

---

# **fuel-plugin-xenserver Documentation**

*Release 3.1-3.1.0-1*

**John Hua ([john.hua@citrix.com](mailto:john.hua@citrix.com))**

June 03, 2016

<b>1</b>	<b>Intro</b>	<b>1</b>
<b>2</b>	<b>XenServer Plugin for Fuel 8.0</b>	<b>2</b>
2.1	Requirements . . . . .	2
2.2	Limitations . . . . .	2
<b>3</b>	<b>Installation Guide</b>	<b>3</b>
3.1	Install the Plugin . . . . .	3
3.2	Add Management Network tool . . . . .	3
<b>4</b>	<b>Xenserver Fuel Plugin User Guide</b>	<b>4</b>
4.1	Prepare infrastructure . . . . .	4
4.2	Select Environment . . . . .	5
4.3	Finish environment configuration . . . . .	7
<b>5</b>	<b>Troubleshooting</b>	<b>8</b>
<b>6</b>	<b>Further reading</b>	<b>9</b>

## 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](http://xenserver.org) and can also be downloaded directly from [citrix.com](http://citrix.com) if you have a My Citrix account.

Documentation for XenServer can be found on [docs.vmd.citrix.com](http://docs.vmd.citrix.com) and for how XenServer works within OpenStack at [docs.openstack.org](http://docs.openstack.org) in the [OpenStack Configuration Reference](#) guide

## 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	3.1.0

- 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.

## 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-3.1-3.1.0-1.noarch.rpm root@fuel:/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-3.1-3.1.0-1.noarch.rpm
```

4. Verify that the plugin is installed correctly:

```
[root@fuel-master ~]# fuel plugins
id | name | version | package_version
---|-----|-----|-----
1 | fuel-plugin-xenserver | 3.1.0 | 4.0.0
```

### 3.2 Add Management Network tool

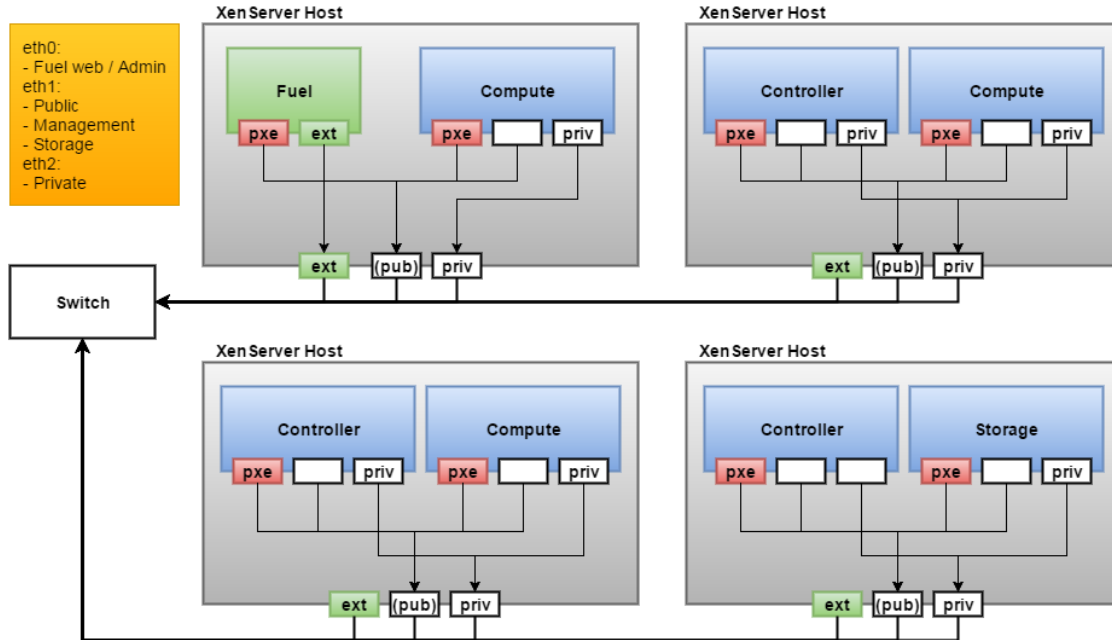
1. Download the HIMN tool [xencenter-himn-plugin](#)
2. Stop XenCenter if it is running
3. Install the HIMN tool
4. Re-start XenCenter

## 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

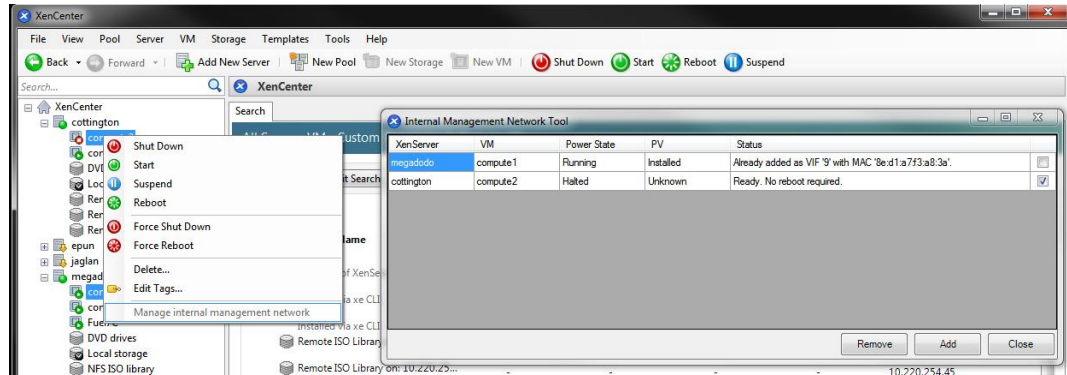
1. Create a new environment with the Fuel UI wizard. Select “Liberty on Ubuntu 14.04” from OpenStack Release dropdown list, check off QEMU-KVM and check on XenServer. At the moment you will see most of options are disabled in the wizard.

The screenshot shows the 'Create a new OpenStack environment' wizard. The 'Compute' step is selected. The 'XenServer' option is checked, while 'QEMU-KVM' and 'vCenter' are unchecked. A warning message states: 'Plugin for DVS/NSX is required to create an environment with vCenter and Neutron. Please visit Fuel plugins page for details.'

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”

- Use the dialog to add the Host Internal Management Network to the compute virtual machines



- 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.
- Check the MAC address of the networks assigned in the “Interface Configuration” tab correspond to the correct physical or virtual interface. Note that no networks should be assigned to the HIMN interface on compute nodes, which will normally show as the last interface for these nodes.
- Go to Settings tab and “Compute” section. You need to input the common access credentials to all XenServers that previously are used to create new VMs.

General

Security

**Compute**

Storage

Logging

OpenStack Services

### Common

Hypervisor type ⚠

KVM  
Choose this type of hypervisor if you run OpenStack on hardware

QEMU  
Choose this type of hypervisor if you run OpenStack on virtual hosts.

Nova quotas  
Quotas are used to limit CPU and memory usage for tenants. Enabling quotas will increase load on the Nova database.

Resume guests state on host boot  
Whether to resume previous guests state when the host reboots. If enabled, this option causes guests assigned to the host to resume their previous state. If the guest was running a restart will be attempted when nova-compute starts. If the guest was not running previously, a restart will not be attempted.

XenServer Plugin

---

Versions  3.1.0

Username

Password  Password cannot be empty

Install Nova Plugins

- 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.

The screenshot shows the OpenStack Horizon dashboard with the 'All Hypervisors' page selected. The page title is 'All Hypervisors' and the subtitle is 'Hypervisor Summary'. There are three pie charts showing usage statistics:

- VCPU Usage:** Used 13 of 40
- Memory Usage:** Used 25.7GB of 159.8GB
- Local Disk Usage:** Used 222GB of 4.4TB

Below the charts, there are two tabs: 'Hypervisor' (selected) and 'Compute Host'. A table displays the following data:

Hostname	Type	VCPUs (used)	VCPUs (total)	RAM (used)	RAM (total)
baras	xen	5	8	9.1GB	32GB
maul	xen	2	8	3GB	32GB
ruin	xen	2	8	4.5GB	32GB
malgus	xen	0	8	512MB	32GB
sidious	xen	4	8	8.6GB	32GB

At the bottom of the table, it says 'Displaying 5 items'.

## TROUBLESHOOTING

### 1. Logging

In addition to the Astute log, XenServer Fuel Plugin has its own log under `/var/log/fuel-plugin-xenserver` on all Compute and Controller nodes.

Besides HIMN tool mentioned in Installation Guide also has its own log under `%LOCALAPPDATA%/Temp/XCHIMN.log`.

You can upload issued logs to <https://cis.citrix.com> or send to support if they are requested. [Writing Good Bug Reports for XenServer](#) might be a good reference to follow.

### 2. XenServer hotfixes

If you are using XenServer 6.5, please install SP1 and all hotfixes before attempting to deploy.

## 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>