

# Troubleshoot Intersight Health Check Failures for HX Clusters

## Contents

---

### [Introduction](#)

### [Prerequisites](#)

[Requirements](#)

[Components Used](#)

### [Background Information](#)

### [Troubleshoot](#)

[Fix ESXi VIB Check "Some of the VIBs Installed are Using Deprecated vmkAPIs"](#)

[Fix vMotion Enabled "VMotion is Disabled on the ESXi Host"](#)

[Fix vCenter Connectivity Check "vCenter Connectivity Check Failed"](#)

[Fix Cleaner Status Check "Cleaner Check Failed"](#)

[Fix NTP Service Status "NTPD Service Status is DOWN"](#)

[Fix NTP Server Reachability "NTP Servers ReachabilityCheck Failed"](#)

[Fix DNS Server Reachability "DNS ReachabilityCheck Failed"](#)

[Fix Controller VM Version "Controller VMVersion Value is Missing from the Settings File on the ESXi Host"](#)

### [Related Information](#)

---

## Introduction

This document describes how to troubleshoot common Intersight Health Check failures for Hyperflex clusters.

## Prerequisites

### Requirements

Cisco recommends that you have knowledge of these topics:

- Basic understanding Network Time Protocol (NTP) and Domain Name System (DNS).
- Basic understanding of Linux command line.
- Basic understanding of VMware ESXi.
- Basic understanding of VI text editor.
- Hyperflex Cluster Operations.

### Components Used

The information in this document is based on:

Hyperflex Data Platform (HXDP) 5.0.(2a) and higher

The information in this document was created from the devices in a specific lab environment. All of the

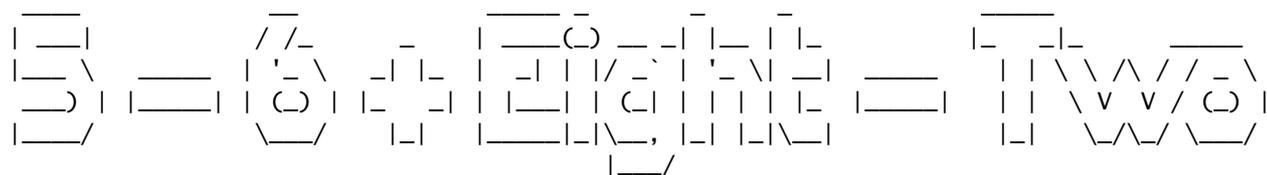
devices used in this document started with a cleared (default) configuration. If your network is live, ensure that you understand the potential impact of any command.

## Background Information

Cisco Intersight offers the capability to run a series of tests on a Hyperflex cluster to ensure the cluster health is in optimal condition for day-to-day operations and maintenance tasks.

Starting with HX 5.0(2a), Hyperflex introduces a diag user account with escalated privileges for troubleshooting in the Hyperflex command line. Connect to Hyperflex Cluster Management IP (CMIP) using SSH as an administrative user and then switch to diag user.

```
HyperFlex StorageController 5.0(2d)
admin@192.168.202.30's password:
This is a Restricted shell.
Type '?' or 'help' to get the list of allowed commands.
hxshell:~$ su diag
Password:
```



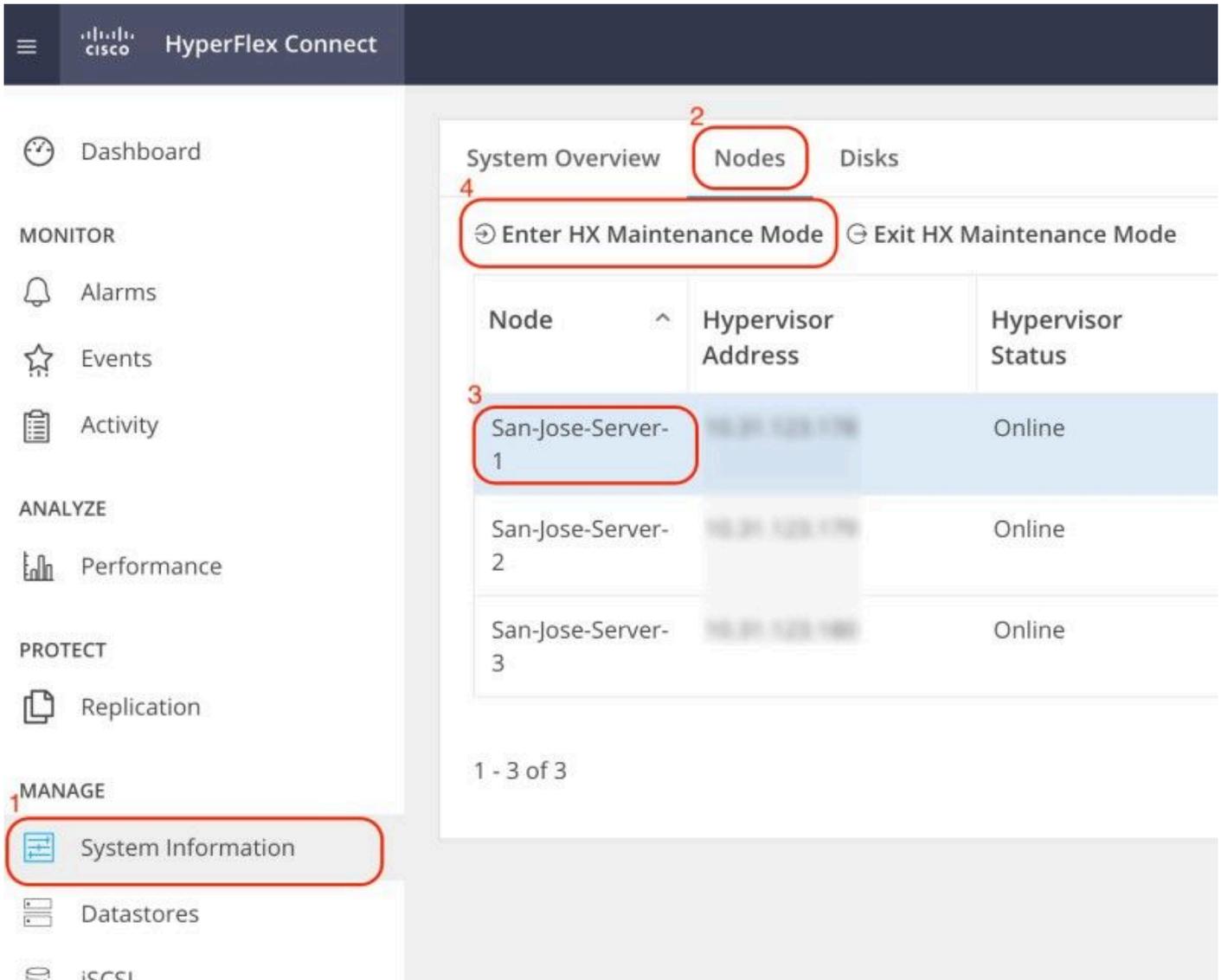
```
Enter the output of above expression: 5
Valid captcha
diag#
```

## Troubleshoot

### Fix ESXi VIB Check "Some of the VIBs Installed are Using Deprecated vmkAPIs"

When upgrading to ESXi 7.0 and above, Intersight ensures the ESXi hosts in a Hyperflex cluster do not have drivers that are built with dependencies on older vmkapi versions. VMware provides a list of the impacted vSphere Installation Bundles (VIBs) and describes this problem in this article: [KB 78389](#)

Log in to Hyperflex Connect web User Interface (UI), and navigate to **System Information**. Click **Nodes** and select the **Hyperflex (HX) node**. Then, click **Enter HX Maintenance Mode**.



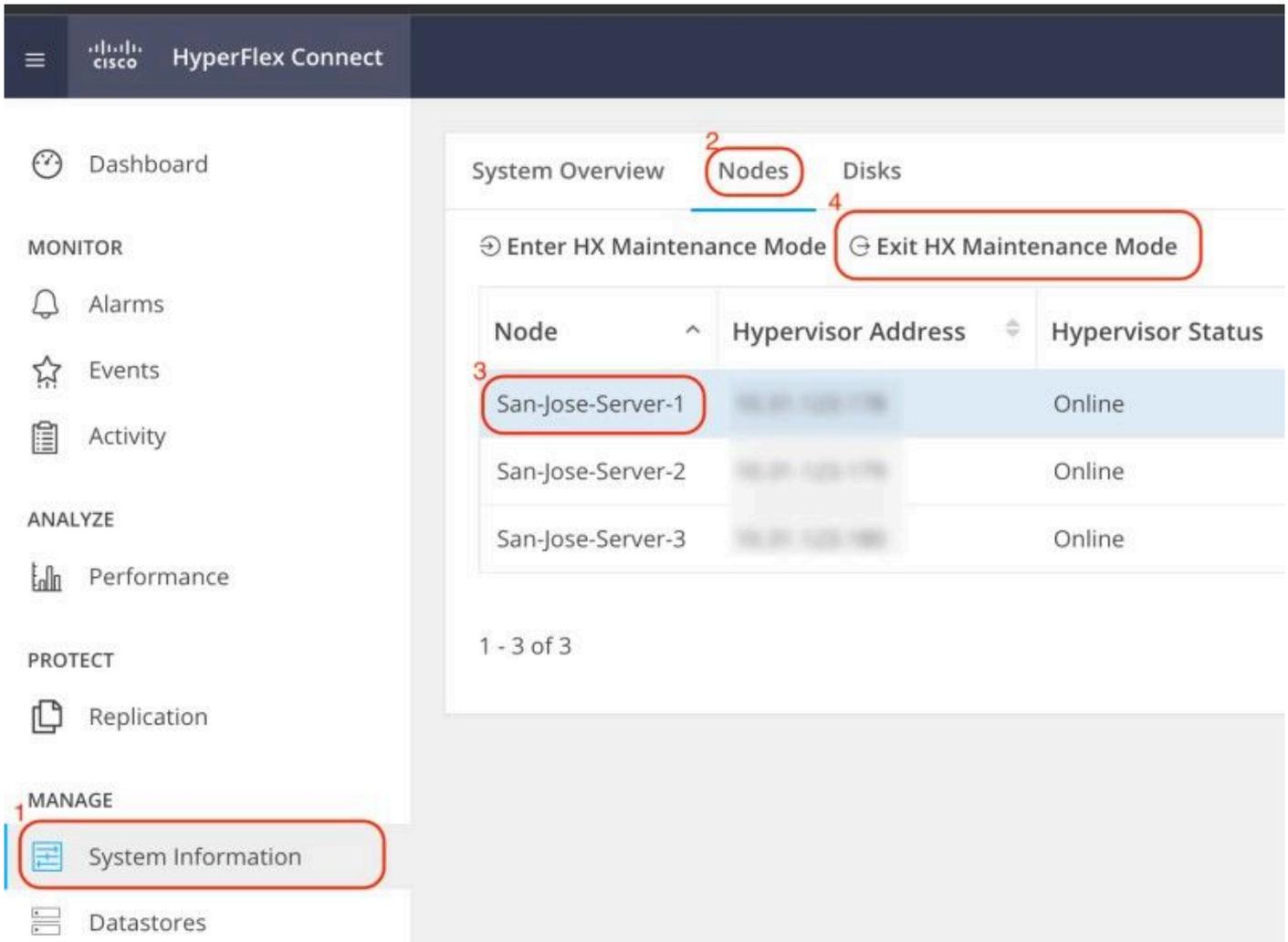
Use an SSH client to connect to the management IP address of the ESXi host. Then, confirm the VIBs on the ESXi host with this command:

```
esxcli software vib list
```

Remove the VIB with this command:

```
esxcli software vib remove -n driver_VIB_name
```

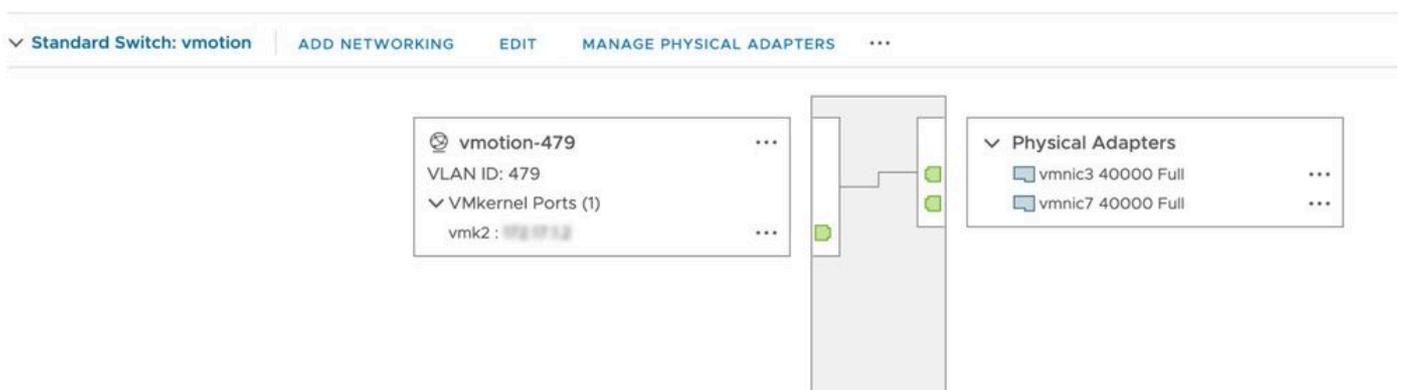
Reboot the ESXi host. When it comes back online, from HX Connect, select the **HX node** and click **Exit HX Maintenance Mode**.



Wait for the HX cluster to become Healthy. Then, perform the same steps for the other nodes in the cluster.

## Fix vMotion Enabled "vMotion is Disabled on the ESXi Host"

This check ensures vMotion is enabled on all ESXi hosts in the HX cluster. From vCenter, each ESXi host must have a virtual switch (vSwitch) as well as a vmkernel interface for vMotion.



Connect to Hyperflex Cluster Management IP (CMIP) using SSH as an administrative user and then run this command:

```
hx_post_install
```

Select option 1 to configure vMotion:

```
admin@SpringpathController:~$ hx_post_install
```

Select hx\_post\_install workflow-

1. New/Existing Cluster
2. Expanded Cluster (for non-edge clusters)
3. Generate Certificate

Note: Workflow No.3 is mandatory to have unique SSL certificate in the cluster. By Generating this cert

Selection: 1

Logging in to controller HX-01-cmip.example.com

HX CVM admin password:

Getting ESX hosts from HX cluster...

vCenter URL: 192.168.202.35

Enter vCenter username (user@domain): administrator@vsphere.local

vCenter Password:

Found datacenter HX-Clusters

Found cluster HX-01

post\_install to be run for the following hosts:

HX-01-esxi-01.example.com

HX-01-esxi-02.example.com

HX-01-esxi-03.example.com

Enter ESX root password:

Enter vSphere license key? (y/n) n

Enable HA/DRS on cluster? (y/n) y

Successfully completed configuring cluster HA.

Disable SSH warning? (y/n) y

Add vmotion interfaces? (y/n) y

Netmask for vMotion: 255.255.254.0

VLAN ID: (0-4096) 208

vMotion MTU is set to use jumbo frames (9000 bytes). Do you want to change to 1500 bytes? (y/n) y

vMotion IP for HX-01-esxi-01.example.com: 192.168.208.17

Adding vmotion-208 to HX-01-esxi-01.example.com

Adding vmkernel to HX-01-esxi-01.example.com

vMotion IP for HX-01-esxi-02.example.com: 192.168.208.18

Adding vmotion-208 to HX-01-esxi-02.example.com

Adding vmkernel to HX-01-esxi-02.example.com

vMotion IP for HX-01-esxi-03.example.com: 192.168.208.19

Adding vmotion-208 to HX-01-esxi-03.example.com

Adding vmkernel to HX-01-esxi-03.example.com

---

**Note:** For Edge clusters deployed with HX Installer, hx\_post\_install script needs to be run from the HX Installer CLI.

---

## Fix vCenter Connectivity Check "vCenter Connectivity Check Failed"

Connect to Hyperflex Cluster Management IP (CMIP) using SSH as an administrative user and switch to diag user. Ensure the HX cluster is registered to vCenter with this command:

```
diag# hxcli vcenter info
Cluster Name           : San_Jose
vCenter Datacenter Name : MX-HX
vCenter Datacenter ID  : datacenter-3
vCenter Cluster Name   : San_Jose
vCenter Cluster ID     : domain-c8140
vCenter URL            : 10.31.123.186
```

**vCenter URL** must display the IP address or Fully Qualified Domain Name (FQDN) of the vCenter server.

If it does not display the correct information, reregister the HX cluster with vCenter with this command:

```
diag# stcli cluster reregister --vcenter-datacenter MX-HX --vcenter-cluster San_Jose --vcenter-url 10.3
Reregister StorFS cluster with a new vCenter ...
Enter NEW vCenter Administrator password:
Cluster reregistration with new vCenter succeeded
```

Ensure there is connectivity between HX CMIP and vCenter with these commands:

```
diag# nc -uvz 10.31.123.186 80
Connection to 10.31.123.186 80 port [udp/http] succeeded!

diag# nc -uvz 10.31.123.186 443
Connection to 10.31.123.186 443 port [udp/https] succeeded!
```

## Fix Cleaner Status Check "Cleaner Check Failed"

Connect to Hyperflex CMIP using SSH as an administrative user and then switch to diag user. Run this command to identify the node where the cleaner service is not running:

```
diag# stcli cleaner info
{ 'type': 'node', 'id': '7e83a6b2-a227-844b-87fb-f6e78e6a59be', 'name': '172.16.1.6' }: ONLINE
{ 'type': 'node', 'id': '8c83099e-b1e0-6549-a279-33da70d09343', 'name': '172.16.1.8' }: ONLINE
{ 'type': 'node', 'id': 'a697a21f-9311-3745-95b4-5d418bdc4ae0', 'name': '172.16.1.7' }: OFFLINE
```

In this case, 172.16.1.7 is the IP address of the Storage Controller Virtual Machine (SCVM) where the cleaner is not running. Connect to the management IP address of each SCVM in the cluster using SSH and then look for the IP address of eth1 with this command:

```
diag# ifconfig eth1
eth1      Link encap:Ethernet  HWaddr 00:0c:29:38:2c:a7
          inet addr:172.16.1.7  Bcast:172.16.255.255  Mask:255.255.0.0
          UP BROADCAST RUNNING MULTICAST  MTU:9000  Metric:1
          RX packets:1036633674  errors:0  dropped:1881  overruns:0  frame:0
          TX packets:983950879  errors:0  dropped:0  overruns:0  carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:723797691421 (723.7 GB)  TX bytes:698522491473 (698.5 GB)
```

Start the cleaner service on the affected node with this command:

```
diag# sysmtool --ns cleaner --cmd start
```

## **Fix NTP Service Status "NTPD Service Status is DOWN"**

Connect to HX CMIP using SSH as an administrative user and then switch to diag user. Run this command to confirm NTP service is stopped.

```
diag# service ntp status
* NTP server is not running
```

If NTP service is not running, then run this command to start the NTP service.

```
diag# priv service ntp start
* Starting NTP server
...done.
```

## **Fix NTP Server Reachability "NTP Servers Reachability Check Failed"**

Connect to HX CMIP using SSH as an administrative user and then switch to diag user. Ensure the HX cluster has reachable NTP server(s) configured. Run this command to show the NTP configuration in the cluster.

```
diag# stcli services ntp show
10.31.123.226
```

Ensure there is network connectivity between each SCVM in the HX cluster and the NTP server on port 123.

```
diag# nc -uvz 10.31.123.226 123
Connection to 10.31.123.226 123 port [udp/ntp] succeeded!
```

In case the NTP server configured in the cluster is not in use anymore, you can configure a different NTP server in the cluster.

```
stcli services ntp set NTP-IP-Address
```



**Warning:** `stcli services ntp set` overwrites the current NTP configuration in the cluster.

---

## Fix DNS Server Reachability "DNS Reachability Check Failed"

Connect to HX CMIP using SSH as an administrative user and then switch to diag user. Ensure the HX cluster has reachable DNS server(s) configured. Run this command to show the DNS configuration in the cluster.

```
diag# stcli services dns show
10.31.123.226
```

Ensure there is network connectivity between each SCVM in the HX cluster and the DNS server on port 53.

```
diag# nc -uvz 10.31.123.226 53
Connection to 10.31.123.226 53 port [udp/domain] succeeded!
```

In case the DNS server configured in the cluster is not in use anymore, you can configure a different DNS server in the cluster.

```
stcli services dns set DNS-IP-Address
```

---



**Warning:** `stcli services dns set` overwrites the current DNS configuration in the cluster.

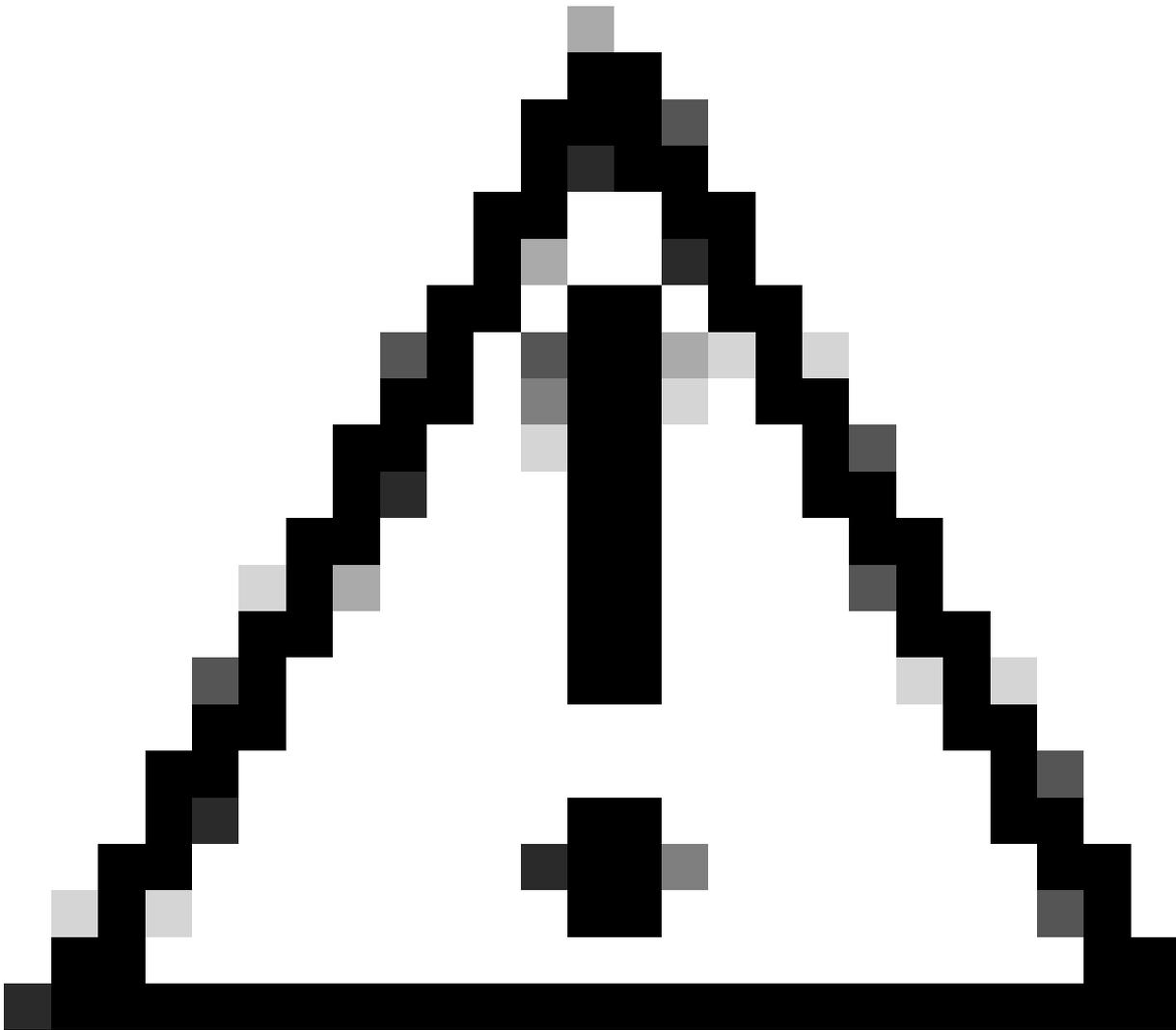
---

### **Fix Controller VM Version "Controller VM Version Value is Missing from the Settings File on the ESXi Host"**

This check ensures each SCVM includes `guestinfo.stctlvm.version = "3.0.6-3"` in the configuration file.

Log into HX Connect and ensure the cluster is healthy.

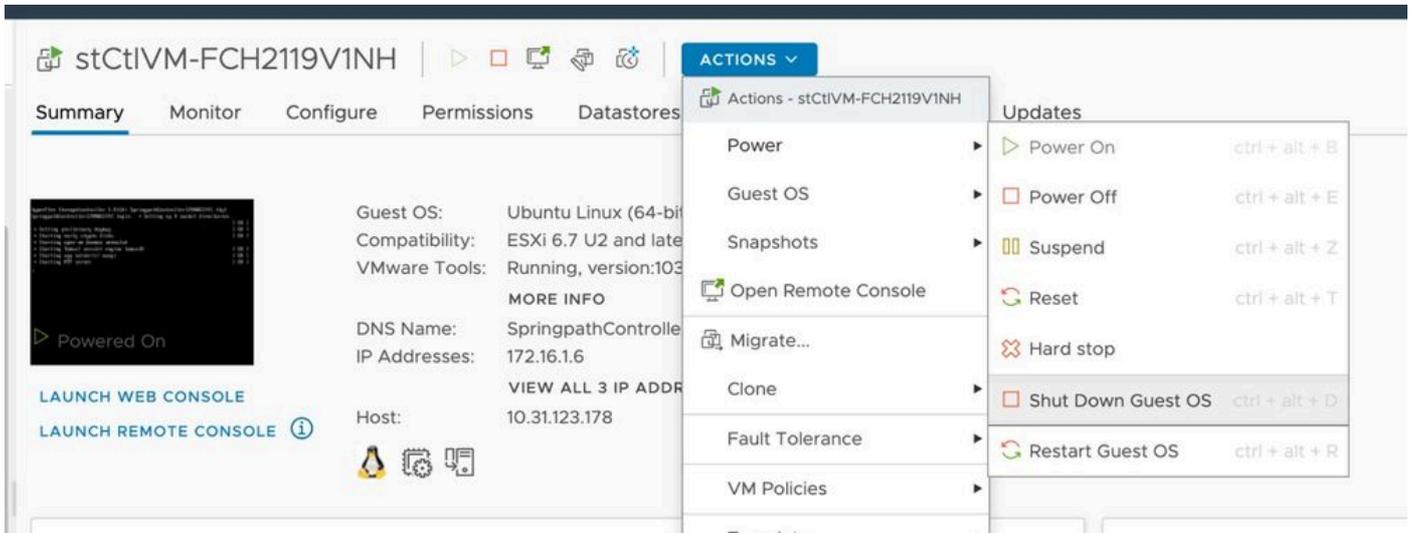




**Caution:** The datastore name and SCVM name can be different on your cluster. You can type **Spring**, then press the Tab key to autocomplete the datastore name. For the SCVM name, you can type **stCtl**, then press the Tab key to autocomplete the SCVM name.

---

If the configuration file of the SCVM does not include `guestinfo.stctlvm.version = "3.0.6-3"` log into vCenter and select the SCVM. Click **Actions**, navigate to **Power** and select **Shut Down Guest OS** to power off the SCVM gracefully.



From ESXi Command Line Interface (CLI), create a backup of the SCVM configuration file with this command:

```
cp /vmfs/volumes/SpringpathDS-FCH2119V1NH/stCt1VM-FCH2119V1NH/stCt1VM-FCH2119V1NH.vmx /vmfs/volumes/Spr
```

Then, run this command to open the configuration file of the SCVM:

```
[root@San-Jose-Server-1:~] vi /vmfs/volumes/SpringpathDS-FCH2119V1NH/stCt1VM-FCH2119V1NH/stCt1VM-FCH211
```

Press the **I** key to edit the file, then navigate to the end of the file and add this line:

```
guestinfo.stctlvm.version = "3.0.6-3"
```

Press the **ESC** key and type **:wq** to save the changes.

Identify the Virtual Machine ID (VMID) of the SCVM with the command **vim-cmd vmsvc/getallvms** and reload the configuration file of the SCVM:

```
[root@San-Jose-Server-1:~] vim-cmd vmsvc/getallvms
Vmid      Name
1         stCt1VM-FCH2119V1NH  [SpringpathDS-FCH2119V1NH] stCt1VM-FCH2119V1NH/stCt1VM-FCH2119V1NH.vmx
[root@San-Jose-Server-1:~] vim-cmd vmsvc/reload 1
```

Reload and power on the SCVM with these commands:

```
[root@San-Jose-Server-1:~] vim-cmd vmsvc/reload 1
```

```
[root@San-Jose-Server-1:~] vim-cmd vmsvc/power.on 1
```

---



**Warning:** In this example, the VMID is 1.

---

You must wait for the HX cluster to be healthy again before moving onto the next SCVM.

Repeat the same procedure on the affected SCVMs one at a time.

Finally, log into each SCVM using SSH and switch to diag user account. Restart **stMgr** one node at a time with this command:

```
diag# priv restart stMgr
stMgr start/running, process 22030
```

Before moving onto the next SCVM, ensure **stMgr** is fully operational with this command:

```
diag# stcli about
Waiting for stmgr management server on port 9333 to get ready . .
productVersion: 5.0.2d-42558
instanceUuid: EXAMPLE
serialNumber: EXAMPLE,EXAMPLE,EXAMPLE
locale: English (United States)
apiVersion: 0.1
name: HyperFlex StorageController
fullName: HyperFlex StorageController 5.0.2d
serviceType: stMgr
build: 5.0.2d-42558 (internal)
modelName: HXAF240C-M4SX
displayVersion: 5.0(2d)
```

## Related Information

- [Health Check for HyperFlex Clusters](#)
- [Technical Support & Documentation - Cisco Systems](#)