



# High Availability

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This chapter provides information on High Availability (HA) support for the V2PC master node.

## V2PC Master Node High Availability

### Overview

V2PC supports High Availability (HA) for the master node. Three master nodes are currently deployed for a minimum HA cluster, and there are plans to support more master node clusters in the future. V2PC also supports single node deployment with HA disabled.

In an HA cluster of three nodes, all V2PC platform components will survive in any of the following failure scenarios:

- One master node fails due to a reboot, crash, network partition, and so on.
- One instance of any service component fails in one node; for example, one mongo instance failure, one service manager instance failure, and so on.
- We allow multiple services degrade with one instance failure per service simultaneously such as one mongo instance failure with one service manager instance failure at the same time.

V2PC master nodes are built on top of multiple services. Each service has its own HA method, with either Active/Active or Active/Standby HA.

## Deploying a Master Node Cluster with HA

### Installation

For the V2PC bootstrap procedure, see the setup steps described in the *Cisco Virtualized Video Processing Controller Deployment Guide*. On choosing the HA topology, the system is automatically initialized with three master nodes having HA support.

## Access to V2PC GUI

The V2PC service leader provides services to users in HA mode. To access the V2PC GUI seamlessly during leadership switches, the V2PC cluster is brought up with an external DNS server. The external DNS information can be specified under the `mosDNS` section of the bootstrap JSON file. The GUI can be accessed using `https://v2pc-ui.$External_Domain:8443`.

It is assumed that the user device has access to the external DNS server and is configured to use this server. It is highly recommended that the user install the V2PC cluster with an external DNS server.

If an external DNS server cannot be provided or is configured incorrectly (for example, with an incorrect hash key), the GUI will log a warning and continue to operate. In this case, the user can access the GUI using the IP address of the master V2PC GUI. To find the IP address of the master node, log in to the one of the master nodes and run the command `nslookup master.v2p-ui.service.$Primary_Region.$Domain`.

**Note**

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In the event of a leadership switch, the IP address must be rediscovered and the new master IP address used.

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## HA Support for MCE and MPE over V2PC

V2PC support for HA with MCE and MPE works as summarized below.

### Single Master Failure

- For a single MCE worker and a zookeeper leader not on the master, there is no service disruption.
- For a single MCE worker and a zookeeper leader on that master, there is a service disruption, the asset fails, and it is necessary to disable and re-enable the media workflow.
- For two or more MCE workers and a zookeeper leader not on the master, there is no service disruption.
- There is no service disruption to MPE in any of these failure scenarios.

### All Three Master Nodes Fail

If all three master nodes fail, there is no service disruption to existing playout. Existing playout will continue.