Configuring Wireless Technologies

- Chokepoints
- Wi-Fi TDOA Receivers

Chokepoints

Chokepoints are low frequency transmitting devices. When a tag passes within range of placed chokepoint, the low-frequency field awakens the tag that in turn sends a message over the Cisco Unified Wireless Network including the chokepoint device ID. The transmitted message includes sensor information (such as temperature and pressure). A chokepoint location system provides room level accuracy (ranging from few inches to 2 feet depending on the vendor).

Chokepoints are installed and configured as recommended by the Chokepoint vendor. After the chokepoint installation is complete and operational, the chokepoint can be entered into the location database and plotted on a the Prime Infrastructure map.

Related Topics

- Adding Chokepoints
- Editing Chokepoints

Adding Chokepoints

To add a chokepoint, follow these steps:

Step 1 Choose **Configuration > Wireless Technologies > Chokepoints**.

Step 2 From the Select a command drop-down list, choose **Add Chokepoints**, then click **Go**.

Step 3 Enter the MAC address and name for the chokepoint.

Step 4 Select the check box to indicate that it is an Entry/Exit Chokepoint.

Step 5 Enter the coverage range for the chokepoint.

Chokepoint range is a visual representation only. It is product-specific. The actual range must be configured separately using the applicable chokepoint vendor software.

Step 6 Click **OK**.

After the chokepoint is added to the database, it can be placed on the appropriate the Prime Infrastructure floor map.

Removing Chokepoints

To remove a chokepoint, follow these steps:

Step 1   Choose **Configuration > Wireless Technologies > Chokepoints**.

Step 2   Select the check box of the chokepoint that you want to delete.

Step 3   From the Select a command drop-down list, choose **Remove Chokepoints**, then click **Go**.

Step 4   Click **OK** to confirm the deletion.

Related Topics

- Editing Chokepoints

Adding Chokepoints to Maps

To add a chokepoint to a map, follow these steps:

Step 1   Choose **Maps > Wireless Maps > Site Maps**.

Step 2   Click the link that corresponds to the floor location of the chokepoint.

Step 3   From the Select a command drop-down list, choose **Add Chokepoints**.

Step 4   Click **Go**.

The Add Chokepoints summary page lists all recently-added chokepoints that are in the database but not yet mapped.

Step 5   Select the check box next to the chokepoint that you want to place on the map.

Step 6   Click **OK**.

A map appears with a chokepoint icon located in the top-left hand corner. You are now ready to place the chokepoint on the map.

Step 7   Left-click the chokepoint icon and drag and place it in the proper location.The MAC address, name, and coverage range of the chokepoint appear in the selected chokepoints detail page when you click the chokepoint icon for placement.

Step 8   Click **Save**.

You are returned to the floor map and the added chokepoint appears on the map.

The newly created chokepoint icon might or might not appear on the map depending on the display settings for that floor.

The rings around the chokepoint icon indicate the coverage area. When a CCX tag and its asset passes within the coverage area, location details are broadcast, and the tag is automatically mapped on the chokepoint coverage circle. When the tag moves out of the chokepoint range, its location is calculated as before and is no longer mapped on the chokepoint rings.

MAC address, name, entry/exit chokepoint, static IP address, and range of the chokepoint display when you pass a mouse over its map icon

Step 9 If the chokepoint does not appear on the map, select the **Chokepoints** check box located in the Floor Settings menu.

Do not select the **Save Settings** check box unless you want to save this display criteria for all maps.

Step 10 You must synchronize network design to the mobility services engine or location server to push chokepoint information.

Removing Chokepoints from Maps

To remove an chokepoint from the map, follow these steps:

Step 1 Choose **Maps > Wireless Maps > Site Maps**.

Step 2 In the Maps page, choose the link that corresponds to the floor location of the chokepoint.

Step 3 From the Select a command drop-down list, choose **Remove Chokepoints**.

Step 4 Click **Go**.

Step 5 Click **OK** to confirm the deletion.

Editing Chokepoints

To edit a current chokepoint, follow these steps:

Step 1 Choose **Configuration > Wireless Technologies > Chokepoints**. The following information is displayed for each current chokepoint: MAC address, chokepoint name, entry/exit chokepoint, range, static IP address, and map location for the chokepoint.

Step 2 Click the chokepoint you want to edit in the MAC Address column.

Step 3 Edit the following parameters, as necessary:

- Name
- Entry/Exit Chokepoint—Click to enable.
- Range—Coverage range for the chokepoint.

  The chokepoint range is product-specific and is supplied by the chokepoint vendor.
- Static IP Address

Step 4 Click **Save**.

Wi-Fi TDOA Receivers

- Using Wi-Fi TDOA Receivers to Enhance Tag Location Reporting, page 23-4

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Using Wi-Fi TDOA Receivers to Enhance Tag Location Reporting

The Wi-Fi TDOA receiver is an external system designed to receive signals transmitted from a tagged, tracked asset. These signals are then forwarded to the mobility services engine to aid in the location calculation of the asset. TDOA receivers use the method of Time Difference of Arrival (TDOA) to calculate tag location. This method uses data from a minimum of three TDOA receivers to generate a tagged asset location.

Note
- If a TDOA receiver is not in use and the partner engine software is resident on the mobility service engine, then the location calculations for tags are generated using RSSI readings from access points.

- The Cisco Tag engine can calculate the tag location using the RSSI readings from access points.

Before using a TDOA receiver within the Cisco Unified Wireless Network, you must perform the following steps:

1. Have a mobility services engine active in the network. See Adding MSEs to Prime Infrastructure for details on adding a mobility services engine.

2. Add the TDOA receiver to the Prime Infrastructure database and map. See Adding Wi-Fi TDOA Receivers for details on adding the TDOA receiver to the Prime Infrastructure.

3. Activate or start the partner engine service on the MSE using the Prime Infrastructure.

4. Synchronize the Prime Infrastructure and mobility services engines. See Synchronizing Prime Infrastructure and a Mobility Services Engine for details on synchronization.

5. Set up the TDOA receiver using the AeroScout System Manager.

See the *AeroScout Context-Aware Engine for Tags, for Cisco Mobility Services Engine User's Guide* for configuration details at the following URL:
http://support.aeroscout.com.

Related Topics
- Adding Wi-Fi TDOA Receivers

- Editing Wi-Fi TDOA Receivers

- Editing Wi-Fi TDOA Receivers

Adding Wi-Fi TDOA Receivers

After the Wi-Fi TDOA receiver is installed and configured by the AeroScout System Manager and the partner software is downloaded on the mobility services engine, you are ready to add the TDOA receiver to the mobility services engine database and position it on an Prime Infrastructure map.

After adding TDOA receivers to the Prime Infrastructure maps, you continue to make configuration changes to the TDOA receivers using the AeroScout System Manager application rather than the Prime Infrastructure.

For more details on configuration options, see the *AeroScout Context-Aware Engine for Tags, for Cisco Mobility Services Engine User Guide* at the following URL: http://support.aeroscout.com.

To add a TDOA receiver to the Prime Infrastructure database and appropriate map, follow these steps:

Step 1   Choose **Configuration > Wireless Technologies > WiFi TDOA Receivers** to open the All WiFi TDOA Receivers summary page.

To view or edit current WiFi TDOA receiver details, click the MAC Address link to open the details page.

Step 2   From the Select a command drop-down list, choose **Add WiFi TDOA Receivers**, then click **Go**.

Step 3   Enter the MAC address, name and static IP address of the TDOA receiver.

Step 4   Click **OK** to save the TDOA receiver entry to the database.

After you add the TDOA receiver to the database, you can place the TDOA receiver on the appropriate Prime Infrastructure floor map.

A WiFi TDOA Receiver must be configured separately using the receiver vendor software.

Related Topic

  • Editing Wi-Fi TDOA Receivers

Adding Wi-Fi TDOA Receivers to Maps

Step 1   To add the TDOA receiver to a map, choose **Maps > Wireless Maps > Site Maps**.

Step 2   In the Maps page, select the link that corresponds to the floor location of the TDOA receiver.

Step 3   From the Select a command drop-down list, choose **Add WiFi TDOA receivers**, then click **Go**.

Step 4   Select the check box next to each TDOA receiver to add it to the map.

Step 5   Click **OK**. A map appears with a TDOA receiver icon located in the top-left hand corner. You are now ready to place the TDOA receiver on the map.

Step 6   Left-click the TDOA receiver icon and drag and place it in the proper location on the floor map.

The MAC address and name of the TDOA receiver appear in the left pane when you click the TDOA receiver icon for placement.

Step 7   Click **Save** when the icon is placed correctly on the map. The added TDOA receiver appears on the floor heat map.

The icon for the newly added TDOA receiver might or might not appear on the map depending on the display settings for that floor.

Step 8   If the TDOA receiver does not appear on the map, click **Layers** to collapse a selection menu of possible elements to display on the map.

Step 9   Select the **WiFi TDOA Receivers** check box. The TDOA receiver appears on the map.

When you place your cursor over a TDOA receiver on a map, configuration details display for that receiver.

Step 10   Click **X** to close the Layers page.

Do not choose **Save Settings** from the Layers menu unless you want to save this display criteria for all maps.

Step 11 You can now download the partner engine software to the mobility services engine.

Related Topics

- Using Wi-Fi TDOA Receivers to Enhance Tag Location Reporting
- Editing Wi-Fi TDOA Receivers

Editing Wi-Fi TDOA Receivers

To view a current TDOA receiver to the Prime Infrastructure database, follow these steps:

Step 1 Choose **Configuration > Wireless Technologies > WiFi TDOA Receivers** to open the All WiFi TDOA Receivers summary page.

Step 2 Click the MAC Address link to view the TDOA receiver details including MAC address, name, and static IP address.

Step 3 Make the necessary changes to the receiver name or IP address, then click **Save** to confirm these changes.

A WiFi TDOA Receiver must be configured separately using the receiver vendor software.

Removing Wi-Fi TDOA Receivers

You can remove one or multiple WiFi TDOA receivers at a time. If you remove a TDOA receiver from a map it remains in the Prime Infrastructure database but is labeled as unassigned.

To delete a TDOA receiver from the Prime Infrastructure, follow these steps:

Step 1 Choose **Configuration > Wireless Technologies > WiFi TDOA Receivers**.

Step 2 Select the check box next to each TDOA receiver to be deleted.

Step 3 From the Select a command drop-down list, choose **Remove WiFi TDOA Receivers**, then click **Go**.

Step 4 To confirm TDOA receiver deletion, click **OK** in the dialog box.

In the **All WiFi TDOA Receivers** page, a message confirms the deletion. The deleted TDOA receiver is no longer listed in the page.