Hyperflex SCVM may not connect to the network after we make any changes in the .VMX file and reboot.

Contents

INTRODUCTION
PROBLEM
SOLUTION
Step 1: Map the ATTR{address} Field with the NAME Field
Step 2: Enter the SCVM VM Settings
Step 3a: Identify the SCVM Network Adapter MAC Addresses from vCenter settings
Step 3b: Identify the SCVM Network Adapter MAC Addresses from SCVM shell.
Step 4: Update the 70-persistent-net.rules with the MAC Addresses from Previous Step
Step 5: Reboot SCVM

INTRODUCTION

With Udev and modular network drivers, the network interface numbering is not persistent across reboots by default. This is due to drivers being loaded in parallel and thus network devices show up in random order.

Example: On a computer having two network cards made by Intel and Realtek, the network card manufactured by Intel may become `eth0` and the Realtek card becomes `eth1`

In some cases, after a reboot the cards get renumbered the other way around. To avoid this, Udev comes with a script and some rules to assign stable names to network cards based on their MAC address

PROBLEM

Hyperflex Storage Controller VM (SCVM) may not connect to the network after changes are made in the VMX file (e.g., uuid.bios parameter) after reboot because its MAC addresses are getting jumbled up in the file **70-persistent-net.rules**

SOLUTION

Step 1: Map the ATTR{address} Field with the NAME Field

SSH to the SCVM

Type **cat /etc/udev/rules.d/70-persistent-net.rules**

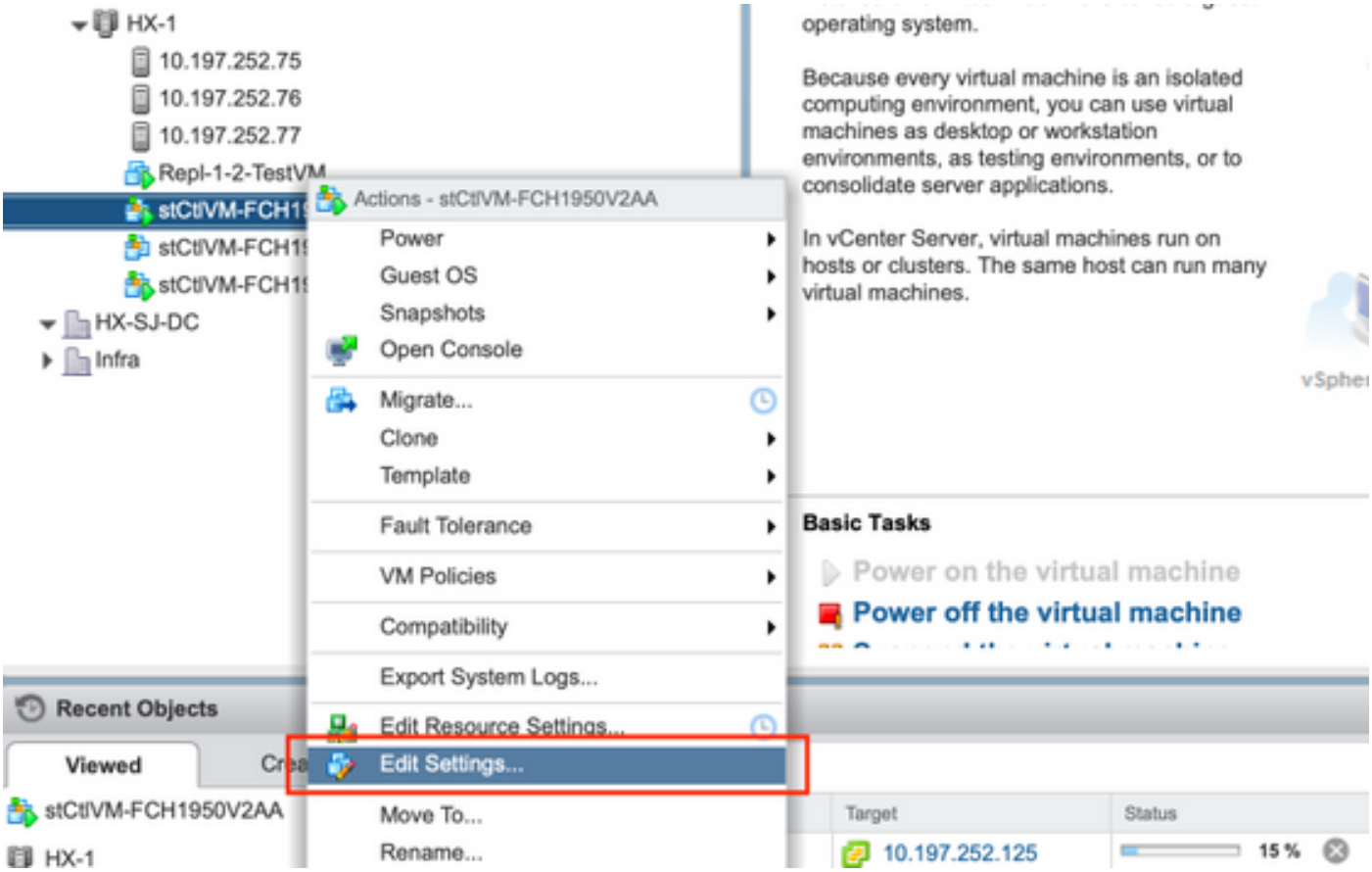
```
root@SpringpathControllerABCDE01234:~# cat /etc/udev/rules.d/70-persistent-net.rules # This file
has been auto-generated during Springpath controller deployment. SUBSYSTEM=="net" ACTION=="add"
ATTR{address}=="00:50:56:8b:af:33" ATTR{dev_id}=="0x0" ATTR{type}=="1" NAME="mgmt-if"
SUBSYSTEM=="net" ACTION=="add" ATTR{address}=="00:50:56:8b:ac:45" ATTR{dev_id}=="0x0"
ATTR{type}=="1" NAME="data-if"
SUBSYSTEM=="net" ACTION=="add" ATTR{address}=="00:50:56:8b:cf:00" ATTR{dev_id}=="0x0"
ATTR{type}=="1" NAME="repl-if"
```

Step 2: Enter the SCVM VM Settings

Login to vCenter

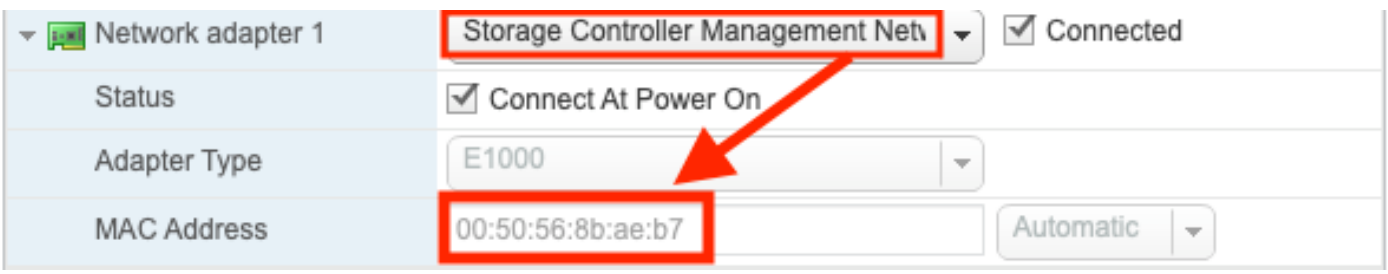
Locate the SCVM

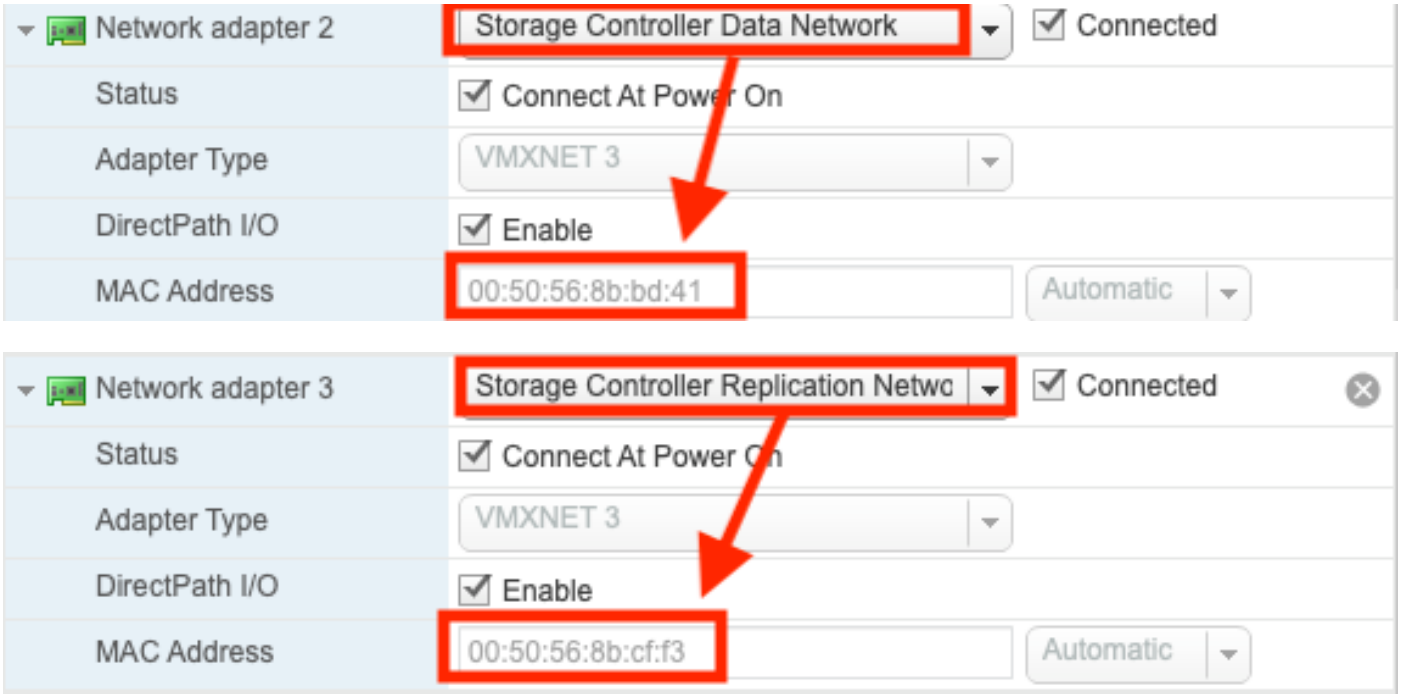
Right click it and select **Edit Settings...**



Step 3a: Identify the SCVM Network Adapter MAC Addresses from vCenter settings

In **Edit Settings** window, expand all network adapters and make a note of their MAC addresses





Step 3b: Identify the SCVM Network Adapter MAC Addresses from SCVM shell.

From SCVM shell issue "ifconfig -a". eth0 points to the management network interface, eth1 points to data storage network interface and eth1 points to the replication network interface. Make a note of these MAC addresses.

```
root@help:~# ifconfig -a
eth0 Link encap:Ethernet HWaddr 00:50:56:8b:ae:b7 <<<< mgmt-if
inet addr:10.197.252.81 Bcast:10.197.252.95 Mask:255.255.255.224
UP BROADCAST RUNNING MULTICAST MTU:1500 Metric:1
RX packets:2919331 errors:0 dropped:77 overruns:0 frame:0
TX packets:1186365 errors:0 dropped:0 overruns:0 carrier:0
collisions:0 txqueuelen:1000
RX bytes:912923504 (912.9 MB) TX bytes:1169716469 (1.1 GB)

eth1 Link encap:Ethernet HWaddr 00:50:56:8b:bd:41 <<<< data-if
inet addr:10.197.252.100 Bcast:10.197.252.127 Mask:255.255.255.224
UP BROADCAST RUNNING MULTICAST MTU:1500 Metric:1
RX packets:152529984 errors:0 dropped:416 overruns:0 frame:0
TX packets:132458793 errors:0 dropped:0 overruns:0 carrier:0
collisions:0 txqueuelen:1000
RX bytes:242676663088 (242.6 GB) TX bytes:224531042730 (224.5 GB)

...

eth2 Link encap:Ethernet HWaddr 00:50:56:8b:cf:f3 <<< repl-if
BROADCAST MULTICAST MTU:1500 Metric:1
RX packets:1671340 errors:0 dropped:131 overruns:0 frame:0
TX packets:3340062 errors:0 dropped:0 overruns:0 carrier:0
collisions:0 txqueuelen:1000
RX bytes:164403101 (164.4 MB) TX bytes:300665525 (300.6 MB)
...
```

Step 4: Update the 70-persistent-net.rules with the MAC Addresses from Previous Step

Type **vi /etc/udev/rules.d/70-persistent-net.rules**

Input the MAC addresses from the previous step in the **ATTR{address}** section and save changes

```
root@help:~# ifconfig -a
eth0 Link encap:Ethernet HWaddr 00:50:56:8b:ae:b7 <<<< mgmt-if
inet addr:10.197.252.81 Bcast:10.197.252.95 Mask:255.255.255.224
UP BROADCAST RUNNING MULTICAST MTU:1500 Metric:1
RX packets:2919331 errors:0 dropped:77 overruns:0 frame:0
TX packets:1186365 errors:0 dropped:0 overruns:0 carrier:0
collisions:0 txqueuelen:1000
RX bytes:912923504 (912.9 MB) TX bytes:1169716469 (1.1 GB)

eth1 Link encap:Ethernet HWaddr 00:50:56:8b:bd:41 <<<< data-if
inet addr:10.197.252.100 Bcast:10.197.252.127 Mask:255.255.255.224
UP BROADCAST RUNNING MULTICAST MTU:1500 Metric:1
RX packets:152529984 errors:0 dropped:416 overruns:0 frame:0
TX packets:132458793 errors:0 dropped:0 overruns:0 carrier:0
collisions:0 txqueuelen:1000
RX bytes:242676663088 (242.6 GB) TX bytes:224531042730 (224.5 GB)

...

eth2 Link encap:Ethernet HWaddr 00:50:56:8b:cf:f3 <<< repl-if
BROADCAST MULTICAST MTU:1500 Metric:1
RX packets:1671340 errors:0 dropped:131 overruns:0 frame:0
TX packets:3340062 errors:0 dropped:0 overruns:0 carrier:0
collisions:0 txqueuelen:1000
RX bytes:164403101 (164.4 MB) TX bytes:300665525 (300.6 MB)
...
```

Step 5: Reboot SCVM

Type **reboot** to restart the SCVM

Once SCVM comes back up, it should be able to connect to the network just fine

```
root@help:~# ifconfig -a
eth0 Link encap:Ethernet HWaddr 00:50:56:8b:ae:b7 <<<< mgmt-if
inet addr:10.197.252.81 Bcast:10.197.252.95 Mask:255.255.255.224
UP BROADCAST RUNNING MULTICAST MTU:1500 Metric:1
RX packets:2919331 errors:0 dropped:77 overruns:0 frame:0
TX packets:1186365 errors:0 dropped:0 overruns:0 carrier:0
collisions:0 txqueuelen:1000
RX bytes:912923504 (912.9 MB) TX bytes:1169716469 (1.1 GB)

eth1 Link encap:Ethernet HWaddr 00:50:56:8b:bd:41 <<<< data-if
inet addr:10.197.252.100 Bcast:10.197.252.127 Mask:255.255.255.224
UP BROADCAST RUNNING MULTICAST MTU:1500 Metric:1
RX packets:152529984 errors:0 dropped:416 overruns:0 frame:0
TX packets:132458793 errors:0 dropped:0 overruns:0 carrier:0
collisions:0 txqueuelen:1000
RX bytes:242676663088 (242.6 GB) TX bytes:224531042730 (224.5 GB)
```

```
...

eth2 Link encap:Ethernet HWaddr 00:50:56:8b:cf:f3 <<< repl-if
BROADCAST MULTICAST MTU:1500 Metric:1
RX packets:1671340 errors:0 dropped:131 overruns:0 frame:0
TX packets:3340062 errors:0 dropped:0 overruns:0 carrier:0
collisions:0 txqueuelen:1000
RX bytes:164403101 (164.4 MB) TX bytes:300665525 (300.6 MB)
...
```