Upgrade VMware ESXi from Version 5.5 to 6.x.

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Introduction

This document describes how to upgrade the Elastic Sky X Integrated (ESXi) hypervisor from version 5.5 to 6.x via Command Line Interface (CLI). ESXi is one of the hypervisors preferred by the customers in virtualization and is also the preferred hypervisor by Cisco for multiple platforms that include all Unified Communications infrastructure, SourceFire and several other servers that run on top of a virtualized environment.

Prerequisites

Requirements

Cisco recommends that you have knowledge of these topics:

- Unified Computing System (UCS) with VMware ESXi hypervisor version 5.5
- Domain Name Resolution (DNS) service enabled in the VMware ESXi hypervisor
- Terminal access to ESXi hypervisor
- Access to Cisco Integrated Management Controller (CIMC) web page on a java-enabled browser

Components Used

The information in this document is based on these software and hardware versions:

- UCS C460
- ESXi hypervisor version 5.5
- Firefox browser

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, make sure that you understand the potential impact of any command.

Background Information

VMware published the deadlines for the End of General Support and End of Technical Guidance for ESXi 5.5:

ESXi 5.5	2013/09/19	2018/09/19	2020/09/19	EIP	A, B

It is a good practice to upgrade the virtualized infrastructure to ESXi 6.0 and 6.5.

Configure

Upgrade process via CLI.

Step 1. Shutdown the virtual machines (VMs) that run on the ESXi server to be upgraded.

Step 2. Place the ESXi server in Maintenance Mode. This helps turn off any critical service that the hypervisor runs and allows the server to upgrade.

You can use vSphere Client as shown in the image.

General

Manufacturer:	Cisco Systems Inc
Model:	UCSC-C460-M4
CPU Cores:	72 CPUs x 2.094 GHz
Processor Type:	Intel(R) Xeon(R) CPU E7-8870 v3 @ 2.10GHz
License:	VMware vSphere 5 Enterprise Plus - Licensed for 4 physic
Processor Sockets:	4
Cores per Socket:	18
Logical Processors:	144
Hyperthreading:	Active
Number of NICs:	6
State:	Connected
Virtual Machines and Templates:	41
vMotion Enabled:	Yes
VMware EVC Mode:	Disabled 🖓
vSphere HA State	② N/A
Host Configured for FT:	No 🖵
Active Tasks:	
Host Profile:	
Image Profile:	(Updated) ESXi-5.5.0-1746
Profile Compliance:	N/A
DirectPath I/O:	Supported 🖓

Commands

New Virtual Machine
 New Resource Pool
 Enter Maintenance Mode
 Reboot
 Shutdown

Or CLI. In order to do so, run the command:

vim-cmd /hostsvc/maintenance_mode_enter

Step 3. Modify ESXi firewall in order to allow outgoing Hyper Text Transfer Protocol (HTTP) connections.

Since the VMware servers will be queried for the actual upgrade file, HTTP(S) outgoing connections from the ESXi server must be allowed.

You can use vSphere Client as shown in the image.

Getting Started Summary Virtual Nac	Nines Resource Allocation Per	formance Configuration Tasks & Eve	nta Alarma Parmisa	onal Mapa Storage Viewa ()	Hardware Status		
Hardware	Security Profile						
Processors Henory Stanage Technolong Stanage Adaptars Network Adaptars Network Adaptars Advanced Settings Power Hanagement Software Licensed Features The Canfiguration Drid and Rosting	Services [V0 Redinator (Active Dire smpd Methodk Logis Server (Acti Boti vgos Ego Shell sorg Local Security Authenticati MTP Deemon vgrobed SDH Direct Cessole UI CIV Server Demon	dony Service) ve Directory Service) gent on Server (Active Directory Service)				Refresh	Properties
Aufentication Services Power Management Vir ball Nedrine Startup/Shutdown Virball Nedrine Startup/Shutdown Virball Nedrine Swapfle Location Souther Resource Allocation Agent IN Sattings Advanced Settings	Incoming Connections vigibule Client omn6 DHCP Client DHS Client ipfam visanyp vModion CIM Secure Server Real: Tolerance	902,445 (TCP) 12345,29451 (UDP) 68 (UDP) 55 (UDP) 608 (UDP) 808 (TCP) 808 (TCP) 818,8228,850 (TCP,UDP) 8118,8228,850 (TCP,UDP)	시 시 시 시 시 시 시 시 시 시 시 시 시 시 시 시 시 시 시				

🕝 Firewall Properties

Remote Access

By default, remote clients are prevented from accessing services on this host, and local clients are prevented from accessing services on remote hosts.

Select a check box to provide access to a service or client. Daemons will start automatically when their ports are opened and stop when all of their ports are closed, or as configured.

Label		Incoming Ports	Outgoing Ports	Protocols	Daemon	^
vSphere High Availab	ility Agent	8182	8182	TCP,UDP	Stopped	
HBR			31031,44046	TCP	N/A	
rdt		2233	2233	TCP	N/A	
Fault Tolerance		8100,8200,8300	80,8100,8200,8300	TCP,UDP	N/A	
syslog			514,1514	UDP,TCP	N/A	ł
VMware vCenterAgen	t		902	UDP	Running	
IKED		500	500	UDP	N/A	
VM serial port connect	ed over net	23,1024-65535	0-65535	TCP	N/A	
http Client			80,443	TCP	N/A	
ipfam		6999	6999	UDP	N/A	~
-					>	
ervice Properties	SSH Client					
ervice Properties General Service: Package Information:	SSH Client					
ervice Properties ieneral Service: Package Information: irewall Settings	SSH Client					
ervice Properties ieneral Service: Package Information: irewall Settings Allowed IP Addresses:	SSH Client					
ervice Properties ieneral Service: Package Information: irewall Settings Allowed IP Addresses:	SSH Client All		Fire	ewall	Options,.,	

Or CLI. In order to do so, run the command:

esxcli network firewall ruleset set -e true -r httpClient Step 4. Query VMware servers for the upgrade versions available.

Now all upgradeable versions can be listed in order to determine which one will be used. Run the command:

esxcli software sources profile list -d
https://hostupdate.vmware.com/software/VUM/PRODUCTION/main/vmw-depot-index.xml |
grep ESXi-6

This lists all the upgradeable versions. The no-tools version can select in case the upgrade of the

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VMware tools is not required, otherwise, the standard upgrade version can be used.

Step 5. Select the version to upgrade and start the upgrade process.

Once the exact version to upgrade is decided, the upgrade process can start with this command:

esxcli software profile update -d
https://hostupdate.vmware.com/software/VUM/PRODUCTION/main/vmw-depot-index.xml -p
ESXi-6.0.0-20170202001-standard
Step 6. Reboot the server.

After the upgrade process completes, a reboot of the server is required for the new version to take effect. Run this command:

reboot Step 7. Exit the Maintenance Mode.

Once the ESXi host is back online, exit from the **Maintenance Mode** in order to resume all VM operations.

You can use vSphere Client as shown in the image.

Manufacturer: Model: CPU Cores: Processor Type:	Caco Systems Inc UCSC-C160 M1 72 OPUS x 2.094 GHz Intel(R) Xean(R) OPU E7-8870 v2 & 2.100Hz
Model: CPU Cores: Processor Type:	UCSC-C160-M1 72 OPUS x 2.094 GHz Intel(R) Xean(R) CPU E7-8870 v2 @ 2.10544
CPU Cores: Processor Type:	72 CPU6 x 2.094 GHz Intel(R) Xeon(R) CPU E7-0870
Processor Type:	Intel(R) Xeon(R) CPU E7-8820
	TO WELLWOTE
License:	VHware vSphere 5 Enterprise Plus - Licensed for 4 physic
Processor Sockets:	1
Cores per Socket:	2
Logical Processors:	2
Hyperthreading:	Inactive
Number of NICs:	3
State:	Connected (maintenance m
Virtual Machines and Templates:	10
vMotion Enabled:	Yes
VMware EVC Mode:	Disabled 🖓
Host Configured for FT:	No 🖓
Active Tasks:	Instal
Host Profile:	
Profile Compliance:	🕜 N/A
Commands	

Or CLI. In order to do so, run the command:

Verify

Use this section in order to confirm that your configuration works properly.

To verify that the upgrade was completed successfully, you can use vSphere client. Navigate to the **ESXi host** and the new version can be seen at the top. Or use CLI. In order to do so, run the command:

vmware -v

Troubleshoot

There is currently no specific troubleshooting information available for this configuration.