

Managing an MCU Profile in Resource Manager

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Configuring Cascading

Resource Manager is able to manage multiple MCUs as a pool of resources. You can cascade MCUs to reduce potential drain on network resources, increase the efficiency of MCU usage, and allow large conferences to be held. The following points about cascading should be noted:

- The Meeting Type (MCU service) representing the required meeting must be available on all participating MCUs. For example, if the meeting uses MCU service 81, then 81 must exist on the master MCU and on the slave MCUs.
- A cascaded connection uses two ports—one on the master MCU conference, and one port on the slave MCU conference.
- Only one cascading stream exists between the master MCU and the slave MCU; therefore, only one participant from the slave MCU can send video for mixing and only one participant from the slave MCU can be seen by other participants in the meeting.
- Only one level of cascading is supported. All slave MCU conferences must cascade to the same master MCU conference.
- The administrator must define a default system level property that determines the cascading behavior.

To configure the MCU cascading behavior, use the following procedure:

Procedure

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- Step 1** Go to **Admin > Advanced Settings** from the sidebar menu.
- Step 2** On the Default Meeting Settings tab you can enable or disable automatic cascading of MCU conferences by configuring the Allow Cascaded Meeting field.
- Step 3** If Allow Cascaded Meeting is set to yes, select one of the following options from the Prioritize field:
- **Bandwidth**—Resource Manager allocates resources to conserve bandwidth. For example, at a site with two users and one MCU, Resource Manager creates a local meeting. In some cases, this may cause a meeting to cascade to conserve bandwidth, even though a single MCU is available to host the meeting.
Using this option, Resource Manager cascades a maximum of two MCUs.
 - **Delay (default)**—Resource Manager allocates resources to ensure the best video quality. Resource Manager invites all users directly to a main MCU, whatever their location. Since Delay can be costly in terms of bandwidth, it is recommended that you take topology into account before selecting the Delay option.
 - **Local MCU**—Select this option if Resource Manager has more than one MCU and there are at least two meeting participants. Resource Manager invites all of the participating terminals to meetings hosted on their respective local MCUs (according to IP Topology settings), and then cascades these meetings together to form a single conference.
- Step 4** Select **OK** to save the preferred behavior as the default.
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Creating or Modifying an MCU Profile

The MCU is where a multipoint video conference is hosted. Resource Manager reserves MCU resources, schedules MCU conferences, and controls in-session MCU meetings. In order for Resource Manager to correctly manage the MCU, it needs to retrieve configuration information from the MCU using the profiles defined under Admin > Resource Management.

Procedure

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- Step 1** Select **Resource Management** in the sidebar menu.
- Step 2** Select **MCU**.
- Step 3** Select the link in the Name column for the MCU you require, or select **Add** to create a new MCU profile.
- Step 4** Enter the name and IP address of the MCU in the relevant fields.
- Step 5** Select the MCU model.
- Step 6** If you want to register the MCU to operate in SIP mode only (without registering to an H.323 gatekeeper), select **MCU operates in SIP only mode**.
The MCU is not required to register to a gatekeeper and the Registered To field is inactive.
- Step 7** Select the device island from the **Location** list to which the MCU belongs.
The Location field is visible only when the IP Topology tab is activated in the Resource Manager Configuration Tool under System Configuration > UI Settings.
- Step 8** Enter the sign in name and password of the MCU in the relevant fields.

These must match the MCU web interface sign in name and password.

- Step 9** Define SNMP communities, user name and password, communication port and signaling port (MCU Release 4.x only) in the relevant fields.
- SNMP community information must match the settings defined in the MCU to enable Resource Manager to retrieve information from the MCU.
- Step 10** Select **OK** to save your changes.
- Step 11** The MCU is added to the MCU tab and brought online by default.
- If Resource Manager cannot connect to a newly configured MCU, the MCU is added but its status is shown as Offline in the MCU tab.
- To try to reconnect to the MCU, select **Online**, and then select **OK**.
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Taking an MCU Offline

Procedure

- Step 1** Select **Resource Management** in the sidebar menu.
- Step 2** Select **MCU**.
- Step 3** Select the link in the Name column for the MCU you require.
- Step 4** To take the MCU offline temporarily, select **Take this MCU offline and reschedule all meetings on this MCU up to this date** and set the date to bring the MCU online again.
- Step 5** To take the MCU offline permanently, select **Take this MCU offline and reschedule all meetings currently on this MCU**.
- Step 6** Select **OK** to save your changes.

When you take the MCU offline, the following changes occur:

- Resource Manager cannot schedule meetings for the offline MCU.
- All meetings currently in progress are terminated. Resource Manager attempts to reschedule upcoming meetings for the offline MCU on other MCUs that use the same services and have sufficient, available resources. If no replacement MCUs are available when the MCU status is changed back to online, upcoming meetings are lost and not restored.
- If the MCU goes offline temporarily, Resource Manager attempts to reschedule all meetings scheduled to this MCU from the time the MCU goes offline to the specified date for its return online.

If the MCU goes offline permanently, Resource Manager attempts to reschedule all future meetings scheduled to this MCU.

Removing an MCU Profile

You must take an MCU offline before you can remove it from the Cisco Unified Videoconferencing Manager database.

Procedure

- Step 1** Select **Resource Management** in the sidebar menu.
- Step 2** Select **MCU**.
- Step 3** Select the MCU entry you want to delete in the **Name** column.
- Step 4** Select **Delete** and then **OK**.

The MCU profile is deleted from the scheduler and information about the MCU is removed from the database.

Searching for an MCU Profile

Procedure

- Step 1** Select **Resource Management** in the sidebar menu.
 - Step 2** Select **MCU**.
 - Step 3** Enter the partial or complete name of the MCU in the **Name** field.
 - Step 4** Select **Search**.
Search results are listed.
 - Step 5** To return to the complete list of MCUs, clear the **Name** field, and then select **Search**.
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Synchronizing MCU Information with Cisco Unified Videoconferencing Manager

When a new MCU is initially configured, its internal information is downloaded to Resource Manager. If you change the initial configuration, you must update the Resource Manager.

Procedure

- Step 1** Select **Resource Management** in the sidebar menu.
- Step 2** Select **MCU**.
- Step 3** Select the MCU entry you want to update in the **Name** column.
- Step 4** Select **Synchronize**.

The information download includes the number of cards the MCU has and the resource capacity of each card.

How to Manage Meeting Types

A meeting type in Resource Manager is the equivalent of the MCU service definition. Services should be defined in the MCU first and then synchronized to Resource Manager. In the Meeting Types section, retrieve services from MCUs configured in the system and then save them to Resource Manager. Resource Manager then distributes these services to other MCUs according to your specific deployment requirements. Meeting types in Resource Manager are used to schedule meetings on the MCU. There are also built-in meeting types that are not retrieved from the MCU in Resource Manager.

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Viewing Available Meeting Types on Network MCUs

Procedure

Step 1 Select **Meeting Types** in the sidebar menu.

Step 2 Ensure that the Active Meeting Types tab is displayed.

All meeting types available for meeting scheduling are displayed with the parameters listed in [Table 5-1](#).

If the name of a meeting type appears in red, the meeting type does not belong to any MCU and cannot currently be used for meeting scheduling.

Table 5-1 Meeting Type Parameters

Parameter	Description
Name	The name of a meeting type defined in Resource Manager.
Prefix	The service prefix downloaded from the MCU.
Description	The service description downloaded from the MCU.
Media	The service media type downloaded from the MCU.
BW(Kbps)	The maximum service bandwidth (in kilobytes per second) for download from the MCU.
Lecture Mode	For MCU services that support exactly two views with the first view being single sub-frame and the second view being multiple sub-frames, you can set this service to support the lecture mode feature in which a meeting participant is set to one view and can be seen by all other participants, and the other participants are set to the other view and can be seen by the first participant.
In Use	Indicates whether or not there are currently or upcoming meetings in Resource Manager that use the specified meeting type. If so, the meeting type is considered in use and cannot be deleted from the system until the meeting type is no longer in use.
MCUs	Select Details to display a list of all MCUs defined in Cisco Unified Videoconferencing Manager containing the specified meeting type, and the maximum number of available ports for each MCU. The number of available ports is the maximum number of ports supported for the specified meeting type minus the number of ports reserved for dynamic cascading.
Max Available Ports	Indicates the maximum number of ports supported for the specified meeting type, excluding ports allocated for dynamic cascading.

Viewing Built-in Meeting Types

You cannot modify, upload or download built-in meeting types.

Procedure

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- Step 1** Select **Meeting Types** in the sidebar menu.
- Step 2** Ensure that the Active Meeting Types tab is displayed.
The built-in meeting types listed in [Table 5-2](#) are available.

Table 5-2 Built-in Meeting Types

Parameter	Description
Non Video Conference	This is a conference that involves only users and meeting rooms. There is no need for video conference devices. Use this meeting type to reserve users and room resources only.
Point to Point	This is a conference that involves only two endpoints (terminals) and no MCU resources. It can only be created if one endpoint dials another endpoint directly.

Removing a Meeting Type

You must deactivate an active meeting type before you can permanently remove it from the system. Once a meeting type is inactive, you can no longer use it to schedule a meeting; however, you must wait until all current or future meetings that use this meeting type are finished, or you must cancel them. When there are no longer any scheduled meetings that require this meeting type, the meeting type is marked not in use and you can remove it.

This process is irreversible. You can never reactivate a meeting type that you have deactivated. When you clear a deactivated meeting type from the Resource Manager, the meeting type is also removed from all MCUs in the system which have a service with the same prefix as the deactivated meeting type.

Procedure

Step 1 Select **Meeting Types** in the sidebar menu.

Step 2 Select the meeting type you want to delete.

Step 3 Select **Deactivate** and then **OK**.

The meeting type is removed from the Active Meeting Types tab and placed on the Inactive Meeting Types tab.

Searching for a Meeting Type

Procedure

Step 1 Select **Meeting Types** in the sidebar menu.

Step 2 Enter the partial or complete name of the meeting type in the Name field.

Step 3 Select **Search**.

Search results are listed.

Step 4 To return to the complete list of meeting types, clear the Name field, and then select **Search**.

Downloading a Meeting Type to Resource Manager

Procedure

- Step 1** Select **Meeting Types** in the sidebar menu.
- Step 2** Select **Download**.
MCU services are downloaded from all network MCUs.
Because MCU services are downloaded using SNMP, the process might take some time if there are many MCUs to connect to.
- Step 3** Enter a unique name for each meeting type.
- Step 4** Select **OK**.
-

Resolving Meeting Type Conflicts Between MCUs

You might need to resolve a conflict when downloading MCU services if two services from two different MCUs in the network have the same service prefix. For example, both services may have prefix 80, which is the default prefix for an audio service.

Procedure

- Step 1** Select **Meeting Types** in the sidebar menu.
- Step 2** Select **Download**.
MCU services are downloaded from all network MCUs.
Because MCU services are downloaded using SNMP, the process may take some time if there are many MCUs to connect to.
- Step 3** Scroll down to the Meeting Type (Service) Conflicts section on the Download Meeting Types (Services) screen.
- Step 4** Select the entry that you want to keep in the **Use Meeting Type Definition From** column for each service prefix listed.
Resource Manager downloads the specified copy of the MCU service and overwrites all other MCU services that use the same prefix on other network MCUs.
This process enables Resource Manager to ensure that all services with the same service prefix are identical on different MCUs in the network.
This process does not assign a service to MCUs that do not already have the service prefix defined.
- Step 5** Enter a unique name for each meeting type.
- Step 6** Select **OK**.
-

Resolving Meeting Type Conflicts Between Resource Manager and an MCU

If a service downloaded from a network MCU conflicts with a service that already exists in Resource Manager, the service stored in Resource Manager is selected by default during conflict resolution.

If a service exists only on a single MCU that is removed from the network, that service can no longer be used for meeting scheduling. Such meeting types are displayed in the Missing Meeting Types table. When a user selects a service that already exists in Resource Manager from the User Meeting Type Definition From list, this meeting type is uploaded to the MCU that formerly used this server.

Uploading a Meeting Type to Network MCUs

We recommend that you configure all network MCUs with exactly the same service definitions so that you can treat all your MCUs as a pool of interchangeable resources.

If you have defined MCU services to support High Definition Continuous Presence (HD CP) conferences, then you cannot synchronize to an MCU that is not enabled for HD CP. If you try to perform such an operation, you receive a warning message.

Procedure

- Step 1** Select **Meeting Types** in the sidebar menu.
 - Step 2** Select the meeting types you want to upload from Resource Manager on the Active Meeting Types tab.
 - Step 3** Select **Upload**.
 - Step 4** Use the arrows to select the target MCUs.
Only MCUs that support this type of service are available.
 - Step 5** Select **OK**.
Since MCU services are uploaded using SNMP, the process may take some time if there are many MCUs to connect to.
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Viewing Meeting Type Details

Procedure

- Step 1** Select **Meeting Types** in the sidebar menu.
 - Step 2** Select the link in the Name column for the meeting type you require on the Active Meeting Types tab.
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Modifying Meeting Type Details

Procedure

- Step 1** Select **Meeting Types** in the sidebar menu.

- Step 2** Select the link in the Name column for the meeting type you require on the Active Meeting Types.
- Step 3** (Optional) Enter a new name for the meeting type.
- Step 4** (Optional) Specify a default connection rate value.
The default connection rate value must be equal to the maximum bandwidth value.
Use the default connection rate for any non-predefined terminals that you invited without specifying a bandwidth for those terminals during meeting scheduling process or in-meeting control operations.
- Step 5** (Optional) If the meeting type supports lecture mode, select **Select Lecture Mode** to enable this support.
- Step 6** (Optional) Select **Use Auto Attendant Support** to specify this meeting type as the Auto Attendant meeting type.
- Step 7** (Optional) Select **TelePresence Support** to enable this meeting type for Cisco TelePresence interoperability meetings, and then specify the number of ports you want to reserve for traditional room systems once the meeting begins.
- Step 8** Select **OK** to save your changes.
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Accessing an MCU from the Meeting Type Details Screen

Procedure

- Step 1** Select **Meeting Types** in the sidebar menu.
- Step 2** Select the link in the Name column for the meeting type you require on the Active Meeting Types tab.
A link is available for each MCU containing the specified meeting type.
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Viewing a List of MCUs Containing a Specified Meeting Type

Procedure

- Step 1** Select **Meeting Types** in the sidebar menu.
- Step 2** Select **Detail** in the MCU column to see a list of MCUs containing the specified meeting type.
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Customizing MCU Delimiters

By default, ** is the MCU delimiter for inviting an endpoint to a meeting, and *** is the MCU delimiter for the meeting password.

If MCU delimiters are customized using the MCU web user interface configuration, you need to configure MCU delimiters accordingly in Resource Manager.

Procedure

- Step 1** Open the `vcs-core.properties` file located at `\JBOSS_DIR\BIN`.
- Step 2** Locate the following string:
`vnex.vcms.core.mcuPasswordDelimiter=###`
- Step 3** Modify the delimiter to match the value configured in the MCU web user interface.
- Step 4** Save and close the `vcs-core.properties` file.



Note `\JBOSS_DIR` is the default JBOSS home directory path. The default path is `C:\Program Files\Cisco\Cisco Unified Videoconferencing Manager\CUVCMRM\jboss`.

Designating a Service for Cisco TelePresence Use

Procedure

- Step 1** Select **Meeting Types** in the sidebar menu.
- Step 2** Select **Active Meeting Types**.
- Step 3** Select the name of the service you want to use for Cisco TelePresence meetings.
- Step 4** Select **TelePresence Support** to enable this meeting type for Cisco TelePresence interoperability.
- Step 5** Enter the number of ports you want to reserve for traditional room systems once the meeting begins in the **Reserved ports for traditional endpoints** field.
- Step 6** Select **OK** to save your changes.
- The designated service is marked with an icon in the Name column of the Active Meeting Types screen.
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Designating a Service for IVR Use

You can define the MCU service for entry into the IVR audio and video message utility. When users dial the auto attendant session number they receive video with a list of all active conferences on all MCU in the farm. Resource Manager then routes calls based on input from users to an existing conference, or users can create a new conference.

When you download MCU services for the first time, Resource Manager automatically selects the first audio and video service that you download for IVR entry.

When you use Resource Manager with several MCUs (collectively known as a “farm”), you must define which MCU is the host for the video IVR.

Procedure

- Step 1** Select **Meeting Types** in the sidebar menu.

- Step 2** Select **Active Meeting Types**.
 - Step 3** Select the name of the service you want to use for entry to the IVR.
 - Step 4** Select **Use Auto Attendant Support** to specify this meeting type as the Auto Attendant meeting type.
 - Step 5** When using Cisco IOS H.323 Gatekeeper, create a remote zone prefix with the auto attendant session number that points to the Resource Manager zone.
 - Step 6** Select **OK** to save your changes.
- The designated service is marked with an icon in the Name column of the Active Meeting Types screen.
-