

CUIC Cluster Configuration

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Cluster Configuration for JVM Using Hazelcast

Cisco Unified Intelligence Center uses Hazelcast for application clustering. Hazelcast provides a second-level cache for the Unified Intelligence Center application layer. When any entity (for example: report, report definition, and so on) cached by Hazelcast is updated in one of the Unified Intelligence Center nodes, it must be invalidated and reloaded in all the other Unified Intelligence Center nodes in the cluster. The Hazelcast cluster automatically takes care of it by publishing clusterwide notifications containing the identifiers of such entities which must be invalidated.

In Unified Intelligence Center, the default mechanism for Hazelcast cluster discovery or formation is UDP multicast. Unified Intelligence Center uses the Multicast group IP address 224.2.2.3 and port 54327. You cannot change these settings in Unified Intelligence Center.

The UDP multicast based discovery mechanism will not work for the customer in the following scenarios:

- When the network has multicasting disabled.
- If the nodes in the Unified Intelligence Center cluster are in different subnets.

In such scenarios, you can change the discovery mechanism to TCP/IP. You can form the CUIC application cluster using TCP/IP instead of the default UDP Multicast based discovery mechanism.

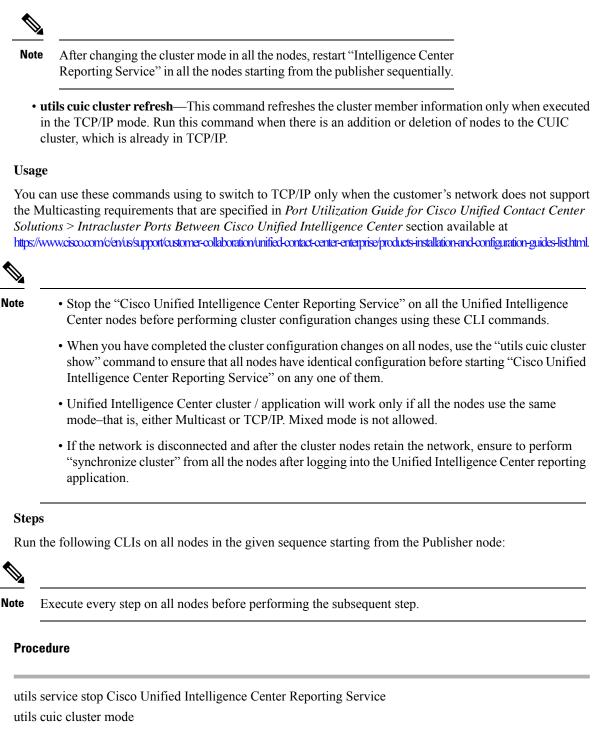
Use the following CLI commands to manage the cluster mode (UDP Multicast vs TCP/IP). That is, use the following CLI commands to switch to TCP/IP only if the customer's network does not support Multicasting:

• **utils cuic cluster show**—This command shows the current cluster mode that is enabled on this node and the other member details.



Note The member details are available only in the TCP/IP mode. The member details displayed are of the configured members and does not represent the cluster in real time.

• **utils cuic cluster mode**—This command is used to switch the Hazelcast cluster join configuration from Multicast to TCP/IP and the opposite way.



Step 3 utils cuic cluster show

Note Ensure that all nodes have identical configuration.

Step 4 utils service start Cisco Unified Intelligence Center Reporting Service

Step 1

Step 2

Note If there is a network disconnect and reconnect, check if the database replication is successfully set up across all nodes in the cluster and then perform "Synchronize Cluster" from the legacy Cisco Unified Intelligence Center. This ensures that cache is in sync across the cluster.

Troubleshooting Cluster Configuration

Verify the Hazlecast Cluster Formation using Hazelcast REST client. To verify, replace <CUIC-IP> with the IP address of any CUIC member in the following URL.

http://<CUIC-IP>:57011/hazelcast/rest/cluster

The Unified Intelligence Center application cluster can be down in the following cases:

- · Common Cases:
 - Node is not reachable
 - · Unified Intelligence Center Reporting Service is down
 - Hazelcast default Port 57011 is not enabled in Unified Intelligence Center nodes in the customer environment, which is used to communicate between cluster members.
- When multicasting is being used for the member discovery (Default method):
 - Network has UDP multicast disabled
 - UDP port 54327 used for Hazelcast member discovery is disabled
 - Multicast default group IP 224.2.2.3 is not allowed in the network
 - · UCCX nodes are distributed across different subnets



Note If any of the above mentioned cases cause issue because of the restrictions on multicasting in the customer environment, you can use TCP/IP for Hazelcast discovery.

For more information, contact Cisco support to troubleshoot and reset the cluster.