fuel-plugin-xenserver Documentation

Release 3.0-3.0.0-1

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April 14, 2016

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CHAPTER

ONE

INTRO

This document will guide you through the steps of install, configure and use of the XenServer Plugin for Fuel

XenServer is an Open Source hypervisor with commercial support options provided by Citrix. This plugin provides a new Release definition in Mirantis OpenStack to allow easy installation of production environments based on XenServer with Fuel.

XenServer is freely available from xenserver.org and can also be downloaded directly from citrix.com if you have a My Citrix account.

Documentation for XenServer can be found on docs.vmd.citrix.com and for how XenServer works within OpenStack at docs.openstack.org in the OpenStack Configuration Reference guide

CHAPTER

TWO

XENSERVER PLUGIN FOR FUEL 8.0

2.1 Requirements

Requirement	Version/Comment
Fuel	8.0
XenServer	6.5 SP1 + Hotfix XS65ESP1013
XenServer plugin for Fuel	3.0.0

- This plugin will not install XenServer or configure the Virtual Machines used to run the OpenStack services. Installation of XenServer and configuration of these Virtual Machines must be performed manually.
- Each hypervisor must have the same access credentials as Fuel does not support per-node settings.
- One Virtual Machine, which will be used to run Nova (the compute node), must exist on each hypervisor. This must be created as an HVM guest (in XenCenter, use the "Other Install Media" template) and configured to PXE boot from the PXE network used by Fuel.
- XenCenter is expected to be used to configure VMs, and is required by the HIMN tool in the installation steps

2.2 Limitations

- The plugin is **only** compatible with OpenStack environments deployed with **Neutron with VLAN segmentation** as network configuration in the environment configuration options. The plugin will disable incompatible options when the XenServer Release is selected.

CHAPTER

THREE

INSTALLATION GUIDE

3.1 Install the Plugin

To install the XenServer Fuel plugin:

1. Download it from the Fuel Plugins Catalog
2. Copy the *rpm* file to the Fuel Master node:

```
[root@home ~]# scp fuel-plugin-xenserver-3.0-3.0.0-1.noarch.rpm root@fuel-master:/tmp
```

3. Log into Fuel Master node and install the plugin using the Fuel CLI:

```
[root@fuel-master ~]# fuel plugins --install /tmp/fuel-plugin-xenserver-3.0-3.0.0-1.noarch.rpm
```

4. Verify that the plugin is installed correctly:

```
[root@fuel-master ~]# fuel plugins
id | name                   | version | package_version
---|------------------------|---------|----------------
9  | fuel-plugin-xenserver | 3.0.0   | 3.0.0
```

3.2 Add Management Network tool

1. Download the HIMN tool xencenter-himn-plugin
2. Stop XenCenter if it is running
3. Install the HIMN tool
4. Re-start XenCenter

CHAPTER

FOUR

XENSERVER FUEL PLUGIN USER GUIDE

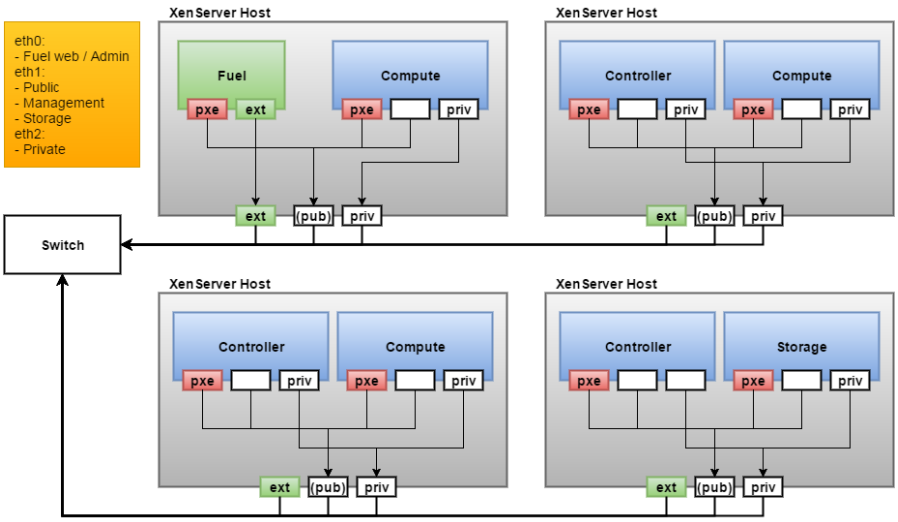
Once the Fuel XenServer plugin has been installed (following *Installation Guide*), you can create *OpenStack* environments that use XenServer as the underlying hypervisor

4.1 Prepare infrastructure

1. Everyone will have different infrastructure requirements. The additional requirements placed by XenServer are:
   - Compute nodes must be run as a Virtual Machine, with one VM per XenServer hypervisor
   - Ensure that the connectivity through to this virtual machine is the same as all other service nodes, as with standard Mirantis OpenStack setups
   - An internal network is added by the instructions below, to provide communication between the host and the compute VM.
   - Other service nodes (e.g. storage node) can also be created as virtual machines, but this is not required
2. Download and install XenServer 6.5 with SP1, Hotfix XS65ESP1013 and HIMN tool, a XenServer plugin, as install guide mentioned. Use it for future VM creation and network configuration.
3. While many networking setups are expected to work, the following setup is known to work:

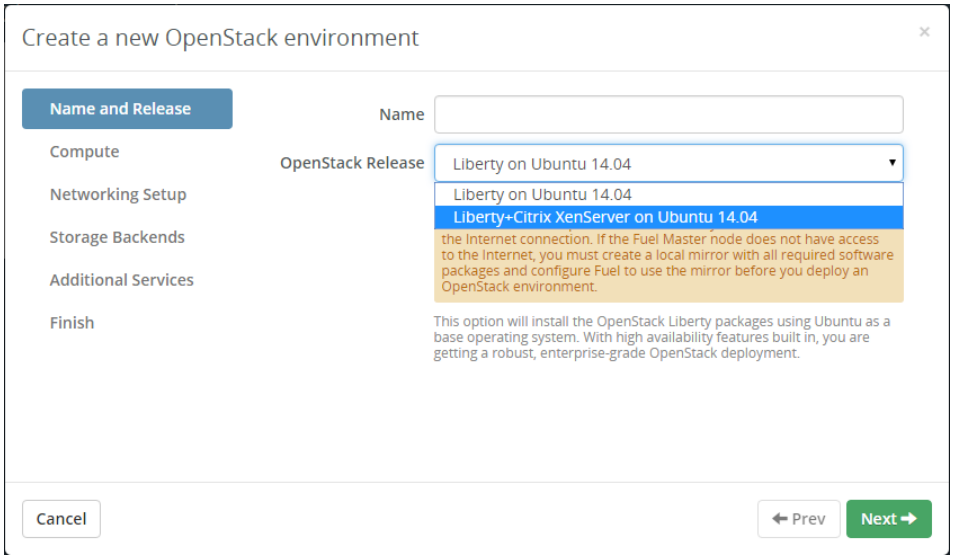
- Physical machines with three ethernet devices:
  - eth0 / "Access network": Used to access the XenServer hosts and the Fuel Master's web interface
  - eth1 / "Control network": OpenStack control plane (management and storage), the PXE network and the public network; all separated by VLAN tags. The public network is also on this network, and if a VLAN is required this is applied by the switch for untagged traffic.
  - eth2 / "VLAN network": This version of the plugin only supports VLAN segmentation for Neutron networking. This device carries all of the VLANs to be used by Neutron for VM traffic.
- One virtual network
  - VLAN 'pxe' on eth1 / "PXE network": Used for node bootstrapping.

4. To simplify the setup, the fuel master can also be installed on the XenServer hosts (so XenServer hosts can fully control the network setup), but this is not required. One example deployment is shown below.

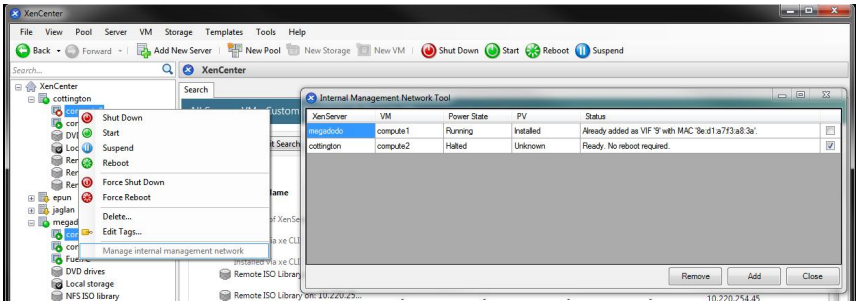


4.2 Select Environment

1. Create a new environment with the Fuel UI wizard. Select "Liberty+Citrix XenServer on Ubuntu 14.04" from OpenStack Release dropdown list. At the moment you will see most of options are disabled in the wizard.

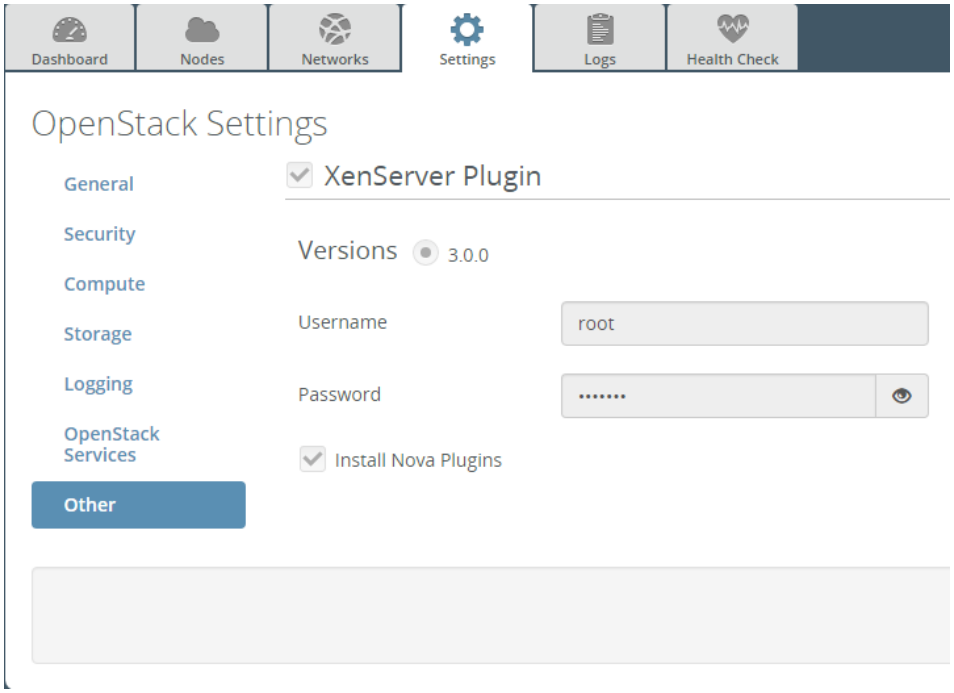


2. Create new VMs in XenCenter for the compute nodes
3. Select all Compute virtual Machines, Right click on one of the Virtual Machines and select "Manage internal management network"
4. Use the dialog to add the Host Internal Management Network to the compute virtual machines



5. Add new VMs to the new environment according to Fuel User Guide and configure them properly. A typical topology of 3 controller nodes + 3 compute nodes + 1 storage node is recommended.

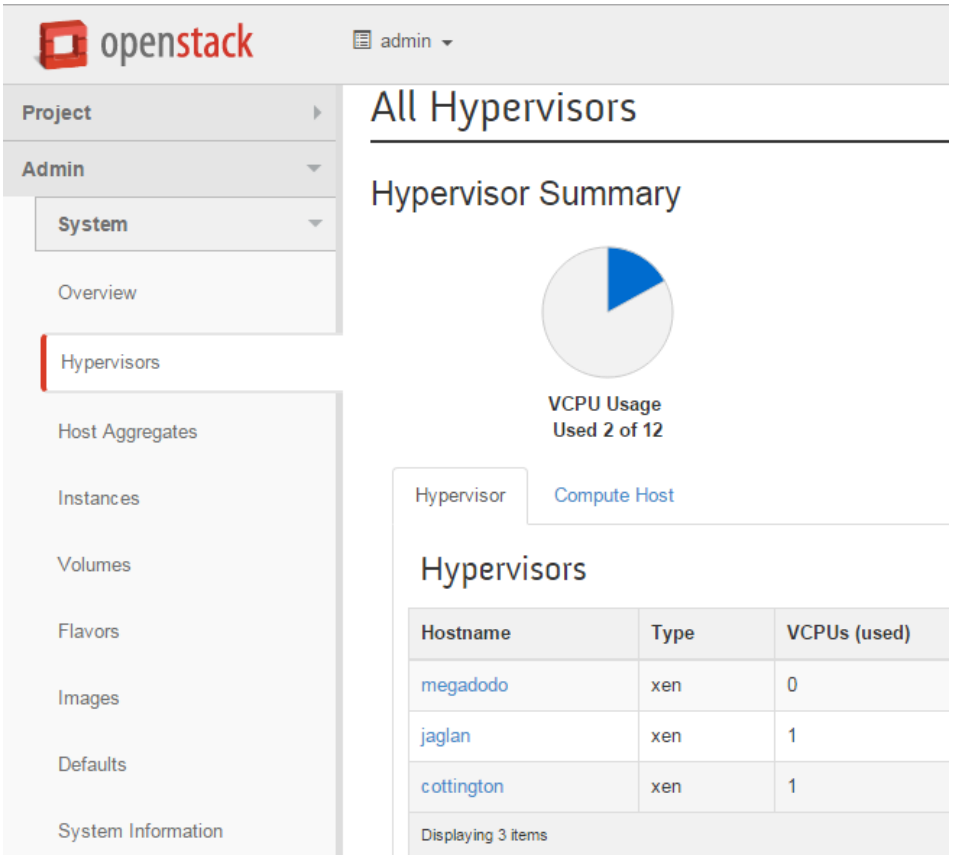
6. Go to Settings tab and scroll down to "XenServer Plugin" section. You need to input the common access credentials to all XenServers that previously are used to create new VMs.



7. If the XenServer host already has compatible Nova plugins installed, untick the checkbox to install the supplemental packs. In normal cases, the XenServer host will not have compatible Nova plugins installed, so leave the checkbox enabled

4.3 Finish environment configuration

1. Run network verification check
2. Press Deploy button to once you are done with environment configuration.
3. After deployment is done, you will see in Horizon that all hypervisors are xen.


openstack
admin
Project
Admin
System
Overview
Hypervisors
Host Aggregates
Instances
Volumes
Flavors
Images
Defaults
System Information
All Hypervisors
Hypervisor Summary
VCPU Usage
Used 2 of 12
Hypervisor
Compute Host
Hypervisors
Hostname
Type
VCPUs (used)
megadodo
xen
0
jaglan
xen
1
cottington
xen
1
Displaying 3 items

CHAPTER

FIVE

FURTHER READING

Here are some of the resources available to learn more about Xen:

- Citrix XenServer official documentation: http://docs.vmd.citrix.com/XenServer
- What is Xen? by Xen.org: http://xen.org/files/Marketing/WhatisXen.pdf
- Xen Hypervisor project: http://www.xenproject.org/developers/teams/hypervisor.html
- Xapi project: http://www.xenproject.org/developers/teams/xapi.html
- Further XenServer and OpenStack information: http://wiki.openstack.org/XenServer