If you encounter an issue when using CloudVision appliance, check to see if there are troubleshooting steps for the issue.

- System Recovery
- Health Checks
- Resource Checks
22.1 **System Recovery**

System recovery should be used only when the CVP cluster has become unusable and other steps, such as performing a `cvpi watchdog off`, `cvpi stop all`, and then, `cvpi start all`, `cvpi watchdog on` have failed. For example, situations in which, regardless of restarts, a `cvpi status all` continues to show some components as having a status of UNHEALTHY or NOT RUNNING.

There are two ways to completely recover a CVP cluster:

- **VM Redeployment**
- **CVP Re-Install without VM Redeployment**

**Note**

A good backup is required to proceed with either of these system recoveries.

22.1.1 **VM Redeployment**

Complete these steps:

**Step 1**
Delete all the CVP VMs.

**Step 2**
Redeploy the VMs using the procedures in.

**Step 3**
Issue a “`cvpi status all`” command to ensure all components are running.

**Step 4**
Login to the CVP GUI as ‘cvpadmin/cvpadmin’ to set the cvpadmin password.

**Step 5**
From the Backup & Restore tab on the Setting page, restore from the backup.

22.1.2 **CVP Re-Install without VM Redeployment**

Complete these steps:

**Step 1**
Run ‘cvpReInstall’ from the Linux shell of the primary node. This may take 15 minutes to complete.

```
[root@cvp99 ~]# cvpReInstall
0.Log directory is /tmp/cvpReinstall_17_02_23_01_59_48
Existing /cvpi/cvp-config.yaml will be backed up here.
...
Complete!
```

CVP configuration not backed up, please use cvpShell to setup the cluster

CVP Re-install complete, you can now configure the cluster

**Step 2**
Re-configure using the procedure in Shell-based Configuration. Log into the Linux shell of each node as ‘cvpadmin’ or ‘su cvpadmin’.
Chapter 22: Troubleshooting and Health Checks

System Recovery

Step 3  Issue a `cvpi status all` command to ensure all components are running.

Figure 22-1: Example output of `cvpi status all` command

Step 4  Login to the CVP GUI as ‘cvpadmin/cvpadmin’ to set the cvpadmin password.

Step 5  From the Backup & Restore tab on the Setting page, restore from the backup.

Related topics

- Health Checks
- Resource Checks
22.2 Health Checks

The following table lists the different types of CVP health checks you can run, including the steps to use to run each check and the expected result for each check.

<table>
<thead>
<tr>
<th>Component</th>
<th>Steps to Use</th>
<th>Expected Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Network connectivity</td>
<td>ping -f across all nodes</td>
<td>No packet loss, network is healthy.</td>
</tr>
<tr>
<td>HBase</td>
<td>echo list /cvpi/hbase/bin/hbase shell</td>
<td>grep -A 2 row/</td>
</tr>
</tbody>
</table>
| All daemons running on all nodes, bypass cvpi status all | On all nodes: su - cvp -c "/cvpi/jdk/bin/jps" | On primary and secondary nodes, 9 processes including jps.  
  - 3149 HMaster   
  - 2931 NameNode  
  - 2797 QuorumPeerMain  
  - 12113 Bootstrap  
  - 3040 DFSZKFailoverController  
  - 2828 JournalNode  
  - 11840 HRegionServer  
  - 12332 Jps  
  - 2824 DataNode  
  On tertiary 6 processes:  
  - 2434 JournalNode  
  - 4256 HRegionServer  
  - 2396 QuorumPeerMain  
  - 2432 DataNode  
  - 4546 Jps  
  - 8243 Bootstrap  
| Check time is in sync between nodes | On all nodes run “date +%s” | UTC time should be within a few seconds of each other (typically less than one second). Up to 10 seconds is allowable. |
| I/O slowness issues         | The disk I/O throughput is at an unhealthy level (too low).                  | Use the cvpi resources command to find out whether the disk I/O throughput is at a healthy level or unhealthy level. The disk I/O throughput reported in the command output is measured by the Virtual Machine.  
  See Running Health Checks for an example of the output of the cvpi resources command. |

22.2.1 Running Health Checks

Run the cvpi resources command to execute a health check on disk bandwidth. The output of the command indicates whether the disk bandwidth is at a healthy level or unhealthy level. The threshold for healthy disk bandwidth is 20MBS.

The possible health statuses are:

- **Healthy** - Disk bandwidth above 20MBs
- **Unhealthy** - Disk bandwidth at or below 20MBs

The output is color coded to make it easy to interpret the output. Green indicates a healthy level, and red indicates an unhealthy level (see the example below).
Example

This example shows output of the `cvpi resources` command. In this example, the disk bandwidth status is healthy (above the 20MBs threshold).

Figure 22-2: Example output of `cvpi resources` command

---

22.3 Resource Checks

CloudVision Portal (CVP) enables you to run resource checks on CVP node VMs. You can run checks to determine the current data disk size of VMs that you have upgraded to CVP version 2017.2.0, and to determine the current memory allocation for each CVP node VM.

Performing these resource checks is important to ensure that the CVP node VMs in your deployment have the recommended data disk size and memory allocation for using the Telemetry feature. If the resource checks show that the CVP node VM data disk size or memory allocation (RAM) are below the recommended levels, you can increase the data disk size and memory allocation.

These procedures provide detailed instructions on how to perform the resource checks and if needed, how to increase the CVP node VM data disk size and CVP node VM memory allocation.

- **Running CVP node VM Resource Checks**
- **Increasing Disk Size of VMs Upgraded to CVP Version 2017.2.0**
- **Increasing CVP Node VM Memory Allocation**

22.3.1 Running CVP node VM Resource Checks

CloudVision Portal (CVP) enables you to quickly and easily check the current resources of the primary, secondary, and tertiary nodes of a cluster by running a single command. The command you use is the `cvpi resources` command.

Use this command to check the following CVP node VM resources:
Resource Checks

Chapter 22: Troubleshooting and Health Checks

- Memory allocation
- Data disk size (storage capacity)
- Disk throughput (in MB per second)
- Number of CPUs

Complete the following steps to run the CVP node VM resource check.

**Step 1** Login to one of the CVP nodes as `root`.

**Step 2** Execute the `cvpi resources` command.

The output shows the current resources for each CVP node VM (see Figure 22-3).

- If the total size of sdb1 (or vdb1) is approximately 120G or less, you can increase the disk size to 1TB (see Increasing Disk Size of VMs Upgraded to CVP Version 2017.2.0).
- If the memory allocation is the default of 16GB, you can increase the RAM memory allocation (see Increasing CVP Node VM Memory Allocation).

**Figure 22-3: Using the cvpi resource command to run CVP node VM resource checks**

### 22.3.2 Increasing Disk Size of VMs Upgraded to CVP Version 2017.2.0

If you already upgraded any CVP node VMs running an older version of CVP to version 2017.2.0, you may need to increase the size of the data disk of the VMs so that the data disks have the 1TB disk image that is used on current CVP node VMs.

CVP node VM data disks that you upgraded to version 2017.2.0 may still have the original disk image (120GB data image), because the standard upgrade procedure did not upgrade the data disk image. The standard upgrade procedure updated only the root disk, which contains the Centos image along with rpms for CVPI, CVP, and Telemetry.

**Note** It is recommended that each CVP node have 1TB of disk space reserved for enabling CVP Telemetry. If the CVP nodes in your current environment do not have the recommended reserved disk space of 1TB, complete the procedure below for increasing the disk size of CVP node VMs.

**Pre-requisites**

Before you begin the procedure, make sure that you:

- Have upgraded to version 2017.2.0. You cannot increase the data disk size until you have completed the upgrade to version 2017.2.0 (see Upgrading CloudVision Portal (CVP)).
• Have performed the resource check to verify that the CVP node VMs have the data disk size image of previous CVP versions (approximately 120GB or less). See Running CVP node VM Resource Checks.

**Procedure**

Complete the following steps to increase the data disk size.

**Step 1** Turn off `cvpi service` by executing the `systemctl stop cvpi` command on all nodes in the cluster. (For a single-node installation, run this command on the node.)

**Step 2** Run the `cvpi -v=3 stop all` on the primary node.

**Step 3** Perform a **graceful power-off** of all VMs.

**Note**

You do not need to unregister and re-register VMs from vSphere Client or undefine and redefine VMs from kvm hypervisor.

**Step 4** Do the following to increase the size of the data disk to 1TB using the hypervisor:

- **ESX**: Using vSphere client, do the following (see Figure 22-4 for an example):
  a. Select the **Virtual Hardware** tab, and then select **hard disk 2**.
  b. Change the setting from 120GB to **1TB**.
  c. Click **OK**.

- **KVM**: Use the `qemu-img resize` command to resize the data disk from 120GB to 1TB. Be sure to select `disk2.qcow2`.
Step 5  Power on all CVP node VMs, and wait for all services to start.

Step 6  Use the `cvpi status all` command to verify that all the cvpi services are running.

Step 7  Run the `/cvpi/tools/diskResize.py` command on the primary node. (Do not run this command on the secondary and tertiary nodes.)

Step 8  Run the `df -h /data` command on all nodes to verify that the /data is increased to approximately 1TB.

Step 9  Wait for all services to start.

Step 10 Use the `cvpi -v=3 status all` command to verify the status of services.

Step 11 Use the `systemctl status cvpi` to ensure that cvpi service is running.

Related topics

- Increasing CVP Node VM Memory Allocation
- Running CVP node VM Resource Checks

**22.3.3 Increasing CVP Node VM Memory Allocation**

If the CVP Open Virtual Appliance (OVA) template currently specifies the default of 16GB of memory allocated for the CVP node VMs in the CVP cluster, you need to increase the RAM to ensure that the CVP node VMs have adequate memory allocated for using the Telemetry feature.
Note

It is recommended that CVP node VMs have 32GB of RAM allocated for deployments in which Telemetry is enabled.

You can perform a rolling modification to increase the RAM allocation of every node in the cluster. If you want to keep the service up and available while you are performing the rolling modification, make sure that you perform the procedure on only one CVP node VM at a time.

Once you have completed the procedure on a node, you repeat the procedure on another node in the cluster. You must complete the procedure once for every node in the cluster.

Pre-requisites

Before you begin the procedure, make sure that you:

- Have performed the resource check to verify that the CVP node VMs have the default RAM memory allocation of 16GB (see Running CVP node VM Resource Checks).
- Make sure that you perform a GUI-based backup of the CVP system and copy the backup to a safe location (a location off of the CVP node VMs). The CVP GUI enables you to create a backup you can use to restore CVP data (see Running CVP node VM Resource Checks).

Procedure

Complete the following steps to increase the RAM memory allocation of the CVP node VMs.

Step 1 Login to a CVP node of the cluster as cvp user.

Step 2 Using the cvpi status cvp shell command, make sure that all nodes in the cluster are operational.
Step 3 Using vSphere client, shutdown one CVP node VM by selecting the node in the left pane, and then click the **Power off the virtual machine** option.

Step 4 Click **Yes** to confirm powering off the virtual machine.
**Step 5** On the CVP node VM, increase the memory allocation to 32GB by right-clicking the node icon, and then choose **Edit Settings**.
The Edit Resource Settings dialog appears.

### Step 6
Do the following to increase the memory allocation for the CVP node VM:

- Using the **Memory** option, click the up arrow to increase the size to **32GB**.
- Click the **OK** button.

The memory allocation for the CVP node VM is changed to 32GB. The page refreshes, showing options to power on the VM or continue making edits to the VM properties.
Step 7  Click the **Power on the virtual machine** option.

![Image of vSphere Web Client interface showing Power on the virtual machine option.

Step 8  Wait for the cluster to reform.

Step 9  Once the cluster is reformed, repeat **step 1 through step 7** one node at a time on each of the remaining CVP node VMs in the cluster.

Related topics
- System Recovery
- Health Checks