

Troubleshooting VM Issues

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Troubleshooting Network Connectivity Issues

To troubleshoot network connectivity issues for Cisco Catalyst 8000V, do the following:

- Verify that there is an active and unexpired license installed on the VM.

Enter the **show license** command. The License State should be shown as “Active, In Use”.

- Verify that the vNIC for the VMs are connected to the correct physical NIC, or to the proper vSwitch.
- If you're using virtual LANS (VLANs), ensure the vSwitch is configured with the correct VLAN.
- If you're using static MAC addresses or VMs that are cloned, make sure there are no duplicate MAC addresses.

  Duplicate MAC addresses can cause the Cisco Catalyst 8000V feature license to become invalidated, which will disable the router interfaces.

Troubleshooting VM Performance Issues

Cisco Catalyst 8000V operates within a set of supported VM parameters and settings to provide certain levels of performance that have been tested by Cisco. Use the vSphere Client to view data to troubleshoot VM performance. If you are using vCenter, you can view historical data. If you are not using vCenter, you can view live data from the host.

This is a list of troubleshooting tips for performance issues:

Troubleshooting - MTU

Verify that the router has the correct setting for maximum MTU.

By default, the maximum MTU on the router is 1500. To support jumbo frames, edit the default VMware vSwitch settings. For more information, see the VMware vSwitch documentation.

Note ESXi 5.0 supports a maximum MTU of 9000, even if jumbo frames are enabled on the router.

Troubleshooting—Memory

Cisco Catalyst 8000V does not support memory sharing between VMs. On the ESXi host, check the memory counters to find out how much used memory and shared memory is on the VM. Verify that the balloon and swap used counters are zero.

If a specific VM does not have enough memory to support Cisco Catalyst 8000V, increase the memory size of the VM. Insufficient memory on the VM or the host can cause the Cisco Catalyst 8000V console to hang and be non-responsive.

Note With troubleshooting performance issues, note that other VMs on the same host as the Cisco Catalyst 8000V can impact the performance of the Cisco Catalyst 8000V VM. Verify that the other VMs on the host are not causing memory issues that are impacting the Cisco Catalyst 8000V VM.

Troubleshooting - Network Packets

Verify that no network packets are being dropped. On the ESXi host, check the network performance and view the counters to measure the number of receive packets and transmit packets dropped.

Troubleshooting - Throughput

- To verify the current maximum throughput level by executing the **show platform hardware throughput level** command. Check your throughput level to check whether it aligns with the expected value.
- Verify the recommended vCPU number versus the physical cores. Do not create a VM larger than the total number of physical cores of your host. For example, if you have a host system with 6 cores per NUMA node, it is recommended you size your virtual machines with no more than 6 vCPUs.

Troubleshooting - Instruction Extensions

Some x86 processors support instruction extensions for performing certain cryptographic transforms. Using these instructions is more efficient than not using them. Cisco Catalyst 8000V detects at run-time if the instruction extensions are available and will use them if they are available. To determine if the extensions are available, enter the **show platform software system all** command.

If the output shows that "Crypto Supported" is "No", then Cisco Catalyst 8000V may not exhibit the expected throughput. This is an issue with either the underlying physical hardware or the hypervisor. Check to see if the underlying physical hardware is capable of exposing the extensions and also check to see if the hypervisor can expose the extensions.

If the output shows that "Crypto Supported" is "Yes", then Cisco Catalyst 8000V provides the expected throughput because the physical hardware and the hypervisor can expose the extensions.

In the following example, "Crypto Supported" is "Yes". Therefore the cryptographic transforms can use instruction extensions, and perform efficiently.

```
Router# show platform software system all
Processor Details
=================
Number of Processors : 4
Processor : 1 - 4
vendor_id : GenuineIntel
cpu MHz  : 3192.307
cache size : 20480 KB
Crypto Supported : Yes
```

IP address Inconsistency Issues on the vSphere Web Client

You might face inconsistencies in the IP addresses that is configured on the router and what is shown on the vSphere Web Client. At this moment there are no resolutions for this issue. See the following list to know why these inconsistencies might occur:

- ipv4 addresses for interfaces that are up or down are detected, while ipv6 addresses are only detected for interfaces that are up.
- After you perform an Interface Hot Delete, the vSphere Web Client continues to display the IP Address of the deleted interface.
- When you perform a reload on a Cisco Catalyst 8000V with addresses configured but not written to memory, the vSphere Web client continues to display the addresses even after the router comes up again. This occurs even though there are no addresses configured on the router. For example, configure Loopback, port-channel, port-group, and subinterfaces on a Cisco Catalyst 8000V router so that 63 addresses are displayed by the vSphere Web Client. Do not write the configuration to memory and reload the Cisco Catalyst 8000V. After the reload completes, all the 63 addresses are displayed on the Web Client. This occurs even though no addresses are configured on the Cisco Catalyst 8000V router. You can resolve this issue by configuring an address on the Cisco Catalyst 8000V router. When you do so, the web client then removes the 63 address and just displays the newly configured address.
- When you configure multiple ipv6 addresses on an interface, only the last address that you configured is detected. If you remove that address, none of the remaining configured ipv6 address on that interface are detected. This creates a state with multiple ipv6 addresses configured on an interface, but none displayed by the Web Client.
- When you delete interfaces, some of the addresses of the new interfaces are not displayed. This happens when the maximum number of IP Addresses are displayed and then you delete interfaces. For example, configure 32 Loopback interfaces with addresses and then delete each interface. Then, configure 32 GigabitEthernet sub interfaces with addresses. The addresses for the subinterfaces are not detected. This is because the router maintains entries for the deleted Loopback interfaces and is not able to add new interfaces.
- Addresses are detected for GigabitEthernet, Loopback, PortChannel, and VirtualPort-Group Interfaces as well as subinterfaces. However, Tunnel interface addresses are not detected.
- Secondary IP Addresses for IPv4 interfaces are not detected