



Software

Get Mirantis OpenStack

Mirantis Zero-Lock-In
OpenStack Distribution |

Core Projects

Key Related Projects

- Fuel: OpenStack deployment
- Marano for Windows and Linux
- OpenStack Hadoop - Savanna

Plug-ins & Drivers

Product Brief

Support Options

Resources

Quick Start

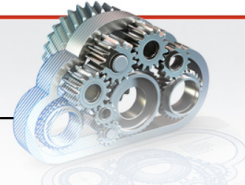
Documentation

Access Support

How to Contribute

Hardware Sizing

OpenStack Deployment and Management – Fuel



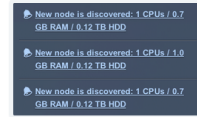
Fuel is an open source deployment and management tool for OpenStack. Developed as an **OpenStack community effort**, it provides an intuitive, GUI-driven experience for deployment and management of a variety of OpenStack distributions and plug-ins.

Fuel brings consumer-grade simplicity to streamline and accelerate the otherwise time-consuming, often complex, and error-prone process of deploying various configuration flavors of OpenStack at scale. Unlike other platform-specific deployment or management utilities, Fuel is an upstream OpenStack project that spans multiple OpenStack distributions and a range of third-party options, so it's not compromised by hard bundling or vendor lock-in.

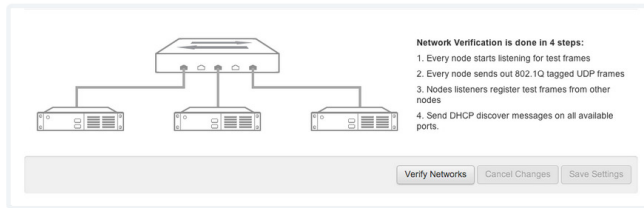
USING FUEL TO DEPLOY AND MANAGE OPENSTACK

Automate discovery of nodes and conduct pre-deployment checks

Fuel automatically discovers any bare-metal and virtual nodes configured to boot from network. Once they are identified and bootstrapped, Fuel presents a complete picture of nodes ready for allocation, so you can assign roles and resources across your cloud. Fuel then runs pre-flight validations to ensure your network is configured properly, to overcome one of the most common start-up configuration problems in OpenStack deployment.



For example, DHCP conflicts are often not visible to conventional network checks. Fuel flags and exposes errors before and after node allocation, cutting debug time and ensuring timely deployment of your OpenStack cluster.

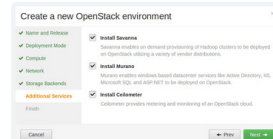
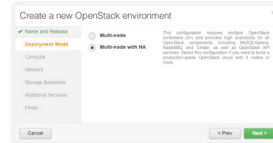


Choose valid configurations quickly and easily

Given the wide array of configuration decisions you need to make in any OpenStack cluster, Fuel helps you get started through a consumer-grade, step-by-step wizard. It simplifies and sequences the array of configuration options you need to work through, to let you select your:

- Host operating system.
- Hypervisors.
- Storage back ends (including Ceph).
- Networking topology.
- Controller configuration specific to the high availability (HA) needs of your OpenStack environment.

The wizard also simplifies iterative reconfiguration and redeployment of successive clusters as your environments grow and change.



Choose from a variety of OpenStack distros

OpenStack Release	Version	Status	Actions
Grizzly on CentOS 6.4	2013.1.3	Active	
PIVOT 3.0 for RHHEL 6.4	2013.1.2	Not available	Configure
Grizzly on Ubuntu 12.04	2013.1.3	Active	

Fuel helps to avoid lock-in by letting you choose from deployment with CentOS, Red Hat, or Ubuntu as the host operating system and Mirantis OpenStack or Red Hat OpenStack as distros. Mirantis validates each of these up-to-date distros, so that you can use Fuel to maintain OpenStack with other commercial packages.

OpenStack packages distributed with Mirantis OpenStack are pulled directly from the trunk and bug-fixed ahead of the community release. In addition to all of the core OpenStack packages, Mirantis OpenStack includes HA components and related OpenStack projects to maximize the resiliency and value of your OpenStack environment.

Streamline OpenStack management and operations

In addition to its intuitive GUI, Fuel provides a set of high-level APIs, that can be used by various applications and services to perform deployment and management of OpenStack clusters, such as to:

- Create a cloud.
- Add a node to an existing cloud.
- Assign one or more roles to any node, or replicate a single role across many nodes.
- Delete a node from a cloud.
- Set volumes and/or partition hard disks across multiple physical hosts all at once.
- Collect, parse, organize, and download logs.

The screenshot shows the 'Assign Roles' section of the Fuel GUI. It lists three roles: Controller, Cinder, and Ceph OSD. Below this, the 'Unallocated Nodes' section shows a table of nodes with their hardware specifications and status.

Node ID	OS	OS Version	Status
Unlabeled (CC-18)	CentOS 6.4	CentOS 6.4	Allocated
Unlabeled (BB-84)	Unlabeled	Unlabeled	Unallocated

Ensure your OpenStack cluster is healthy and ready to run workloads

The screenshot shows the 'OpenStack Health Check' interface. It displays a list of health checks with their expected and actual durations and status indicators.

Health Check	Expected Duration	Actual Duration	Status
HA tests, Duration 30 sec - 8 min			
Check data replication over mysqld	1-40 s	20.4 s	Pass
Check amount of tables in db databases is the same on each node	1-40 s	19.3 s	Pass
RabbitMQ availability	100 s	---	Fail
RabbitMQ queues availability	100 s	---	Fail
RabbitMQ messages availability	100 s	---	Fail
Sanity tests, Duration 30 sec - 2 min			
Floor list availability	20 s	0.4 s	Pass
Images list availability	20 s	0.3 s	Pass
Instances list availability	20 s	0.4 s	Pass

Fuel provides a broad suite of tests that validate whether all key services are running in your OpenStack cloud, and also executes real-world functional tests to isolate problems in specific OpenStack subsystems. High availability cloud services and related OpenStack projects are also validated to confirm that they behave and operate as expected.