Generating IP Phone Reports

An IP phone has a physical relationship with a switch and a logical relationship with a
Cisco CallManager. IP phone reports provide a combined view of both of these relationships, making it
easy for you to track and resolve IP phone problems:

- IP Phones and Applications reports—Provide detailed IP phone data, reflecting the current status of
  IP phones in your network.

- IP Status Change reports—Provide data for IP phones that have undergone a a status change during
  the previous 1 to 7 days.

These topics explain how to use IP phone reports:

- Using IP Phones and Applications Reports, page 12-1

- Using IP Phone Status Changes Reports, page 12-15

✎
Note To refresh the data in a report, close the report and generate it again.

Using IP Phones and Applications Reports

IP Phones and Applications reports provide detailed IP phone data, reflecting the current status of IP
phones in your network. These reports enable you to search for a few phones, list a specific set of
phones—such as phones connected to a switch, phones in SRST mode, phones that are CTI
applications—or view all phones and lines:

- **Search**—Use Search to view information for a few IP phones or a single IP phone; search enables
  you to find phones using all or part of an extension number, IP address, or MAC address. See
  Searching for IP Phones, page 12-2.

- **Inventory Analysis**—Use the Inventory Analysis report to display IP phones that meet criteria that
  you specify; for example, IP phones that are registered to a particular Cisco CallManager or IP
  phones that are not connected to particular switches. See Generating the Inventory Analysis Report,
  page 12-4 and Understanding IP Phone Reports, page 12-8.

- **All IP Phones/Lines**—Use the All IP Phones/Lines report to view data for all IP phones that
  Operations Manager is monitoring. See Generating the All IP Phones/Lines Report, page 12-7 and
  Understanding IP Phone Reports, page 12-8.

- **SRST IP Phones**—Use the SRST IP phones report to view data for IP phones that are configured for Survivable Remote Site Telephony (SRST) only. See Generating the SRST IP Phones Report, page 12-7 and Understanding IP Phone Reports, page 12-8.

> **Note**   IP phones that are configured for SRST are also included in the All IP Phones/Lines report and can be included in the Inventory Analysis report.

- **IP Communicators**—Use the IP Communicators report to view data for IP Communicators. See Generating the IP Communicators Report, page 12-7.

> **Note**   IP Communicators are also included in the All IP Phones/Lines and All CTI Applications reports, and can be included in the Inventory Analysis report.

- **All CTI Applications**—Use the All CTI Applications report to view data for CTI applications. See Generating the All CTI Applications Report, page 12-7.

When a web interface is accessible for an IP phone, you can open it from most IP phone reports by clicking the hyperlink for one of the following:

- Extension number
- MAC address
- IP address

For more information, see IP Phone Web Interface, page 12-13.

Searching for IP Phones

Use Search to find one or only a few IP phones in your network. Search displays information for one phone at a time; you can page back and forth to view information for each phone when multiple phones are found. You can search for phones using all or part of an extension number, IP address, or MAC address.

When you want to find many phones—for example, all phones registered with a Cisco CallManager or all phones connected to a switch—use the Inventory Analysis report; see Generating the Inventory Analysis Report, page 12-4.

Step 1   Select **Reports > IP Phones and Applications > Search**. The Find IP Phones page appears.

Step 2   In the Find IP Phones Where pane:

a. Select one of the following:

- Extension number
- IP address
- MAC address

b. Select one of the following:

- is exactly
- begins with
- contains

- ends with

c. Enter a value.

Step 3 Click **View**. The IP Phone Details dialog box appears, displaying the information described in the following table.

Row	Description
Extension	Extension number of the IP phone; for example, 4000. Click the hyperlink to open the web interface on the IP phone (see IP Phone Web Interface, page 12-13).
IP Address	IP address of the IP phone; for example, 10.76.38.65. Click the hyperlink to see more details of the IP phone (see Using IP Phones and Applications Reports, page 12-1).
MAC Address	MAC address of the IP phone; for example, 003094c40454, or 00-30-94-c4-04-54. Click the hyperlink to open the web interface on the IP phone (see Using IP Phones and Applications Reports, page 12-1).
CCM Address	Address of the Cisco CallManager (CCM) with which the IP phone is registered; for example, 10.76.38.70.
Switch Address	IP address of the switch to which the IP phone is connected; for example, 10.76.29.162.
Switch Name	Switch to which the IP phone is connected.
Switch Port	Switch port to which the IP phone is connected; for example, Fa0/12.
Port Status	Status of the switch port to which the IP phone is connected: up or down.
IP Phone Status	Cisco CallManager registration status of the IP phone: • yes—The IP phone is registered with a Cisco CallManager. • no—The IP phone is not registered with a Cisco CallManager.
IP Phone Model	Cisco IP phone model number; for example, 7902, 7905, 7910, 7912, 7920, 7935, 7940, 7960, or 7970.
Protocol	Protocol the phone is using to communicate with Cisco CallManager. **Note** Only SCCP phones will be discovered. H.323 and MGCP protocols are not currently supported.
VLAN Name	Name of the VLAN in the switch (a user-defined name); for example, voice.
VLAN ID	ID of the VLAN in the switch to which the IP phone is connected; for example, 100.
SRST Router	IP address of the router that the phone is using for SRST.
SRST Mode	Can be one of the following: • yes—The phone is in SRST mode • no—The phone is not in SRST mode • ?—The phone is suspected to be in SRST mode • –(dash)—The phone is not an SRST phone

a. To display the information in print-friendly format in a new browser window, click **Print**; print the information, using the browser print function.

b. If search results include more than one phone, view them by clicking **Next** or **Prev**.

For more information, see the following topic:

Generating IP Phone Reports

This topic includes the following:

Generating the Inventory Analysis Report

Use Inventory Analysis to search for IP phones in your network and display them in a report.

Before You Begin

Inventory Analysis searches for phones using:

*   An implicit "or" within each field—If you enter more than one value in a field, Inventory Analysis searches for phones that match any value that you entered.

*   An implicit "and" for all fields—If you enter values in more than one field, Inventory Analysis searches for phones that match at least one value from each field.

For example, if you enter two phone models, such as 7910 and 7935, in the IP Phone Model field, the Inventory Analysis report that results includes all phones of these models. If, in addition, you enter a VLAN ID and a switch, Inventory Analysis searches for phones that meet all these criteria; the report that results includes only phones of the models specified that are connected to the switch and in the VLAN that you selected.

Step 1 Select **Reports > IP Phones and Applications > Inventory Analysis**. The Find IP Phones page appears.

Step 2 Enter values in one or more fields, described in the following table.

GUI Element	Description/Action

Find IP Phones Where list boxes and field	From left to right:
	• Select one of the following:
	  – Extension number
	  – IP Address
	  – MAC Address
	• Select one of the following:
	  – is exactly
	  – begins with
	  – contains
	  – ends with
	• Enter a value.

VLAN Name field	Enter the name of the VLAN.
VLAN ID field	Enter the VLAN ID.
IP Phone Status radio buttons	Select one: • Registered • Unregistered • All—Registered and unregistered phones.
SRST radio buttons	Select one: • SRST—Configured to fail over to an SRST router in case of a WAN link failure. • Non-SRST—Not configured for SRST. • All—SRST and non-SRST.
IP Phone Model field	Enter a comma-separated list of phone models. By default, all supported phone models are included in this field, including IP Communicator. Edit the entries in the field directly or select from a list of phone models, as follows: 1. Click . The Select IP Phone Models list appears. 2. Select the desired IP phone models from the list. (Use the Control key or the Shift key to select more than one IP phone model from the list.) 3. Click **OK**.

GUI Element	Description/Action

CCM/CCM Cluster/ CME pane	• Exclude check box—Deselected by default. Select to exclude phones that belong to any Cisco CallManager, Cisco CallManager cluster, and Cisco CallManager Express in the list box.
	
	• List box—Enter a comma-separated list of Cisco CallManagers, Cisco CallManager clusters, and instances of Cisco CallManager Express, or select them as follows:
	
	  1. Click ⊞▾ . The Select CCM/CCM Cluster/CME dialog box appears.
	
	  2. In the CCM/CCM Cluster/CME Selector, expand groups and select one or more of the following: Cisco CallManager, Cisco CallManager Cluster, and Cisco CallManager Express.
	
	  3. Click **OK**. The dialog box closes and the Find IP Phones screen displays your selections in the CCM/CCM Cluster/CME list box.

Switch pane	• Exclude check box—Deselected by default. Select to exclude phones that are connected to any switch in the list box.
	
	• List box—Enter a comma-separated list of switches, or select them as follows:
	
	  1. Click ⊞▾ . The Inventory Analysis Switch Selection dialog box appears.
	
	  2. In the Switch Selector, expand groups and select switches.
	
	  3. Click **OK**. The dialog box closes and the Find IP Phones screen displays your selection in the Switch list box.

SRST Router pane	• Exclude check box—Deselected by default. Select to exclude phones that use any SRST router in the list box.
	
	• List box—Enter a comma-separated list of routers, or select them as follows:
	
	  1. Click ⊞▾ . The Inventory Analysis Router Selection dialog box appears.
	
	  2. In the Router Selector, expand groups and select routers.
	
	  3. Click **OK**. The dialog box closes and the Find IP Phones screen displays your selection in the Router list box.

Step 3   Click **View**. The Inventory Analysis Report appears in another window. See .

You might not be able to see the list of Cisco CallManagers or switches in the popup window that appears when you click ⊞▾ . This occurs when the PIFServer process is down. Do the following:

• Check the status of PIFServer by using the command **pdshow PIFServer** from the command line.

• If PIFServer is down, use the CiscoWorks start function. To do this:

  1. Select **Server > Admin > Processes**. The Process Management page appears, displaying process names in a table.

  2. Locate the PIFserver process in the table, select the check box for it, and click **Start**.

Note   Alternatively, you can bring PIFServer up using the command **pdexec PIFServer** from the command line. Use this approach if, for example, the webserver is down.

Generating the All IP Phones/Lines Report

Step 1   Select **Reports > IP Phones and Applications > All IP Phones/Lines**. The All IP Phones/Lines window appears.

Step 2   Select **IP Phones** from the list, and click **View**. The All IP Phones/Lines report appears, displaying the information described in Understanding IP Phone Reports, page 12-8.

Note   You can also generate the All IP Phones/Lines from the Monitoring Dashboard tab by selecting **Click to View All Phones** in the IP Phone Status pane.

Generating the SRST IP Phones Report

The SRST IP Phones report shows a list of phones that are configured for Survivable Remote Site Telephony (SRST).

Step 1   Select **Reports > IP Phones and Applications > SRST IP Phones**. The SRST IP Phones report appears in a new window, displaying information for the SRST configuration only. For more information, see Understanding IP Phone Reports, page 12-8.

Generating the IP Communicators Report

Note   IP Communicators are also included in the All IP Phones/Lines and the All CTI Applications reports and they can be included in the Inventory Analysis report.

Step 1   Select **Reports > IP Phones and Applications > IP Communicators**. The IP Communicators report appears in a new window, displaying information for IP Communicators only. For more information, see Understanding IP Phone Reports, page 12-8.

Generating the All CTI Applications Report

The All CTI Applications report lists Computer Telephony Interface (CTI) device applications registered with the Cisco CallManagers that Operations Manager monitors. The following applications are registered to the Cisco CallManager as CTI devices or CTI ports:

- Cisco IP Communicators
- Cisco Personal Assistant

- Cisco Customer Response Applications

- Cisco IP Contact Center

- Cisco Emergency Responder

Step 1   Select **Reports > IP Phones and Applications > All CTI Applications**. The All CTI Applications Report appears, displaying the information described in the following table.

Column	Description
Extension	Extension of the CTI Application (CTI Port/CTI Route Point).
Application Information	The defined name of the CTI application, as reported by the Cisco CallManager. If the application is not registered in CTI, this field displays Not supported.
Registered	Whether or not the CTI Application is registered with the Cisco CallManager: Yes or No.
IP Address	• IP address of the CTI application (in case the application is a CTI port) • IP address of the Cisco CallManager (in case the application is a CTI Route Point)
CCM Address	Cisco CallManager address.
Device Type	Type of the device.
Device Description	Description of the device.

Understanding IP Phone Reports

Table 12-1 describes the data displayed in the following reports:

- Inventory Analysis—Includes phones that match criteria that you specify.

- All IP Phones/Lines—Includes all IP phones, including IP Communicators and IP phones that are configured for SRST.

✎

Note   You can filter the All IP Phones/Lines report to include only the phones that you want to see.

- SRST IP Phones—Includes only phones that are configured for SRST.

- IP Communicators—Includes IP Communicators only.

Table 12-1   IP Phone Reports

GUI Element	Description/Action
Column	
Number	The row number; starting from 1.
Check box	Select phones that you would like to: • Print—Include selected phones in a new window in print-friendly format. (See IP Phones and Applications Report Tool Buttons, page 12-10.) • Export to a file—Include selected phones in a PDF or CSV file. (See IP Phones and Applications Report Tool Buttons, page 12-10.) • Launch a test on—Include selected phones in tests that you create from the Launch button when it is present at the bottom of the report. (See Test Configuration for Selected IP Phones, page 12-14.)
Extn.	Extension number of the IP phone; for example, 4000. Click the hyperlink to see more details of the IP phone (see IP Phone Web Interface, page 12-13).
User	Username obtained using LDAP if you have configured an LDAP server in Operations Manager. See Configuring LDAP, page 15-25 and Obtaining Usernames from LDAP for IP Phone Reports, page 12-13.
IP Address	IP address of the IP phone; for example, 10.76.38.65. Click the hyperlink to see more details of the IP phone (see IP Phone Web Interface, page 12-13).
MAC Address	MAC address of the IP phone; for example, 003094c40454, or 00-30-94-c4-04-54. Click the hyperlink to see more details of the IP phone (see IP Phone Web Interface, page 12-13).
Model	Model number of the IP phone; for example, 7902, 7905, 7910, 7912, 7920, 7935, 7940, 7960, or 7970.
Protocol	Protocol the phone is using to communicate with Cisco CallManager or Cisco CallManager Express. **Note** Only SCCP phones will be discovered. H.323 and MGCP protocols are not currently supported.
Regd.	Registration status of the IP phone with respect to Cisco CallManager or Cisco CallManager Express. Displays **yes** if the IP phone is registered or **no** if the IP phone is not registered.
CCM	One of the following: • CCM—Cisco CallManager • CCE—Cisco CallManager Express
CCM/CME Name	DNS name of the Cisco CallManager or Cisco CallManager Express with which the IP phone is registered.
CCM/CME Address	IP address of the Cisco CallManager or Cisco CallManager Express with which the IP phone is registered.
Switch Name	Name of the switch to which the IP phone is connected.
Switch Address	IP address of the switch to which the IP phone is connected.

Table 12-1   IP Phone Reports (continued)

GUI Element	Description/Action
Column	
Port	Switch port used by the IP phone; for example, Fa0/12.
Port Status	Status of the port used by the IP phone: up or down.
VLAN Name	Name of the VLAN (user-defined name); for example, voice.
VLAN ID	ID of the VLAN for the IP phone; for example, 100.
SRST Mode	One of the following: • yes—The phone is in SRST mode • no—The phone is not in SRST mode • ?—The phone is suspected to be in SRST mode • —(dash)—The phone is not an SRST phone
SRST Router	One of the following: • IP address of the router that the phone is using for SRST • —(dash)
Button	
Launch	Click and select a menu item to configure tests for the IP phones selected on this report.

For more information, see the following topic:

- Troubleshooting Tips for IP Phone Reports, page 12-14

IP Phones and Applications Report Tool Buttons

The following report tool buttons might appear in the upper-right corner of an IP Phones and Applications report.

	Opens a filter dialog box for refining the report. See Filtering an IP Phones Report, page 12-10.
	Exports the current report to a PDF or CSV file to save on your local system. **Note** Enables you to export data for all phones, selected phones, or a range of record numbers.
	Opens a new window with the report formatted for printing from your browser.
	Opens context-sensitive help.

Filtering an IP Phones Report

From an IP phones report, click the Filter button when present. A filter dialog box opens.

Note   Filtering is performed using:

- An implicit "or" within each field—If you enter more than one value in a field, phones that match any value are included in the report after filtering.

- An implicit "and" for all fields—If you enter values in more than one field, phones that match at least one value from each field are included in the report after filtering.

For example, if you enter two phone models, such as 7910 and 7935, in the IP Phone Model field, the report that results includes all phones of these models. If, in addition, you enter a VLAN ID and a switch, the report is filtered to include only phones of the models specified that are connected to the switch and in the VLAN that you selected.

Step 1   Enter values in one or more fields, described in the following table.

GUI Element	Description/Action

Find IP Phones Where list boxes and field	From left to right:
	
	• Select one of the following:
	   – Extension number
	   – IP Address
	   – MAC Address
	
	• Select one of the following:
	   – is exactly
	   – begins with
	   – contains
	   – ends with
	
	• Enter a value.

VLAN Name field	Enter the name of the VLAN.
VLAN ID field	Enter the VLAN ID.
IP Phone Status radio buttons	Select one: • Registered • Unregistered • All—Registered and unregistered phones.
SRST radio buttons	Select one: • SRST—Configured to fail over to an SRST router in case of a WAN link failure. • Non-SRST—Not configured for SRST. • All—SRST and non-SRST.

GUI Element	Description/Action
IP Phone Model field	Enter a comma-separated list of phone models. By default, all supported phone models are included in this field, including IP Communicator. Edit the entries in the field directly or select from a list of phone models, as follows: 1. Click [icon]. The Select IP Phone Models list appears. 2. Select the desired IP phone models from the list. (Use the Control key or the Shift key to select more than one IP phone model from the list.) 3. Click **OK**.

CCM/CCM Cluster/ CME pane	• Exclude check box—Deselected by default. Select to exclude phones that belong to any Cisco CallManager, Cisco CallManager cluster, and Cisco CallManager Express in the list box.
	
	• List box—Enter a comma-separated list of Cisco CallManagers, Cisco CallManager clusters, and instances of Cisco CallManager Express, or select them as follows:
	
	  1. Click [icon]. The Select CCM/CCM Cluster/CME dialog box appears.
	
	  2. In the CCM/CCM Cluster/CME Selector, expand groups and select one or more instances of the following: Cisco CallManager, Cisco CallManager cluster, and Cisco CallManager Express.
	
	  3. Click **OK**. The dialog box closes and the Find IP Phones screen displays your selections in the CCM/CCM Cluster/CME list box.

Switch pane	• Exclude check box—Deselected by default. Select to exclude phones that are connected to any switch in the list box.
	
	• List box—Enter a comma-separated list of switches, or select them as follows:
	
	  1. Click [icon]. The Inventory Analysis Switch Selection dialog box appears.
	
	  2. In the Switch Selector, expand groups and select switches.
	
	  3. Click **OK**. The dialog box closes and the Find IP Phones screen displays your selection in the Switch list box.

SRST Router pane	• Exclude check box—Deselected by default. Select to exclude phones that use any SRST router in the list box.
	
	• List box—Enter a comma-separated list of switches, or select them as follows:
	
	  1. Click [icon]. The Inventory Analysis Router Selection dialog box appears.
	
	  2. In the Router Selector, expand groups and select routers.
	
	  3. Click **OK**. The dialog box closes and the Find IP Phones screen displays your selection in the Router list box.

Step 2   Click **OK**. The filter dialog box closes and the IP phone report refreshes. For more information, see Understanding IP Phone Reports, page 12-8.

You might not be able to see the list of Cisco CallManagers or switches in the popup window that appears when you click ⬚▾ .This occurs when the PIFServer process is down. Do the following:

- Check the status of PIFServer by using the command **pdshow PIFServer** from the command line.

- If PIFServer is down, use the CiscoWorks start function. To do this:

  1. Select **Server > Admin > Processes**. The Process Management page appears, displaying process names in a table.

  2. Locate the PIFserver process in the table, select the check box for it, and click **Start**.

✎
Note   Alternatively, you can bring PIFServer up using the command **pdexec PIFServer** from the command line. Use this approach if, for example, the webserver is down.

IP Phone Web Interface

You can open an IP phone web interface from an IP Phones and Applications report by clicking a hyperlink when available:

- Extension number

- IP address

- MAC address

Another window opens with information directly from the phone, including network configuration details, device, port, and Ethernet information for the specified IP phone.

Obtaining Usernames from LDAP for IP Phone Reports

Operations Manager can supply usernames on IP phone reports from a corporate LDAP server when the LDAP server is:

- Configured with information for all users.

- Not a secure LDAP server (does not use SSL authentication).

- Added to Operations Manager with the correct credentials and appropriate telephone number. The telephone number can be a phone number or a phone MAC address, depending on the LDAP configuration.

Usernames are updated in Operations Manager when IP phone discovery runs. IP phone discovery obtains users in the corporate directory that have the telephoneNumber attribute, and correlates data for them with information in Cisco CallManager.

For more information, see the following topics:

- Understanding IP Phone Reports, page 12-8

- Working with IP Phone Discovery, page 15-22

- Configuring LDAP, page 15-25

Test Configuration for Selected IP Phones

When the Launch button is present at the bottom right-hand corner of an IP phone report, you can select IP phones from the report, and configure tests on them using one of the available options:

- SRST Test—Select one or more phones. See Configuring a Single SRST Test as Needed, page 18-9.
- Synthetic Test—Select one phone only. See Creating Synthetic Tests, page 9-5.
- Phone Status Tests—Select one or more phones. See Adding a Phone Status Test—Using the Create Phone Status Test Page, page 8-4.

Troubleshooting Tips for IP Phone Reports

This section includes the following tips:

- N/A or Not Available Appears in IP Phones and Applications Reports, page 12-14
- Cisco Wireless IP Phone 7920 Not Monitored, page 12-14
- Phones Missing from Reports, page 12-14

N/A or Not Available Appears in IP Phones and Applications Reports

If N/A or Not Available appears instead of data in a field, it means one of the following:

- The switch or the Cisco CallManager is not monitored by Operations Manager. To correct this condition, add the switch or Cisco CallManager to Operations Manager.
- Operations Manager cannot get the information from the switch or the Cisco CallManager. To correct this condition, check the status of the switch or Cisco CallManager in the Alerts and Events display. If the switch or Cisco CallManager is unreachable, ensure that the connectivity is restored.
- If the phone is a Cisco Wireless IP Phone 7920, only logical information from Cisco CallManager is displayed. Switch information is not available.

Cisco Wireless IP Phone 7920 Not Monitored

For the Cisco Wireless IP Phone 7920 to be monitored in Operations Manager, its Aironet access point must also be monitored by Operations Manager. Only logical information from the Cisco CallManager is displayed for this phone; switch information for the 7920 appears as N/A or Not Available.

In Cisco CallManager releases prior to 4.0, the 7920 appears as a 7960. Therefore, Operations Manager also displays the 7920 as a 7960 for Cisco CallManager releases prior to 4.0.

Note   IP Phone Status Changes reports, such as IP Phone Audit and Suspect Phone reports, are not supported for the Cisco Wireless IP Phone 7920.

Phones Missing from Reports

If a report does not contain information about an IP phone, the phone might be one of the following:

- A synthetic phone—IP phones configured for synthetic tests (*synthetic phones*) do not appear in IP Phones and Applications reports.
- An IP Communicator—Generate the IP Communicator Report. See Generating the IP Communicators Report, page 12-7.
- A CTI application—These phones appear on the All CTI Applications report. See Generating the All CTI Applications Report, page 12-7.

Using IP Phone Status Changes Reports

IP Phone Status Changes reports supply information for phones that have undergone a status change during the previous one to seven days.

The IP Phone Audit report provides a summary of all of these changes (see Using the IP Phone Audit Report, page 12-17). Additional IP Phone Status Changes reports focus on particular types of changes, as shown in the following table.

Phone Status Change	Details in this Report…
Connection—Connected to a different switch or switch port	Using the IP Phone Move Report, page 12-16
Duplicate IP address or MAC address	Using the Duplicate MAC/IP Address Report, page 12-21
Extension number change	Using the Extension Number Changes Report, page 12-19
Registration with Cisco CallManager: • Registered to a different Cisco CallManager • Not registered • Attempted to register and failed	 Using the IP Phone Move Report, page 12-16 Using the Suspect Phone Report, page 12-20
Removed	Using the Removed IP Phones Report, page 12-18

Understanding the Time Period Covered by an IP Phone Status Changes Report

When you generate an IP Phone Status Changes report, your results can be affected by the time zones in which each of following resides:

- Your client system—Operations Manager calculates the time period (previous 24 hours through previous 7 days) for IP Phone Status Changes reports based on the date and time on your client system.

- Operations Manager system—Operations Manager records some audits, such as extension number changes, based on the time that the change is detected on the Operations Manager system.

- Cisco CallManager—Operations Manager records some audits, such as IP phone moves, based on the time on Cisco CallManager that changes were detected.

If any of these systems is not in the same time zone, you must take the time zone difference into account when you generate and view IP Phone Status Changes reports.

Tip   If the audit date and time on the Operations Manager system is inconsistent with those shown in the IP Phone Status Changes report, make sure that all the Cisco CallManagers in the network are set to synchronize.

Tracking IP Phone Status Changes when a Cisco CallManager Is Down

If a Cisco CallManager that is configured with a backup goes down, IP phones fail over to the backup Cisco CallManager. Operations Manager stores audit records for the IP phones that register with the backup and these status changes are included in IP Phone Status Changes reports.

Operations Manager does not store audit records in the following cases:

- An entire Cisco CallManager cluster goes down.
- A Cisco CallManager for which a backup is not configured goes down.

Therefore, status changes for the IP phones registered to Cisco CallManagers in these situations are not included in IP Phone Status Changes reports.

> **Note**   During the time that the Cisco CallManager is down, affected phones are:
>
> - Listed on the Phone Activities Monitoring Dashboard where they remain for a minimum of 24 hours. See Getting Phone Alert Details, page 5-4.
>
> - Summarized in the Service Impact report, which provides details for phones that lose registration and do not fail over. The Service Impact report is available from Alert Details for the Cisco CallManager while it is down and while the impact of this event remains high; see Understanding the Service Impact Report, page 3-15.

Using the IP Phone Move Report

The IP Phone Move report displays IP phones that have moved, including details about the phone before and after the move. The IP Phone Move report shows the time at which the IP phone move was detected, and not the time at which the move occurred.

Information for the IP Phone Move report is gathered every 5 minutes by IP Phone Movement Tracking (see Understanding IP Phone Movement Tracking, page 12-22). IP Phone Movement Tracking checks all the switches and Cisco CallManagers, identifies the list of changes, and generates the data on IP phone moves.

> **Note**   You obtain fresh data for the IP Phone Move report about once every 5 minutes. Close the report and regenerate it to refresh the data.

Step 1   Select **Reports > IP Phone Status Changes > IP Phone Move**. The IP Phone Status Reports page appears.

Step 2   Select the time period (24 hours - 7 days) from the list and click **View**. The IP Phone Move report appears, displaying the information described in the following table.

Column	Description
Extension	Extension number of the IP phone. The Extension column has two subcolumns—Old and New: • **Old**—Extension number of the IP phone before it was moved. • **New**—Extension number of the IP phone after it was moved.
IP Address	IP address of the IP phone.
MAC Address	MAC address of the IP phone.
CCM Address	Cisco CallManager address. The CCM Address column has two subcolumns: • **Old**—CCM address of the IP phone before it was moved. • **New**—CCM address of the IP phone after it was moved.
Switch Address	IP address of the switch to which the IP phone is connected. The Switch Address column has two subcolumns: • **Old**—Switch address used by the IP phone before it was moved. • **New**—Switch address used by the IP phone after it was moved.
Switch Port	Switch port used by the IP phone. The Switch Port column has two subcolumns: • **Old**—Switch port used by the IP phone before it was moved. • **New**—Switch port used by the IP phone after it was moved.
Time Stamp	Reflects the date and time that Operations Manager detected the IP phone move.

Tip   Phones that have moved and do not run Cisco Discovery Protocol (CDP) do not appear in this report. For example, 30VIP and 12SP+ do not run CDP; you will not see move entries for them.

Using the IP Phone Audit Report

The IP Phone Audit report shows the changes that have occurred in the managed IP phone network. For example, this report shows you the IP phones that have been added to or deleted from your network, or changes in IP phone status. Phone status changes occur, for instance, when a phone becomes unregistered with the Cisco CallManager.

You can see what has changed within the last 7 days. Audits are maintained in the database for a period of 7 days, after which they are purged.

Information for the IP Phone Audit report is gathered by IP Phone Movement Tracking (see Understanding IP Phone Movement Tracking, page 12-22). IP Phone Movement Tracking runs every 5 minutes, so you can run the IP Phone Audit Detail report and obtain fresh data about once every 5 minutes. This interval is not configurable.

Step 1 Select **Reports > IP Phone Status Changes > IP Phone Audit**. The IP Phone Status Reports page appears.

Step 2 Select the time period (24 hours - 7 days) from the list and click **View**. The IP Phone Audit report appears, displaying the information described in the following table.

Column	Description
Extension	Extension number of the IP phone.
IP Address	IP address of the IP phone.
MAC Address	MAC address of the IP phone.
CCM/CME Address	Cisco CallManager or Cisco CallManager Express address.
Switch Address	IP address of the switch to which the IP phone is connected.
Switch Port	Switch port used by the IP phone.
Time	Time of audit on the Cisco CallManager.
	Note Audit date and time are taken directly from the Cisco CallManager without adjustment for time zone differences, if any exist, between Cisco CallManager and Operations Manager systems.
Audit Type	One of the following:
	• add—Phone added to the network.
	• remove—Phone removed from the network.
	• unregistered—From Cisco CallManager.
	• registered—With Cisco CallManager.

Note The IP Phone Audit report is not supported for Cisco Wireless IP Phone 7920.

Using the Removed IP Phones Report

The Removed IP Phones report lists phones that have been removed during the previous 1 to 7 days. Operations Manager gathers the information used in this report every 5 minutes (see Understanding IP Phone Movement Tracking, page 12-22.) Therefore, you can run this report and obtain fresh data about once every 5 minutes.

Step 1 Select **Reports > IP Phone Status Changes > Removed IP Phones.** The IP Phone Status Reports page appears.

Step 2 Select the time period (24 hours - 7 days) from the list and click **View**. The Removed IP Phones report appears in a new window, displaying the information described in the following table.

Column	Description
Extension	Extension number of the IP phone.
IP Address	IP address of the IP phone.
MAC Address	MAC address of the IP phone.
CCM/CME Address	Cisco CallManager or Cisco CallManager Express address.
Switch Address	IP address of the switch to which the IP phone was previously connected.
Switch Port	Switch port to which the IP phone was previously connected.
Time	Time that the phone was removed from the Cisco CallManager. **Note** Removal date and time are taken directly from the Cisco CallManager without adjustment for time zone differences, if any exist, between Cisco CallManager and Operations Manager systems.
Indication	Indicates the Cisco CallManager registration status of the IP phone: removed.

Note   The Removed IP Phone report is not supported for Cisco Wireless IP Phone 7920.

Using the Extension Number Changes Report

The Extension Number Changes report lists phones that have changed extension numbers during the previous 1 to 7 days. Operations Manager gathers the information used in this report every 5 minutes (see Understanding IP Phone Movement Tracking, page 12-22.) Therefore, you can run this report and obtain fresh data about once every 5 minutes.

Step 1   Select **Reports > IP Phone Status Changes > Extension Number Changes**. The IP Phone Status Reports page appears.

Step 2   Select the time period (24 hours - 7 days) from the list and click **View**. The Extension Number Changes report appears in a new window, displaying the information described in the following table.

Column	Description
Extension	Extension number of the IP phone.
IP Address	IP address of the IP phone.
MAC Address	MAC address of the IP phone.
CCM Address	Cisco CallManager address.
Switch Address	IP address of the switch to which the IP phone was previously connected.
Switch Port	Switch port to which the IP phone was previously connected.
Time	Time that Operations Manager determined that the extension number changed.

Note   The Extension Number Changes report is not supported for Cisco Wireless IP Phone 7920.

Using the Suspect Phone Report

The Suspect Phone report displays the attributes of all IP phones in your network that:

- Have not registered with a Cisco CallManager.
- Have made an unsuccessful attempt to register with a Cisco CallManager.

Step 1   Select **Reports > IP Phone Status Changes > Suspect**. The IP Phone Status Reports page appears.

Step 2   Select the time period (24 hours - 7 days) from the list and click **View**. If there are any suspect IP phones, the Suspect Phone report appears in a new window, displaying the information described in the following table.

Column	Description
Extension	Extension number of the suspect IP phone.
IP Address	IP address of the suspect IP phone.
MAC Address	MAC address of the suspect IP phone.
Switch Address	IP address of the switch to which the suspect IP phone is connected.
Switch Port	Switch port used by the suspect IP phone.
Indication	Indicates the Cisco CallManager registration status of the IP phone.

Tip   Some IP phones appear marked as Suspect when they are not. To correct this, make sure that the Cisco CallManager is managed by Operations Manager. You can check the status of the Cisco CallManager on the Device Details report; see Viewing Device Details, page 15-18.

- If the Cisco CallManager is not managed by Operations Manager, add it to Operations Manager.
- If the Cisco CallManager is managed by Operations Manager but is not reachable, the cause may be loss of connectivity with Operations Manager. Make sure that connectivity with Operations Manager is restored.

Note   The Suspect Phone report is not supported for Cisco Wireless IP Phone 7920.

Using the Duplicate MAC/IP Address Report

The Duplicate MAC/IP Address report lists the attributes of all IP phones in your network that have:

- Duplicate MAC addresses; that is, a phone that has the same MAC address as another phone but a different IP address.
- Duplicate IP addresses; that is, a phone that has the same IP address as another phone but a different MAC address.

Operations Manager does not show a multihomed host as a phone with a duplicate MAC address.

Step 1   Select **Reports > IP Phone Status Changes > Duplicate MAC/IP Address**. The IP Phone Status Reports page appears.

Step 2   Select the time period (24 hours - 7 days) from the list and click **View**. The Duplicate MAC/IP Address IP Phone report appears, displaying the information described in the following table.

Column	Description
Extension	Extension number of the duplicate IP phone.
IP Address	One of the following: - If the problem is a shared MAC address, the IP address of the duplicate IP phone - If the problem is a shared IP address, the IP address in question
MAC Address	One of the following: - If the problem is a shared IP address, the MAC address of the duplicate IP phone - If the problem is a shared MAC address, the MAC address in question
Switch Address	IP address of the switch to which the duplicate IP phone is connected.
Switch Port	Switch port used by the duplicate IP phone.
Indication	Indicates the Cisco CallManager registration status of the IP phone: duplicate ip.

Exporting IP Phone Status Changes Reports

Use this procedure to enable Operations Manager to generate IP Phone Status Changes reports once every 24 hours and store them on the Operations Manager system in comma-separated values (CSV) and PDF formats. The creation date and time are used to name the report files. The filename format is typeofreport_date_time.filetype.

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Note   Operations Manager does not automatically purge these report files. You must remove them manually.

Step 1   Select **Reports > IP Phone Status Changes > Export**. The Automatically Export 24-Hour IP Phone Status Reports page appears, displaying the information described in the following table.

GUI Element	Description/Action
Reports pane	For each IP Phone Status Changes report that you want to generate and save nightly, select at least one of the following: • CSV check box—Save the report in CSV format. • PDF check box—Save the report in PDF format.
Generate pane	• Save at—A default location for storing the reports on the Operations Manager server is displayed; you can enter another location on the server. • E-mail to—(Optional) Enter a complete e-mail address.

Step 2   Click **Apply**.

Understanding IP Phone Movement Tracking

Operations Manager gathers information from switches and Cisco CallManagers every 5 minutes to identify these types of IP phone moves:

• Intercluster—A phone that was previously registered with one Cisco CallManager cluster is now registered with a different cluster.

• Physical—A phone that was physically connected to one switch port is now physically connected to a different switch port.

Operations Manager gathers this information only for phones that run Cisco Discovery Protocol (CDP), such as these Cisco IP phone models: 7902, 7905, 7910, 7912, 7920, 7935, 7936, 7940, 7941, 7960, 7970, and 7985. Operations Manager stores this information for a period of 7 days, after which it is purged from the database. (For information about the daily purging schedule, see Setting System-Wide Parameters Using System Preferences, page 19-12.)

Each time IP Phone Movement Tracking runs, fresh information becomes available for IP Phone Audit, IP Phone Move, and Removed IP Phones reports.