



Maintenance of Cisco Application Services Engine

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RMA of Single Master Node

Use this procedure for RMA of the master nodes.

- Step 1** Log in to the UI on one of the healthy master nodes. Select the **System Resources** tab, select **Nodes**.
 - Step 2** Power off the old master node that is being removed. In the UI, make sure the status for this node changes to **Inactive**. Verify that the serial number matches that of node that needs to be removed.
 - Step 3** Power on the new node and complete bootstrap. Use the same parameters that were used to set up the old node (including name and network information). Note down the serial number of this node.
 - Step 4** In the UI, select the checkbox next to the inactive master node. Click on **Actions** and select **Replace**. When prompted, enter the new node's serial number under **New Serial Number** and proceed.
 - Step 5** In the UI, you should see the serial number get updated. The status will change to **Active** once the master has successfully joined the cluster.
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RMA of Two Master Nodes

Use this procedure for RMA of the master nodes.

- Step 1** Power down the two master nodes that have failed.
- Step 2** Power on and bootstrap the two new nodes with the same parameters that were used to bootstrap the old nodes.
Refer to [Cisco Application Services Engine Deployment Guide](#) for deploying the nodes. Up to 4 worker nodes can be admitted in a cluster.

Step 3 Log in to the healthy master (cli) and run the **acidiag recover save** command.

```
[rescue-user@node1 ~]$ acidiag recover save
Warning: Cluster recovery can be a disruptive operation and should only
be performed as last resort option to recover cluster from disasters
where two master nodes have lost their state due to hardware faults. Proceed? (y/n): y

cluster snapshot '/tmp/cluster_snapshot.tar.gz' generated successfully.
Copy to other devices as '/tmp/cluster_snapshot.tar.gz' before performing restore.
```

Step 4 Copy the .tar file that was generated in previous step to the two new nodes as /tmp/cluster_snapshot.tar.gz and perform the **acidiag recover restore** command on all the nodes. The nodes will reboot.

```
[rescue-user@node1 ~]$ acidiag recover restore
Warning: This command will restart this device to perform recovery.
Make sure, you have copied cluster snapshot to other devices
if you are recovering the cluster from this device. Proceed? (y/n): y
Connection to 172.20.6.119 closed.
```

Step 5 Wait for all nodes to form the cluster and show their status as healthy. Use the **acidiag health** command to verify the total cluster health.

Single Worker RMA

Use this procedure to replace a failed worker node.



Note For cleaning up or recovering a node in bad software state, please use **acidiag touch clean** or **acidiag touch setup** followed by **acidiag reboot**.



Note Please not that **Delete** option has been provided so that you can RMA the node for hardware issues that require it to be physically replaced. If you **Delete** a worker node, expectation is that you will **Register** a new node with the same bootstrap information.

Step 1 Log in to the GUI of one of the healthy master nodes. Select the **System Resources < Nodes**.

Step 2 Power off the old worker node that is being removed. In the GUI, make sure the status for this node changes to **Inactive**. Verify that the serial number matches that of node needs to be replaced.

Step 3 In the GUI, select the checkbox next to the worker node that needs to be removed. Click **Actions < Delete**. The entry for this node is removed from the **Nodes** page.

After you delete the node from the cluster, use the following command to clean reload it to remove any old configurations:

```
# acidiag touch clean
```

Then reboot it:

```
# acidiag reboot
```

- Step 4** Power on the new worker node and complete bootstrap. Use the same parameters that were used to set up the old worker node. Note down the serial number of this node.
- Step 5** In the GUI, a worker node entry should show up as **Unregistered**. Verify that the serial number matches that of the new node.
- Step 6** In the GUI, select the checkbox next to this worker node. Click on **Actions** and select **Register**. Verify the details in the next screen and select **Save**.
- Step 7** In the GUI, you should see the node's status change to **Discovering**, and then it changes to **Active**.
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