



Auto-Registration Configuration

Use auto-registration if you want Cisco Unified CallManager to assign directory numbers automatically to new phones as they connect to the IP telephony network.



Note

Cisco recommends that you use auto-registration to add less than 100 phones to your network. To add more than 100 phones to your network, use the Bulk Administration Tool (BAT).

After a phone has autoregistered, you can move it to a new location and assign it to a different device pool without affecting its directory number.

This section covers the following topics:

- [Enabling Auto-Registration, page 11-2](#)
- [Disabling Auto-Registration, page 11-4](#)
- [Auto-Registration Configuration Settings, page 11-5](#)
- [Reusing Auto-Registration Numbers, page 11-9](#)

Enabling Auto-Registration

This section describes how to enable auto-registration for new devices.

**Caution**

Cisco Unified CallManager disables auto-registration by default. Enabling auto-registration carries a security risk in that “rogue” phones can automatically register with Cisco Unified CallManager. You should enable auto-registration only for brief periods when you want to perform bulk phone adds.

Configuring mixed mode clusterwide security through the Cisco CTL Client automatically disables auto-registration. If you want to use auto-registration and you have configured security, you must change the clusterwide security mode to non-secure through the Cisco CTL Client.

Before You Begin

Check the following points before you begin to enable auto-registration:

- Ensure that the TFTP server is up and running. Ensure that the DHCP option for TFTP specifies the correct server.
- Check that the Device Defaults Configuration window specifies the correct phone image names for SIP and SCCP protocols. Ensure that these files are available on the TFTP server.
- Ensure that directory numbers are available in the auto-registration range.
- Ensure enough license points are available to register new phones.

Procedure

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- Step 1** Choose **System > Cisco Unified CallManager**.
- Step 2** From the list of Cisco Unified CallManagers, choose the Cisco Unified CallManager, in the cluster, that you want to enable for auto-registration.



Note Always enable or disable auto-registration only on this Cisco Unified CallManager. If you shift the auto-registration function to another Cisco Unified CallManager in the cluster, you must reconfigure the appropriate Cisco Unified CallManagers, the Default Cisco Unified CallManager Group, and, possibly, the default device pools.

- Step 3** Enter the appropriate Auto-registration Information, as described in [Table 11-1](#).
- Step 4** To save the changes in the database, click **Save**.
- Step 5** Choose **System > Cisco Unified CallManager Group**.
- Step 6** From the list of Cisco Unified CallManager groups, choose the group that is enabled for auto-registration. (In most systems, the name of this group specifies *Default*. You can, however, choose a different Cisco Unified CallManager group.)
- This group serves as the default Cisco Unified CallManager group for devices that autoregister. Ensure that the Selected Cisco Unified CallManagers list for this group contains the Cisco Unified CallManager that you configured for auto-registration in [Step 2](#). The Cisco Unified CallManagers get selected in the order in which they are listed in the Cisco Unified CallManager group.
- Step 7** If you made any changes to the group configuration, click **Save** to save the changes in the database.
- Step 8** Configure a calling search space specifically for auto-registration. For example, you can use the auto-registration calling search space to limit autoregistered phones to internal calls only.
- Step 9** Configure the Default device pool for auto-registration by assigning the Default Cisco Unified CallManager Group and auto-registration calling search space to the Default device pool. If you are configuring a separate default device pool for each device type, use the Device Defaults Configuration window to assign the default device pools to the device.
- Step 10** Enable auto-registration only during brief periods when you want to install and autoregister new devices (preferably when overall system usage is at a minimum). During other periods, turn auto-registration off to prevent unauthorized devices from registering with Cisco Unified CallManager.
- Step 11** Install the devices that you want to autoregister.

- Step 12** Reconfigure the autoregistered devices and assign them to their permanent device pools.
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Related Topics

- [Disabling Auto-Registration, page 11-4](#)
- [Auto-Registration Configuration Settings, page 11-5](#)
- [Reusing Auto-Registration Numbers, page 11-9](#)

Disabling Auto-Registration

This section describes how to disable auto-registration.

Procedure

- Step 1** Choose **System > Cisco Unified CallManager**.
- Step 2** From the Cisco Unified CallManager list, choose the Cisco Unified CallManager where you want to disable auto-registration.
- Step 3** To disable auto-registration for this Cisco Unified CallManager, click the Auto-registration Disabled option. (When this box is checked, auto-registration specifies disabled.)



Note You can also disable auto-registration by setting the Starting Directory Number and Ending Directory Number to the same value.

- Step 4** To save the changes in the database, click **Update**.
- Step 5** Repeat [Step 2](#) through [Step 4](#) for each Cisco Unified CallManager where you want to disable auto-registration.
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Related Topics

- [Enabling Auto-Registration, page 11-2](#)
- [Auto-Registration Configuration Settings, page 11-5](#)
- [Reusing Auto-Registration Numbers, page 11-9](#)

Auto-Registration Configuration Settings

Table 11-1 describes the auto-registration configuration settings.

Table 11-1 Auto-Registration Configuration Settings

Field Name	Description
Starting Directory Number	<p>Enter the first directory number to use for auto-registration of devices.</p> <p>Specifying a range of directory numbers in the Starting Directory Number and Ending Directory Number fields automatically enables auto-registration.</p> <p>Setting the starting and ending directory numbers to the same value disables auto-registration.</p>
Ending Directory Number	<p>Enter the last directory number to use for auto-registration of devices.</p> <p>Specifying a range of directory numbers in the Starting Directory Number and Ending Directory Number fields automatically enables auto-registration.</p> <p>Setting the starting and ending directory numbers to the same value disables auto-registration.</p>

Table 11-1 Auto-Registration Configuration Settings (continued)

Field Name	Description
Partition	<p>Choose the partition to which autoregistered directory numbers belong. If you are not using partitions, choose <None>.</p> <p>You must choose a valid directory number range for auto-registration before you can choose a partition and external phone number mask.</p> <p>The partition field resets if you disable auto-registration.</p> <p>If a large number of partitions exist, the ellipsis (...) button displays next to the drop-down list box. Click the ... button to display the Select Partition window. Enter a partial partition name in the List items where Name contains field. Click the desired partition name in the list of partitions that displays in the Select item to use box, and click OK.</p>

Table 11-1 Auto-Registration Configuration Settings (continued)

Field Name	Description
External Phone Number Mask	<p>Specify the mask that is used to format caller ID information for external (outbound) calls that are made from the autoregistered devices. The mask can contain up to 50 characters. Enter the literal digits that you want to appear in the caller ID information and use Xs to represent the directory number of the autoregistered device.</p> <p>For example, if you specify a mask of 972813XXXX and enable the Use External Phone Number Mask option on the route pattern that is used to make the external call, an external call from extension 1234 displays a caller ID number of 9728131234. If you specify a mask of all literal digits (such as 9728135000) to represent a main attendant number, that literal number becomes the caller ID that displays for an external call from any autoregistered device.</p>

Table 11-1 Auto-Registration Configuration Settings (continued)

Field Name	Description
Auto-registration Disabled on this Cisco Unified CallManager	<p data-bbox="588 293 1224 444">Cisco Unified CallManager disables auto-registration by default to prevent unauthorized connections to the network. When auto-registration is disabled, you must configure the directory numbers manually whenever you add new devices to your network.</p> <ul data-bbox="602 467 1184 662" style="list-style-type: none"> <li data-bbox="602 467 1184 553">• Uncheck the auto-registration Disabled option to enable auto-registration for this Cisco Unified CallManager. <li data-bbox="602 574 1184 662">• Check the Auto-registration Disabled option to disable auto-registration for this Cisco Unified CallManager. <p data-bbox="588 683 1214 769">You can disable auto-registration by setting the Starting Directory Number and Ending Directory Number to the same value.</p> <p data-bbox="588 790 1214 911">If starting and ending directory numbers are specified when you disable auto-registration by checking this option, Cisco Unified CallManager sets the starting and ending directory numbers to the same value.</p> <p data-bbox="588 932 1228 987">The partition and external phone mask information fields also reset when you disable auto-registration.</p>

Related Topics

- [Enabling Auto-Registration, page 11-2](#)
- [Disabling Auto-Registration, page 11-4](#)
- [Reusing Auto-Registration Numbers, page 11-9](#)

Reusing Auto-Registration Numbers

When you connect a new device to the network, Cisco Unified CallManager assigns the next available (unused) auto-registration directory number to that device. If you manually change the directory number of an auto-registered device, or if you delete that device from the database, Cisco Unified CallManager can reuse the auto-registration directory number of that device.

When a device attempts to autoregister, Cisco Unified CallManager searches the range of auto-registration numbers that you specified and tries to find the next available directory number to assign to the device. It begins the search with the next directory number in sequence after the last one that was assigned. If it reaches the ending directory number in the range, Cisco Unified CallManager continues to search from the starting directory number in the range.

You can use the following procedure to reset the range of auto-registration directory numbers and force Cisco Unified CallManager to search from the starting number in the range.

Procedure

- Step 1** Choose **System > Cisco Unified CallManager**.
- Step 2** Choose the Cisco Unified CallManager where you want to reset auto-registration.
- Step 3** Write down the current settings for Starting Directory Number and Ending Directory Number.
- Step 4** Click **Auto-registration Disabled on this Cisco Unified CallManager**.



Caution New phones cannot autoregister while auto-registration is disabled.

- Step 5** Click **Update**.
 - Step 6** Set the Starting Directory Number and Ending Directory Number to their previous values (or to new values, if desired).
 - Step 7** Click **Update**.
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Related Topics

- [Enabling Auto-Registration, page 11-2](#)
- [Disabling Auto-Registration, page 11-4](#)
- [Auto-Registration Configuration Settings, page 11-5](#)