Troubleshooting the Cisco IOS XRv Router

This chapter covers information about troubleshooting the Cisco IOS XRv Router.

Verifying the Cisco IOS XRv Router Hardware and VM Requirements

To help troubleshoot issues with the Cisco IOS XRv Router, make sure that the router is installed on supported hardware and that the VM requirements are being met:

- Verify that the server hardware is supported by the hypervisor vendor.

  If using VMware, verify that the server is listed on the VMware Hardware Compatibility List. See the VMware documentation for more information.

- Verify that the I/O devices (for example, FC, iSCSI, SAS) being used are supported by the VM vendor.

- Verify that sufficient RAM is allocated on the server for the VMs and the hypervisor host.

  If using VMware, make sure the server has enough RAM to support both the VMs and ESXi.

- Verify the hypervisor version is supported by the Cisco IOS XRv Router.

- Verify that the correct VM settings for the amount of memory, number of CPUs, and disk size are configured.

- Verify that the vNICs are configured using a supported network driver.

- Verify that Cisco IOS XRv Router was configured correctly.

Troubleshooting Network Connectivity Issues

To troubleshoot network connectivity issues for the Cisco IOS XRv Router, do the following:

- Verify that the vNIC for the VMs are connected to the correct physical NIC, or to the proper vSwitch.

- If using virtual LANS (VLANs), make sure the vSwitch is configured with the correct VLAN.

- If using static MAC addresses, or VMs that are cloned, make sure there are no duplicate MAC addresses.

Troubleshooting VM Performance Issues for VMware EXSi

The Cisco IOS XRv Router operates within a set of supported VM parameters and settings to provide certain levels of performance that have been tested by Cisco.

Use vSphere Client to view data to troubleshoot VM performance. If you're using vCenter, you can view historical data. If you're not using vCenter, you can view live data from the host.

To troubleshoot performance issues, perform these steps:

- Verify that the router is configured for the correct MTU setting.

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

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

- The Cisco IOS XRv Router 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 given VM does not have enough memory to support the Cisco IOS XRv Router, increase the size of the VM's memory. Insufficient memory on the VM or the host can cause the Cisco IOS XRv Router console to hang and be non-responsive.

  Note When troubleshooting performance issues, note that other VMs on the same host as the Cisco IOS XRv Router can impact the performance of the Cisco IOS XRv Router. Verify that other VMs on the host are not causing memory issues that are impacting the Cisco IOS XRv Router VM.

- 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.

For more information about verifying the VM performance indicators, see the VMware Documentation.

Troubleshooting Crashes and Stack Traces

To troubleshoot crashes and stack traces you may need to contact your Cisco customer support representative for assistance. This section outlines the steps that you should perform prior contacting your next level of support, as this will reduce the amount of time spent resolving the issue.

To gather information before contacting your customer support representative, follow these steps:

SUMMARY STEPS

1. Save local copies of the crash dump and core files:

2. Present these files to Cisco customer support representative along with a description of the issue.

3. Capture and share these screen shots:

4. If possible, then share a copy of Cisco IOS XRv Router .vmdk file, as this can be used for additional debugging.

DETAILED STEPS

Step 1 Save local copies of the crash dump and core files:

- a. Access Aux Port through a console.

- b. Enter username and password.

- c. Look for 'dumper' directory, and search for 'first'.

```
# ls /dumper | grep first
first.qnet.20130827-140537.node0_0_CPU0.x86.Z
first.qnet.20130827-140537.node0_0_CPU0.x86.cpu_info.Z
first.qnet.20130827-140537.node0_0_CPU0.x86.txt
```

- d. Copy these files locally.

  Either use standard tftp or guestfish CLI commands to copy.

```
launch
mount /dev/sda1 /
copy-out /dumper/<filename>
```

Step 2 Present these files to Cisco customer support representative along with a description of the issue.

Step 3 Capture and share these screen shots:

- Entire console log window.

- Output of show dll.

- Output of show run.

- Output of show log.

Step 4 If possible, then share a copy of Cisco IOS XRv Router .vmdk file, as this can be used for additional debugging.