



CHAPTER 18

Configuring Cisco Unified Videoconferencing Manager Redundancy

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Introduction

Cisco Unified Videoconferencing Manager supports a 1+1 redundant deployment to provide high availability. The live Cisco Unified Videoconferencing Manager server will be active, and the backup Cisco Unified Videoconferencing Manager server will be in standby mode. Once a failure is detected, the backup Cisco Unified Videoconferencing Manager server will become active, and the live Cisco Unified Videoconferencing Manager server will be in standby mode after it recovers. The redundant deployment is symmetrical—there is no set live or backup server. The first Cisco Unified Videoconferencing Manager server that finishes initialization process is the live server.

Cisco Unified Videoconferencing Manager redundant deployment has the following characteristics and limitations:

- Cisco Unified Videoconferencing Manager redundant deployment supports software failure of the Cisco Unified Videoconferencing Manager service on the live server.
- Cisco Unified Videoconferencing Manager redundant deployment supports hardware failure of the live server.
- Cisco Unified Videoconferencing Manager redundant deployment supports network failure of the live server.
 - The live and backup Cisco Unified Videoconferencing Manager servers must be deployed on the same subnet.
 - The live Cisco Unified Videoconferencing Manager server will ping the gateway to detect if it can connect to the network. If connection to the network is lost, the live Cisco Unified Videoconferencing Manager server will reset itself in standby mode, and the backup Cisco Unified Videoconferencing Manager server will take over.

- Cisco Unified Videoconferencing Manager redundant deployment must work with a standalone Cisco IOS H.323 Gatekeeper. In order to avoid single point of failure, redundant Cisco IOS H.323 Gatekeeper deployment is also recommended when working with redundant Cisco Unified Videoconferencing Manager deployment.
- Failover from the live Cisco Unified Videoconferencing Manager server to the backup Cisco Unified Videoconferencing Manager service is automatic. When failover takes place,
 - Users who are currently signed in to the Web interface need to sign in again.
 - Existing H.323 calls are not affected since the SIP B2BUA component is hosted on the same server as the standalone Cisco Unified Videoconferencing Manager. Failure of the live Cisco Unified Videoconferencing Manager server causes an interruption of existing SIP calls.
 - After the live Cisco Unified Videoconferencing Manager server has failed, and before the backup Cisco Unified Videoconferencing Manager server is live, new calls cannot connect. Once the backup Cisco Unified Videoconferencing Manager server is operational, new calls can connect again.

Sample Configuration

This example uses two servers, each using a single NIC with an IP address. Assume Cisco Unified Videoconferencing Manager Server A's IP address is 192.168.225.116, and Cisco Unified Videoconferencing Manager Server B's IP address is 192.168.225.117.

Apply another unused IP address to be configured by Cisco Unified Videoconferencing Manager to work as a public/virtual IP address. Users use this IP address to access the Cisco Unified Videoconferencing Manager user interface. You could also bind this IP address to a DNS name. Assume the public IP address is 192.168.225.48.

We assume that the Cisco Unified Videoconferencing Manager is installed under

C:\Program Files\Cisco\Cisco Unified Videoconferencing Manager\Resource Manager.

In this example, we use INSTALL_DIR to refer to this directory.

Setup

When you install Cisco Unified Videoconferencing Manager, note the follow points:

- Installation Type—Do not select the Cisco Unified Videoconferencing Manager with internal gatekeeper option, and use same the same installation type for the two servers.
- User Provisioning—Select the same user provisioning options on the two servers.
- Cisco Unified Videoconferencing Manager Server Port—Select the same web server port on the two servers.
- Cisco Unified Videoconferencing Manager Server Host Name—Set the same host name on the two servers. The host name should bind to the virtual IP address. End users can use the host name to access the server.
- Database Server—Select MSDE/MS-SQL for both Cisco Unified Videoconferencing Manager instances.
- Cisco Unified Videoconferencing Manager Database Information—Use different database names on the same database server for both Cisco Unified Videoconferencing Manager instances.

- Cisco Unified Videoconferencing Manager Database Account Login Information—Use different sign in IDs and passwords for the two Cisco Unified Videoconferencing Manager instances.
- Cisco Unified Videoconferencing Manager Account Login Information—Use the same sign in ID, password and email address on both servers.

After Cisco Unified Videoconferencing Manager Installation

After finishing your Cisco Unified Videoconferencing Manager installation, perform the following steps:

Procedure

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- Step 1** Sign in to the two servers separately and select the same User Provisioning option.
- This screen is available after your initial sign in to Cisco Unified Videoconferencing Manager.
- Perform the configuration of the two servers before they become live and backup instances. Once the two servers are configured as live and backup instances, the Web interface of the backup instance is no longer accessible.
- Step 2** Duplicate the configuration of the Configuration Tool on both Cisco Unified Videoconferencing Manager instances.
- Step 3** Update the license with the same ports count for both servers.
- If you have two NICs at the server, you should bind the license to the specify NIC. For example; if Cisco Unified Videoconferencing Manager Server A has two NICs, the IP address for NIC 1 is 192.168.225.116, and for NIC 2 is 192.168.225.202. To configure 192.168.225.116 to work for a cluster, bind the Cisco Unified Videoconferencing Manager license to NIC 1.
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Defining Parameter Settings in Configuration Files

This section describes how to configure the following files:

- [ha.xml](#), page 18-3
- [vnex.properties](#), page 18-5
- [vcs-core.properties](#), page 18-6
- [mssql-ds.xml](#), page 18-6

ha.xml

On Cisco Unified Videoconferencing Manager Server A

Procedure

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- Step 1** Open ha.xml INSTALL_DIR\jboss\bin in a text editor.

```

<config>
<UDP
bind_addr="${jgroups.bind_addr:192.168.225.116}"
bind_port="7800"
ip_mcast="false"
tos="8"
ucast_rcv_buf_size="20000000"
ucast_snd_buf_size="640000"
mcast_rcv_buf_size="25000000"
mcast_snd_buf_size="640000"
loopback="true"
discard_incompatible_packets="true"
max_bundle_size="64000"
max_bundle_timeout="30"
use_incoming_packet_handler="true"
use_outgoing_packet_handler="false"
ip_ttl="${jgroups.udp.ip_ttl:2}"
down_thread="false" up_thread="false"
enable_bundling="true"/>
<PING timeout="2000"
down_thread="false" up_thread="false"
initial_hosts="${jgroups.tcpping.initial_hosts:
192.168.225.116[7800],192.168.225.117 [7800]}"
port_range="1"
num_initial_members="2"/>
/>
.....

```

- Step 2** Change the value of the `bind_addr` property to the IP address of the Cisco Unified Videoconferencing Manager Server A.
- Step 3** Change the `initial_hosts` to contain the IP addresses of the two servers.
- Step 4** Ensure that port 7800 is not used on the two machines. If not so, select an unused port, and change above 7800 to use the selected port.

On Cisco Unified Videoconferencing Manager Server B

Procedure

- Step 1** Open `ha.xml` in `INSTALL_DIR\jboss\bin` in a text editor.

- Step 2** Make the changes as described in the [“On Cisco Unified Videoconferencing Manager Server A” section on page 18-3](#).

```
<config>
  <UDP
    bind_addr="${jgroups.bind_addr:192.168.225.117}"
    bind_port="7800"
    ...
  <PING timeout="2000"
    down_thread="false" up_thread="false"
    initial_hosts="${jgroups.tcpping.initial_hosts:
192.168.225.116 [7800],192.168.225.117[7800]}"
```

- Step 3** The value of the bind_addr is the IP address of this machine.
- Step 4** The initial_hosts contain the IP addresses of the two servers.
- Step 5** Ensure the two servers use the same port.
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vnex.properties

On Cisco Unified Videoconferencing Manager Server A

Procedure

- Step 1** Open vnex.properties in INSTALL_DIR\jboss\bin.
- Step 2** Check the following properties according the example.
- Step 3** If the vnex.properties file does not contain these properties, add the following lines:

```
vnex.config.clustering=enabled
vnex.clustering.gateway=192.168.225.254
vnex.clustering.local.ip=192.168.225.116
vnex.clustering.virtual.ip=192.168.225.48
vnex.clustering.mask=255.255.255.0
```

On Cisco Unified Videoconferencing Manager Server B

Procedure

- Step 1** Open vnex.properties in INSTALL_DIR\jboss\bin.
- Step 2** Check the following properties according the example.
- Step 3** If the vnex.properties file does not contain these properties, add the following lines:

```

vnex.config.clustering=enabled
vnex.clustering.gateway=192.168.225.254
vnex.clustering.local.ip=192.168.225.117
vnex.clustering.virtual.ip=192.168.225.48
vnex.clustering.mask=255.255.255.0

```

Property	Description	Default
vnex.config.clustering	Enable or disable the clustering. Its value can be disabled or enabled.	Disabled
vnex.clustering.gateway	This is the IP address with which the machine ping the connection to the network. It is better to use the IP address of the network default gateway. When there is no network default gateway, use the IP address of a server on the network that is always online. Configure the two machines with the same IP address.	No
vnex.clustering.local.ip	The local IP address. The virtual IP will bind to the network interface card that this local IP address bind to.	If no local IP address is defined, the virtual IP will be bound to the first network interface card.
vnex.clustering.virtual.ip	The virtual IP address that used by the users to access Cisco Unified Videoconferencing Manager.	No
vnex.clustering.mask	The network mask.	255.255.255.0

vcs-core.properties

On both Cisco Unified Videoconferencing Manager Servers

Procedure

- Step 1** Open vcs-core.properties in INSTALL_DIR\jboss\bin separately.
- Step 2** Add the following line if it is not already present.

vnex.vcms.core.startResourceActionListener=false
- Step 3** If it is present, change its value to false (as above).

mssql-ds.xml

Procedure

- Step 1** On the Cisco Unified Videoconferencing Manager Server B, open mssql-ds.xml in INSTALL_DIR\jboss\server\default\deploy.

Step 2 Change the connection URL and the database user name and password to be the same as that in Cisco Unified Videoconferencing Manager Server A.

This allows Cisco Unified Videoconferencing Manager Server B to use the database used by Cisco Unified Videoconferencing Manager Server A.

For example

```
<connection-url>jdbc:microsoft:sqlserver:
//192.168.225.198:1433;DatabaseName=cuvcm_failover_M;
SendStringParametersAsUnicode=
false</connection-url>
<user-name>cuvcm_failover_M</user-name>
<password>DES:DtlbXegPQnnRal00oetTOvs=</password>
```



Note CDR files are stored separately in INSTALL_DIR\cdrdata on the live and backup servers when CDR is enabled in the Configuration Tool.

How to Configure Failover for Microsoft OCS 2007 Deployments

The Cisco Unified Videoconferencing Manager plug-in for Microsoft Office Communicator Server (OCS) 2007 enables OCS users to join MCU conferences.

This section describes how to configure the failover mechanism for Microsoft OCS 2007 Connector deployments.

For more information about the Cisco Unified Videoconferencing Manager plug-in for OCS 2007, see the Cisco Unified Videoconferencing Manager for Microsoft Office Communicator Server 2007 Deployment Guide.

- [Configuring Cisco Unified Videoconferencing Manager Servers for OCS Failover, page 18-7](#)
- [Configuring the MCU for OCS Failover, page 18-8](#)
- [Configuring the OCS 2007 Server for Failover, page 18-8](#)
- [Configuring the OCS 2007 Client for Failover, page 18-8](#)

Configuring Cisco Unified Videoconferencing Manager Servers for OCS Failover

Procedure

Step 1 Use a text editing tool to open the tab.xml file for both Cisco Unified Videoconferencing Manager servers located by default under

```
C:\Program Files\Cisco\Cisco Unified Videoconferencing Manager\Resource
Manager\jboss\server\default\deploy\vcs.ear\ocs.war\jsp\oc
```

Step 2 Add the virtual host name for each Cisco Unified Videoconferencing Manager server.

- Step 3** Save and close each tab.xml file.
-

Configuring the MCU for OCS Failover

Procedure

- Step 1** Go to MCU > Protocols > SIP in the MCU web user interface.
- Step 2** Select **Enable SIP protocol**.
- Step 3** Select **Using Microsoft OCS**.
- Step 4** Enter the virtual IP address of the Cisco Unified Videoconferencing Manager server in the Specify address field.
- Step 5** Select **OK** to save your changes.
-

Configuring the OCS 2007 Server for Failover

Procedure

- Step 1** Go to Administrative Tools > Office Communicator 2007 in the OCS 2007 user interface.
- Step 2** Expand the Standard Edition Servers tree view.
- Step 3** Right select **rvcn-ocs2007.ocs2007.com** and select **Properties > Front End Properties**.
- Step 4** Select the **Routing** tab and add the virtual IP address of the Cisco Unified Videoconferencing Manager server in OCS 2007.
- Step 5** Select **OK**.
- Step 6** Select the **Host Authorization** tab and add the following IP addresses:
- The IP address of Server A
 - The IP address of Server B
 - The virtual IP address of the Cisco Unified Videoconferencing Manager server
 - The IP address of the MCU
- Step 7** Select **OK** to save your changes.
-

Configuring the OCS 2007 Client for Failover

Procedure

- Step 1** Locate the ocs2007.reg registry file on the Cisco Utilities and Documentation CD-ROM supplied with the product.

- Step 2** Open the file with a text editing tool.
 - Step 3** Add the virtual host name.
 - Step 4** Save and close the ocs2007.reg file.
 - Step 5** Run the ocs2007.reg file.
 - Step 6** Go to Internet Explorer and confirm that the Cisco Unified Videoconferencing Manager server is added as a trusted site. If not, manually add the Cisco Unified Videoconferencing Manager server as a trusted site.
-

Maintaining Consistency Between Live and Backup Servers

The backup Cisco Unified Videoconferencing Manager instance is automatically set to waiting mode when the live instance is running. When in waiting mode, the Web interface of the backup instance is not accessible. The Configuration Tool interface is available.

Any changes to the Configuration Tool of the live instance must be reflected in the Configuration Tool of the backup instance.

Any changes to the system settings in the Web interface of the live instance are automatically synchronized in the backup instance.

Since the license is bound to the MAC address of the server NIC, the license for the live instance and backup instance are different. Individually update the licenses for the live and backup instances.

