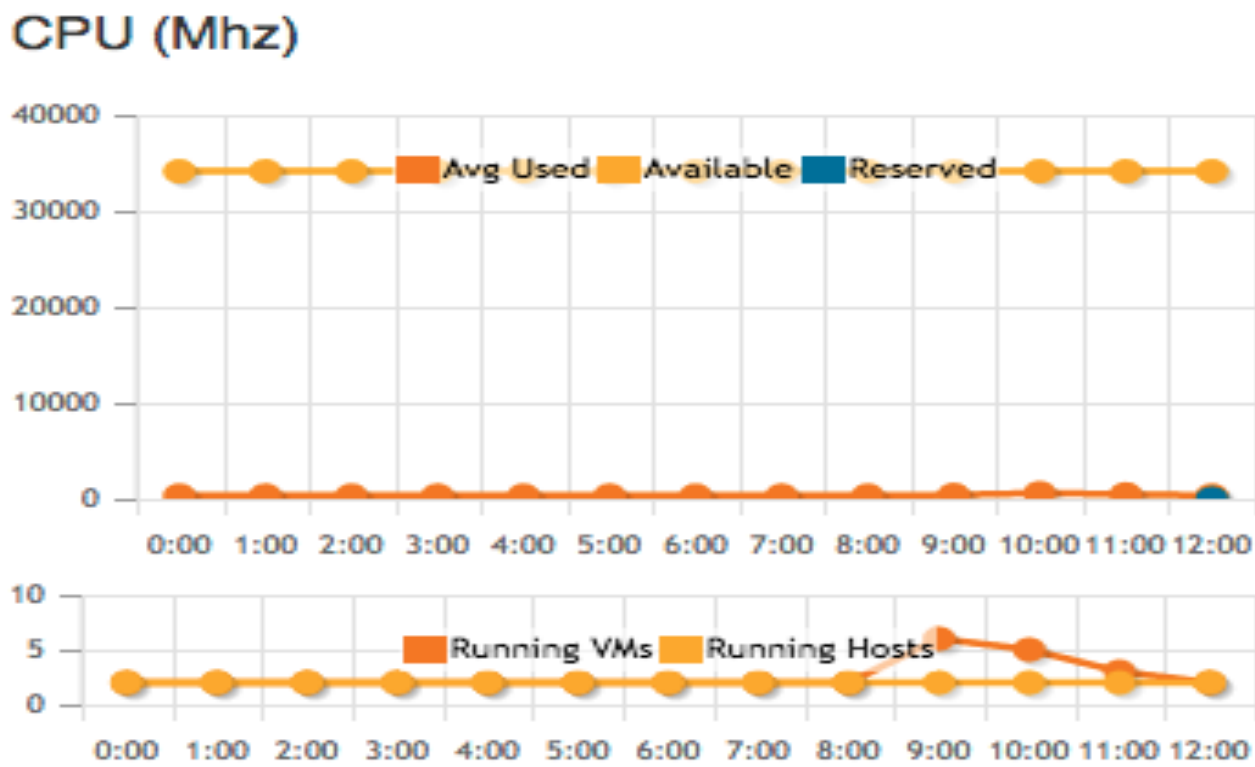


Contention - Deployment Role - Compute

Totals for VMs	
Total Configured Memory	22.5 GB (Virtual to Real Ratio: 0.1)
Total Configured CPUs	12 (Virtual to Real Ratio: 0.8)

Currently using 12 CPU's of a possible 16, underutilized deployment role, ratio 0.8 to 1

Metrics - Deployment Role - Compute (*CPU, RAM, Disk I/O & Network I/O*)



Demo 2

Capacity & Utilization Under & Over Cloud

OpenStack - Capacity and Utilization

<https://youtu.be/Qe-sDxENXF8>

Inventory

Basic

- Properties
 - Flavor
 - Operating System
 - IP Addresses

Relationships - More Later

Advanced

- **SmartState**
 - Users & Groups
 - Applications & Patches
 - Files & Registry keys
 - Contents



Reporting

General Reports
Compliance
Ad-Hoc
Custom

Relationships - Breadcrumbs

Benefits

Security - Only authorized accounts
Apps & **Vulnerability** assessments.
Watermark and Signature recognition
Configuration State Check

Demo 3

Smart State & Genealogy

OpenStack - SmartState and Genealogy

<https://youtu.be/ysMDeqSddQ4>

Scale Out

Manual

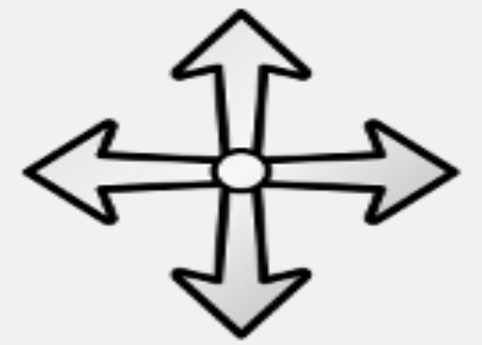
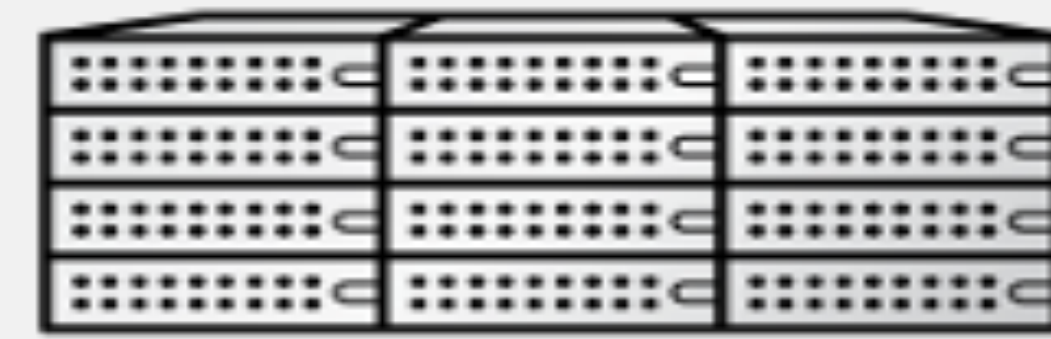
1. Select the OpenStack Infrastructure Provider
2. Re-configure the Provider

Wait for the magic!

Automatic

1. Choose a trigger - Alert, Policy, RESTapi, etc...
2. Assign trigger to something, Node, Instance etc...

Wait for the magic!



Demo 4

Manual and Automatic Infrastructure Scaling

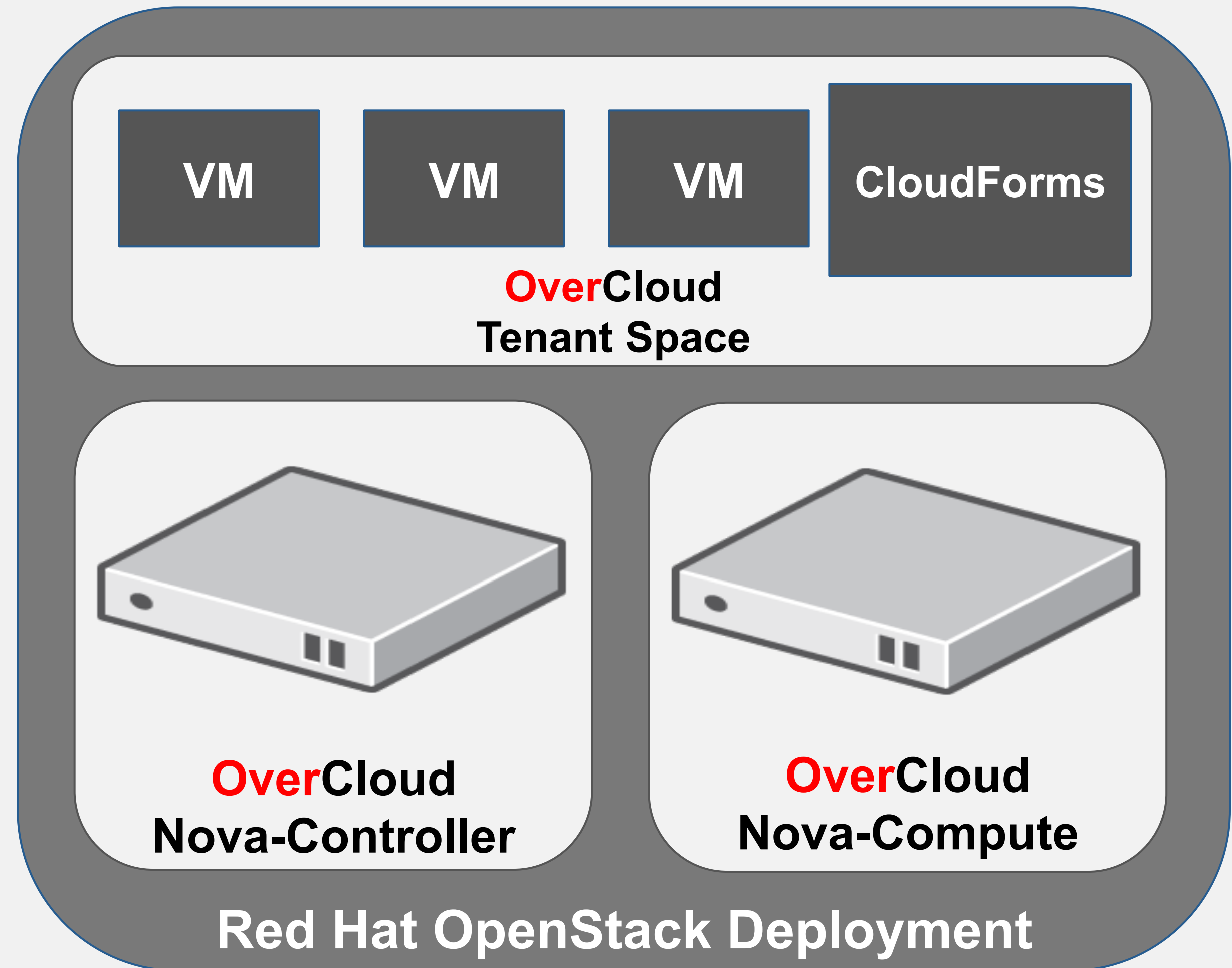
OpenStack - Manual Scale

<https://youtu.be/vzO90uuRjO8>

OpenStack - OverCloud AUTO Scale

<https://youtu.be/bcJo7Bj7ho4>

Environment - **Now**

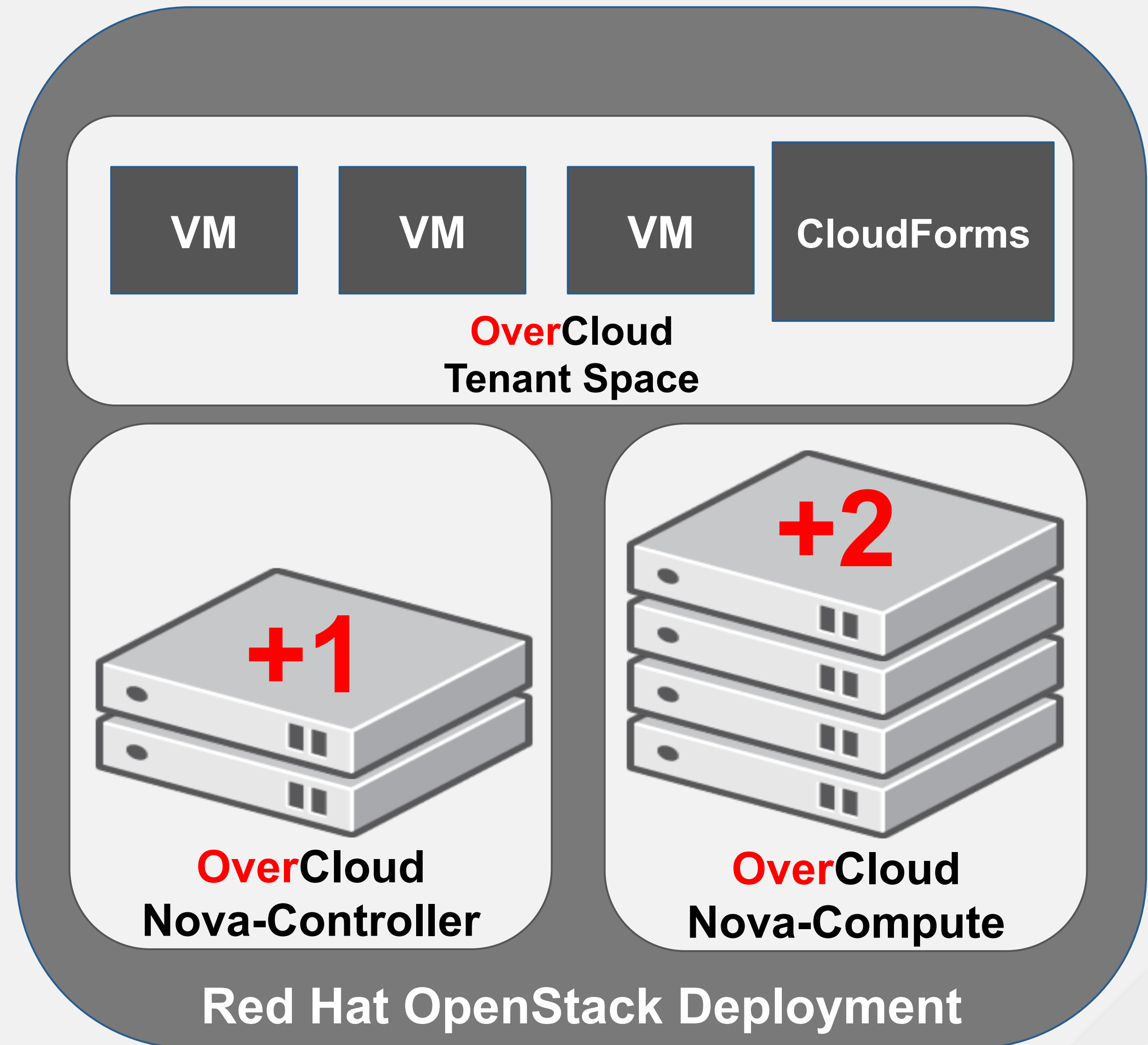


Environment - **Next**

1 NEW Nodes has been added to the OverCloud Nova-Controller Deployment-Role



2 NEW Nodes have been added to the OverCloud Nova-Compute Deployment-Role



Demo 5

HEAT on Steroids

OpenStack - Heat/Cloudformations Templates

<https://youtu.be/qiKrrGi51HU>

Packaging

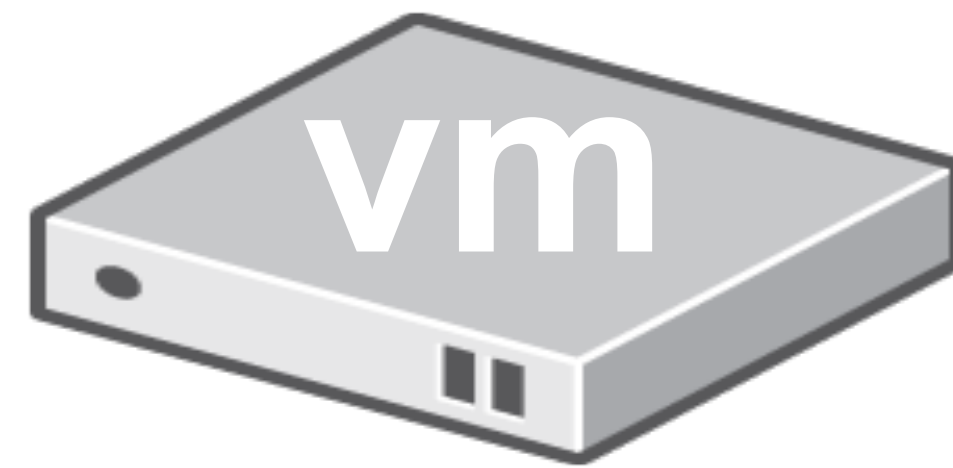


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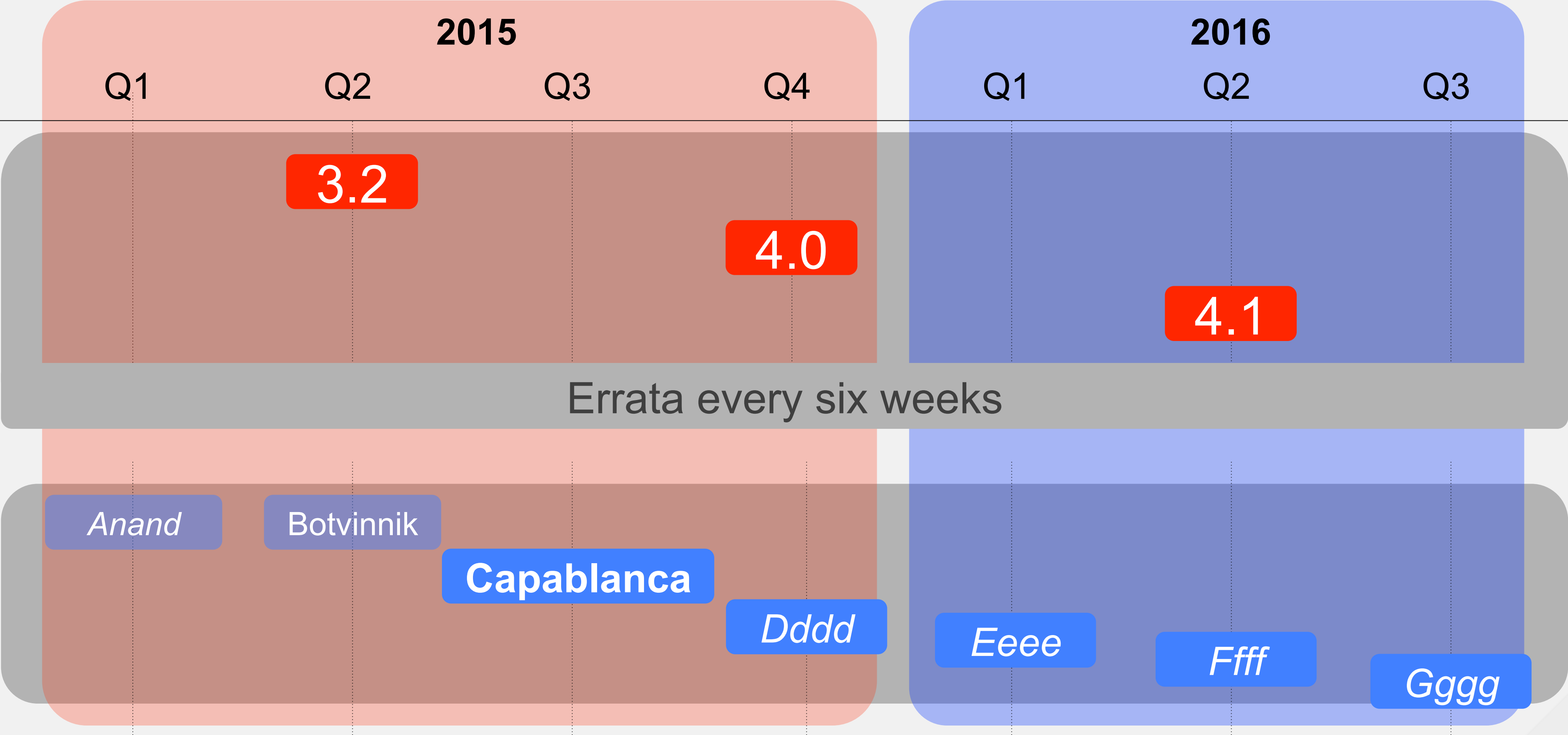
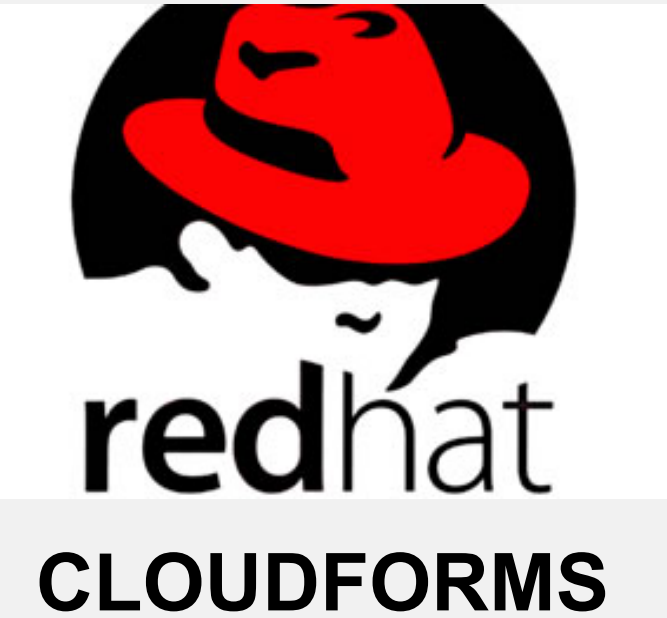


Microsoft
Hyper-V



amazon
web services™

Release Schedule



Note : Red Hat CloudForms may NOT align directly to a ManageIQ release of the same month/quarter.
Note : Red Hat CloudForms version numbering is guidance only.

Manage OpenStack

- Make OpenStack manageable for the enterprise.
- Manage in parallel with other footprints, **migrate** workloads.
- Service catalog, chargeback / showback, **policy based controls**
- Manage tenant level as well as infrastructure (undercloud)
- **Auto-scaling** of infrastructure.



How to Succeed in Your OpenStack Deployment, 20 February 2015, Donna Scott and Arun Chandrasekaran

"Most enterprises find they need more than OpenStack for management and governance, as well as for multicloud management, including bursting across private and public cloud environments. As a result, many organizations implementing OpenStack invest in a Cloud Management Platform that rides on top, and provides an API translation and orchestration layer across private and public clouds."

Talks:

- Wed, 7:00pm, Room 202 - [Managing OpenStack clouds with Red Hat CloudForms](#)
- **Thu, 10:40am Room 312 - Container Management at Red Hat**
- Thu, 1:20pm, Room 311 - [Red Hat CloudForms, Red Hat Satellite 6, & Puppet for automating JBoss EAP 6](#)
- Thu, 1:20pm, Ballroom B-4 - [CloudForms Automate and Red Hat Enterprise Virtualization](#)
- **Thu, 1:20pm, Room 304 - ShellShock, HeartBleed--What's the next headache for compliance?**
- **Thu, 2:30pm, Room 206 - Red Hat CloudForms roadmap**
- **Fri, 11:00am, Room 313 - Cloud automation: Migrating 1000+ servers from vCloud to OpenStack**

Other:

- Tue-Thu, Exhibition Floor - [CloudForms and Hybrid Cloud Management Pods](#)
- Thu, 4:00pm, Sheraton Boston - [ManageIQ birds of a feather Session](#)

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