



Troubleshooting a Multi-Node High Availability Setup

This chapter contains the following sections:

- [Troubleshooting Primary Node Failures, page 1](#)
- [Troubleshooting Monitoring Database Failures, page 2](#)
- [Troubleshooting Inventory Database Failures, page 3](#)
- [Troubleshooting Inventory Collection Performance Issues, page 3](#)

Troubleshooting Primary Node Failures

Problem—The primary node fails.

Possible Cause—A primary node failure may be caused by file system corruption on an external datastore on which the Cisco UCS Director VM is running.

Recommended Solution—Log in to the Cisco UCS Director shelladmin to promote a service node to the primary node.

-
- Step 1** In the Cisco UCS Director shelladmin, choose **Configure Multi Node Setup (Advanced Deployment)**. The following information displays:
Enter: [a/b/x]?
- Step 2** Enter a and press the **Enter** key. The following information displays:
Do you want to configure this node as Primary Node [y/n]?
- Step 3** Enter y and press the **Enter** key. The following information displays:
Configuring Primary Node
Stopping UCS Director Services
Select the IP version you want to configure [a) IPv4, b)IPv6] a/b:
- Step 4** Enter a and press the **Enter** key.

The following information displays:

```
Provide Inventory DB IP:
```

Step 5 Enter the inventory database IP address and press the **Enter** key.

The following information displays:

```
Provide Monitoring DB IP:
```

Step 6 Enter the monitoring database IP address and press the **Enter** key.

The following information displays:

```
Disabling Database service at startup
```

```
Starting UCS Director Services
```

```
Configured Primary Node Successfully
```

```
In order for changes to take effect logout and login back
```

```
Do you want to logout [y/n]?
```

Step 7 Enter y and press the **Enter** key.

Troubleshooting Monitoring Database Failures

Problem—The master monitoring database fails.

Possible Cause—Database failures may be caused by:

- A mysqld crash, which may occur if the VM is powered off abruptly.
- A power failure on the node on which the Cisco UCS Director VM is running.
- File system corruption on an external datastore on which the Cisco UCS Director VM is running.

Recommended Solution—Fail over the database by stopping the infrastructure services on the primary node and the service node, replacing the IP address of the master monitoring VM with that of the backup monitoring VM, and restarting services.

Step 1 In the Cisco UCS Director shelladmin, choose `Stop services` to stop the Cisco UCS Director services on the primary node and all service nodes.

Step 2 Replace the IP address of the master monitoring VM with that of the backup monitoring VM in the following files:

- `/opt/infra/inframgr/service.properties`
- `/opt/infra/eventmgr/service.properties`
- `/opt/infra/idaccessmgr/service.properties`

Step 3 Start the application services on the primary node and the service node.

Troubleshooting Inventory Database Failures

Problem—The master inventory database fails.

Possible Cause—Database failures may be caused by:

- A mysqld crash, which may occur if the VM is powered off abruptly.
- A power failure on the node on which the Cisco UCS Director VM is running.
- File system corruption on an external datastore on which the Cisco UCS Director VM is running.

Recommended Solution—For a multi-node setup, fail over the database by stopping the infrastructure services on the primary node and the service node, replacing the IP address of the master inventory VM with that of the backup inventory VM, and restarting services.

**Note**

This solution is only applicable for a multi-node setup, and if you have a backup of the corrupted database node.

For a single-node setup, deploy a new Cisco UCS Director appliance and restore the database backup using the shelladmin.

-
- Step 1** In the Cisco UCS Director shelladmin, choose `Stop services` to stop the Cisco UCS Director services on the primary node and all service nodes.
- Step 2** Replace the IP address of the master inventory VM with that of the backup inventory VM in the following files:
- `/opt/infra/inframgr/service.properties`
 - `/opt/infra/eventmgr/service.properties`
 - `/opt/infra/idaccessmgr/service.properties`
- Step 3** Start the application services on the primary node and the service node.
-

Troubleshooting Inventory Collection Performance Issues

Problem—In a Cisco UCS Director multi-node deployment you may experience performance issues when using a service node to perform inventory collection.

Possible Cause—The execution duration can be directly affected by the following factors:

- Poor disk I/O speed on the external datastore on which the Cisco UCS Director VM is deployed.
- Poor network latency in a multi-node setup.
- Insufficient CPU reservation in the hypervisor.
- Insufficient memory reservation in the hypervisor.

Recommended Solution—Cisco recommends that you deploy Cisco UCS Director VMs in either a local datastore with 25Mbps I/O speed, or an external datastore with 50Mbps I/O speed. Cisco recommends that you reserve at least 3000MHz CPU for the Cisco UCS Director VM in addition to the default number of vCPUs. To troubleshoot any inventory collection performance issues, determine the I/O speed for the local datastore or the external datastore, and determine the round-trip time (RTT) between the following nodes:

- Primary node and VMware vCenter
- Primary node and inventory node
- Service node and VMware vCenter
- Service node and inventory node

Step 1 Run the following command as the root user on the local datastore or the external datastore to determine the I/O speed:

```
dd if=/dev/zero of=/tmp/test1 bs=4096 count=262144 oflag=direct
```

Step 2 Check the average RTT between the nodes using the `ping -c 20 Peer IP or hostname` command.

Example:

```
ping -c 20 192.0.2.253  
rtt min/avg/max/mdev = 60.474/69.888/134.199/21.529 ms
```

An average RTT below 50 ms is good.

Step 3 If the average RTT value is above 100 ms, work with your network administrator to debug any possible network latency issues to reduce the RTT to under 100 ms.
