



Troubleshooting

Common Troubleshooting Scenarios

This section explains the common troubleshooting scenarios and the various ways to troubleshoot and monitor VDS-IS 3.3 Virtual Machine functioning and performance.



Note

The troubleshooting can be done either via CLI, or the esxtop command (by logging in to the ESXi shell), or the vSphere GUI.

Unable to deploy VM or VM is deployed but unable to power on the VM

The error can appear for one of the following reasons :

- The VM is being attempted to be deployed, or was deployed on insufficient datastore memory.

Check the size of the total disk of the VM, and see if the available space on datastore is enough. One might not run into the disk storage insufficiency if using Thin provisioning to create disks since it occupies only 2GB memory for the VM, however it is strongly recommended to use Thick provisioning of virtual disks to get good VM performance.

Unable to deploy VM with disk size greater than 8TB

- Step 1** In the hypervisor settings, click on the **Configuration** tab.
- Step 2** From the Software menu, select **Advanced Settings**.
The Advanced Settings window appears.
- Step 3** Select **VMFS3**.
- Step 4** In the **VMFS3.MaxHeapSizeMB** feild, enter 256 as the maximum heap size.



Note

The default value set in the **VMFS3.MaxHeapSizeMB** is 80MB.

- Step 5** Click **Ok**, and save the changes.

Text Part Number:

Step 6 Reboot the ESXi Host.

Unable to ping the external switch connected to portchannel

Let us consider that, four interfaces from an external switch are configured with port channel that run into a vswitch on the hypervisor. On the other hand the VM has a number of logical interfaces configured in portchannel that are not equal to 4. The VM and external switch will not be able to ping each other in this case and connectivity not established.

The reason for this is that the number of interfaces in port channel at either ends should be equal. If there are 4 interfaces from the external switch in port channel as in the example above, the VM should also have a corresponding 4 interfaces in port channel.

Unable to connect even with equal number of interfaces in port channel and external switch

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- Step 1** In the hypervisor settings, click on the **Configuration** tab.
- Step 2** From the Hardware menu, select **Networking**.
- Step 3** Click on the **Properties** link located to the right of 'Virtual Switch: vSwitch1'.
A 'vSwitch1 Properties' window will appear.
- Step 4** Select **vSwitch** from the vSwitch properties window.
- Step 5** From the **Load Balancing** drop-box, Select **Route based on IP hash**.
- Step 6** Click **Ok**, and save the changes.
- Step 7** Reboot the ESXi Host.
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Unable to Install VM on an external NAS storage

The probable reason to see errors while installing a VM on external NAS storage can stem from one of the following:

1. Not enough storage space on the external NAS to accommodate the VM disks.
2. The directory of the file path under which the VM is being created does not have necessary read, write and execute permissions.

After setting the above right, installing VM on NAS should work.

Troubleshooting Tips to Improve Performance

Using CLI

For the VM that is deployed, we can use several CLI commands to do troubleshooting especially for performance. These have been traditionally used for VDS-IS bare metal testing too. However in case of virtual machines, the esxtop is more recommended for certain statistics checking.



Note

For all the below commands, the user has to be logged in to debug shell mode on the VM.

CPU Usage

An example command to be run to check CPU usage on the VM can be of the form:

```
#mpstat -P ALL 5
```

The command lists CPU usage for the virtual CPU's and the total average of all usage.

Disk Usage

A typical command to check disk usage every 5 seconds will be as follows:

```
#iostat -mx 5
```

This will display several statistics of each of the virtual disks that are being used in the VM.

Memory usage

This can be checked using the top command. Simply run the following:

```
#top
```

The output will display several parameters relating to the memory usage and also per process resource usage.

Using Esxtop

Esxtop helps to check the hypervisor usage of the physical machine. The interactive esxtop utility can be used to provide I/O metrics over various devices attached to a VMware ESX host, mainly for CPU usage, disk usage, network usage, memory usage and others.

To run esxtop:

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- Step 1** First make sure to enable SSH option in ESXi options. (For UCS you need to access the ESXi via the CIMC KVM console and enable this option.)
 - Step 2** Using a secure shell (SSH), log on to the ESX Server machine as root. Then run the command:

esxtop

or

TERM=xterm esxtop

The esxtop tool includes several interactive commands.

Step 3 Enter **h**, to view a list of the interactive commands.

Toggle between views displayed by esxtop to see different parameters.

Step 4 Enter the following to view some associated views: ?c = cpu?, m = memory?, n = network?, d = disk adapter, and more.

Check details for interpreting esxtop outputs here:

<https://communities.vmware.com/docs/DOC-9279>

Step 5 Enter **q**, to exit esxtop.

Using vSphere

The vSphere GUI has several options that allow to monitor the performance of VM's running on the hypervisor. Select the "Performance" tab among the VM options and click "Chart Options" to set the appropriate fields to monitor.