



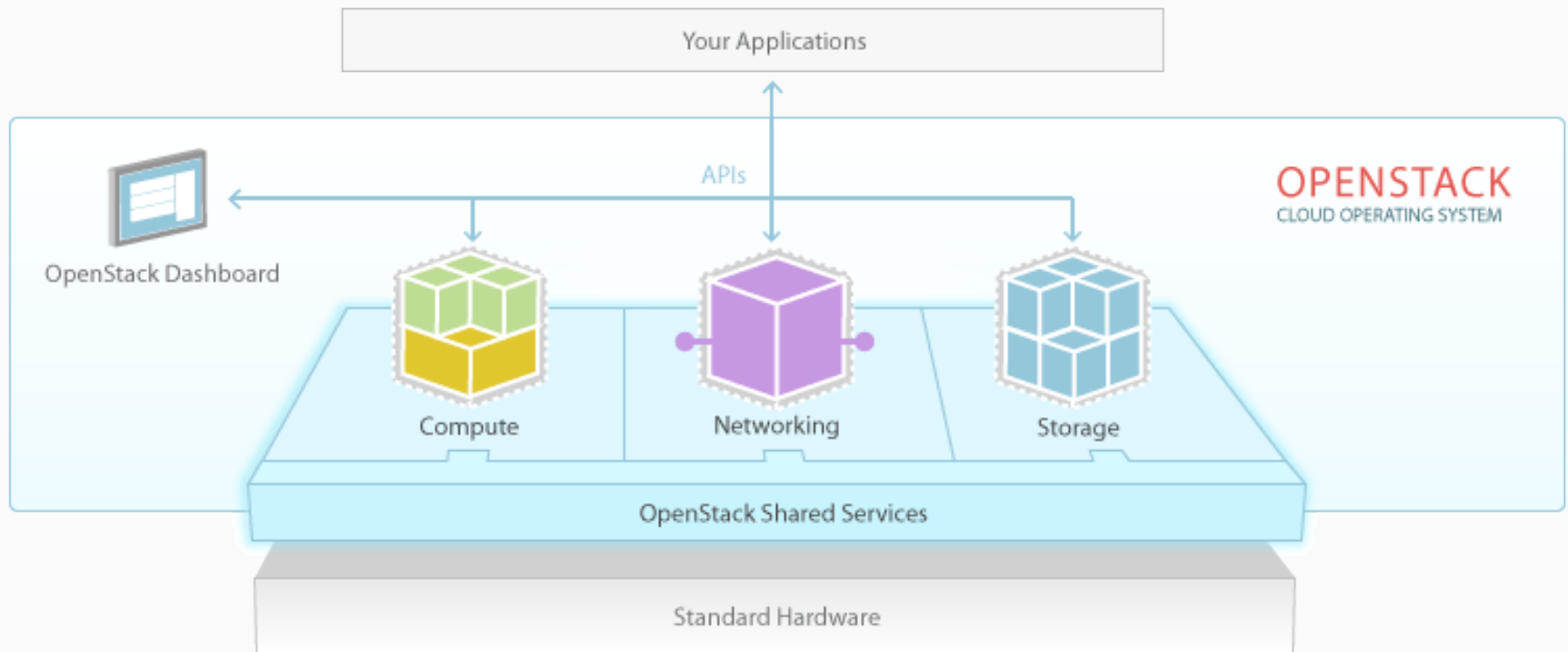
DESIGN YOUR PRIVATE CLOUD WITH **RED HAT OPENSTACK PLATFORM**



Sachin | psachin@redhat.com

Emerging Technologies team

WHAT IS OPENSTACK?



Cloud operating system

WHAT IS RED HAT OPENSTACK PLATFORM?



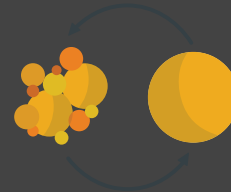
INFRASTRUCTURE AS A SERVICE




TRUSTED



ALWAYS UP TO DATE



STABLE



Log in

User Name

Password

DEVSTACK

openstack admin

Project Admin / System / Flavors

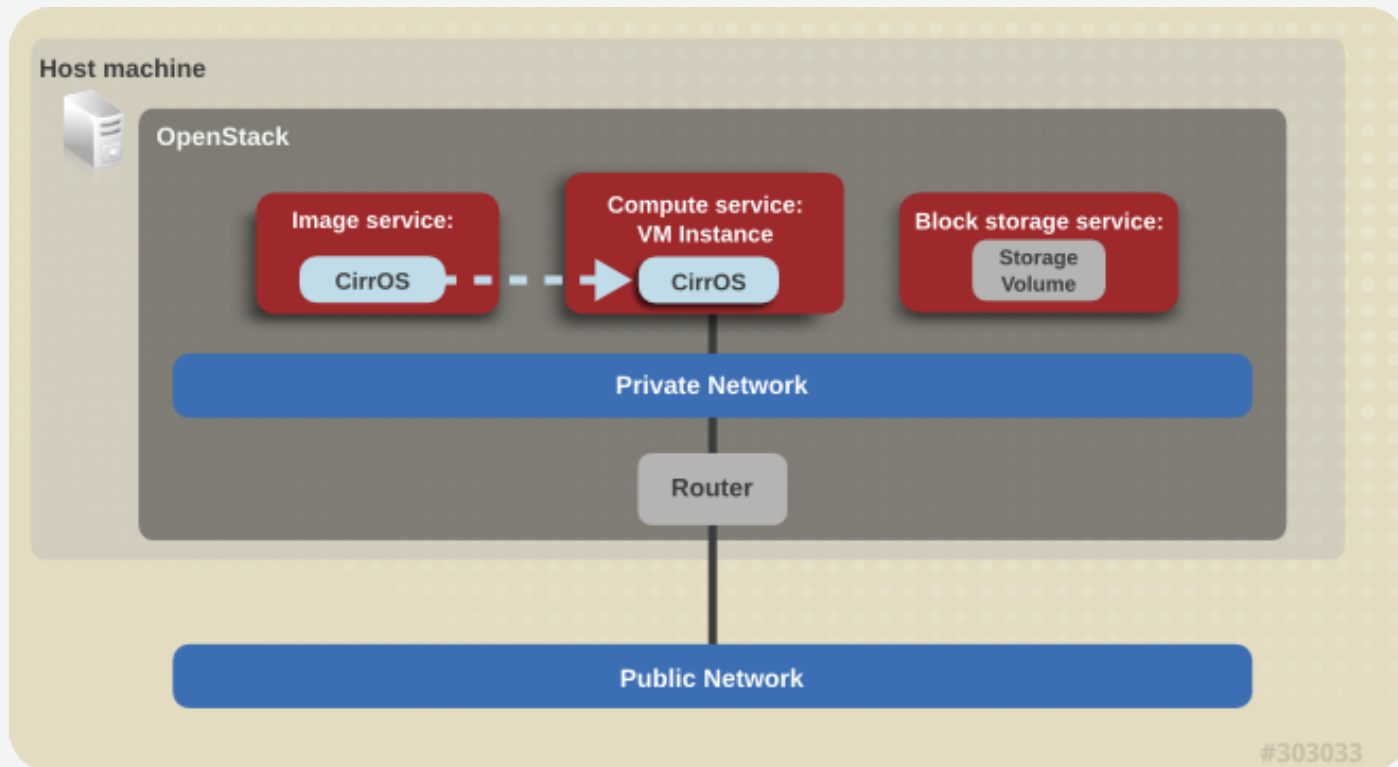
Flavors

Filter + CREATE FLAVOR DELETE FLAVORS

<input type="checkbox"/>	Flavor Name	VCPUs	RAM	Root Disk	Ephemeral Disk	Swap Disk	RX/TX factor	ID	Public	Metadata	Actions
<input type="checkbox"/>	clms256	1	256MB	0GB	0GB	0MB	1.0	c1	Yes	No	EDIT FLAVOR
<input type="checkbox"/>	ds1G	1	1GB	10GB	0GB	0MB	1.0	d2	Yes	No	EDIT FLAVOR
<input type="checkbox"/>	ds2G	2	2GB	10GB	0GB	0MB	1.0	d3	Yes	No	EDIT FLAVOR
<input type="checkbox"/>	ds4G	4	4GB	20GB	0GB	0MB	1.0	d4	Yes	No	EDIT FLAVOR
<input type="checkbox"/>	ds512M	1	512MB	5GB	0GB	0MB	1.0	d1	Yes	No	EDIT FLAVOR
<input type="checkbox"/>	m1.large	4	8GB	80GB	0GB	0MB	1.0	4	Yes	No	EDIT FLAVOR
<input type="checkbox"/>	m1.medium	2	4GB	40GB	0GB	0MB	1.0	3	Yes	No	EDIT FLAVOR
<input type="checkbox"/>	m1.micro	1	128MB	0GB	0GB	0MB	1.0	84	Yes	No	EDIT FLAVOR
<input type="checkbox"/>	m1.nano	1	64MB	0GB	0GB	0MB	1.0	42	Yes	No	EDIT FLAVOR
<input type="checkbox"/>	m1.small	1	2GB	20GB	0GB	0MB	1.0	2	Yes	No	EDIT FLAVOR
<input type="checkbox"/>	m1.tiny	1	512MB	1GB	0GB	0MB	1.0	1	Yes	No	EDIT FLAVOR
<input type="checkbox"/>	m1.xlarge	8	16GB	160GB	0GB	0MB	1.0	5	Yes	No	EDIT FLAVOR

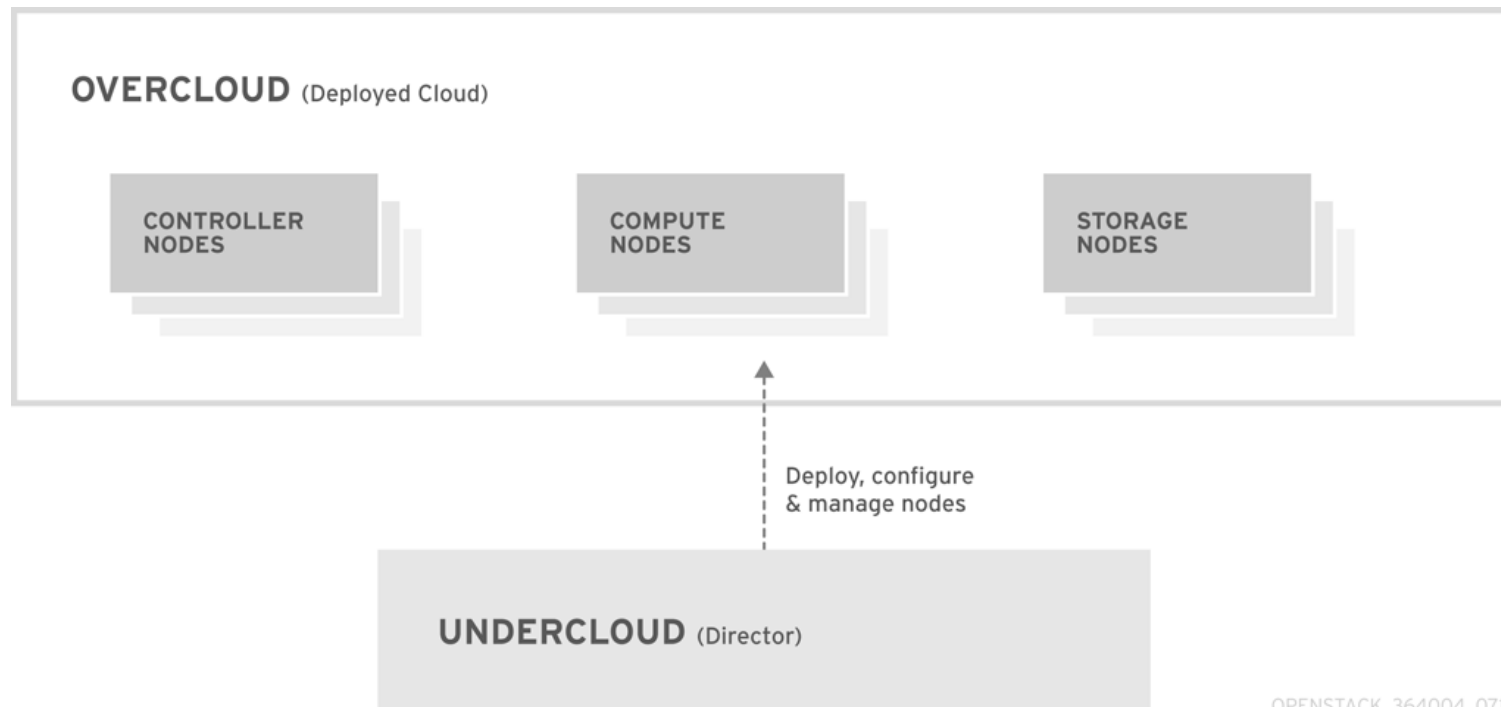
Displaying 12 items

PACKSTACK



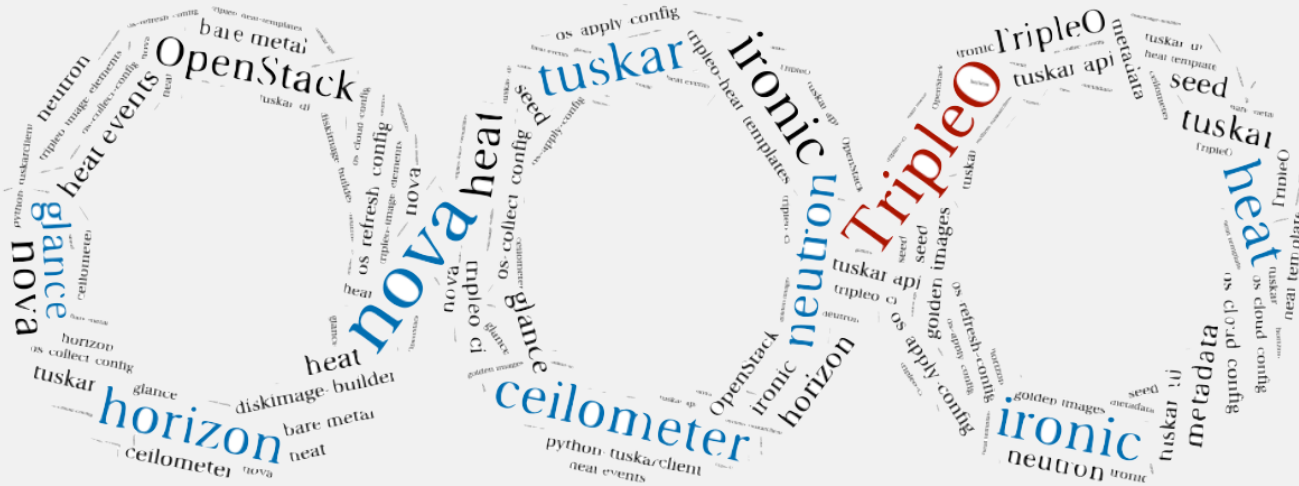
[OpenStack single-node deployment](#) | [Packstack networking overview](#)

DIRECTOR



OPENSTACK_364004_0715

TRIPLEO



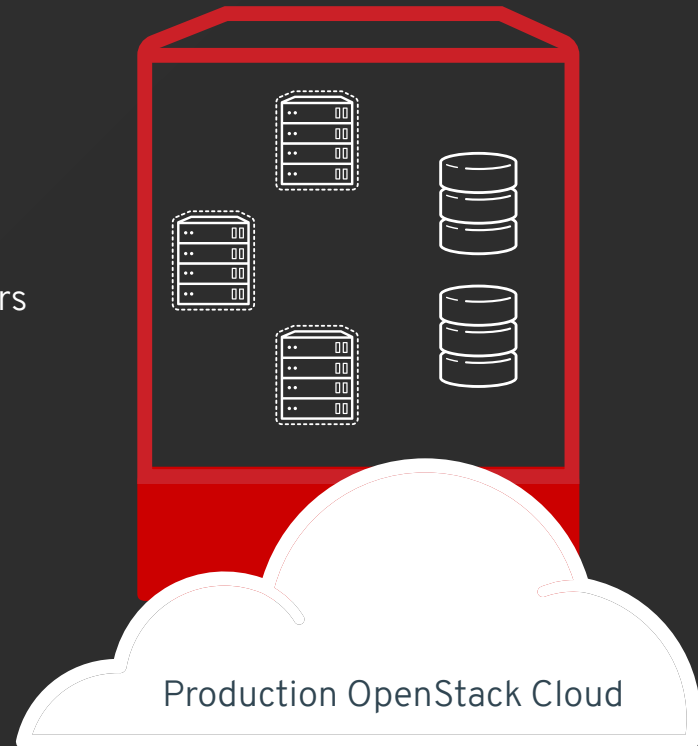
- * Friendly name for "OpenStack On OpenStack"
- * Allows you to deploy production cloud on bare-metal hardware
- * *Undercloud*: Subset of existing OpenStack components
- * *Overcloud*: Production OpenStack cloud

TRIPLEO OVERVIEW



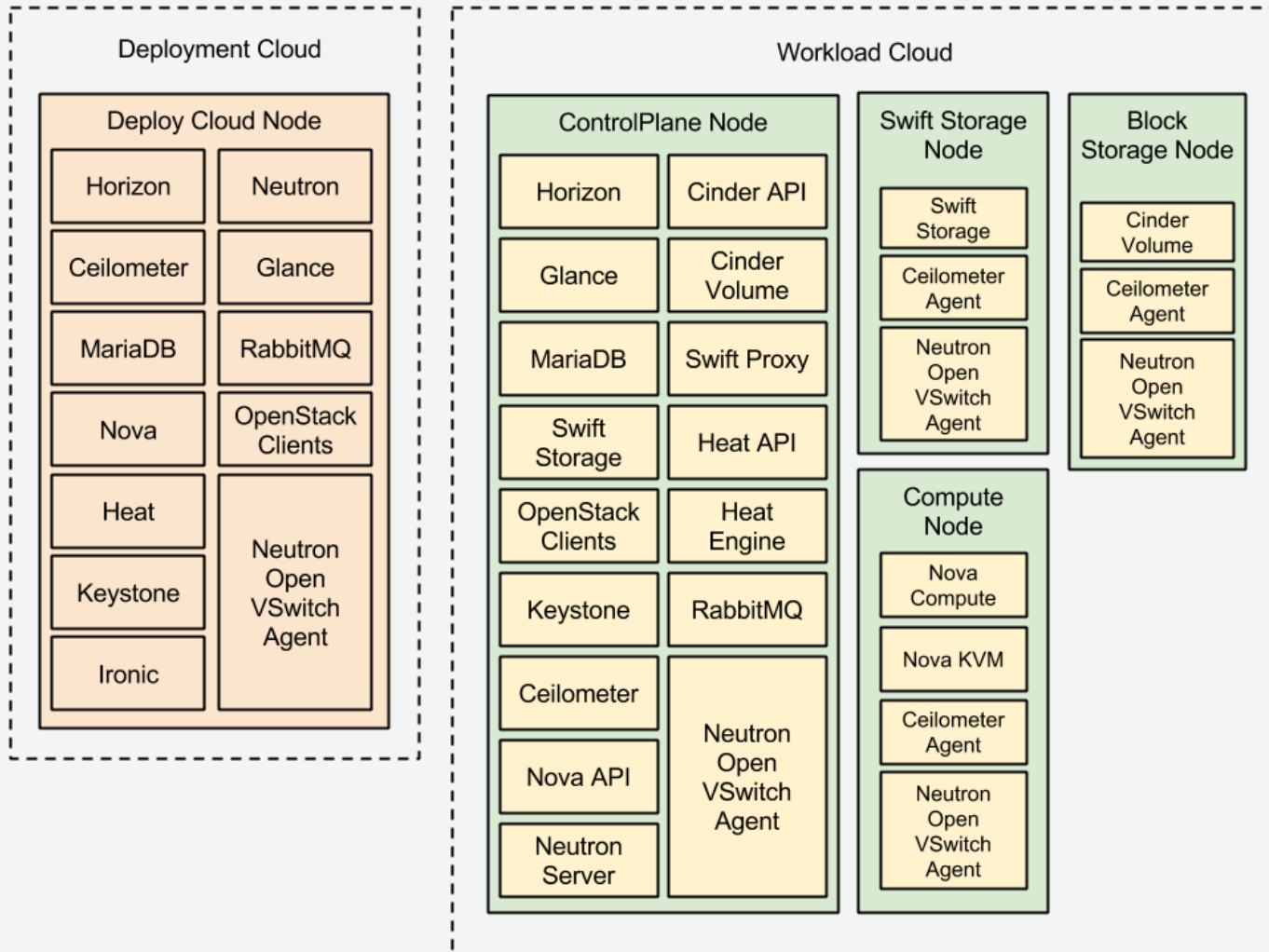
TripleO based
management application

Deploys, updates, monitors



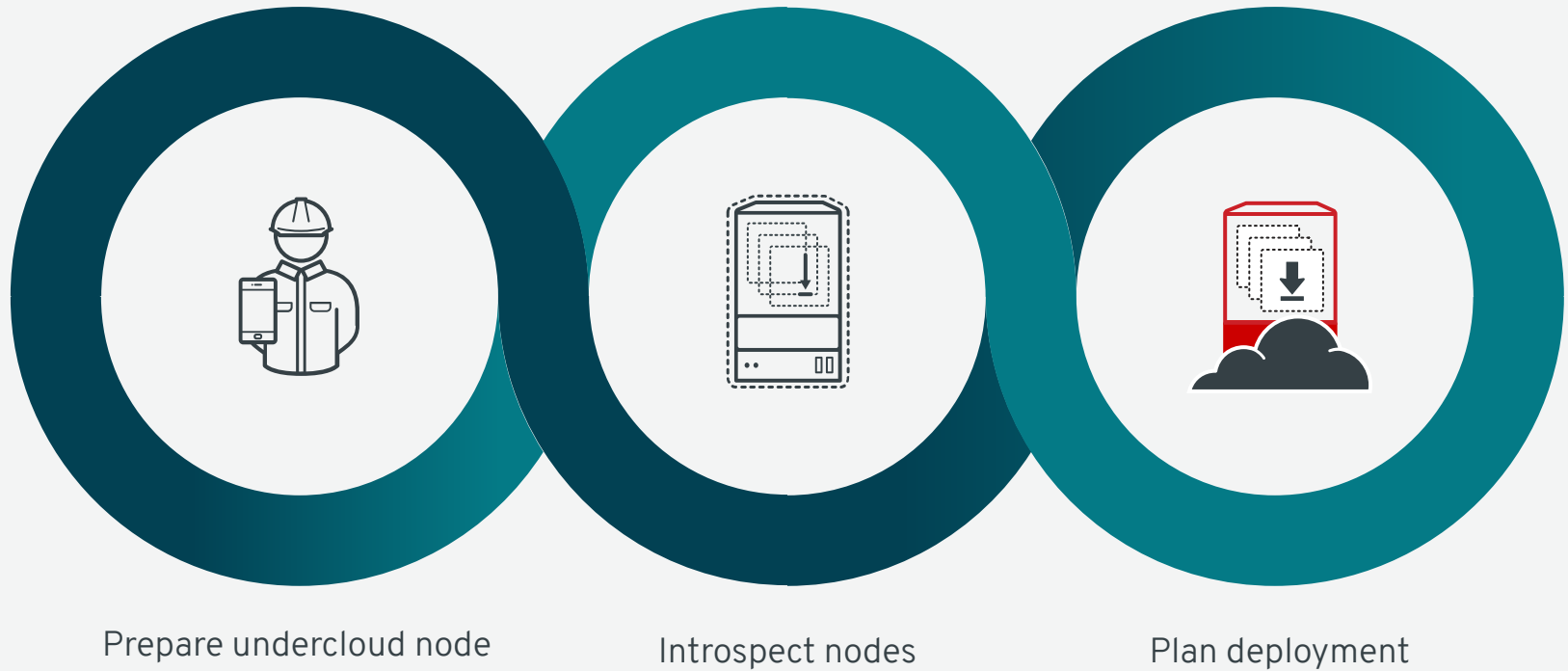
Production OpenStack Cloud

TRIPLEO PHYSICAL VIEW



TRIPLE0

Deployment workflow overview



TRIPLEO

Deployment workflow overview

Install undercloud node

Register nodes(Ironic)

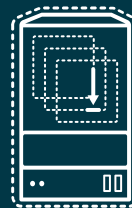
Create images(build/download)

1 Introspect nodes

2 Profile matching
(ironic-inspector)

1 Plan deployment

2 Deploy overcloud



OVERCLOUD

Requirments

COMPUTE

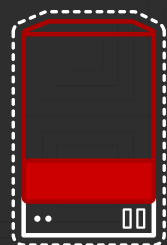
	value
Processor	64-bit x86 (Intel 64 or AMD64)
Memory	minimum 6 GB of RAM
Disk Space	40 GB available
NICs	min. 1 Gbps, at-least 2 in production
IPMI	IPMI functionality in motherboard

CONTROLLER

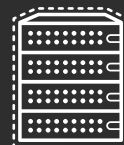
	value
Processor	64-bit x86 (Intel 64 or AMD64)
Memory	min. 32 GB RAM, 64 GB recommended



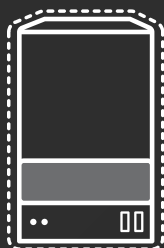
PLANNING YOUR OVERCLOUD



Compute



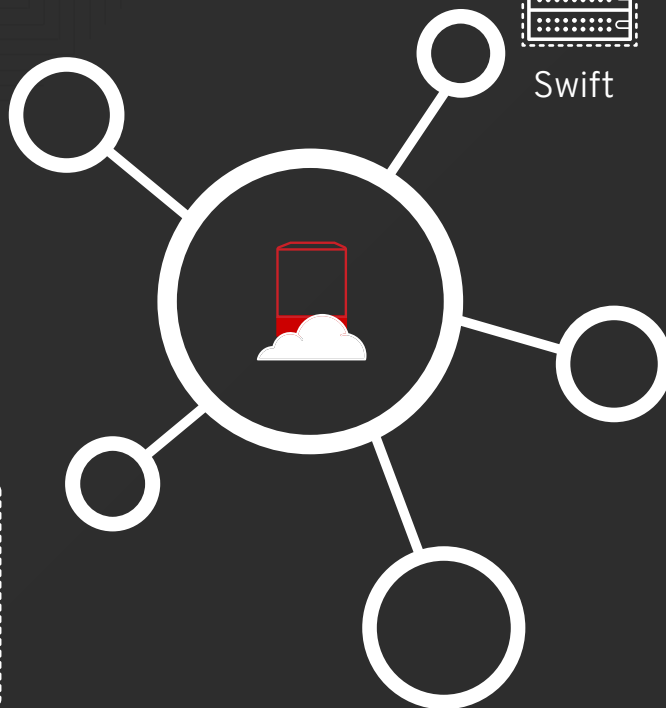
Swift



Controller



Cinder



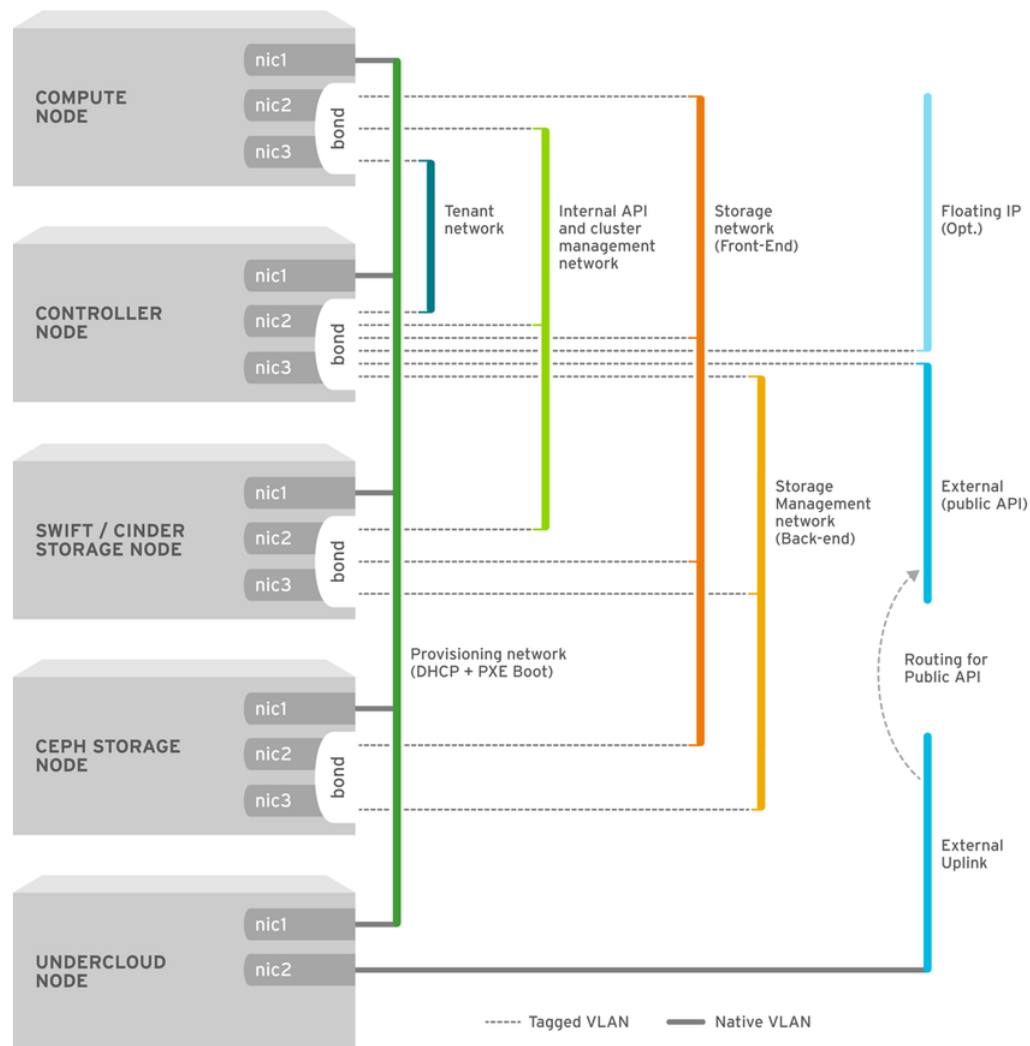


PLANNING YOUR OVERCLOUD

Overcloud	Controller	Compute	Ceph	Swift
Small	1	1	-	-
Medium	1	3	-	-
Medium with object storage	1	3	-	1
Medium(HA)	3	3	-	-
Medium(HA) with Ceph	3	3	3	1

[Planning your Overcloud](#)

PLANNING NETWORKS



HEAT TEMPLATE

[Understanding heat template](#)

```
heat_template_version: 2013-05-23

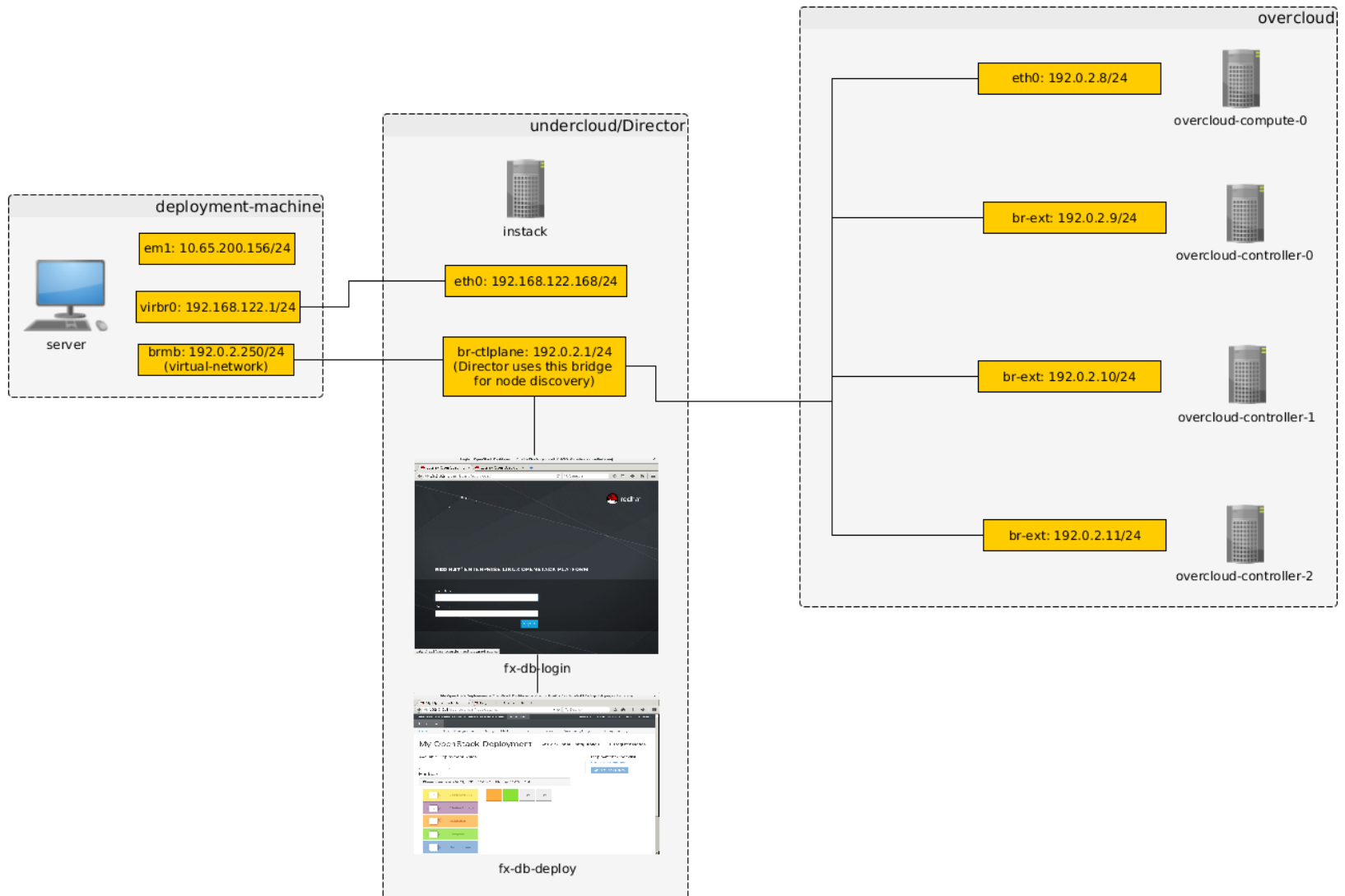
description: > A very basic Heat template.

parameters:
  key_name:
    type: string
    default: lars
    description: Name of an existing key pair to use for the instance
  flavor:
    type: string
    description: Instance type for the instance to be created
    default: m1.small
  image:
    type: string
    default: cirros
    description: ID or name of the image to use for the instance

resources:
  my_instance:
    type: OS::Nova::Server
    properties:
      name: My Cirros Instance
      image: { get_param: image }
      flavor: { get_param: flavor }
      key_name: { get_param: key_name }

output:
  instance_name:
    description: Get the instance's name
    value: { get_attr: [ my_instance, name ] }
```


TOPOLOGY



RED HAT® OPENSTACK PLATFORM

<https://access.redhat.com/documentation/en/red-hat-openstack-platform>



redhat.®