Use Monitoring Tools

Perform a Wireless Controller Voice Audit

Prime Infrastructure provides a voice auditing mechanism to check controller configuration and to ensure that any deviation from the deployment guidelines is highlighted as an Audit Violation. You can run a voice audit on a maximum of 50 controllers in a single operation.

To run the voice audit:

Step 1   Choose **Monitor** > **Tools** > **Wireless Voice Audit**.

Step 2   Click the **Controllers** tab, and complete the fields as described in the *Voice Audit Field Descriptions* section in the following link http://www.cisco.com/c/en/us/support/cloud-systems-management/prime-infrastructure/products-user-guide-list.html.

Step 3   Click the **Rules** tab.

Step 4   In the VoWLAN SSID text box, type the applicable VoWLAN SSID.

    Note   The red circle indicates an invalid rule (due to insufficient data). The green circle indicates a valid rule.

Step 5   Do either of the following:

- To save the configuration without running a report, click **Save**.

- To save the configuration and run a report, click **Save and Run**.

Step 6   Click the **Report** tab to view the report results.

Check AP Performance Using the Voice Diagnostic Tool

The Voice Diagnostic tool is an interactive tool that diagnoses voice calls in real time. This tool reports call control errors, clients' roaming history, and the total number of active calls accepted and rejected by an associated AP.

The Voice Diagnostic test is provisioned for multiple controllers; that is, if the AP is associated with more than one controller during roaming, the Voice Diagnostic tool tests all associated controllers. Prime Infrastructure supports testing on controllers whose APs are placed on up to three floors. For example, a Prime Infrastructure map might have floors 1 to 4, with all APs associated to controllers (WLC1, WLC2, WLC3, and WLC4) and placed on the Prime Infrastructure map. If a client on any AP is associated with WLC1 on the first floor and a Voice Diagnostic test is started for that client, a test is also provisioned on WLC2 and WLC3.

The Voice Diagnostic page lists prior test runs, if any. For information about the fields on this page, see the Voice Diagnostic Field Descriptions section in the (http://www.cisco.com/c/en/us/support/cloud-systems-management/prime-infrastructure/products-user-guide-list.html).

From the **Select a command** drop-down list, you can start a new test, check the results of an existing test, or delete a test.

Note   To support roaming, the tool figures out controllers in the same building as of client's associated AP building and adds to all controller's watchlist. The tool looks for controllers in +/-5 floors from client's current association A's location to configure on controllers. Configuration on controller's watchlist is done for 10 minutes. After 10 minutes controller will remove the entry from the watchlist.

To run a Voice Diagnostic test:

Step 1   Choose **Monitor** > **Tools** > **Wireless Voice Audit**.

Step 2   From the **Select a command** drop-down list, choose the New test and click Go.

Note   You can configure a maximum of two clients for voice call diagnosis. Both clients can be on the same call or can be on a different call.

Step 3   Enter a test name and the length of time to monitor the voice call.

Step 4   Enter the MAC address of the device for which you want to run the voice diagnostic test.

Step 5   Select a device type; if you select a custom phone, enter an RSSI range.

Step 6   Click **Start Test**.

Wireless Configuration Audit

Choose **Monitor** > **Tools** > **Wireless Configuration Audit** to launch the Configuration Audit Summary page.

This page provides a summary of the following:

- Total Enforced Config Groups—Templates that are configured for Background Audit and are enforcement enabled.
- Total Mismatched Controllers—Configuration differences found between Prime Infrastructure and the controller during the last audit.
- Total Config Audit Alarms—Alarms generated when audit discrepancies are enforced on configuration groups. If enforcement fails, a critical alarm is generated on the configuration group. If enforcement succeeds, a minor alarm is generated on the configuration group. Alarms contain links to the audit report, where you can view a list of discrepancies for each controller.
- Most recent 5 config audit alarms—Includes object name, event type, date, and time of the audit alarm.

Click **View All** to view the applicable Alarm page that includes all configuration audit alarms.

Determine Which Autonomous APs Can Be Migrated to Lightweight APs

Choose **Monitor** > **Tools** > **Autonomous AP Migration Analysis** to launch the Migration Analysis Summary page. Autonomous access points are eligible for migration only if all criteria have a pass status. A red X designates ineligibility, and a green check mark designates eligibility. These columns represent the following:

- Privilege 15 Criteria—The Telnet credential provided as part of the autonomous access point discovery must be privilege 15.
- Software Version—Conversion is supported only from Cisco IOS 12.3(7)JA releases excluding Cisco IOS 12.3(11)JA, Cisco IOS 12.3(11)JA1, Cisco IOS 12.3(11)JA2, and Cisco IOS 12.3(11)JA3.
- Role Criteria—A wired connection between the access point and controller is required to send the association request; therefore, the following autonomous access point roles are required:

  - root
  - root access point
  - root fallback repeater
  - root fallback shutdown
  - root access point only

- Radio Criteria—In dual-radio access points, the conversion can happen even if only one radio is of the supported type.

Ensure AP Location Accuracy with the Location Accuracy Tool

You can analyze the location accuracy of non-rogue and rogue clients, interferers, and asset tags by using the Location Accuracy tool.

By verifying for location accuracy, you are ensuring that the existing access point deployment can estimate the true location of an element within 10 meters at least 90% of the time.

The Location Accuracy tool enables you to run either of the following tests:

- Scheduled Accuracy Testing—Employed when clients, tags, and interferers are already deployed and associated to the wireless LAN infrastructure. Scheduled tests can be configured and saved when clients, tags, and interferers are already prepositioned so that the test can be run on a regularly scheduled basis.

- On-Demand Accuracy Testing—Employed when elements are associated but not pre-positioned. On-demand testing allows you to test the location accuracy of clients, tags, and interferers at a number of different locations. It is generally used to test the location accuracy for a small number of clients, tags, and interferers.

Both are configured and executed through a single page.

Related Topics

Set Up the AP Location Accuracy Tool

You must enable the **Advanced Debug** option in Prime Infrastructure to use the Scheduled and On-demand location accuracy tool testing features. The Location Accuracy tool does not appear as an option on the Monitor > Tools menu when the Advanced Debug option is not enabled.

To enable the advanced debug option in Prime Infrastructure:

Step 1 In Prime Infrastructure, choose**Maps** > **Wireless Maps** > **Site Maps**.

Step 2 Choose **Properties** from the **Select a command** drop-down list, and click **Go**.

Step 3 Check the**Enabled** check box to enable the Advanced Debug Mode. Click **OK**.

Note If Advanced Debug is already enabled, you do not need to do anything further. Click **Cancel**.

Use the Select a command drop-down list in the Location Accuracy page, to create a new scheduled or on-demand accuracy test, to download logs for last run, to download all logs, or to delete a current accuracy test.

Note You can download logs for accuracy tests from the Accuracy Tests summary page. To do so, select an accuracy test and from the Select a command drop-down list, choose either Download Logs or Download Logs for Last Run. Click **Go**.

- The Download Logs option downloads the logs for all accuracy tests for the selected test(s).
- The Download Logs for Last Run option downloads logs for only the most recent test run for the selected test(s).

Related Topics

Schedule a Location Accuracy Test

Use the scheduled accuracy testing to verify the accuracy of the current location of non-rogue and rogue clients, interferers, and asset tags. You can get a PDF of the test results at **Accuracy Tests** > **Results**. The Scheduled Location Accuracy report includes the following information:

- A summary location accuracy report that details the percentage of elements that fell within various error ranges.

- An error distance histogram.

• A cumulative error distribution graph.

• An error distance over time graph.

• A summary by each MAC address whose location accuracy was tested noting its actual location, error distance and a map showing its spatial accuracy (actual vs. calculated location), and error distance over time for each MAC.

To schedule a Location Accuracy test:

SUMMARY STEPS

1. Choose **Monitor** > **Tools** > **Location Accuracy**.

2. Choose **New Scheduled Accuracy Test** from the **Select a command** drop-down list.

3. Enter a test name.

4. Choose an area type, a building, and a floor from the corresponding drop-down lists.

5. Choose a beginning and ending time for the test by entering the days, hours, and minutes. Hours are entered using a 24-hour clock.

6. Choose a destination point for the test results. (If you choose the e-mail option, you must first define an SMTP Mail Server for the target email address. Choose Administration > Settings > System Settings > Mail Server Configuration to enter the appropriate information.)

7. Click **Position Test Points**.

8. On the floor map, select the check box next to each client, tag, and interferer for which you want to check location accuracy.

9. (Optional) To enter a MAC address for a client, tag, or interferer that is not listed, select the **Add New MAC** check box, enter the MAC address, and click **Go**.

10. When all elements are positioned, click Save.

11. Click OK to close the confirmation dialog box.

12. To check the test results, click the test name, click the **Results** tab in the page that appears, and click **Download** under Saved Report.

DETAILED STEPS

Step 1 Choose **Monitor** > **Tools** > **Location Accuracy**.

Step 2 Choose **New Scheduled Accuracy Test** from the **Select a command** drop-down list.

Step 3 Enter a test name.

Step 4 Choose an area type, a building, and a floor from the corresponding drop-down lists.

> **Note** Campus is configured as Root Area, by default. There is no need to change this setting.

Step 5 Choose a beginning and ending time for the test by entering the days, hours, and minutes. Hours are entered using a 24-hour clock.

> **Note** When entering the test start time, be sure to allow enough time prior to the test start to position testpoints on the map.

Step 6 Choose a destination point for the test results. (If you choose the e-mail option, you must first define an SMTP Mail Server for the target email address. Choose Administration > Settings > System Settings > Mail Server Configuration to enter the appropriate information.)

Step 7 Click **Position Test Points**.

Step 8   On the floor map, select the check box next to each client, tag, and interferer for which you want to check location accuracy.

When you select a MAC address check box, two icons appear on the map. One represents the actual location and the other represents the reported location. If the actual location for an element is not the same as the reported location, drag the actual location icon for that element to the correct position on the map. (You cannot drag the reported location.)

Step 9   (Optional) To enter a MAC address for a client, tag, or interferer that is not listed, select the **Add New MAC** check box, enter the MAC address, and click **Go**.

An icon for the newly added element appears on the map. If the element is on the location server but on a different floor, the icon appears in the left-most corner (in the 0,0 position).

Step 10   When all elements are positioned, click Save.

Step 11   Click OK to close the confirmation dialog box.

You are returned to the Accuracy Tests summary page.

Step 12   To check the test results, click the test name, click the **Results** tab in the page that appears, and click **Download** under Saved Report.

Related Topics

Run an On-Demand Location Accuracy Test

You can run an On-Demand Accuracy Test when elements are associated but not prepositioned. On-Demand testing allows you to test the location accuracy of clients, tags, and interferers at a number of different locations. It is generally used to test the location accuracy of a small number of clients, tags, and interferers. You can get a PDF of the test results at **Accuracy Tests Results**. The On-Demand Accuracy Report includes the following information:

- A summary location accuracy report that details the percentage of elements that fell within various error ranges.

- An error distance histogram.

- A cumulative error distribution graph.

To run an On-Demand Accuracy Test:

Step 1   Choose **Monitor** > **Tools** > **Location Accuracy**.

Step 2   From the **Select a command** drop-down list, choose New On demand Accuracy Test.

Step 3   Enter a test name.

Step 4   Choose an area type, a building, and a floor from the corresponding drop-down lists.

Note   Campus is configured as Root Area, by default. There is no need to change this setting.

Step 5 Choose a destination point for the test results. (If you choose the e-mail option, you must first define an SMTP Mail Server for the target email address. Choose **Administration** > **Settings** > **System Settings** > **Mail ServerConfiguration** to enter the appropriate information.)

Step 6 Click **Position Test Points**.

Step 7 To test the location accuracy and RSSI of a particular location, select client, tag, or interferer from the drop-down list on the left. A list of all MAC addresses for the selected option (client, tag, or interferer) is displayed in a drop-down list to the right.

Step 8 Choose a MAC address from the drop-down list, move the red cross hair to a map location, and click the mouse to place it.

Step 9 From the Zoom percentage drop-down list, choose the zoom percentage for the map.

The X and Y text boxes are populated with the coordinates based on the position of the red cross hair in the map.

Step 10 Click **Start** to begin collection of accuracy data, and click **Stop** to finish collection. You must allow the test to run for at least two minutes before stopping the test.

Step 11 Repeat Step 7 to Step 10 for each testpoint that you want to plot on the map.

Step 12 Click **Analyze Results** when you are finished mapping the testpoints, and then click the Results tab in the page that appears to view the report.

Related Topics

Monitoring IPSLA

Perform the following steps to implement the IPSLA real time monitoring:

Before you begin

The **IPSLA Real Time Monitoring** page helps users to analyse and monitor the devices to extract detailed information on parameters such as, response time, packet loss, performance of application, and so on.

Step 1 Navigate to **Monitor** > **Tools** > **IPSLA Real Time Monitoring**.

Step 2 Click the **Next** button in the **Begin** page.

Step 3 Select the source and destination devices. You can filter the devices based on the device name.

The source and destination devices cannot be the same.

Step 4 Select the **Operation Type**. You must enter a port number if you select the operation type as **UDP Echo** or **UDP Jitter**. The value must be between 1 and 65535. Enter a valid URL, if you select the operation type as **HTTP/TCP**.

Step 5 Click the **Clear Selections** button to discard the selections.

Step 6 Click the **Next** button to view the monitoring charts. The charts get regenerated every minute. Once the number of captures reaches 10, the earlier data disappears from the chart and the latest capture information is displayed.

Note   Click the refresh icon if you wish to move to the **Begin** page without saving the data.