Issues faced on Nodes

1. Node out of cluster:
2. Node hang
3. Node unhealthy
4. Node in Read only State

**Before making any changes, confirm with onsite team.**

**Node out of cluster:**

Resolution Steps: Inform Onshore team.

Steps:

1. Ntp check.
2. Docker service check (whether service is running or not)
3. For DCOS node: docker and dcos service check (whether service is running or not)

**Node Hang:**

Resolution steps: Inform Infra team and raise a SR via Snow for the investigation. Most of the time, node works fine after a reboot. ( Infra address: hoh-infraops-linux@hpe.com )

**Node Unhealthy:**

Resolution Steps: Please refer the excel document for previous issues and fixes. 

Possible first troubleshooting steps:

1. Node NTP Check
2. CPU utilization
3. Disk utilization
4. Docker service check (whether service is running or not)
5. For DCOS node: docker and dcos service check (whether service is running or not)

**Node NTP check:**

Resolution steps: Check via command ( timedatectl status ). It should be in sync.

If found any changes( not in sync ). Inform Infra and onshore team.

For reference, one can check via timesyncd.conf file

$ sudo nano /etc/systemd/timesyncd.conf

To activate the NTP client build in system: sudo timedatectl set-ntp true

Before making changes on server confirm with onshore team and these tasks are done via infra team.

**CPU Utilization:**

Resolution steps: check utilization via command ( top ) and inform infra and onshore team if some abnormality is there.

**Disk utilization on unhealthy node:**

Login and check via command: df –kh

check utilization via command and inform infra and onshore team if some abnormality is there.

**Check DCOS components:**

Check on UI for components and logs.

Use command to check system service status and then check logs for failed services on unhealthy nodes.

Command: sudo systemctl | grep dcos

To check logs of particular component:

Command: sudo journalctl -flu component\_name.

Note: For Private nodes: One can go for a reboot if one is not able to find any possible root cause.

**Check Docker Service:**

Use command to check system service status and then check logs for failed services on unhealthy nodes.

Command: sudo systemctl | grep docker

To check logs of particular service:

Command: sudo journalctl -flu service\_name

To check Logs of docker:

Command: cat /var/log/messages | grep dockerd

**Node in Read only State:**

Resolution steps: Inform Infra team and raise a SR via Snow for the investigation. Most of the time, node works fine after a reboot. ( Infra address: hoh-infraops-linux@hpe.com )

**Note: Please confirm with Onsite team before making any changes.**

**Note: If any private node is rebooted, please restart portworx.**

Command: systemctl restart portworx

**Reference commands in use:**

To check Logs of docker:

Command: cat /var/log/messages | grep dockerd

To check DCOS component status:

Command: sudo systemctl | grep dcos

To check logs of particular component

Command: sudo journalctl -flu component name.

To check volume consumption (Volume issue)

Command: df –kh

To check processes on node:

Command: Top

To quit top command: press q

Stop docker service

Command: systemctl stop docker

Start Docker service:

Command: systemctl start docker

Restart Portworx:

Command: systemctl restart portworx

**DCOS Master Nodes Unhealthy:**

Check logs of all Master nodes and check Master leader logs. If found error on Master Leader. Restart mesos service and check again.

If cockroach DB error is there. Confirm with team folks and inform onsite team.

Error: nodes not able to determine leader. Inform onshore team.

DCOS Master Node Troubleshooting Steps

Please follow the below mentioned steps to capture log bundle for all dcos services running on a Master node.

* Login to that node as root user -> **sudo su -**
* Run this command -> **d=$(date -u +%Y%m%d-%H%M%S) && tmp\_dir=/tmp/dcos\_diagnostics-${d} && if sudo systemctl | grep dcos | grep master > /dev/null; then node\_type=master; elif sudo systemctl | grep dcos | grep public > /dev/null; then node\_type=agent\_public; else node\_type=agent; fi; node\_dir=${tmp\_dir}/$(/opt/mesosphere/bin/detect\_ip)\_${node\_type} && mkdir -p ${node\_dir} && sudo dmesg -T > ${node\_dir}/dmesg-0.output && for unit in $(sudo systemctl list-units --no-legend --no-pager --plain 'dcos-\*' | awk '{print $1}'); do echo "Saving logs for ${unit}"; sudo journalctl -au ${unit} > ${node\_dir}/${unit}; done && tar -czvf $(/opt/mesosphere/bin/detect\_ip)\_${node\_type}-${d}.tgz -C $tmp\_dir .**
* A tar file will be created containing log bundle of dcos services. Check that by running this command -> **ls -lh**

If Master Nodes are Unhealthy and you see error related to DCOS Vault and Secrets and you are also not able to see the secrets on Dashboard then please follow the below commands.

* sudo systemctl stop dcos-vault && sudo systemctl stop dcos-secrets
* sudo systemctl start dcos-vault
* sudo systemctl start dcos-secrets

Please note that this scenario is rare (usually happens after upgrade) and the above commands should not be performed in any other case.