

# Case Study: Utilizing Mirantis Fuel to install OpenStack Ansible

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Grand Postal Building, Bangrak, Bangkok | September 22-23, 2016

# Who are we



Mr. Charnsilp Chinprasert

Cloud Architect, Nipa

6 Months OpenStack experiences



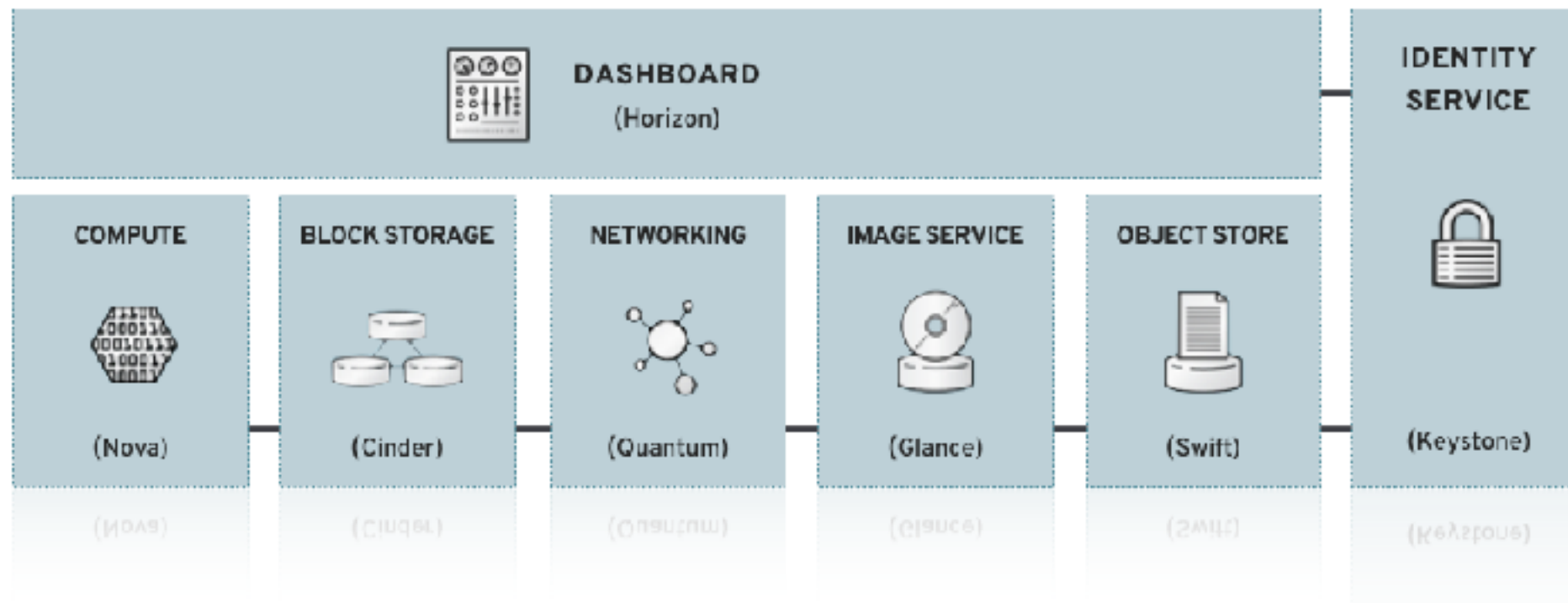
Mr. Khomkrit Viangvises

OpenStack Evangelist, Nipa

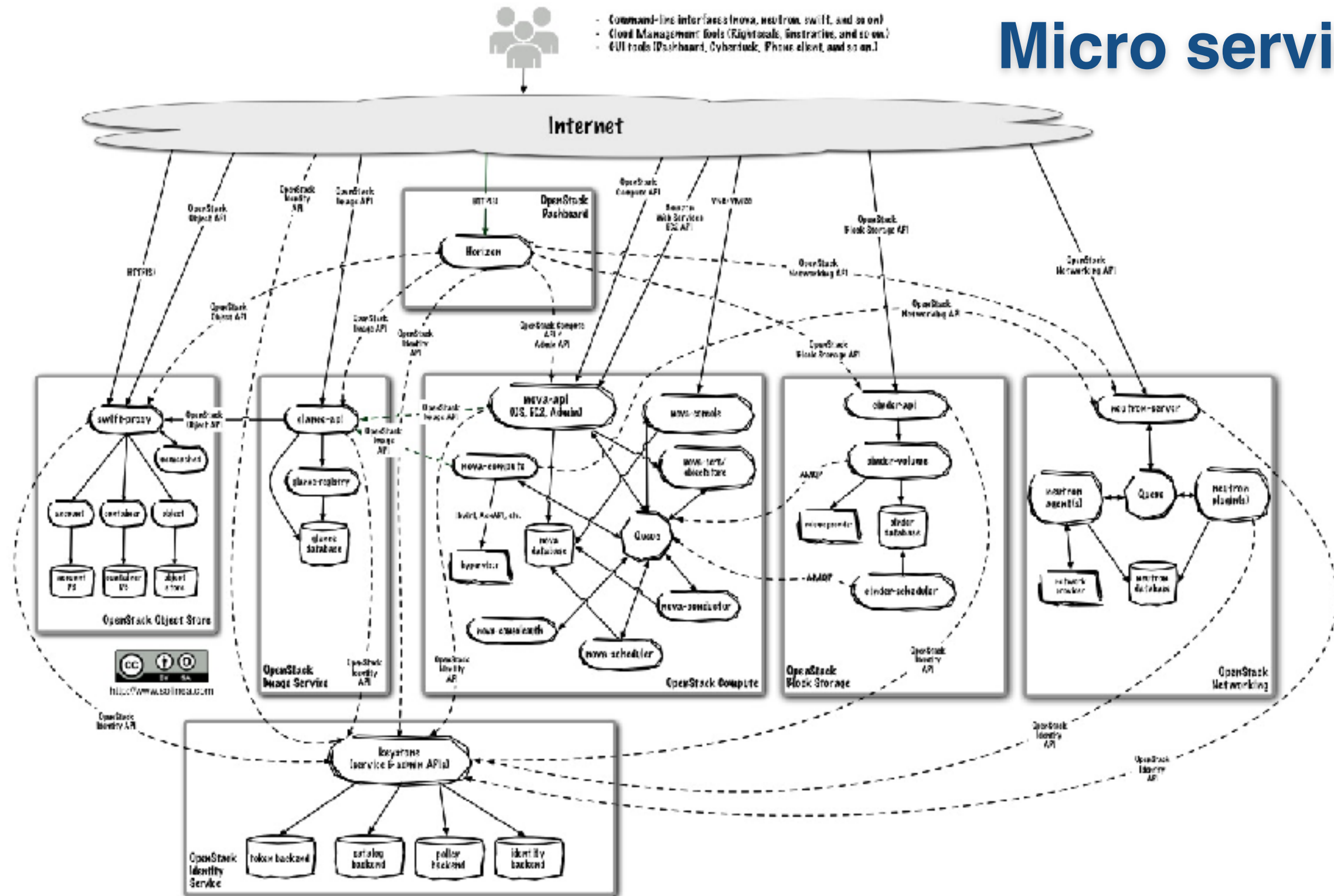
4 years of OpenStack experiences

# **Case Study:** Utilizing Mirantis Fuel to install OpenStack Ansible

# OpenStack Architecture



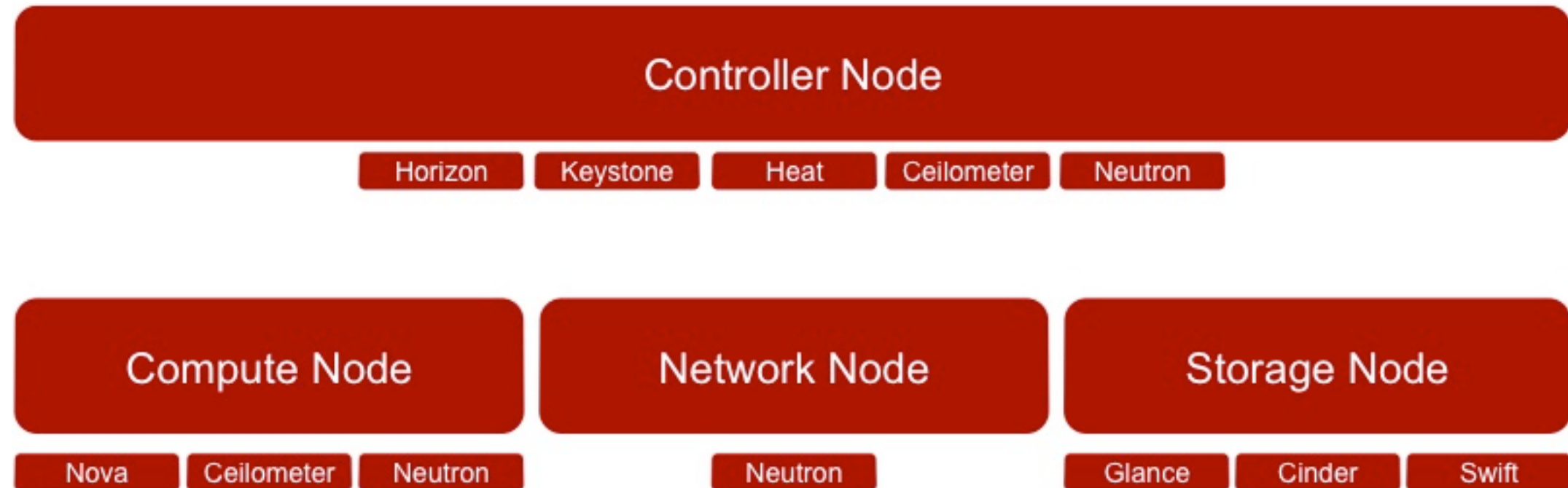
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- Command-line interfaces (nova, neutron, swift, and so on)
- Cloud Management tools (Riftscales, Ansistrano, and so on)
- GUI tools (Dashboard, Cyberduck, Phone client, and so on)





More than 20+ nodes !!!!

Image Optimization

Hardware Design

Typo

High Availability

Logging

Hardware Design

Scalable

Monitoring

# Human Error ?

Security

Security bug patch

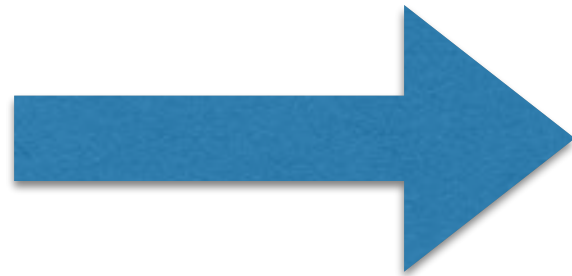
Network Design

Configuration management

Api Health Check



**S**imple  
**S**table  
**S**calable  
**S**ecurity  
**A**utomated



OpenStack  
**Distros**

# OpenStack Distro

vmware®

IBM

 **rackspace**  
the #1 managed cloud company

  
**aptira**

 海云捷迅  
AWCLOUD

  
MIRANTIS

 Cloud  
云途腾

  
trans**cyrrus**  
Zero to Cloud in Minutes

 PLATFORM9

 九州云  
Cloud

 APPFORMIX

  
HUAWEI

 **redhat.**

 eNovance

 EasyStack

 AQORN

ORACLE®

 **Bright** Computing

 **breqwater**

 **ULTIMUM**  
TECHNOLOGIES

  
**Hewlett Packard**  
Enterprise

  
CISCO

# OpenStack Distro





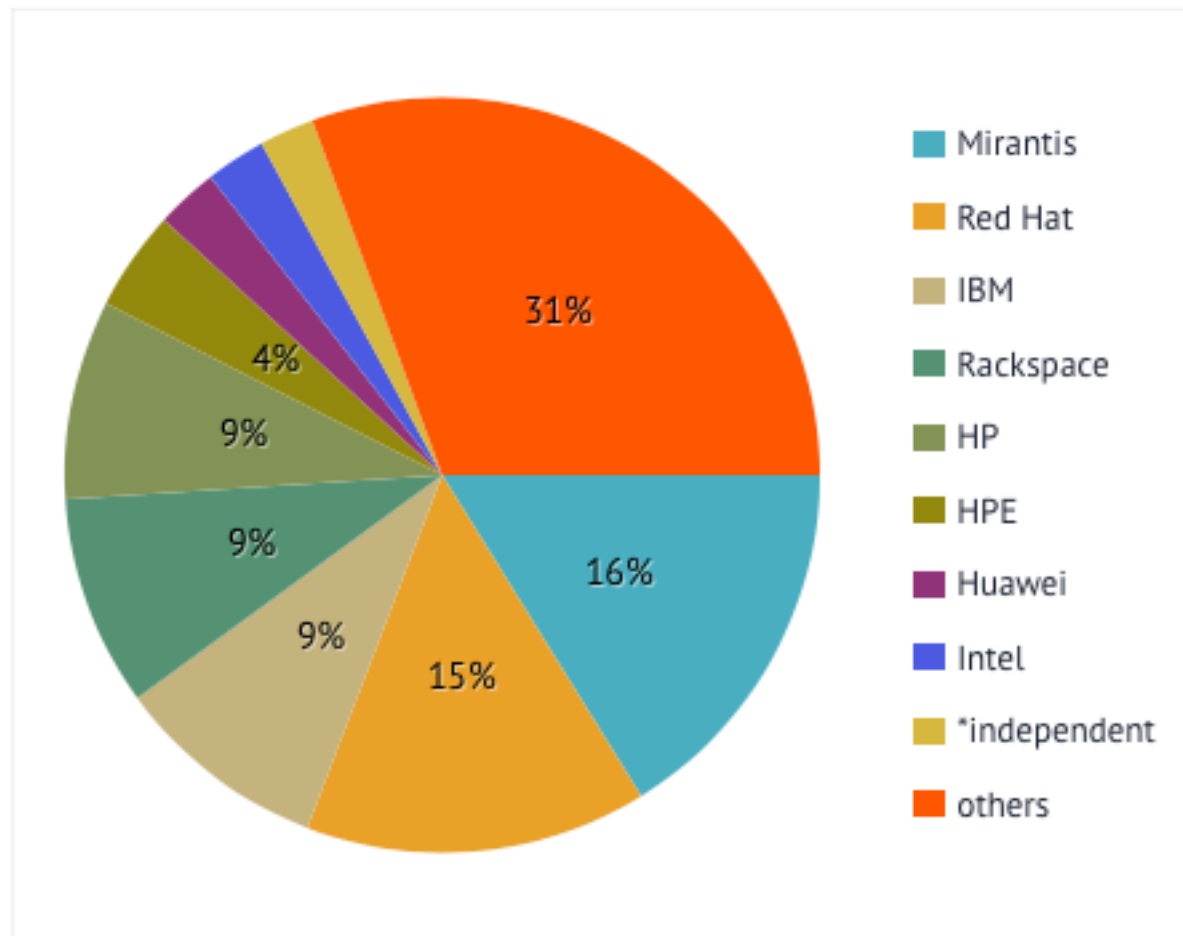
**MIRANTIS**



**FUEL**

# Fuel (Mirantis)

Contribution by companies

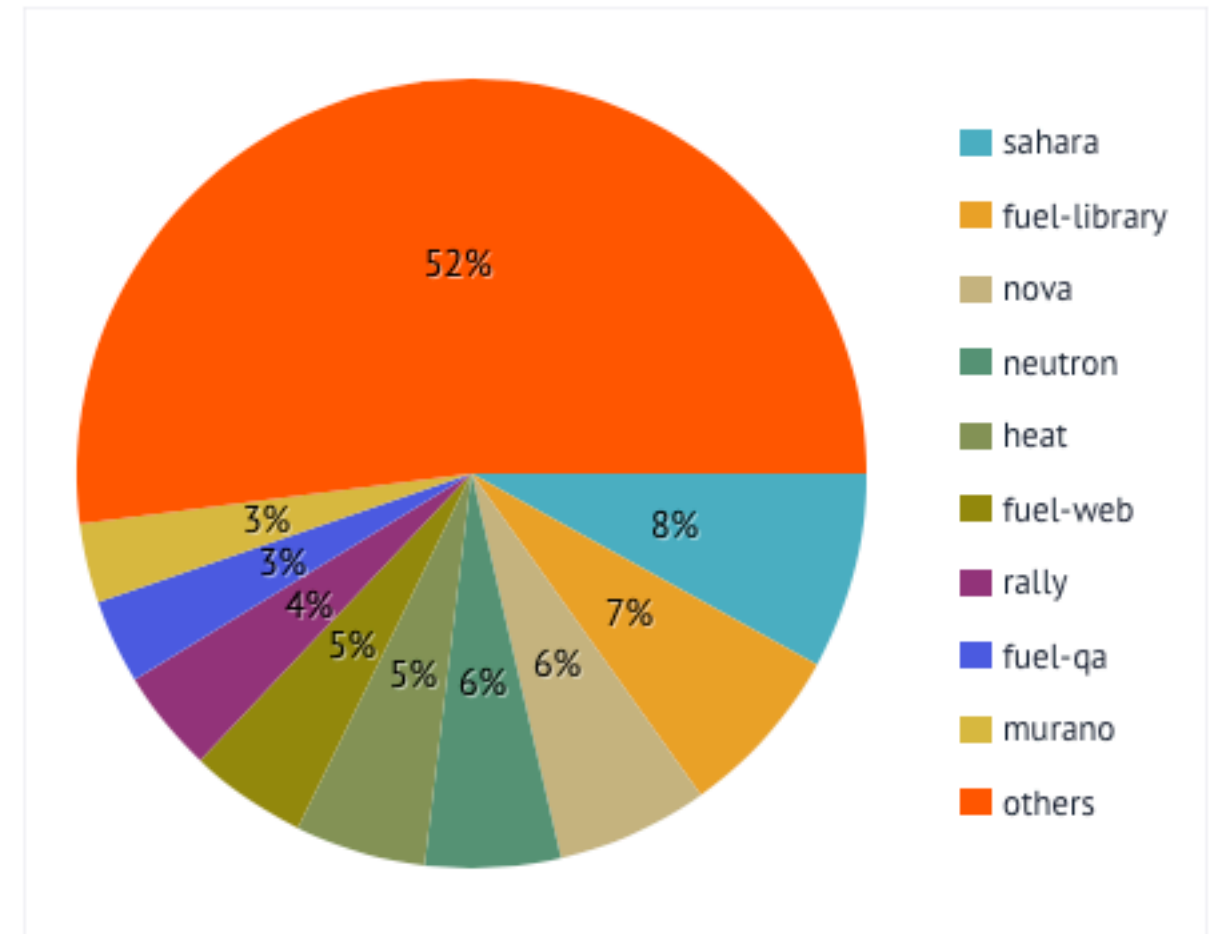


Show 10 entries

Search:

#	Company	Reviews
1	Mirantis	169070
2	Red Hat	153268
3	IBM	85562

Contribution by modules



Show 10 entries

Search:

#	Module	Reviews
1	sahara	13604
2	fuel-library	11996
3	nova	10518

# Setup Wizard

## Create a new OpenStack environment

### Name and Release

#### Compute

#### Networking Setup

#### Storage Backends



#### QEMU-KVM

Select this option if you want to use QEMU as a hypervisor with capability of KVM acceleration.



#### vCenter ⚠

Select this option if you run OpenStack on VMware vCenter.

Plugin for DVS/NSX is required to create an environment with vCenter and Neutron.  
Please visit [Fuel plugins page](#) for details.

### Name and Release

#### Compute

#### Networking Setup

#### Storage Backends



#### Neutron with ML2 plugin ✓

Framework that enables simultaneous utilization of the layer 2 networking technologies through drivers.



#### Neutron with VLAN segmentation ✓

Your network hardware must be configured for VLAN segmentation. This option supports up to 4095 networks.



#### Neutron with tunneling segmentation ⚠

By default VXLAN tunnels will be used. This option supports millions of tenant data networks.

### Name and Release

#### Compute

#### Networking Setup

#### Storage Backends

#### Additional Services

#### Finish

#### Block Storage:



#### LVM ✓

Use default storage providers



#### Ceph ✓

Use Ceph as backend for Cinder volumes

#### Image Storage:



#### Ceph ✓

Use Ceph as backend for Glance images

#### Object Storage:



#### Ceph ✓

Use Ceph as backend for Swift objects

#### Ephemeral Storage:



#### Ceph ✓

Use Ceph as backend for Nova



# Hardware Discovery

Controller, Telemetry - MongoDB (3)					<input type="checkbox"/> Select All
<input type="checkbox"/>	<b>ControllerMongo03</b> CONTROLLER - MONGO	 	PENDING ADDITION	CPU: 2 (40) RAM: 128.0 GB HDD: 1.1 TB	
<input type="checkbox"/>	<b>ControllerMongo02</b> CONTROLLER - MONGO	 	PENDING ADDITION	CPU: 2 (32) RAM: 128.0 GB HDD: 1.1 TB	
<input type="checkbox"/>	<b>ControllerMongo01</b> CONTROLLER - MONGO	 	PENDING ADDITION	CPU: 2 (40) RAM: 128.0 GB HDD: 1.1 TB	

Compute, Ceph OSD (3)					<input type="checkbox"/> Select All
<input type="checkbox"/>	<b>OSD02</b> COMPUTE - CEPH-OSD	 	PENDING ADDITION	CPU: 2 (40) RAM: 128.0 GB HDD: 1.6 TB	
<input type="checkbox"/>	<b>OSD01</b> COMPUTE - CEPH-OSD	 	PENDING ADDITION	CPU: 2 (40) RAM: 128.0 GB HDD: 1.9 TB	
<input type="checkbox"/>	<b>OSD03</b> COMPUTE - CEPH-OSD	 	PENDING ADDITION	CPU: 2 (40) RAM: 128.0 GB HDD: 1.6 TB	

Elasticsearch Kibana, InfluxDB Grafana (1)					<input type="checkbox"/> Select All
<input type="checkbox"/>	<b>Monitoring</b> ELASTICSEARCH_KIBANA - INFLUXDB_GRAFANA	 	PENDING ADDITION	CPU: 1 (4) RAM: 8.0 GB HDD: 698.5 GB	

# Cluster Summary

Welcome to the New OpenStack Environment!

You must add at least one node to your environment in order to deploy.

[+ Add Nodes](#)

## Summary

Name	Mitaka02 
Status	New
OpenStack Release	Mitaka on Ubuntu 14.04
Compute	QEMU
Network	Neutron with VLAN segmentation
Storage Backends	Ceph RBD for volumes (Cinder) Ceph RBD for Images (Glance)

[Delete Environment](#) 

[Reset Environment](#) 

## Capacity

CPU (Cores)	0 (0)	RAM	0 bytes	HDD	0 bytes
-------------	-------	-----	---------	-----	---------

## Node Statistics

No nodes found in this environment. Please add nodes in the Nodes tab and try again.

## Documentation

Quick access to the documentation on how to deploy and configure your OpenStack environment:

 [OpenStack Documentation](#)

 [Plugin Developer Documentation](#)

# Fuel (Mirantis)



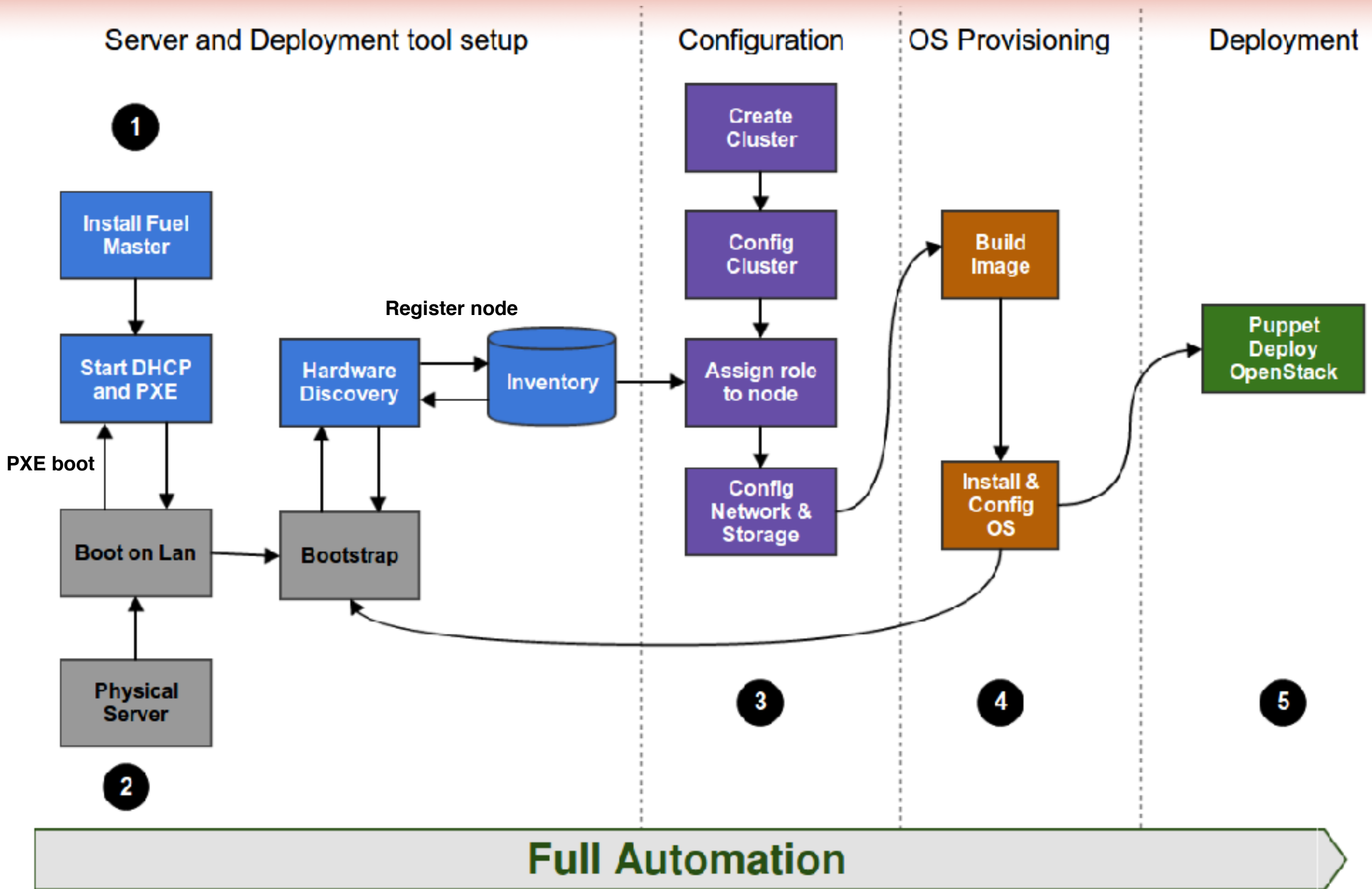
**FUEL**

**(Mirantis)**

## Pros

- Wizard driven deployment
- Plugin Framework
- Built-in-Health Check (Pre-Post)
- Multi Cluster Management
- Hardware discovery
- Inventory Management

# Fuel (Mirantis)



# Fuel (Mirantis)



**FUEL**  
**(Mirantis)**

## Cons

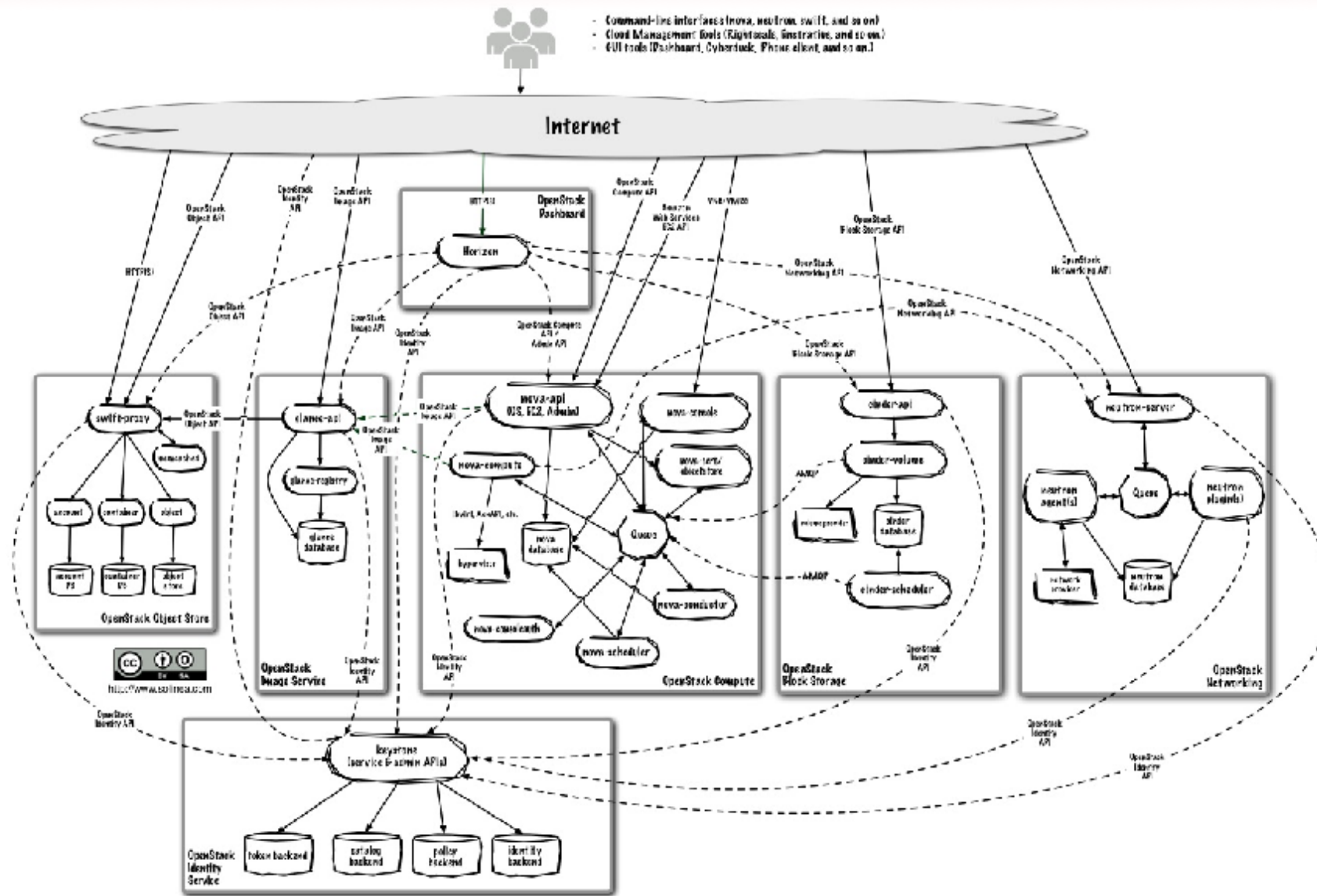
- Cannot Detach Network node from Controller node
- **Non-Flexible Architect deployment**
- Hard to customize Fuel



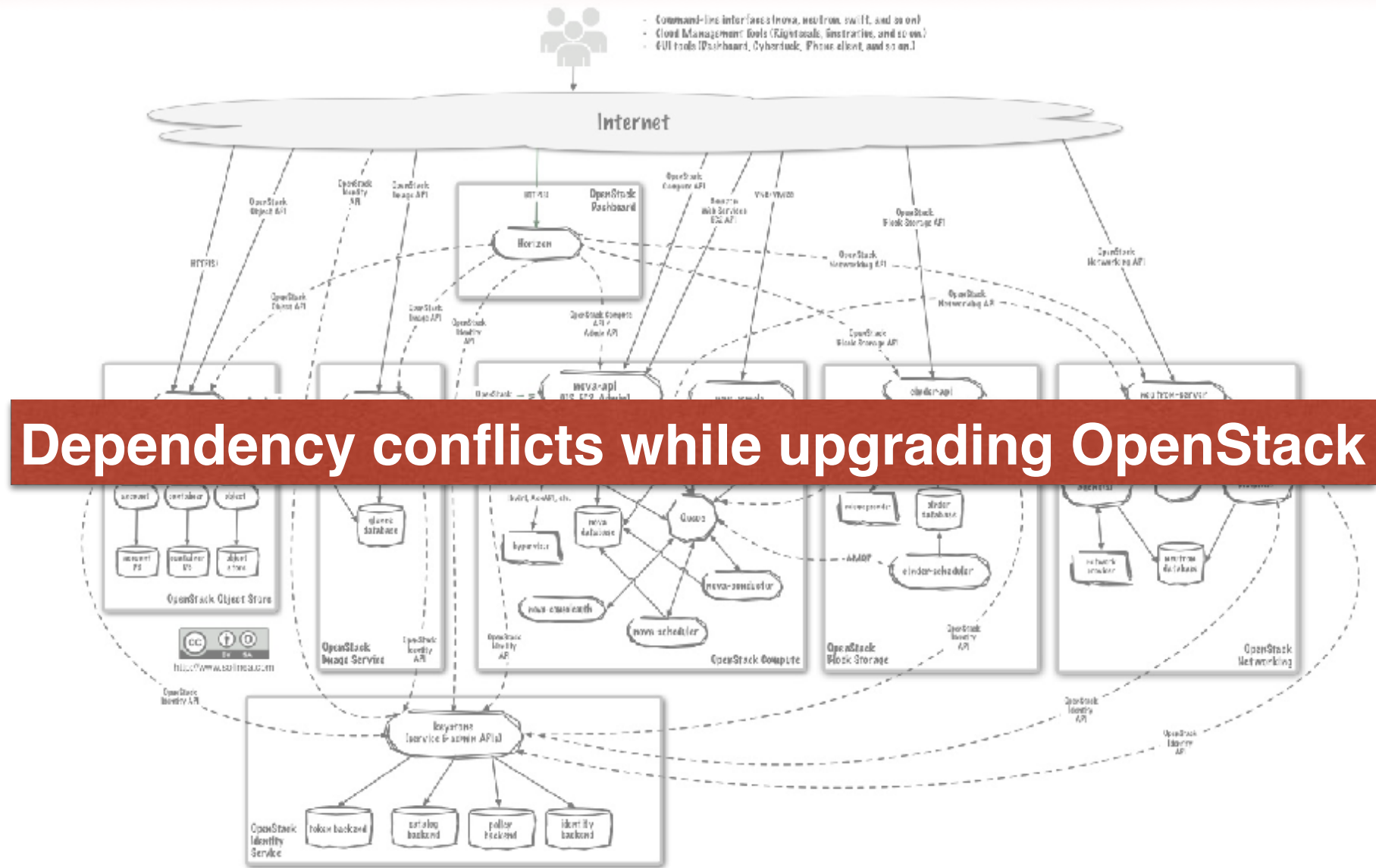
OpenStack Ansible



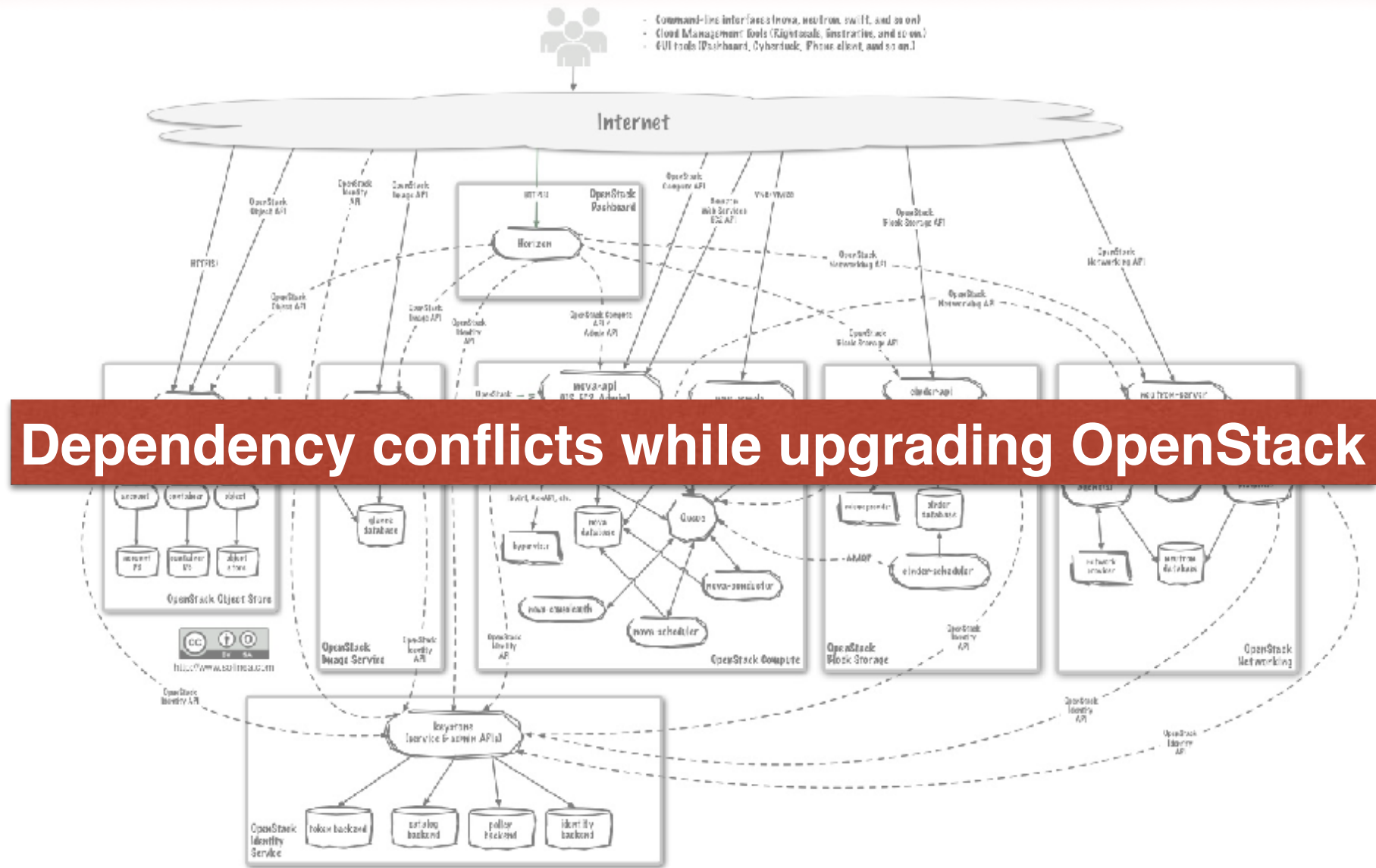
# OpenStack Ansible (RackSpace)



# OpenStack Ansible (RackSpace)



# OpenStack Ansible (RackSpace)



# OpenStack Ansible (RackSpace)



- Deploy
- Maintain
- Upgrade



ANSIBLE

# OpenStack Ansible (RackSpace)



A N S I B L E



- A set of **ansible playbooks** to manage an OpenStack cloud
  - Deploy
  - Maintain
  - Upgrade
- Supports source based installation
- Uses **LXC containers**
- Contributed by **Rackspace** since kilo release

# OpenStack Ansible (RackSpace)

## Pros



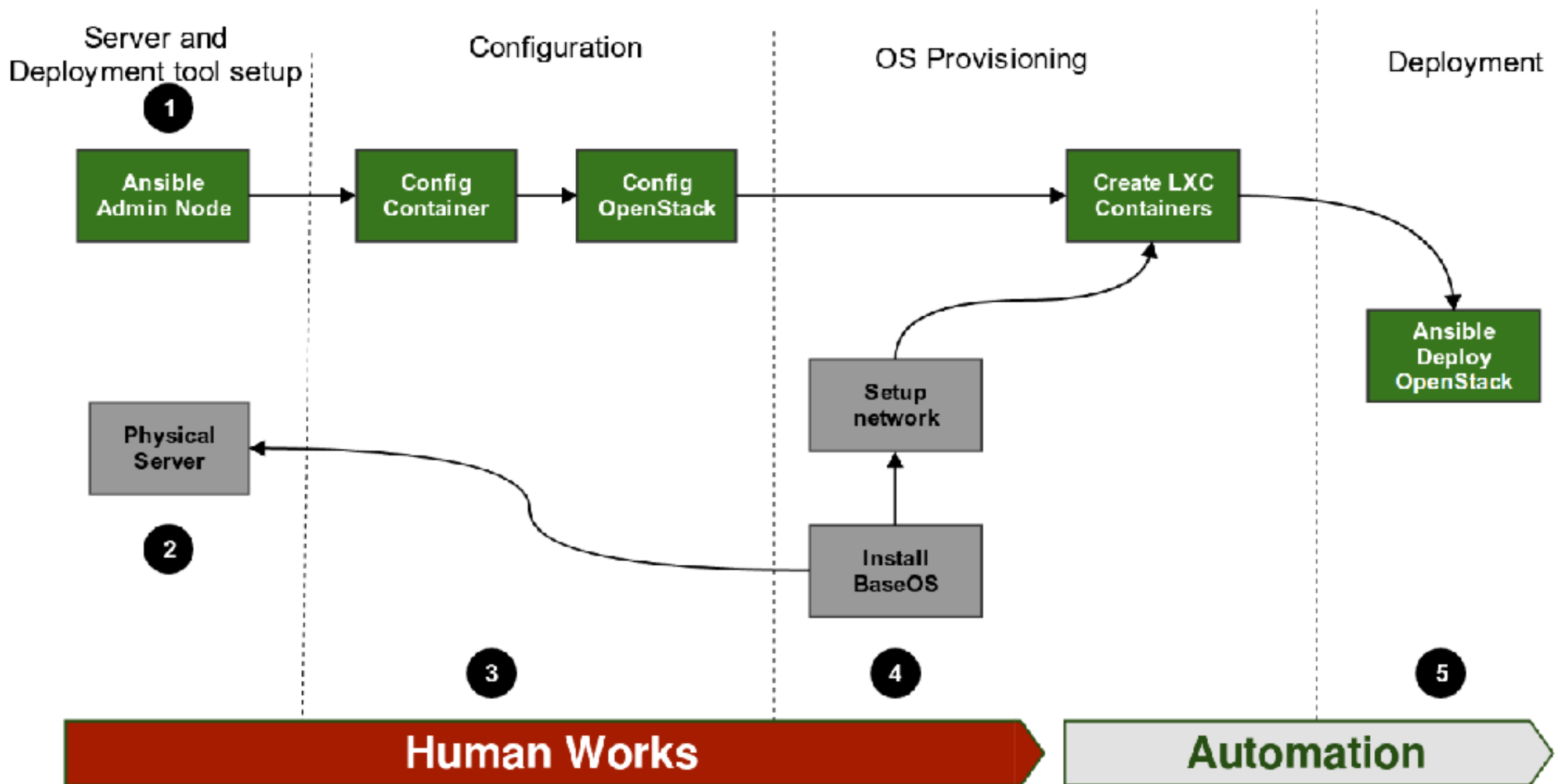
A N S I B L E



- Flexible Architect deployment
- Container based
- Build form **upstream sources**
- Security follow by STIGs
- Easy to Customization



# OpenStack Ansible (RackSpace)



# OpenStack Ansible (RackSpace)

## Cons



A N S I B L E



- OS installation manually
- Network setup manually
- No vendor support
- Stable version may got bugs
- No GUI wizard



**FUEL**

**Easy & Powerful**



**ANSIBLE**

**Flexible & Scalable**

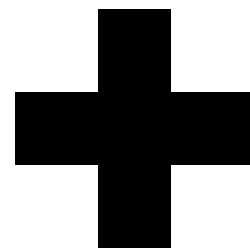


**Solution**



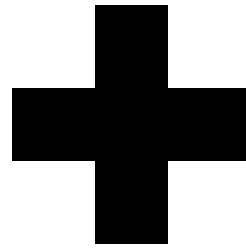
**FUEL**

**Easy & Powerful**



**ANSIBLE**

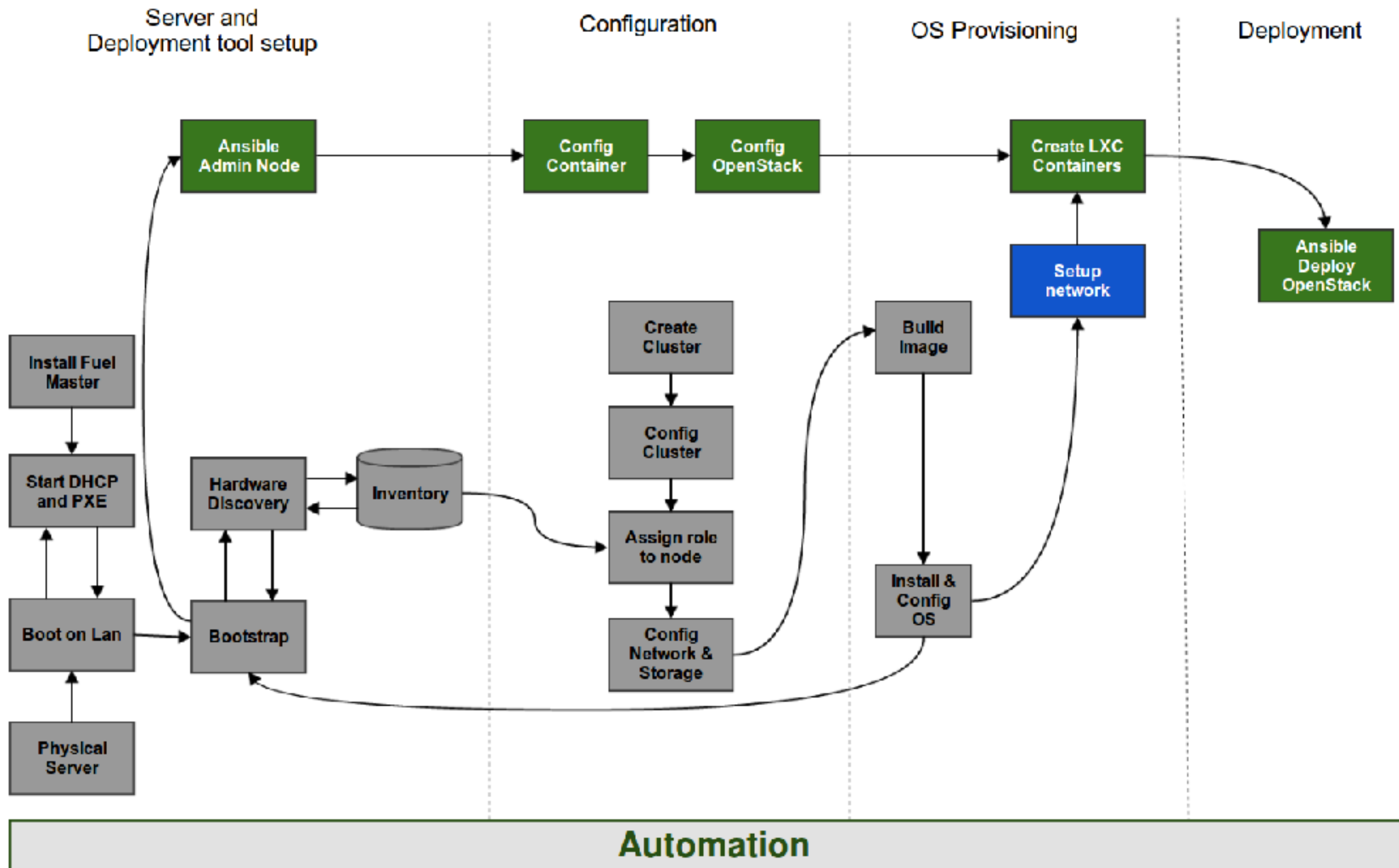
**Flexible & Scalable**



- **Hardware Discovery**
- **Inventory management**
- **PXE OS Installation**

- **OpenStack Deployment**





Setup  
network

Custom Ansible Playbooks

**DEMO**

# Q & A

