fuel-plugin-xenserver Documentation

Release 3.1-3.1.0-1

John Hua (john.hua@citrix.com)

May 16, 2016

CONTENTS

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

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

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	3.1.0

• 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.

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-3.1-3.1.0-1.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:

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

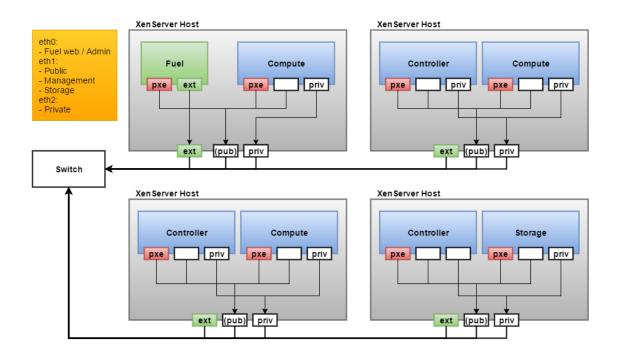
XENSERVER FUEL PLUGIN USER GUIDE

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.

Create a new OpenS	tack environment	×						
Name and Release	QEMU-KVM A Select this option if you want to use QEMU as a hypervisor with capability of KVM acceleration.							
Compute	vCenter A							
Networking Setup	Select this option if you run OpenStack on VMware vCenter.							
Storage Backends	Select this option if you run OpenStack on XenServer Hypervisor							
Additional Services	Plugin for DVS/NSX is required to create an environment with vCenter and Neutron. Please visit Fuel plugins page for details.							
Finish								
		_						
Cancel	← Prev Next •	•						

- 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

ırch	Q	🔇 XenCenter							
A XenCenter		Search Sinternal Management Network Tool							
	Shut Down	AUC 10	fustom	XenServer	VM	Power State	PV	Status	
DVI	Start			megadodo	compute1	Running	Installed	Already added as VIF '9' with MAC '8e:d1:a7f3:a8:3a'.	
Loc 🕕	Suspend		it Search	cottington	compute2	Halted	Unknown	Ready. No reboot required.	
🗑 Rer 🎯	Reboot								
📄 Rer 🔮	Force Shut Down								
🗉 📑 epun 🛞	Force Reboot		lame						
🕀 🌆 jaglan	Delete		of XenSe						
😑 🔂 megad	Edit Tags		. Across						

- 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 "Compute" section. You need to input the common access credentials to all XenServers that previously are used to create new VMs.

General	Common								
Security	Hypervisor type 🔺								
🛦 Compute	с кум								
Storage	Choose this type of hypervisor if you run OpenStack on hardware								
Logging									
OpenStack Services	Choose this type of hypervisor if you run OpenStack on virtual hosts.								
Services	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 not be attempted when nova-compute starts. If the guest was not running previously, a restart will not be attempted. XenServer Plugin 								
	Versions								
	Username root								
	Password O Password cannot be empty								
	✓ Install Nova Plugins								
	Load Defaults Cancel Changes Save Settings								

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.

MIRANTIS OpenStack	🚍 admin 🔻						
Project ~	All Hypervis	sors					
Admin ^	Hypervisor Sum	mary					
System ^							
Overview							
Hypervisors							
Host Aggregates	VCPU Used 1		llas	Memory Usage d 25.7GB of 159.8GB	Local Disk Usage Used 222GB of 4.4TB		
Instances	Used I	5 01 40	Use	d 25.76B 01 155.66B			
Volumes	Hypervisor Comput	e Host					
Flavors	Hostname Type		VCPUs (used)	VCPUs (total)	RAM (used)	RAM (total)	
Images	baras	xen	5	8	9.1GB	32GB	
Networks	maul	xen	2	8	3GB	32GB	
Routers	ruin	xen	2	8	4.5GB	32GB	
Defaults	malgus	xen	0	8	512MB	32GB	
Metadata Definitions	sidious	xen	4	8	8.6GB	32GB	
System Information	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