



awarepoint[®]
Location as a Service

System Manager User Guide

System Manager 2.0

March 01, 2017

FCC Compliance

BLEE	Environmental	FCC: UAG-BLEE, IC: 7348A-BLEE
BLEB	Beacon (Omni and Directional)	FCC: UAG-BLEB, IC: 7348A-BLEB
BLET	Tag	FCC: UAG-BLET, IC: 7348A-BLET
BLED	Environmental Display	FCC: UAG-BLED, IC: 7348A-BLED

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this Device may not cause harmful interference and (2) this Device must accept any interference received, including Interference that may cause undesired operation.

Changes or modifications to the equipment that are not expressly approved by the manufacturer could void the user's authority to operate the equipment under FCC Rules.

Radio Standards Specification Compliance

Per RSS-Gen, Section 8.4 This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Per RSS-Gen, Radio apparatus shall comply with the requirements to include required notices or statements to the user of equipment with each unit of equipment model offered for sale.

Par RSS-Gen, Section 8.4 Cet appareil est conforme aux normes RSS exonérées de licence d'Industrie Canada. Le fonctionnement est soumis aux deux conditions suivantes: (1) cet appareil ne doit pas provoquer d'interférence, et (2) cet appareil doit accepter toute interférence, y compris les interférences susceptibles de provoquer un fonctionnement indésirable de l'appareil.

Par RSS-Gen, l'appareil radio doit se conformer aux exigences pour inclure les avis requis ou les déclarations à l'utilisateur de l'équipement avec chaque modèle d'unité de matériel proposé.

2 Introduction

System Manager is a browser-based software application that provides the user interface (UI) to the Awarepoint Appliance. Using System Manager, you can manage assets and network devices on the Awarepoint network, manage regions on maps, and conduct accuracy and certification tests.



Clients should NEVER be given access to System Manager.

The Awarepoint Real-Time Location System is configured by System Manager. It can be used online when connected to a facility's local area network (LAN) or offline when there is limited or no LAN access.

2.1 Accessing System Manager

System Manager is accessed through a web browser.

Currently, the only supported web browser is the latest version of Google Chrome.

While other web browsers may work, their use is not currently supported.

1. Navigate to <https://aps.ah.awarepoint.com/awp-auth/login>



User Name:

Password:

Figure 1 System Manager Web Login

2. Enter your username and password and click **Sign In**.
3. If asked for OAuth Approval, select the radio buttons to **Approve** and click **Authorize**.

OAuth Approval

Do you authorize 'sysman-ui' to access your protected resources?

- scope.openid: ☒ Approve ☐ Deny
- scope.trust: ☒ Approve ☐ Deny

Authorize

Figure 2 System Manager OAuth Approval Screen

4. Select the site from the drop-down list.



Figure 3 System Manager Site Selection

The **Awarepoint System Manager** home screen displays for the selected site.



Figure 4 System Manager Home

2.2 SysMan Tab

Clicking this tab returns you to the **Home** dashboard of System Manager. From this screen you can log out of System Manager or choose the option to work offline and upload any changes later.

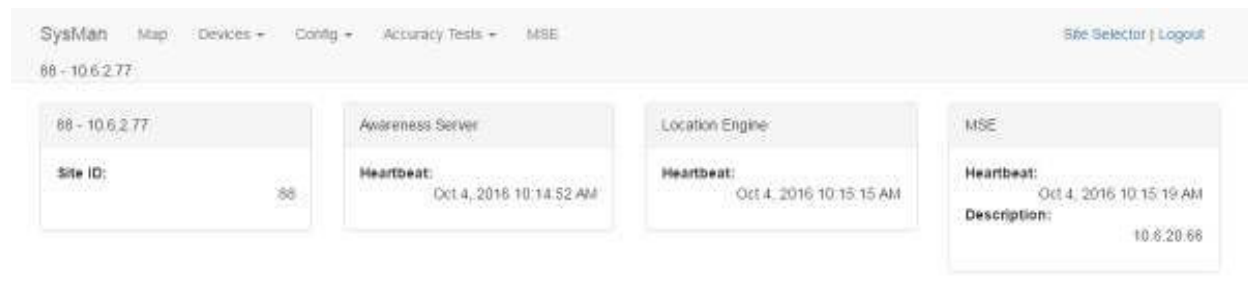


Figure 5 SysMan Tab – Home Dashboard

From this tab you can:

- View network and server information
- View information on devices on the Awarepoint network
- View information on currently active devices on the network

2.3 Map Tab

Clicking this tab brings you to the **Region Manager** screen.



Figure 6 Map Tab – Region Manager Screen

From this tab you can:

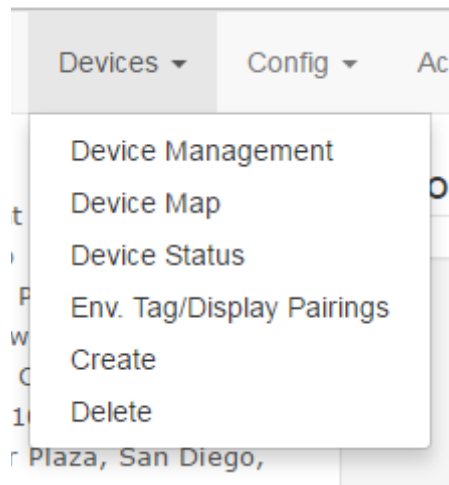
- View current maps for all defined regions, campuses, buildings, and floors
- Add a new campus, building, or floor
- Delete a campus, building, or floor

- Import a map for a floor

2.4 Devices Tab

This tab provides five options:

- Device Management
- Device Map
- Device Status
- Env. Tag/Display Pairings
- Create
- Delete



From this tab you can:

- Manage current BLE Tags and BLE Beacons in the system, including updating or changing device configuration and firmware
- View and place environmental devices on a map
- View the status of a device (Tag or Beacon)
- View and manage environmental tags and display pairings
- Create new devices in the system
- Delete devices from the system

2.5 Config Tab

This tab provides three options:

- Device Config
- Network Config
- Location Algorithm Config

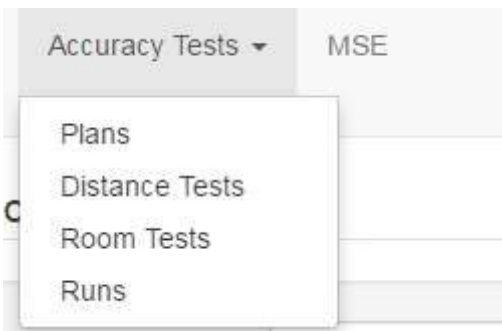


From this tab you can:

- Set configuration options for Tags and Beacons in the system
- Set network configuration options
- View and update location configuration settings

2.6 Accuracy Tests Tab

The **Accuracy Tests** tab allows you to load, run, and view results for accuracy tests. Accuracy tests are critical to ensure items are communicating as required on the network and for network certification.



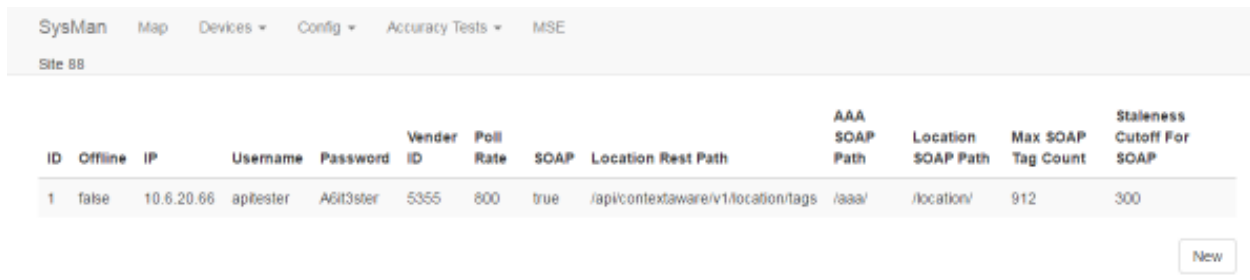
From this tab you can:

- View, update, and create new accuracy test plans

- View, update, and create new distance test plans
- View, update, and create new room test plans
- View accuracy test plan runs

2.7 MSE Tab

Clicking this tab brings you to the **Mobility** screen.



ID	Offline	IP	Username	Password	Vendor ID	Poll Rate	SOAP	Location Rest Path	AAA SOAP Path	Location SOAP Path	Max SOAP Tag Count	Staleness Cutoff For SOAP
1	false	10.6.20.66	apitester	ASit3ster	5355	800	true	/api/contextaware/v1/location/tags	/aaa/	/location/	912	300

New

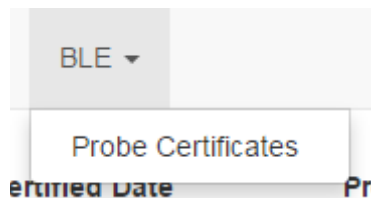
Figure 7 MSE Tab Screen

From this tab you can:

- Create new mobile device configurations
- Edit existing mobile device configurations
- Delete one or more mobile device configurations

2.8 BLE Tab

The **BLE** tab provides access to the probe information and details for BLE probes.

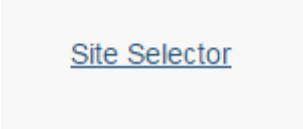


From this tab you can:

- View uploaded probe certificates
- Edit existing probe information, including certificates
- Add new probes

2.9 Site Selector

Located in the upper right corner of System Manager, clicking this link allows you to select a different site from the one you are on.



[Site Selector](#)

Click this link to return to the Site Selector drop-down list.

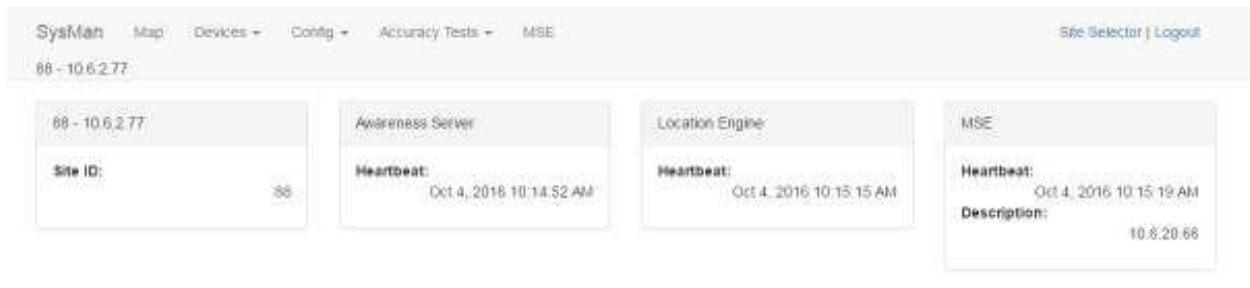


The screenshot shows the top navigation bar of the System Manager interface. It includes links for SysMan, Map, Devices, Config, Accuracy Tests, and MSE. A 'Site Selector' link is located in the top right corner. Below the navigation bar, the current site is identified as 'Site 88'. A drop-down menu is displayed with the text 'Select Site' and a downward arrow. A 'Submit' button is located below the drop-down menu.

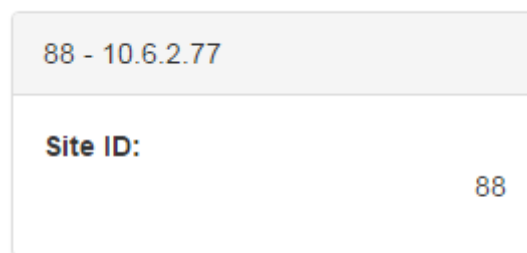
Figure 8 Site Selector Drop-down List

3 SysMan Tab

The **Home** screen, also available from the **SysMan** tab, provides a general overview of the health and state of the system.

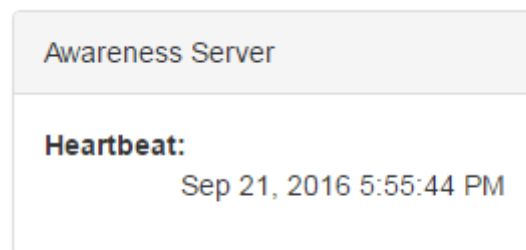


3.1 Site ID



This area of the screen displays Site ID information. The title bar displays the Site ID as displayed in the Site Selector drop-down list. The information displayed shows the Site ID number in the system. There are no user-configurable items in this area.

3.2 Awareness Server



The Awareness Server is a Java process on the Appliance that communicates with devices (Tags and Beacons) on the network and publishes location determinations to Infopoint and awareHealth. The **Heartbeat** indicates the last time the Awareness Server was heard by System Manager. If the last Heartbeat was not recent, it may indicate a problem that should be checked.

3.3 Location Engine

Location Engine
Heartbeat: Sep 21, 2016 5:55:41 PM

The Location Engine is an application responsible for providing location information for devices (Tags and Beacons) on the network. The **Heartbeat** indicates the last time the Location Engine was heard by System Manager. If the last Heartbeat was not recent, it may indicate a problem that should be checked.

3.4 MSE

MSE
Heartbeat: Sep 21, 2016 5:55:50 PM
Description: 10.6.20.66

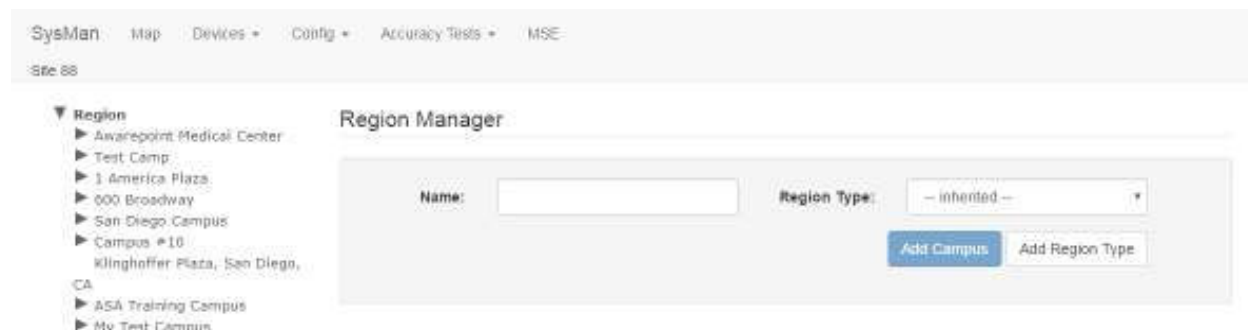
The Mobility Service Engine (MSE) provides Beacon report information. The **Heartbeat** indicates the last time the MSE was heard by System Manager. If the last Heartbeat was not recent, it may indicate a problem that should be checked.

The **Description** indicates the IP address on the network of the MSE.

4 Map Tab

The **Map** tab provides access to floor maps of regions in the system.

Click the **Map** tab to display the **Region Manager** window.



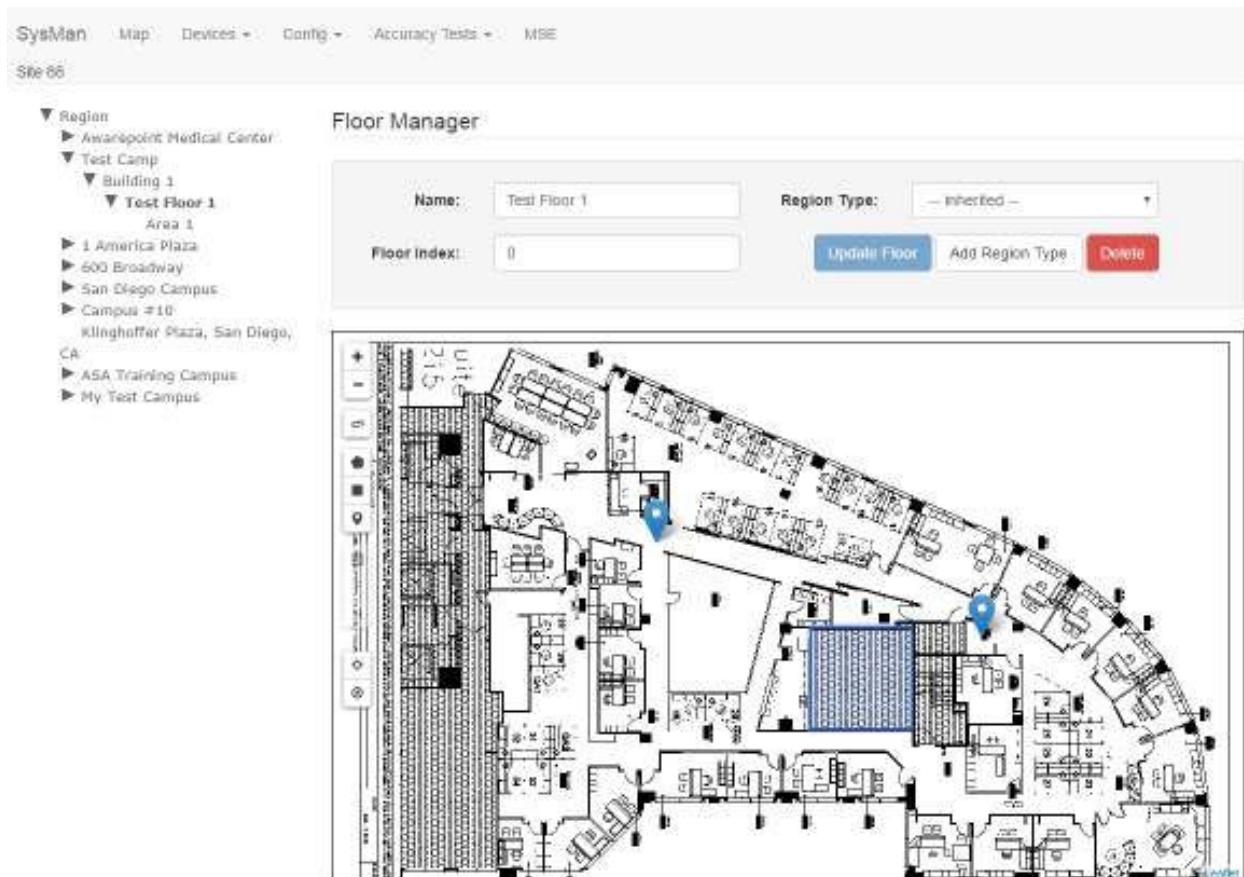
4.1 Viewing a Floor Map

1. From the list of the left, click the arrow next to the region that contains the floor whose map you want to view.

When you click the arrow, levels underneath that region expand.

2. Click the arrow next to the building to view the floors.
3. Select the floor you want to view by clicking the floor.

The floor will display in the **Floor Manager** window. If a map to the floor has been uploaded, that map will also display.



4.2 Adding a Campus/Building/Floor

The following procedure details the process for adding a floor. However, the process for adding a campus or building is similar.

1. From the left-hand list, drill down to the building where you want to add the new floor.

The **Building Manager** window displays.

NOTE: To create a new item you must be at the parent level of that item. You must be at the **Region Manager** window to create a campus, at the **Campus Manager** window to create a building, and at the **Building Manager** window to create a floor.

2. In the floor group of text boxes, enter a name for the new floor.
3. Select a region for the floor.

By default, this is set to **Inherited** to assign the floor to the current region. It is unlikely you would need to change this. However, if you do, you can select a region from this drop-down menu.

4. Enter a floor index.

Floor Index indicates the order in which the floor appears in the list of floors for the building. By default, **0** is the same as all other categories, meaning the floors will be sorted alphabetically. You can use this number to make items appear at the bottom of the list by changing the number to something other than the default.

5. Click **Add Floor**.

The floor now appears under the parent building in the list on the left.

4.3 Updating a Campus/Building/Floor

Updating a campus, building, or floor is limited to changing the name, the region, or the index.

The following procedure updates a floor; however, the procedure is similar for updating a campus or building.

1. From the list on the left, drill down to locate the floor you want to update.

2. Select the floor.

The **Floor Manager** displays with the selected floor.



3. Make any changes to the **Name**, **Region**, and/or **Floor Index** text fields as necessary.
4. Click **Update Floor**.

4.4 Adding a Map to a Floor

Floor maps allow a user to view a layout of a floor and locate Beacons placed on it. Use the following procedure to add a map to an existing floor.

1. From the list on the left, drill down to the floor you want to add a map for and select it.

The **Floor Manager** window displays.

Region

- ▶ Awarepoint Medical Center
 - ▼ Test Camp
 - ▼ Building 1
 - ▶ Test Floor 1
 - Test Floor 2**
 - ▶ 1 America Plaza
 - ▶ 600 Broadway
 - ▶ San Diego Campus
 - ▶ Campus #10
 - Klinghoffer Plaza, San Diego,
 - CA
 - ▶ ASA Training Campus
 - ▶ My Test Campus

Floor Manager

Name: Test Floor 2 Region Type:

Floor Index: 0

Update Floor Add Region Type Delete

Upload Image

Leader

2. In the map area, click the **Upload Image** link.

A file explorer window opens.

3. Navigate in the file explorer window to locate the map image file and select it.

NOTE: Floor maps must be of an image file type such as JPEG or PNG. Higher resolution images are preferable.

Once the floor map has uploaded, it displays in the window for the floor.

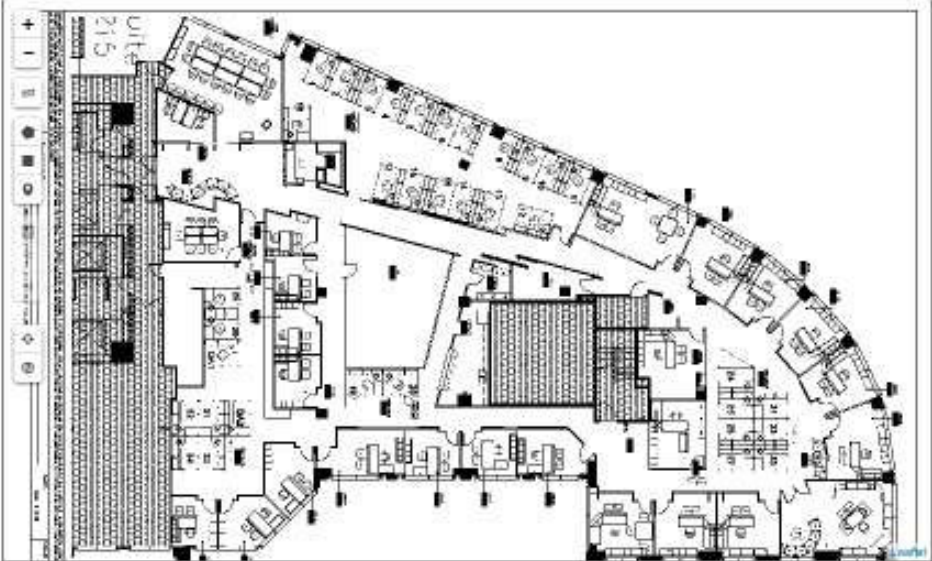
Region

- ▶ Awarepoint Medical Center
- ▼ **Test Camp**
 - ▼ **Building 1**
 - ▶ Test Floor 1
 - Test Floor 2**
 - ▶ 1 America Plaza
 - ▶ 600 Broadway
 - ▶ San Diego Campus
 - ▶ Campus #10
 - ▶ Klinghoffer Plaza, San Diego, CA
- ▶ ASA Training Campus
- ▶ My Test Campus

Floor Manager

Name: Region Type:

Floor Index:



4.5 Deleting a Campus/Building/Floor

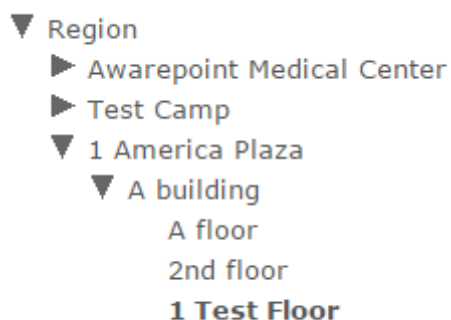


Once a campus, building, or floor is deleted it cannot be recovered. Be absolutely certain before deleting.

NOTE: Deleting a parent level item deletes all children beneath it. For example, deleting a building deletes all floors in that building as well.

1. From the list on the left, drill down to the item you want to delete and select it.

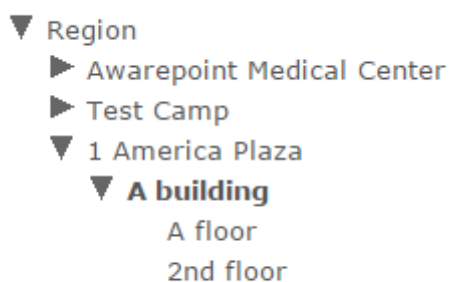
The selected item is bolded in the list.



2. In the manager window, click **Delete**.

If you are deleting a floor, the window will be the **Floor Manager**. If you are deleting a building, it will be the **Building Manager**.

The floor will no longer appear in the list.



4.6 Defining an Area

In order to run a room test or for Tags to register entry/exit, you must define areas on each floor that Tags will be on.

1. From the list of the left, drill down to find the floor where you want to define an area and select.

The selected floor is bold and the map for the floor loads into the viewer.

▼ Region

- ▶ Awarepoint Medical Center
- ▼ Test Camp
 - ▼ Building 1
 - ▶ Test Floor 1
 - Test Floor 2**
 - ▶ 1 America Plaza
 - ▶ 600 Broadway
 - ▶ San Diego Campus
 - ▶ Campus #10
 - Klinghoffer Plaza, San Diego, CA
 - ▶ ASA Training Campus
 - ▶ My Test Campus

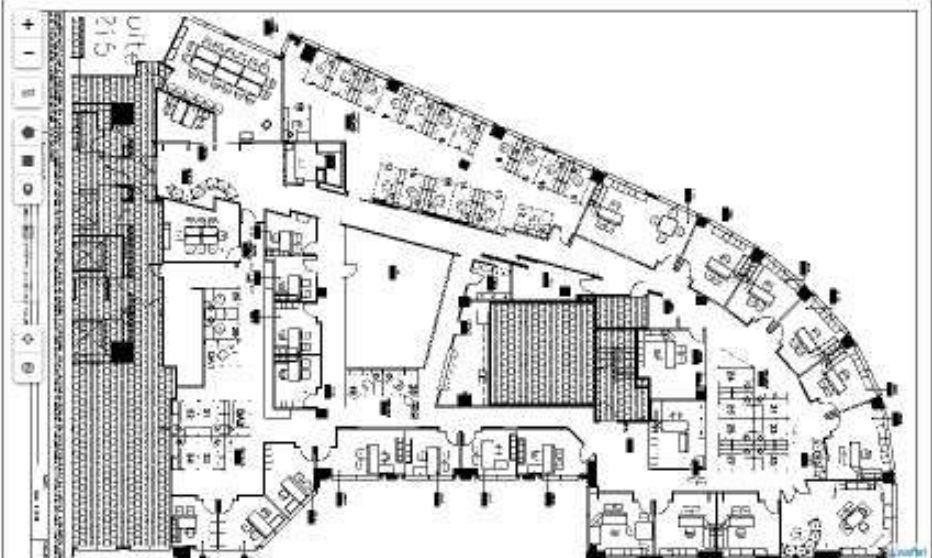
Floor Manager

Name:

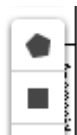
Floor Index:

Region Type:

Update Floor
Add Region Type
Delete



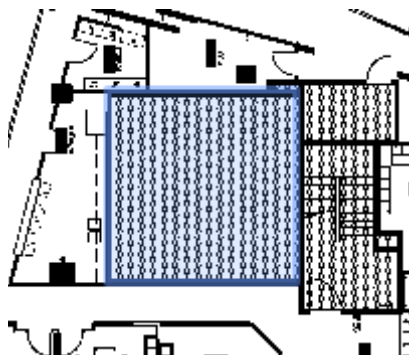
2. Using the polygon or rectangle tool, draw an outline around the area you are defining.



NOTE: You may want to zoom in as much as possible on the map before starting to define your area in order to make it as accurate as possible.

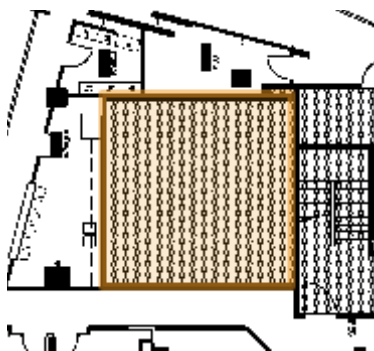
To complete a polygonal area, double-click after clicking the last point.

Once the area is completed it will be blue.



3. Single click the area once to select it.

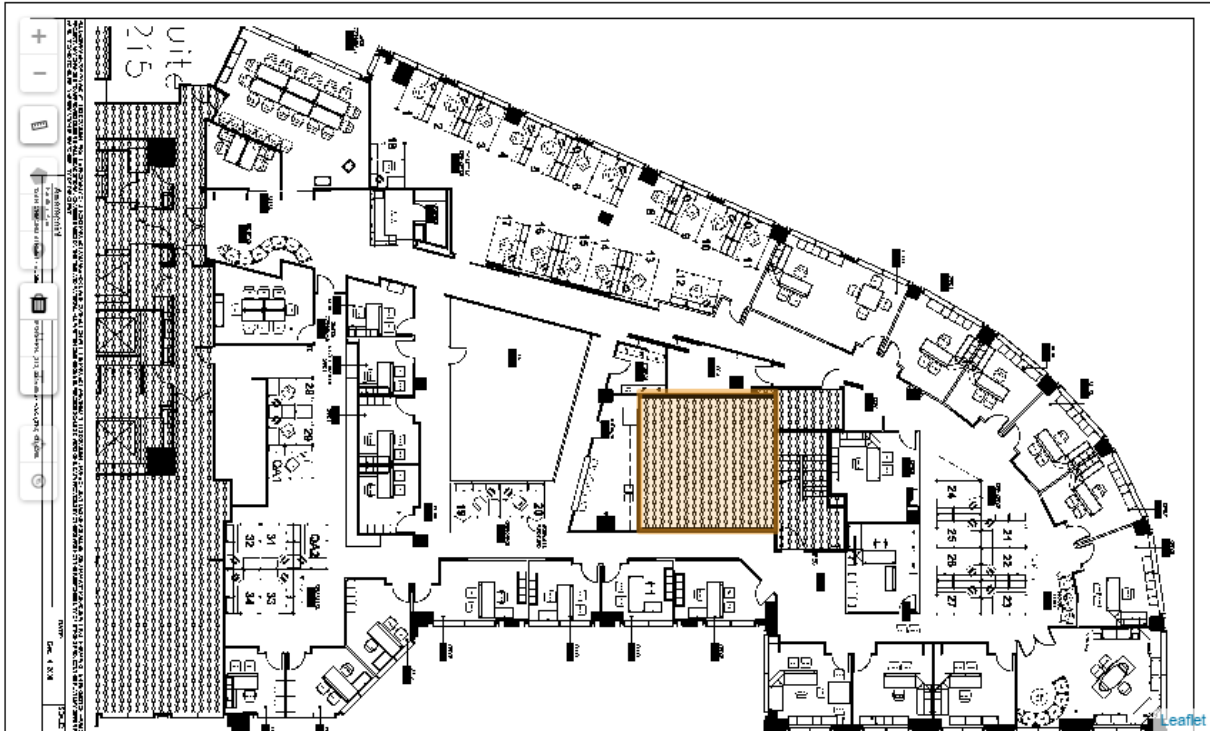
The area turns orange.



4. In the **Area Manager** fields at the top, enter a name for the area then select a region type from the **Region Type** drop-down list.

Area Manager

Name: **Region Type:**



Typical usage types include **Patient Care Area** or **Cafeteria**. See **Region Typing** for standard region types.

5. Click **Update Area** to save your changes.

4.7 Region Typing

Regions in System Manager are inherited in a parent-child fashion. If the region type at a Building Level is labeled as “Inherited,” it will by default inherit the region type of the campus. The region types of a floor will, by default, inherit the region type of a building and so on, through the Area and Room levels.

If a floor is comprised of a majority of one type of room, assign that region type to the floor. All rooms will then inherit that region type. A user can then select the rooms that are not of that region type and edit their region types.

For example, if a floor is mainly comprised of patient rooms, select the floor and assign its Region Type to **Patient Room**. Then begin selecting other areas like hallways and restrooms and start assigning their appropriate Region Type. In doing this, the user will not have to select any of the patient rooms to change their Region Type.

At the time of release of this document, the approved Region Types are as listed in the following table.

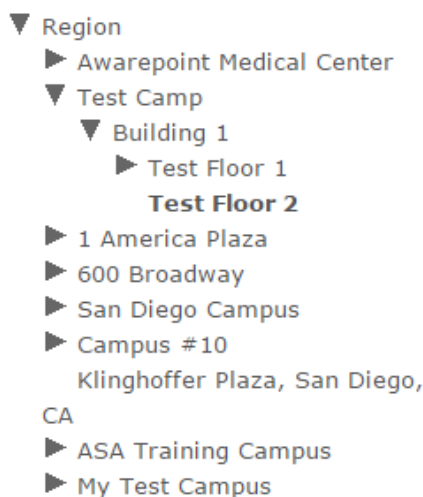
Region Type	Definition
Biomed / Clinical Engineering	The office/shop space that is used by Biomed/Clinical Engineering works.
Central Supply / Materials Management	The office/department space that is used to receive, store, and distribute medical and surgical supplies and equipment.
Clean Utility Room	A utility room where clean, ready-to-use equipment and supplies are stored.
Dirty Utility Room	A utility room where trash, dirty items, or dirty supplies are stored.
Equipment Storage	Any space that is being used to store equipment.
Exit	Any area of egress into and out of the hospital.
Hallway	Any corridor or walkway.
Laundry	The area where laundry is laundered or stored to be sent out to be laundered.
Linen	A room on the patient floor where dirty laundry is held for pickup, or clean linen is stored for patient use.
Maintenance Mechanical Room	The maintenance area of the hospital.
Not In-Use Area	Any areas where equipment would not be in clinical use and are not defined as above such as stairwells, restrooms, and janitor closets.
Nurse Station	The central station on a unit that is used primarily by the nurses.
Office	Any area used for administration.
Patient Care Area	Short stay area that can include operating room (OR), physical therapy, and radiology.
Patient Room	Any overnight or long-term patient stay area.
Plant Operations	The necessary infrastructure used in support of the maintenance of the facility.
Shipping and Receiving	The area where the hospital receives and ships its packages.
Sterile Processing	The area used to sterilize hospital equipment.
Sterile Processing Storage	The area used to store hospital equipment before and after sterilization.
Waiting Area	A lobby or waiting room for patients and/or family members.

4.7.1 Adding a Region Type

All items in System Manager can be assigned a region type. The following example provides the steps for adding a region type to a floor but can be used at the Region, Campus, Building, and Area level as well.

1. From the list on the left, select the floor you want to assign a region to.

The floor will show as highlighted in the list.



2. In the **Floor Manager**, click the **Add Region Type** button.

The **Region Type** area displays.

Region Type:

3. Enter a type in the **Region Type** text area.

Region Type:

4. Click **Save**.

The floor is now assigned the Region Type of Patient Room.

4.7.2 Changing a Region Type

Region Types are not fixed and can be changed as needed. The following procedure provides the steps for changing the region type of a floor but can be used to change the region type of a campus, building, or area as well.

1. From the list on the left, select the floor whose region type you want to change.
2. In the **Floor Manager** area, from the **Region Type** drop-down list, select the new region type to assign to the floor.

Floor Manager

The screenshot shows the 'Floor Manager' interface. At the top, there is a form with the following fields:

- Name:** Test Floor 2
- Floor Index:** 0
- Region Type:** A drop-down menu currently showing 'Area'. The menu is open, displaying a list of options: -- inherited --, one, two, three, four, five, six, Area, **Test Region Type** (highlighted), Test Region Type 2, Patient Room, Director Office, Joe Office, Bernard Office, and Office Area 2.
- Update Floor** button

Below the form is a map showing a building layout with various rooms and corridors. The map is labeled '215' and 'ute'.

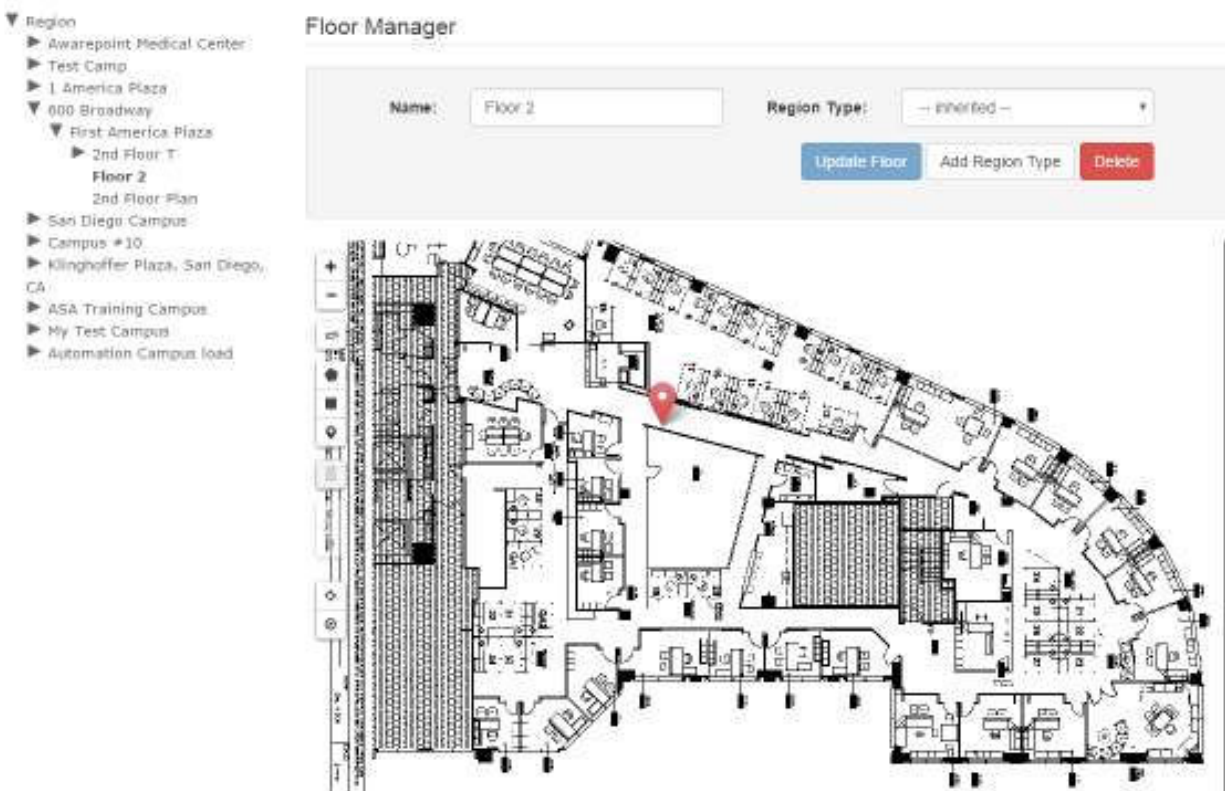
3. Click the **Update Floor** button.

4.8 Placing a Beacon on a Map

NOTE: You can place a beacon on a map at any time; however, it will not connect to the network and provide location information until **after** it has been batch created and provisioned. Refer to the [Create](#) section for the procedures to batch create and provision beacons.

1. Expand the list on the left to locate the floor where you will be placing the beacon.
2. Click the floor.

The floor name will become bold in the list and the map of the floor displays.



3. Click the **Place a Beacon** icon on the left.



The **Available Beacons** dialog displays.

The 'Available Beacons' dialog box is shown. It has a title bar 'Available Beacons'. Below the title bar is a text input field with the placeholder text 'Enter at least 4 digits of PID for results'. Below the input field is a list area with horizontal lines representing a list of results. At the bottom right of the dialog is a 'Cancel' button.

4. In the text field, enter at least 4 digits of the beacon's PID to start a search for the beacon.

A list of beacons matching the number you entered displays beneath the text box.



The 'Available Beacons' dialog box contains two text input fields. The first field contains the text '0013'. The second field contains the text '9000BC0013'. A 'Cancel' button is located in the bottom right corner of the dialog.

5. Click the PID of the beacon you want to place.

The window disappears and your cursor appears with a beacon icon.



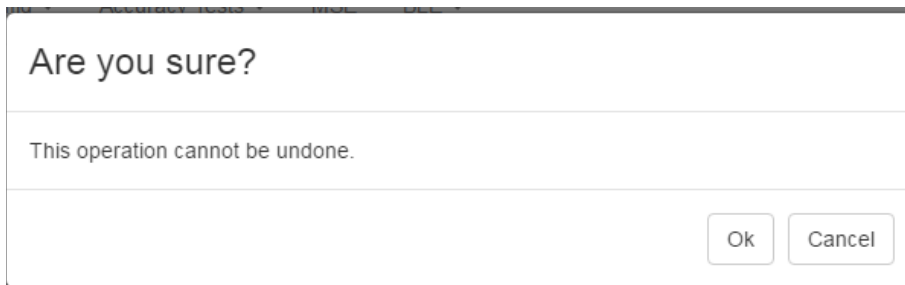
6. Zoom in on the map in order to place the beacon as accurately as possible.
7. Click on the map to place the beacon.
8. If you have placed the beacon in the wrong place or placed the wrong beacon, click the beacon icon to display a list of options.



To move the beacon, click the **Move** link, then click and drag the icon to the new location.

Click **Cancel** to cancel the operation and remove the icon.

Click **Remove** to remove the beacon icon, then click **Ok** at the confirmation dialog.



NOTE: You can also use **Remove** to remove already placed beacons.

Click **Pair** to pair the beacon with another beacon for high accuracy.

4.8.1 Beacon Colors

As an added visual cue, once a beacon has been batch created, provisioned, and placed on a map, it is color-coded to help in providing visual cues to its health on the network. The colors are as follows:

- Blue – The beacon is on the network and has sent a healthy status signal within the last 4 hours

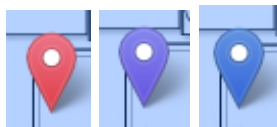


- Green – The beacon is on the network, has sent a healthy status signal within the last 4 hours, and is paired with another beacon



NOTE: Green beacons appear in pairs or multiples.

- Color changing – The beacon has not sent a healthy status signal within the last 4 hours; color changes constantly through red, purple, blue



5 Devices Tab

The **Devices** tab allows for configuration and updating of the devices in the system.

5.1 Device Management

From the **Device Management** tab you can view all Tags and Beacons in System Manager as well as any associated assets.

BLE Tags

BLE Beacons

MAC	PID	Firmware	Manufacturer	Name	Category	Model	Sub Model
14EB00F001	A00000F001	1.5.1	Awarepoint	AWP BLE Tag Phoenix	Tag	9	1
14EB00F221	A00000F221	1.0.0	Unknown device type	Unknown device type	Unknown device type	9	1
0	A00000F337	0.0.0	Unknown device type	Unknown device type	Unknown device type	9	1
14EB00FAA1	A00000FAA1	1.5.1	Awarepoint	AWP BLE Tag Phoenix	Tag	9	1
0	A00001FE17	0.0.0	Unknown device type	Unknown device type	Unknown device type	9	1
14EBAAAB01	A000AAAB01	1.5.1	Awarepoint	AWP BLE Tag Phoenix	Tag	9	1
0	A0008BBB12	0.0.0	Unknown device type	Unknown device type	Unknown device type	9	1
0	A0008BBB13	0.0.0	Unknown device type	Unknown device type	Unknown device type	9	1
14EBFFFE86	A000FFFE86	0.0.0	Unknown device type	Unknown device type	Unknown device type	9	1
14EBFFFE89	A000FFFE89	1.0.0	Unknown device type	Unknown device type	Unknown device type	9	1

1

2

Properties...

5.1.1 Viewing Device Properties

Use the following procedure to view a device's properties.

1. From the **Device Management** tab, select the tab for **BLE Tags** or **BLE Beacons**.
2. From the list, select the device whose properties you want to see by selecting the device.

You can select multiple devices if desired.

Selected devices are shaded.

14EB00F001	A00000F001	1.5.1	Awarepoint	AWP BLE Tag Phoenix	Tag	9	1
14EB00F221	A00000F221	1.0.0	Unknown device type	Unknown device type	Unknown device type	9	1
0	A00000F337	0.0.0	Unknown device type	Unknown device type	Unknown device type	9	1
14EB00FAA1	A00000FAA1	1.5.1	Awarepoint	AWP BLE Tag Phoenix	Tag	9	1

3. Click the **Properties** button.

NOTE: The **Properties** button is grayed out and not available until you have selected at least one device.

The **Tag Properties** window displays.

tags Properties
✕

Device Information

Manufacturer

Awarepoint

Model

AWP BLE Tag Phoenix

Model Code

0x9

Firmware Version

1.5.1

ID

00a00000f001 (0014eb00f001)

Device Settings

Device Configuration

Site Default copy ▾

Firmware

Select Firmware Version

1.5.1 ▾

☐ Change Version

OK

Cancel

4. Click **OK** or **Cancel** to exit the window.

5.1.2 Changing a Device's Settings or Firmware

1. From the **Device Management** tab, select the tab for **BLE Tags** or **BLE Beacons**.
2. From the list, select the device whose properties you want to see.

You can select multiple devices by clicking multiple items.

3. Click the **Properties** button.

The **Tag Properties** window displays.

The screenshot shows a window titled 'tags Properties'. It is divided into three main sections: 'Device Information', 'Device Settings', and 'Firmware'. The 'Device Information' section contains a table with the following data:

Manufacturer	Awarepoint
Model	AWP BLE Tag Phoenix
Model Code	0x9
Firmware Version	1.5.1
ID	00a00000f001 (0014eb00f001)

The 'Device Settings' section has a 'Device Configuration' label and a dropdown menu currently showing 'Site Default copy -'. The 'Firmware' section has a 'Select Firmware Version' label with a dropdown menu showing '1.5.1', and a checkbox labeled 'Change Version' which is currently unchecked. At the bottom right, there are 'OK' and 'Cancel' buttons.

4. To change the device settings, click the dropdown menu item next to **Device Configuration**.

Device Settings

Device Configuration Site Default copy ▾

Firmware

Select Firmware Version 1.5.1 ▾

☐ Change Version

5. Select the configuration you want to apply.
6. To select a firmware version, first check the box for Change Version to confirm that you want to change the firmware version.

Select Firmware Version

☒ Change Version

7. Click the dropdown next to **Select Firmware Version**.

Firmware

Select Firmware Version Unknown ▾

☒ Change Version

1.2.1
1.3.2
1.3.1
1.5.1

OK Cancel

8. Select the firmware version you want to apply.
9. Click **OK** to save your changes and exit the window.

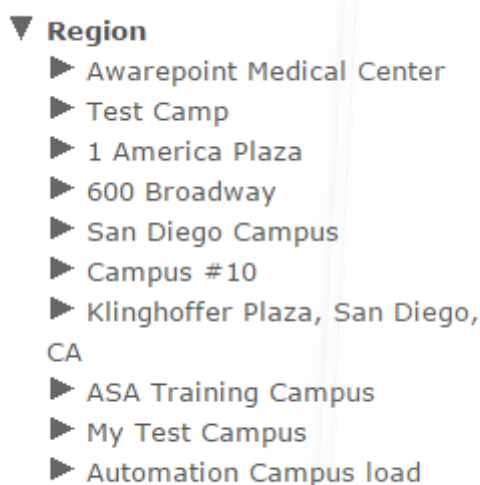
Before Tags and Beacons can be associated with assets or placed on maps, they must first be batch created in System Manager. Similarly, when Tags or Beacons are permanently removed from service for whatever reason, they can be removed from

System Manager. Tags and Beacons are imported (created) into System Manager or deleted from System Manager from the **Batch** tab.

5.2 Device Map

The **Device Map** screen provides a map where environmental devices (tags) can be manually placed on a map for location purposes instead of relying on location engine determinations.

From the **Devices** tab drop-down, select **Device Map**. A region explorer, similar to the one that displays under the **Map** tab, displays:



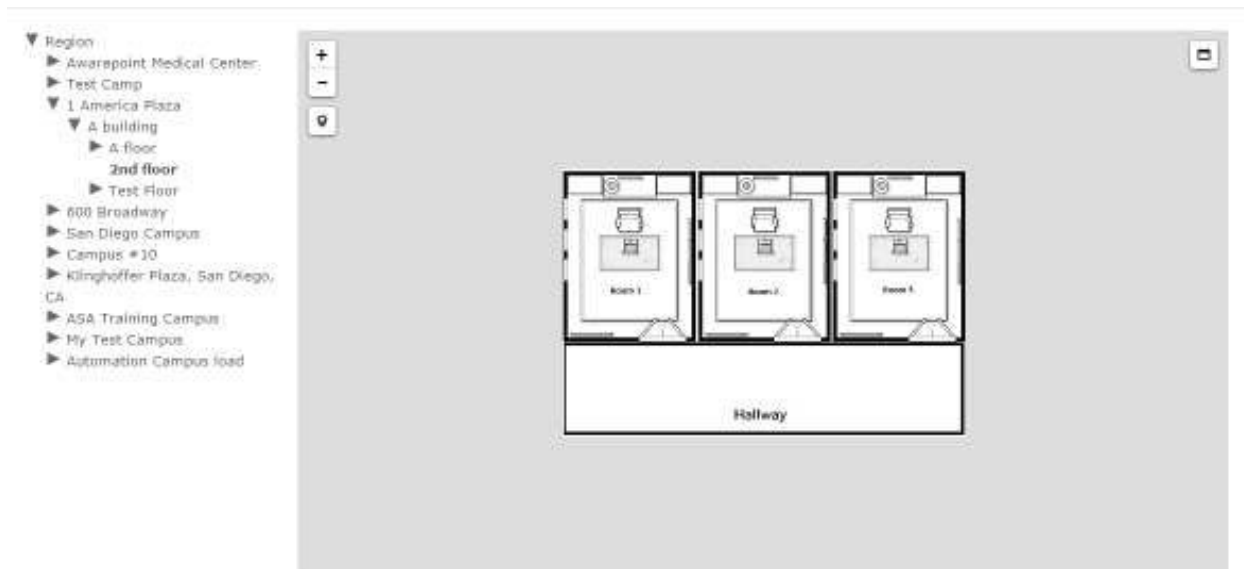
From this explorer, you can select a floor to place the environmental tag or to view already placed tags.

NOTE: Maps must have been pre-loaded into System Manager

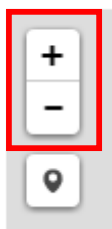
5.2.1 Placing an Environmental Tag

1. From the **Region** explorer list, find the floor you want to place the marker on for the environmental tag and click it.

The floor map for the selected floor displays next to the explorer list.



2. Use the plus and/or minus sign to expand the map as large as necessary for accurate device placement.



3. Click the **Devices** marker beneath the plus/minus settings.



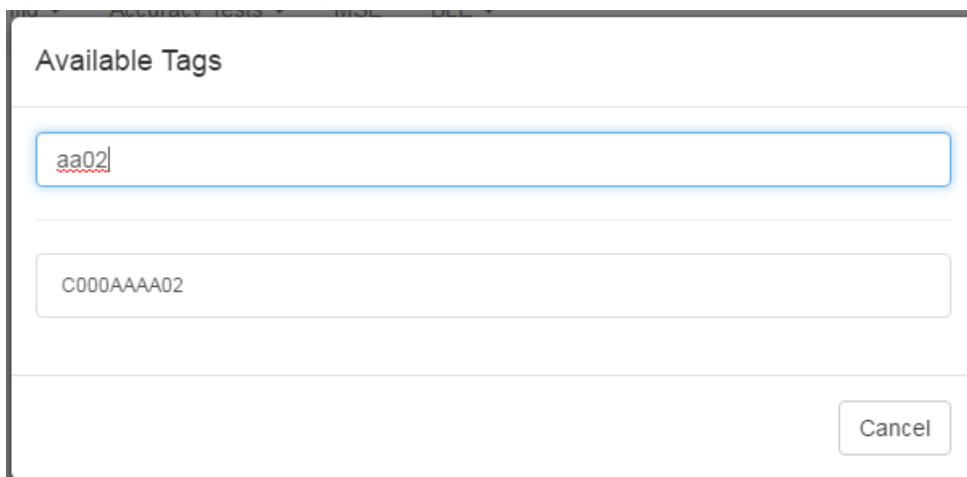
The **Available Tags** window displays.



The 'Available Tags' dialog box features a title bar at the top. Below it is a text input field with the placeholder text 'Enter at least 4 digits of PID for results'. Underneath the input field is a list area that is currently empty. A 'Cancel' button is located in the bottom right corner of the dialog.

4. In the text box, enter at least 4 consecutive digits of the PID for the environmental tag you want to place on the map.

A list of available tags matching the PID digits entered displays beneath the text box.



This screenshot shows the 'Available Tags' dialog box after a search. The text input field now contains 'aa02'. Below the input field, a list box displays the tag 'C000AAAA02'. The 'Cancel' button remains in the bottom right corner.

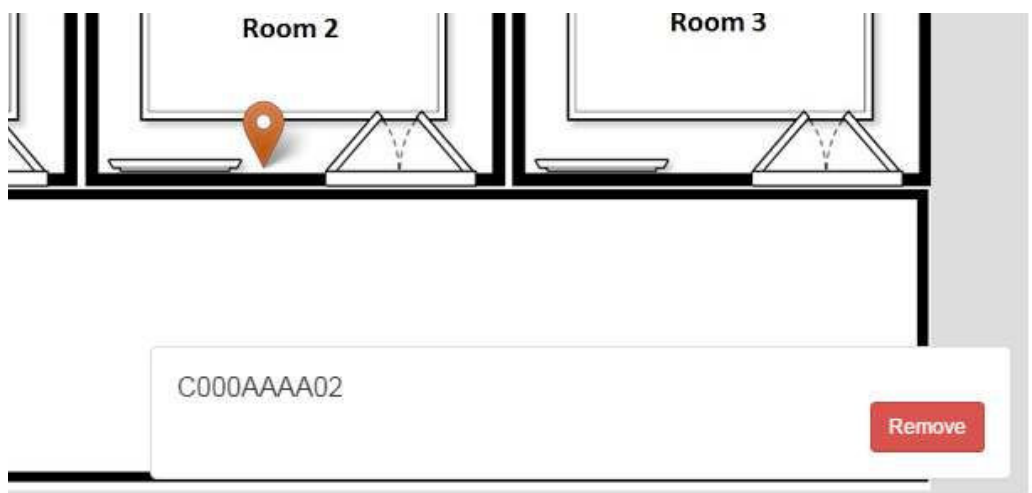
5. From the list of available devices, left click the one you want to place on the map.

A blue marker displays on the map.



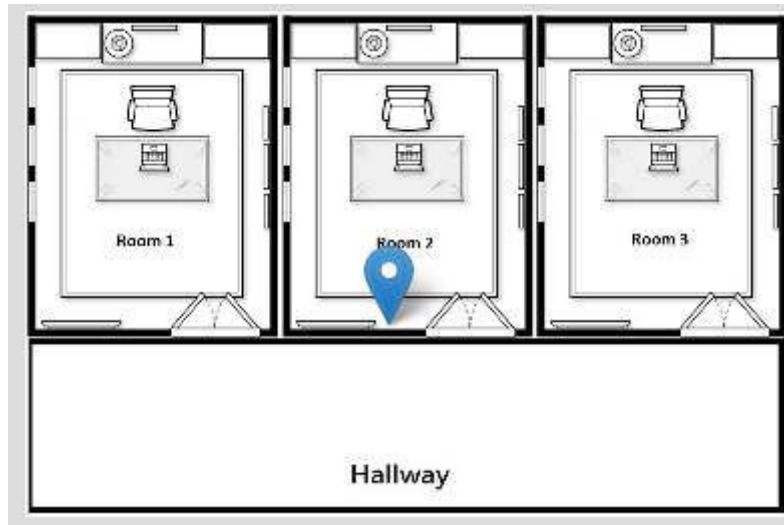
6. Zoom in on the map as necessary, then place the marker in the location of the tag.

The marker changes color to orange and a **Remove** dialog displays should you need to remove the tag from its current placement.



The Remove dialog stays as long as you are on the current map or until you select a new device to place. Once you click away from the map, such as

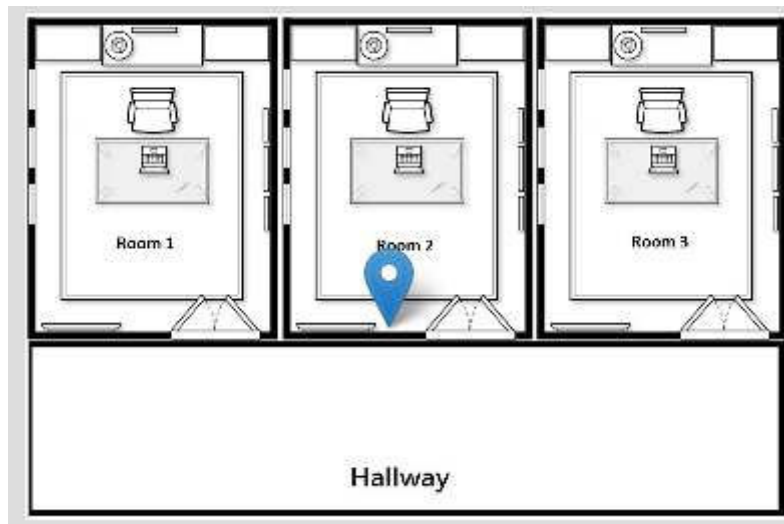
selecting another floor, and click back, the marker displays as blue without the **Remove** dialog.



5.2.2 Removing a Place Marker

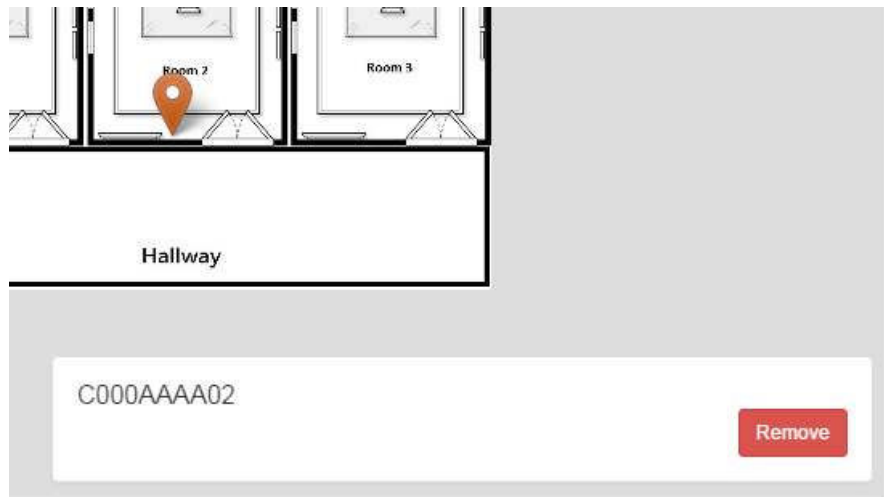
1. From the **Region** explorer list, navigate to the floor where you want to remove an environmental tag marker and select the floor.

The map of the floor displays with the marker in blue.



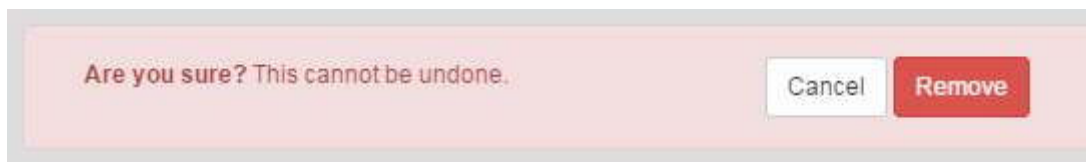
2. Left click once on the marker.

The marker changes color to orange and the **Remove** dialog displays showing the environmental tag's PID.



3. Click the **Remove** button.

The **Remove** dialog changes to a confirmation dialog.



4. Click **Remove**.

The marker is removed from the map.

NOTE: This does not remove the environmental tag from the system. Removing the tag from the map means that the location of the tag will now be determined by the location engine.

5.3 Device Status

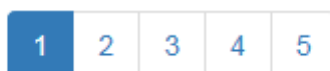
The **Device Statuses** screen displays a list of devices (Tags and Beacons) in the system and their status.

From the **Devices** tab drop-down, select **Device Status**. The **Device Statuses** screen displays, listing all Devices by their PID.

Device Statuses

Filter by PID		Results Per Page		
PID		50		
»	PID	Device ID	Location	Status
»	9000000018	BB_E		Oct 27, 2016 11:38:40 AM
»	9000000019	BB_E		Oct 27, 2016 11:38:40 AM
»	9000000218	BB_E		Aug 12, 2016 4:00:10 PM
»	9000000219	BB_E		Aug 12, 2016 4:00:10 PM
»	9000000333	BB_E		
»	9000000501	BB_HA		Aug 12, 2016 4:00:10 PM
»	9000000502	BB_HA		Aug 12, 2016 4:00:10 PM
»	900000050A	BB_HA		Aug 12, 2016 4:00:10 PM
»	900000AA18	BB_E		Aug 12, 2016 4:00:10 PM
»	900000AA19	BB_E		Aug 12, 2016 4:00:10 PM
»	90001111FE	BB_HA		Aug 12, 2016 4:00:10 PM
»	90001111FF	BB_E		Aug 12, 2016 4:00:10 PM
»	9000AAAA01	BB_E		Aug 12, 2016 4:00:10 PM
»	9000AAAA02	BB_HA		Aug 12, 2016 4:00:10 PM
»	9000AAAA03	BB_E		Aug 12, 2016 4:00:10 PM
»	9000AAAA10	BB_HA		Aug 12, 2016 4:00:10 PM
»	9000AAAA11	BB_E		Aug 12, 2016 4:00:10 PM

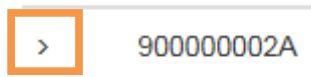
If there are more devices than can be seen on the initial screen, a row of clickable page numbers displays at the bottom of the list.



The **Device Statuses** screen contains the following columns:

- **PID** – Product Identification number of the device
- **Device ID** – Device Identification for device type
- **Location** – Location of the device; for devices that have been placed, location is a clickable link to display device on map
- **Status** – Shows the last time a status message was received from the device

Additional information on each device can be viewed by clicking the arrow to the left of the device PID.



The following device information displays:

▼	900000002A	BB_HA	Aug 12, 2016 11:35:41 AM
Beacon Report:		Aug 9, 2016 12:13:40 PM	
Provisioned:		Aug 10, 2016 12:57:46 PM	
Configuration:			
Button ID:		Button Press Time:	
Detached:		Detached Time:	
Health Time:		Aug 12, 2016 11:49:52 AM	
Long Button Press:			
Low Battery:			
POST Failure:			
Power Off Reason:		Power Off Time:	

- **Beacon Report** (Beacon only) – The last time this Beacon was heard by a Tag and included in a Beacon report
- **Provisioned** – Date and time the device was provisioned
- **Configuration** – Date and time the device was last configured over the network
- **Button ID** (Tag only) – Identification number of the button
- **Button Press Time** (Tag only) – Date and time the Tag's button was last pressed
- **Detached** (Tag only) – If Tag is set to alert when removed, the date the Tag was removed
- **Detached Time** (Tag only) – If Tag is set to alert when removed, the time the Tag was detached
- **Health Time** – Date and time of the last health report where the device responded
- **Long Button Press** (Tag only) – Indicates if the last button press was long
- **Low Battery** – Indicates if the device's battery was run low

- **POST Failure** – Date and time of any failures for the device during Power-on Self Test (POST)
- **Power Off Reason** – Reason listed for powering off the device
- **Power Off Time** – Date and time device was powered off

5.3.1 Filtering Devices

If there are more devices that can be displayed on one page, you can use the filter box located just below the **PID** column heading.

»	PID	Device ID	Location	Status
	PID			

This filter box allows you to filter displayed devices by PID. Entering the device's PID, or part of it, filters the displayed device list to those devices that match the search criteria.

»	PID	Device ID	Location	Status
	13			
»	900000013B	BB_E		Aug 4, 2016 5:21:38 AM
»	900000013C	BB_E		Aug 15, 2016 11:59:36 AM
»	900000013D	BB_E		Aug 15, 2016 12:09:31 PM
»	900000013F	BB_E		Aug 15, 2016 12:01:48 PM
»	9000000213	BB_E		Aug 15, 2016 12:06:05 PM
»	9000000313	BB_HA		Aug 1, 2016 10:23:42 AM
»	9000000413	BB_HA		Aug 15, 2016 11:57:38 AM
»	9000000513	BB_HA		Aug 2, 2016 5:23:39 AM
»	9000000613	BB_HA		Aug 15, 2016 11:55:28 AM
»	9000000813	BB_HA		Aug 15, 2016 11:56:30 AM
»	9000000913	BB_E		Aug 15, 2016 12:03:38 PM
»	9000000A13	BB_E		Aug 10, 2016 5:59:55 AM

NOTE: It is not necessary to press **ENTER** to begin the search. The filter box is dynamic and will begin filtering as criteria is typed in.

5.4 Environmental Tag/Display Pairings

The **Environmental Tag/Display Pairings** screen displays a list of devices (environmental tags) and the displays they are paired to.

From the **Devices** tab drop-down, select **Environmental Tag/Display Pairings**. The **Environmental Tag/Display Pairings** screen displays:

Environmental Tag/Display Pairings

Environmental Tag to Display Pairings | Display to Environmental Tag Pairings

Environmental Tag	Paired To Display
Filter	
C000000300 (BT_E)	
C000AAAA01 (BT_E)	
C000AAAA02 (BT_E)	D000AAAA01 (BT_ED)
C000AAAA03 (BT_E)	D000AAAA02 (BT_ED)

5.4.1 Environmental Tag to Display Pairings Tab

By default, the **Environmental Tag to Display Pairings** tab displays first in the **Environmental Tag/Display Pairings** window. This tab displays all environmental tag/display pairings by environmental tag.

The **Environmental Tag** column, on the left, displays all environmental tags in the system, sorted alphanumerically. The **Paired to Display** column, in the middle, displays only environmental displays that have been paired with an environmental tag. The third column, on the right, contains the buttons to pair or unpair tags and displays.

The **Filter** textbox is a dynamic search box. Enter any part of a tag's PID and the list below displays only those tags that match your search criteria.

Environmental Tag | Paired To Display

03

C000000300 (BT_E)	
C000AAAA03 (BT_E)	D000AAAA02 (BT_ED)

5.4.2 Display to Environmental Tag Pairings Tab

The **Display to Environmental Tag Pairings** tab displays all environmental tag/display pairings by environmental display.

The **Display** column, on the left, displays all environmental displays in the system, sorted alphanumerically. The **Paired to Environmental Tag** column, in the middle, displays only environmental tags that have been paired with an environmental display. The third column, on the right, contains the buttons to pair or unpair tags and displays.

The **Filter** textbox is a dynamic search box. Enter any part of a display's PID and the list below displays only those displays that match your search criteria.

Display	Paired To Environmental Tag	
A01		
D000AAAA01 (BT_ED)	C000AAAA02 (BT_E)	Unpair

5.4.3 Pairing Devices

NOTE: Only environmental tags and displays can be paired.

Only environmental tags and displays that have already been batch created can be paired. If you have not batch created the devices, [do so first](#) before continuing with the following procedure.

1. From the **Environmental Tag/Display Pairings** window, locate the device (environmental tag) you want to pair with a display.

Only devices that are eligible for pairing display in the first column. Additionally, the second column for eligible devices will be blank. On the far right, the **Pair** button for that device is available.

2. Click the **Pair** button on the far right in that device's row.

The **Select Device to Pair** window displays.

Select Device to Pair

D000AAAA03 (BT_ED)

Only devices eligible for pairing appear in this window.

3. Left-click the device you want to pair.

The devices are paired and now display as paired in the **Device Pairings** window.

5.4.4 Unpairing Devices

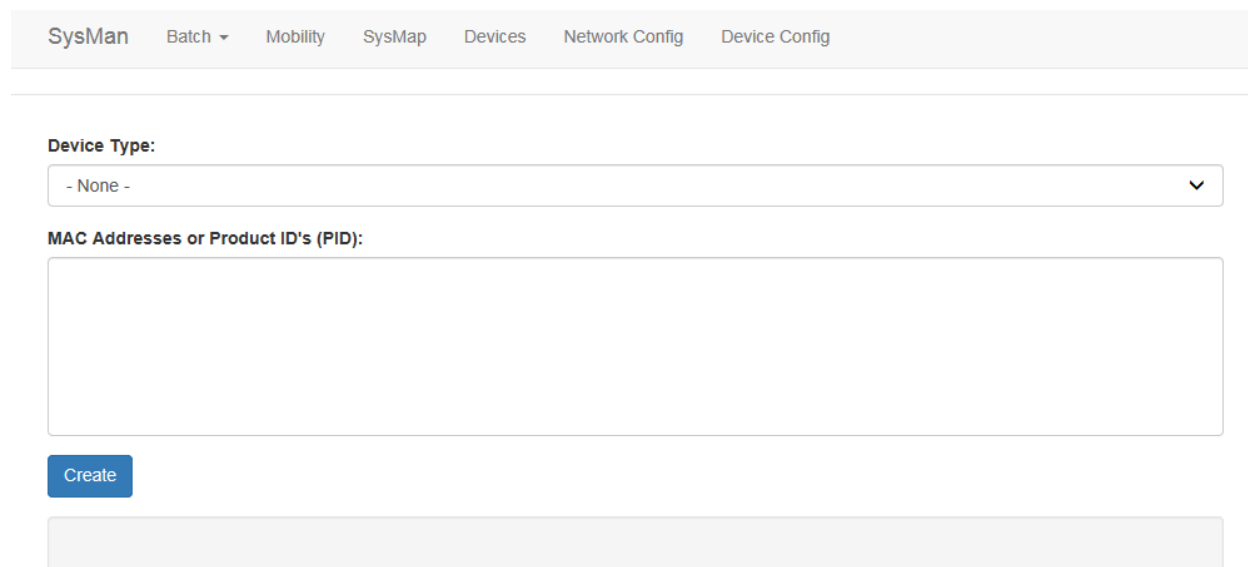
1. From the **Environmental Tag/Display Pairings** window, locate the devices you want to unpair.
2. On the far right of the row with the devices you want to unpair, click the **Unpair** button.

The devices are now unpaired and show as eligible to be paired in the **Device Pairings** window.

5.5 Create

1. From the **Devices** tab drop-down, select **Create**.

The **Batch Create** screen displays.



SysMan Batch ▾ Mobility SysMap Devices Network Config Device Config

Device Type:

- None - ▾

MAC Addresses or Product ID's (PID):

Create

2. From the **Device Type** drop-down, select the type of device you are creating.

Device Type:

- None -
BB-E - BLE Beacon (Enterprise)
BB-HA - BLE Beacon (High Accuracy)
BT-A - BLE Tag (Asset)
BT-X - BLE Tag (Engineering-Only All Features)
BT-W - BLE Tag (Wearable Patient/Staff)
BT-S - BLE Tag (Sterilizable)

3. In the **MAC Addresses or Product ID's (PID):** field, enter the MAC address or product ID (PID) of the device or devices.

You can copy and paste this information or enter it by hand. Different MAC addresses or PIDs must be separated by commas or by carriage returns (one item per line).

4. Click **Create**.

5.5.1 Provisioning Beacons

After a device (beacon) has been created, it must be provisioned so that it can connect to the network and provide location information for tags. Use the following procedure to provision beacons.

NOTE: Before beginning this procedure, an Awarepoint router must be connected and running close to the tablet running the provisioning application. Without this router, the SSID for the site will not be available to the app and the provisioning procedure will fail.

1. Open the Provisioning app on the Awarepoint tablet.

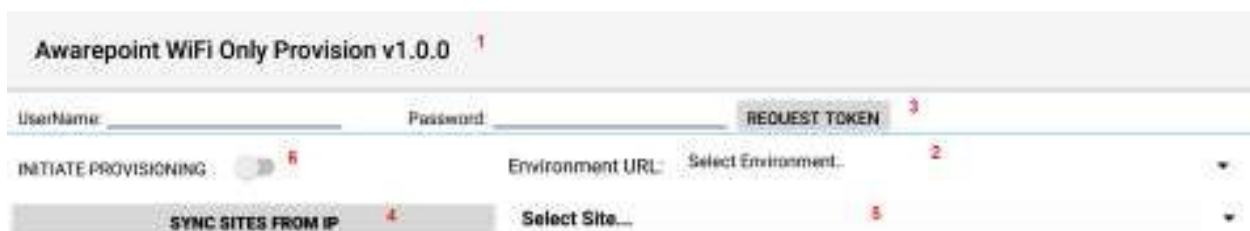


Figure 9 Provisioning Application Main Screen

The following areas should be noted as identified in the figure above:

- 1) Application version
- 2) The **Environment URL** drop-down list
- 3) The **REQUEST TOKEN** button
- 4) The **SYNC WITH SITES FROM IP** button

- 5) The **Select Site** drop-down list
 - 6) The **INITIATE PROVISIONING** slider
2. Enter the username and password for connection to the Awarepoint web services.
 3. From the **Environment URL** drop-down list, select the environment you are going to request the token from.



NOTE: There are four main environments to select from. Each environment has different sites associated with it, so be careful to choose the correct environment.

4. Press the **Request Token** button.

If the username and password were correct, a success message displays.

If you do not see a success message, re-enter the username and password and verify the **Environment URL**. If you still do not see a request message, contact the account manager to verify the credentials or to see if there is an outage.

5. Press the **SYNC WITH SITES FROM IP** button.

Pushing this button pulls a list of all sites associated with the selected **Environment URL**.

6. From the **Select Site** drop-down, select the site to synchronize with.



Figure 10 Sample Site List

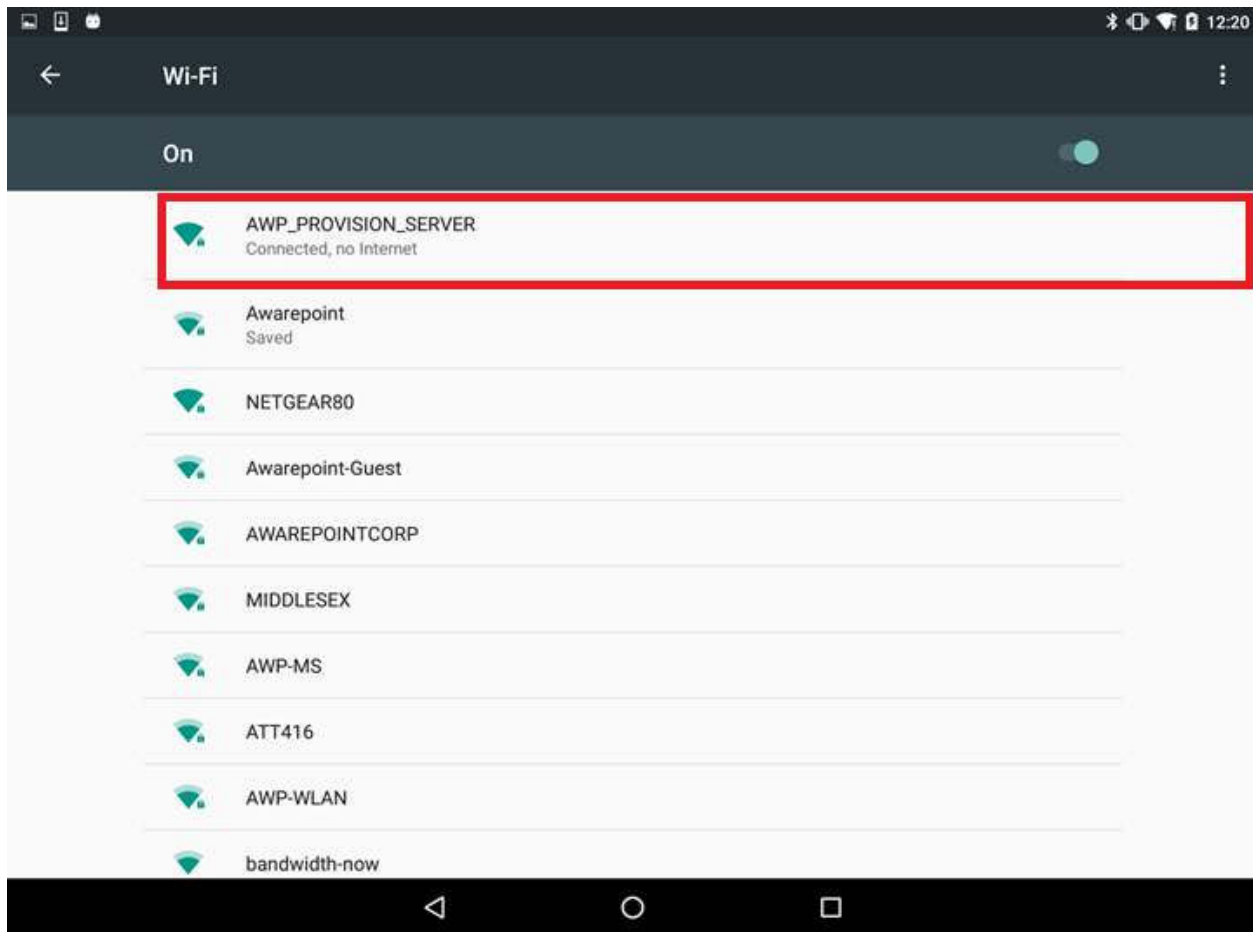
Once you select a site, the **SYNC WITH SITES FROM IP** button changes to **SYNC WITH SITE**.

7. Push the **SYNC WITH SITE** button.

This option requires an Internet connection.

You must wait until this step completes without any error before proceeding to the next step. If an error occurs, attempt to **SYNC WITH SITE** again. If this step does not complete due to an error, the data will not be available for provisioning devices.

8. After successful synchronizing with the site is complete, change the Wi-Fi Network to the SSID named **AWP_PROVISION_SERVER**.



This is the SSID in the Awarepoint router. The router must be preconfigured with the specific security options and the correct SSID name.

9. Slide the **INITIATE PROVISIONING** slider to the **ON** position.



Figure 11 INITIATE PROVISIONING in OFF Position

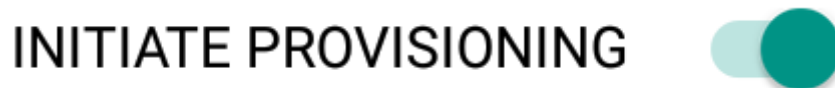


Figure 12 INITIATE PROVISIONING in ON Position

Initiating provisioning does two things:

- Creates a Network Service Discovery that allows the tablet to start listening for devices in the same network

- Creates an SSL Server socket site in order to start communication with the devices

10. Power cycle the beacon by pulling the battery out and replacing.

NOTE: If the **DEVICES TO PROVISION** section is empty (clear list), the tablet will try to provision every Awarepoint device. If the list is not empty and you have entered specific device PIDs, the tablet will detect the devices (will appear in **DISCOVERED AWP DEVICES** section) but will just provision the devices in the list. Other devices will be ignored.



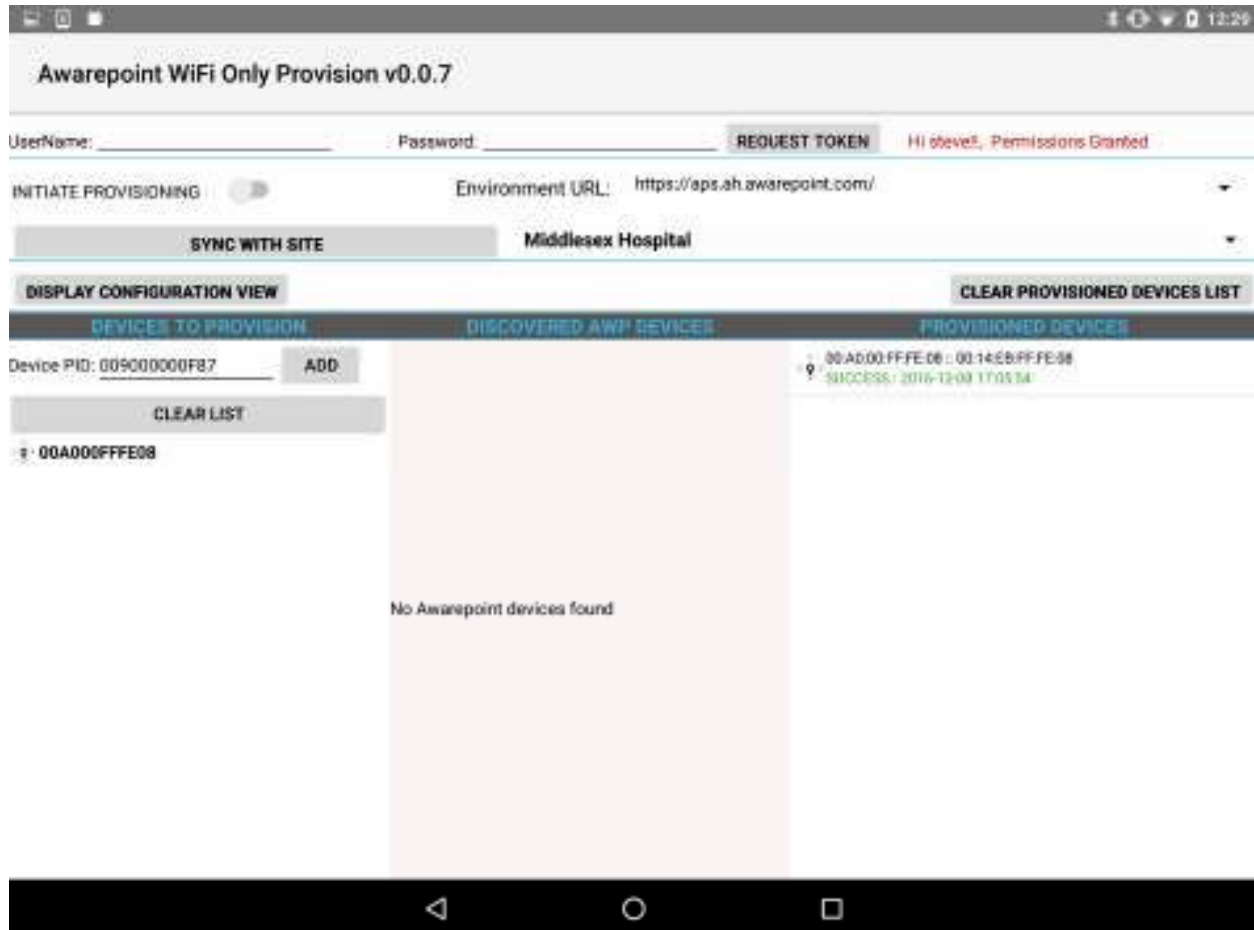
11. From the **Environment URL** drop-down, select the Awarepoint environment you want to pull network data from.

12. Enter the username and password in the appropriate fields.

These are the credentials to have access to execute the REST Web services to pull configuration data. This is an Oauth2 security type.

13. Press the **Request Token** button.

If the connection is successful, a Permission Granted message displays.



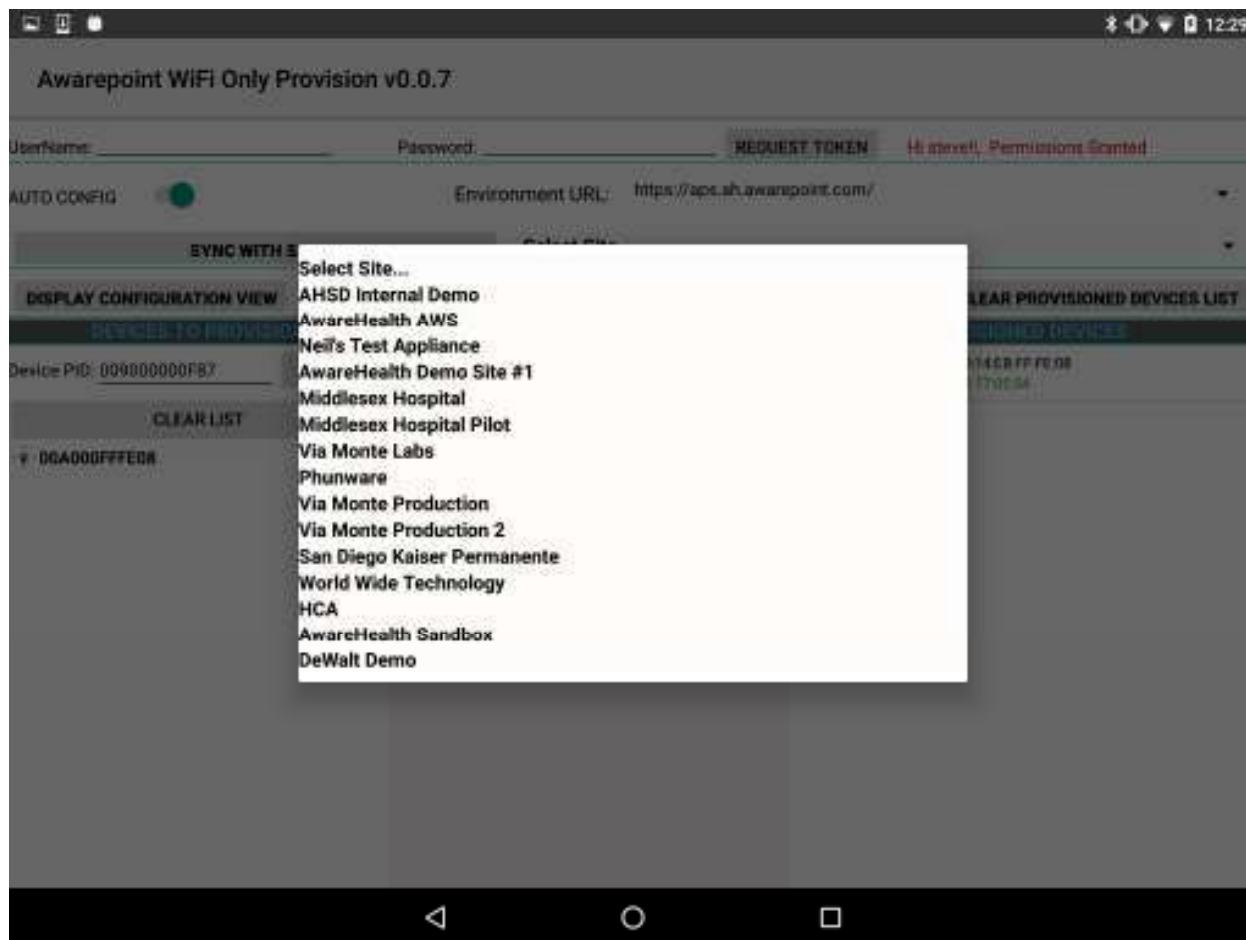
If you receive a Permission Denied message, check the Environment URL, username, and password, and retry. If you are still denied, contact the account manager.

14. Press the **SYNC SITES FROM IP** button.

This executes a call to pull every site for the Environment URL selected.

When the process of pulling the sites is complete, the **SYNC SITES FROM IP** button changes to **SYNC WITH SITE**.

15. Select a site from the drop-down next to the **SYNC WITH SITE** button.



16. Press the **SYNC WITH SITE** button.

This begins the data pulling process. Progress bars display at each stage of the process.

- a. Pull Batch Created devices: If the device is not batch created in the system, it cannot be provisioned.



- b. WlanCredentialData: Contains the username and password for an individual device or a group of devices or a single user and password for the whole site.



- c. NetworkConfig: Contains the hostname by name or IP.



- d. SSIDData: Contains the SSID for an individual device or a group of devices or a single user and SSID for the whole site.



- e. CertificateData: Contains the certification information, private key and ca Certificate Root. Note that some sites do not require certificate information.



- f. WlanSecurity: contains the security information: EAP Method and security type.



- g. The last step in the process is to put all the pieces together in order to have each device have a full configuration.



17. Be sure that the **AUTO SCAN** and **AUTO CONFIG** sliders are set to the on position.
18. After the MAC address of the beacon shows up in the discovered AWP devices list, click the MAC address.
19. When the **Start WiFi Provisioning** button displays, press it.
20. Once the beacon is provisioned successfully, the PID of the beacon shows in the **Provisioned Devices** list.

During the provisioning process you can monitor the awarepoint.log file on the appliance using the following command:

```
tail -F /var/log/tomcat/awarepoint.log | grep -i
'configuration\|error\|exception' | grep -vi 'mse\|pong\|
mapHierarchyString'
```

When the device is configured you should be able to see a configuration message similar to the following sent back to the device:

```
2016-10-12 11:06:25,752 [BleWifiActorSystem-akka.actor.default-
dispatcher-13] DEBUG
com.awarepoint.blewifiserver.infrastructure.actors.ble.ConfigurationHa
ndler - sendConfigurationResponse EncodeResponse{mac=89842000652,
hexMac='14EB00230C', message=Message{header=BleHeader{version=4,
messageType=CONFIGURATION, mac=89842000652, hexMac='14EB00230C',
ackRequested=true},
body=Configuration{nvpList=[Nvp{oid=WIFI_BEACON_REPORT_OFF_SAMPLE_INTE
RVAL_ZONE_6, dataString=0},
```

```

Nvp{oid=WIFI_BEACON_REPORT_OFF_BLE_ON_TIME_ZONE_5, dataString=0},
Nvp{oid=CONFIGURATION_INTERVAL, dataString=15180},
Nvp{oid=WIFI_BEACON_REPORT_OFF_BLE_ON_TIME_OUT_OF_MOTION,
dataString=0}, Nvp{oid=WIFI_BEACON_REPORT_OFF_SAMPLE_INTERVAL_ZONE_7,
dataString=0}, Nvp{oid=CURRENT_DATETIME, dataString=e0070a0c120619},
Nvp{oid=PSM_BLE_ON_WHEN_PSM_ENTER_INTERVAL_S, dataString=0},
Nvp{oid=WIFI_BROADCAST_SPACING, dataString=32},
Nvp{oid=WIFI_BEACON_REPORT_OFF_TIME_ZONE_1, dataString=0},
Nvp{oid=WIFI_BEACON_REPORT_OFF_BLE_ON_TIME_ZONE_6, dataString=0},
Nvp{oid=WIFI_BEACON_REPORT_OFF_SAMPLE_INTERVAL_ZONE_1, dataString=0},
Nvp{oid=WIFI_BEACON_REPORT_ON_TIME_ZONE_3, dataString=0},
Nvp{oid=WIFI_BEACON_REPORT_ON_BLE_ON_TIME_OUT_OF_MOTION,
dataString=0}, Nvp{oid=WIFI_BEACON_REPORT_OFF_TIME_ZONE_7,
dataString=0}, Nvp{oid=WIFI_BEACON_REPORT_OFF_TIME_ZONE_6,
dataString=0}, Nvp{oid=WIFI_BEACON_REPORT_OFF_BLE_ON_TIME_ZONE_2,
dataString=0}, Nvp{oid=WIFI_BEACON_REPORT_OFF_SAMPLE_INTERVAL_ZONE_5,
dataString=0}, Nvp{oid=WIFI_BROADCAST_REPEAT_COUNT, dataString=0},
Nvp{oid=MARGIN_THRESHOLD_IN_POWER_SAVE_MODE, dataString=0},
Nvp{oid=IBEACON_ADVERTISEMENT_RATE, dataString=c8},
Nvp{oid=POWER_SAVING_MODE_ENABLED, dataString=0},
Nvp{oid=WIFI_BEACON_REPORT_OFF_BLE_ON_TIME_ZONE_7, dataString=0},
Nvp{oid=WIFI_BEACON_REPORT_OFF_BLE_ON_TIME_ZONE_1, dataString=0},
Nvp{oid=WIFI_BEACON_REPORT_OFF_TIME_OUT_OF_MOTION, dataString=0},
Nvp{oid=FEATURE_CONTROL, dataString=4},
Nvp{oid=WIFI_BEACON_REPORT_OFF_BLE_ON_TIME_ZONE_3, dataString=0},
Nvp{oid=WIFI_BEACON_REPORT_OFF_SAMPLE_INTERVAL_ZONE_2, dataString=0},
Nvp{oid=PSM_WIFI_REPORT_DELAY_S, dataString=0}, Nvp{oid=MAX_BEACONS,
dataString=0}, Nvp{oid=WIFI_BEACON_REPORT_OFF_SAMPLE_INTERVAL_ZONE_4,
dataString=0}, Nvp{oid=WIFI_BEACON_REPORT_ON_BLE_ON_TIME_ZONE_6,
dataString=0}, Nvp{oid=WIFI_BEACON_REPORT_ON_BLE_ON_TIME_ZONE_2,
dataString=0}, Nvp{oid=WIFI_BEACON_REPORT_ON_BLE_ON_TIME_ZONE_1,
dataString=0}, Nvp{oid=WIFI_BEACON_REPORT_OFF_TIME_ZONE_2,
dataString=0}, Nvp{oid=WIFI_BEACON_REPORT_OFF_BLE_ON_TIME_ZONE_4,
dataString=0}, Nvp{oid=SITE_ID_BROADCAST_INTERVAL, dataString=0},
Nvp{oid=WIFI_BEACON_REPORT_OFF_TIME_ZONE_3, dataString=0},
Nvp{oid=WIFI_BLINK_INTERVAL, dataString=14},
Nvp{oid=WIFI_BEACON_REPORT_ON_TIME_ZONE_4, dataString=0},
Nvp{oid=WIFI_BEACON_REPORT_ON_TIME_ZONE_2, dataString=0},
Nvp{oid=WIFI_BEACON_REPORT_ON_BLE_ON_TIME_ZONE_4, dataString=0},
Nvp{oid=WIFI_BEACON_REPORT_ON_BLE_ON_TIME_ZONE_3, dataString=0},
Nvp{oid=BEACON_RPT_MSG_SIZE_LIMIT, dataString=0},
Nvp{oid=WIFI_BEACON_REPORT_ON_TIME_OUT_OF_MOTION, dataString=0},
Nvp{oid=WIFI_BEACON_REPORT_OFF_SAMPLE_INTERVAL_OUT_OF_MOTION,
dataString=0}, Nvp{oid=WIFI_BEACON_REPORT_ON_BLE_ON_TIME_ZONE_5,
dataString=0}, Nvp{oid=BEACON_BCAST_ZONE, dataString=1},
Nvp{oid=WIFI_BROADCAST_CHANNLE_BITMAP, dataString=842},
Nvp{oid=WIFI_BROADCAST_POWER, dataString=4},
Nvp{oid=WIFI_BEACON_REPORT_OFF_TIME_ZONE_4, dataString=0},
Nvp{oid=WIFI_BEACON_REPORT_OFF_TIME_ZONE_5, dataString=0},
Nvp{oid=IBEACON_TRANSMIT_POWER, dataString=f7},
Nvp{oid=WIFI_BEACON_REPORT_ON_TIME_ZONE_1, dataString=0},

```

```
Nvp{oid=WIFI_BEACON_REPORT_ON_TIME_ZONE_5, dataString=0},
Nvp{oid=BEACON_SITE_ID, dataString=56},
Nvp{oid=WIFI_BEACON_REPORT_ON_TIME_ZONE_6, dataString=0},
Nvp{oid=WIFI_BEACON_REPORT_ON_BLE_ON_TIME_ZONE_7, dataString=0},
Nvp{oid=WIFI_UNICAST_POWER, dataString=4},
Nvp{oid=WIFI_BEACON_REPORT_ON_TIME_ZONE_7, dataString=0},
Nvp{oid=WIFI_BEACON_REPORT_OFF_SAMPLE_INTERVAL_ZONE_3, dataString=0}},
queryList=[]}}
```

After the device has configured, the MAC address of the beacon(s) will show along with the PID of the beacon(s) in the **Device Management** window.

The screenshot shows the SysMan interface with the 'BLE Beacons' tab selected. A search filter '9000001A93' is entered. Below the filter is a table with the following data:

MAC	PID	Firmware	Manufacturer	Name	Category	Model	Sub Model	Status
14EB001A93	9000001A93	2.0.11	Awarepoint	Beacon	BLE	0	1	

5.6 Delete

1. From the **Devices** tab drop-down, select **Delete**.

The **Batch Delete** screen displays.

The screenshot shows the 'Batch Delete' screen. It has a header with navigation tabs. The main area contains a large text input field labeled 'MAC Addresses or Product ID's (PID):'. Below the input field is a red button labeled 'Delete'.

2. In the **MAC Addresses or Product ID's (PID):** field, enter the MAC address or product ID (PID) of the device or devices to be deleted from the system.

You can copy and paste this information or enter it by hand. Different MAC addresses or PIDs must be separated by commas or by carriage returns (one item per line).

3. Click **Delete**.

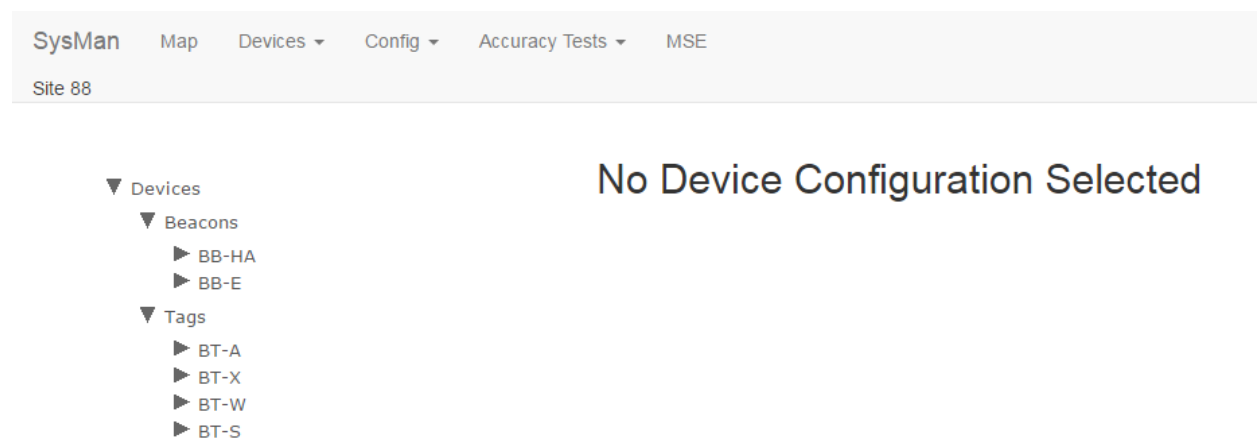
6 Config Tab

The **Config** tab provides access to information and configuration options for devices and the network. This information is used by the Appliance and the configuration application to connect Tags and Beacons to the network.

6.1 Device Config

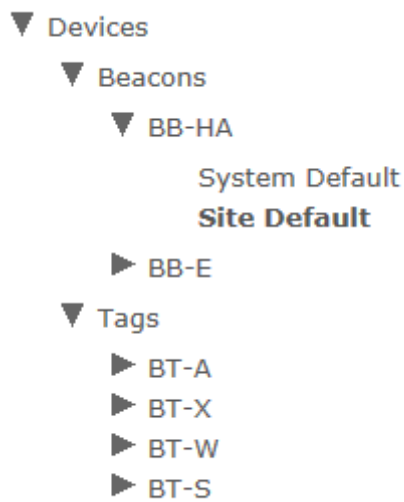
The **Device Config** tab allows you to set configuration options for all devices (Tags and Beacons) in System Manager.

Click the **Device Config** tab to display the following screen:



6.1.1 Configuring Beacons

1. From the devices list on the left, drill down to find the Beacon type whose configuration you want to change or update, then select the configuration beneath it.



The selected configuration information displays to the right.

System Default 2

Intervals

Device Configuration Name: System Default 2

Intervals

Config Interval: 86400 (300)

Wifi Blink Interval: 20 (60)

Wifi Transmission Settings

Wifi Unicast Power: 4 (8)

Wifi Broadcast Power: 4 (5)

Broadcast Channels: ☒ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☒ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10 ☒ 11

Wifi Broadcast Repeat Count: 0 (2)

Wifi Broadcast Spacing: 50 (51)

Beacon Settings

Beacon Transmit Power: -9 (-10)

Beacon Advertisement Rate: 200 (201)

SSID/BP Broadcast Interval: 20 (21)

Beacon Feature Control

☐ Beacon Format

Submit Copy Delete

2. Edit each desired field or checkbox to the configuration settings desired.
 - **Device Configuration Name:** The name of the configuration as it will appear in the explorer pane.
 - **Config Interval:** The time, in seconds, between each time the Beacon will send out a signal to receive configuration information.
 - **Wifi Blink Interval:** The time, in seconds, between each WiFi blink.
 - **Wifi Unicast Power:** Absolute WiFi transmit power for connected communication setting in integers from **4** (14.8dbm) to **15** (4dbm)
 - **Wifi Broadcast Power:** Absolute WiFi transmit power for broadcast communication setting in integers from **4** (14.8dbm) to **15** (4dbm)

- **Broadcast Channels:** Which WiFi channels the Beacon will broadcast on; 1-3 channels can be selected
- **Wifi Broadcast Repeat Count:** How many times to repeat the same messages
- **Wifi Broadcast Spacing:** The time, in milliseconds, between WiFi broadcast repeats
- **iBeacon UUID:** The Awarepoint proximity unique ID to distinguish Awarepoint iBeacons from other iBeacons (fixed at hex F56D9233-9ADF-48E2-902D-34A544DD1B82 in big-endian order)
- **Beacon Transmit Power:** Transmit power setting in integers from -21 (-20.31dbm) to 5 (4.13dbm)
- **Beacon Advertisement Rate:** The time, in milliseconds, between Beacon advertisements
- **SSID/IP Broadcast Interval:** The time, in seconds, between each Broadcast Site ID
- **iBeacon Format:** When checked, Beacon sends messages in iBeacon format

NOTE: Unless there is a specific reason to make changes, such as accuracy testing, the default numbers for these fields should be sufficient.

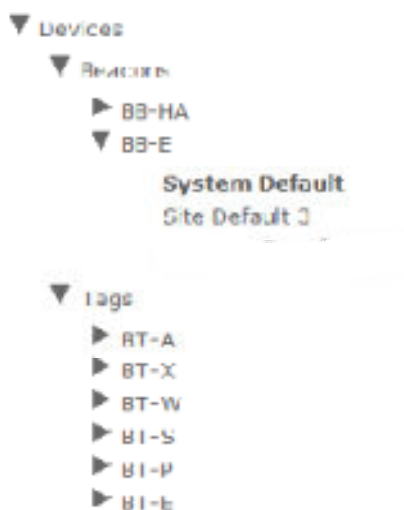
3. Click **Submit** to apply any changes made.

Alternatively, click **Cancel** to cancel any changes made.

6.1.2 Configuring a Beacon as an iBeacon

For interacting with third party applications, it may be necessary to configure a Beacon as an iBeacon. To do so, perform the following procedure.

1. From the devices list on the left, drill down to the BB-E Beacon type.



1. Select a configuration beneath this type that can be copied.

NOTE: The **System Default** type cannot be copied, so select another type such as **Site Default**.

2. Enter the settings for the iBeacon type as shown in the following figure.

iBeacon

Intervals

Device Configuration Name

iBeacon

Intervals

Config Interval

86400

86400

Wifi Blink Interval

20

22

Wifi Transmission Settings

Wifi Unicast Power

4

10

Wifi Broadcast Power

4

7

Broadcast Channels

☒ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☒ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10 ☒ 11

Wifi Broadcast Repeat Count

0

3

Wifi Broadcast Spacing

50

52

Beacon Settings

Beacon Transmit Power

-9

-13

Beacon Advertisement Rate

200

0

SSID/IP Broadcast Interval

0

22

Beacon Feature Control

☒ iBeacon Format

Submit

Copy

For accessing the **Feature Control** section, you will need to press **Alt+O** while the cursor is in the **Beacon Transmit Power** input field.

The **SSID/IP Broadcast Interval** field must be **0**.

The **iBeacon Format** check box must be selected.

NOTE: You can choose your own **Device Configuration** Name; however, it is helpful if **iBeacon** is in the name for identification purposes.

3. Batch create the beacon(s).

Refer to the [Create](#) section for this procedure.

4. Navigate to the **Device Management** window (**Devices > Device Management**) and select the **BLE Beacons** tab.
5. Locate and select the beacon(s) you want to configure in the iBeacon format and click the **Properties** button.
6. Under **Device Settings**, select the new iBeacon format for the beacon(s) and click **OK**.

beacons Properties

Device Information

Manufacturer	Awarepoint
Model	Beacon
Model Code	0x8
Firmware Version	2.0.11
ID	009000001a93 (0014eb001a93)

Device Settings

Device Configuration iBeacon ▾

Firmware

Select Firmware Version 2.0.11 ▾

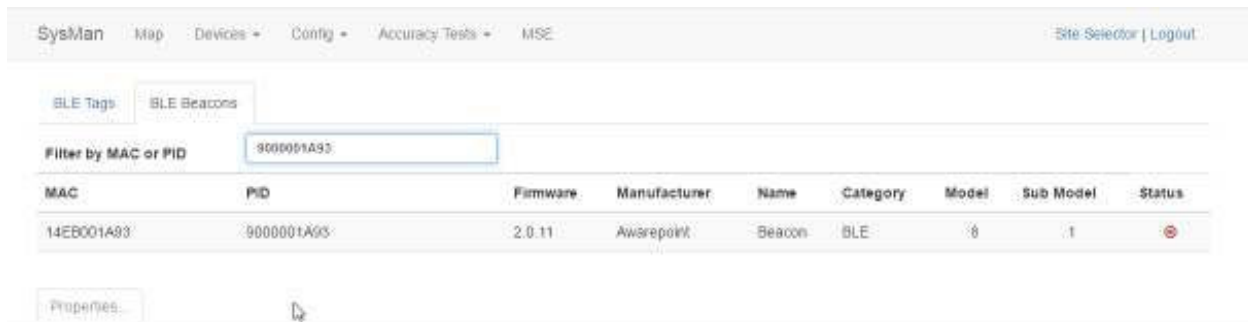
☐ Change Version

OK Cancel

7. Provision the beacon(s) with a valid configuration using the Provisioning application.

Refer to [Provisioning Beacons](#) for instructions on provisioning the beacon.

After the device has configured, the MAC address of the beacon(s) will show along with the PID of the beacon(s) in the **Device Management** window.



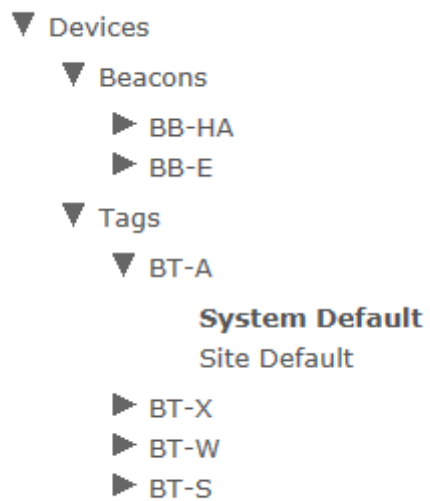
You can also use the Beacon Sniffer tool on the Awarepoint tablet to verify the beacon(s) is sending messages as iBeacon.

6.1.2.1 Troubleshooting

Issue	Solution
After power cycling the device no LED lights can be seen on the device.	Allow the device extra time and try again. If the issue persists, you may need to RMA the device.
The device cannot be provisioned.	Restart the tablet and try again. If the issue persists, RMA the device.
No beacon configuration request message appears in the log.	Check the following: • Verify the parameters used in the provisioning app are correct • Verify the wireless network is functioning
Configuration request is rejected.	Verify the following: • The device firmware is available • The network configuration in System Manager is correct • The device type of the beacon matches what you batch created • The appliance is correctly communication with the NOC
No beacon can be seen in the Beacon Sniffer app on the tablet.	Power cycle the device a few times with a longer waiting period then repeat the provisioning process.

6.1.3 Configuring Tags

1. From the devices list on the left, drill down to find the Tag type whose configuration you want to change or update, then select the configuration beneath it.



The selected configuration information displays to the right.

SysMan

Map

Devices

Config

Accuracy Tests

MSE

BLE

Site Selector | Logout

▼ Devices

▼ Beacons

▶ BB-HA

▶ BB-E

▼ Tags

▼ BT-A

System Default

Site Default

Site Default copy

▶ BT-X

▶ BT-W

▶ BT-S

▶ BT-P

▶ BT-E

System Default

Intervals

Device Configuration Name

System Default

Intervals

Config Interval

86400

86400

Wifi Blink Interval

20

20

Wifi Transmission Settings

Wifi Unicast Power

4

4

Wifi Broadcast Power

4

4

Broadcast Channels

☒ 1
 ☐ 2
 ☐ 3
 ☐ 4
 ☐ 5
 ☒ 6
 ☐ 7
 ☐ 8
 ☐ 9
 ☒ 10
 ☒ 11

Wifi Broadcast Repeat Count

0

0

Wifi Broadcast Spacing

50

50

Tag Settings

Maximum Number of Beacons

10

10

Beacon Report Max Length

127

127

Power Saving Mode

☒ Enabled
 ☐ Disabled

BLE On Time Entering PSM

3

3

Sample Period in PSM

30

30

Margin Threshold in PSM

2

2

Tag Feature Control

☐ Button Press

☒ Removal Detection

☒ Wifi Blink in absence of beacons

Wifi Beacon Report Timings

Zone	On Time	BLE On TL...	Off Time	Off BLE TL...	Off Sample...
Out of Motion	2	1000	600	0	0
Zone 1 - RTLS	2	1000	10	200	1
Zone 2 - Egress	1	1000	0	0	0
Zone 3 - Rapid Room	1	1000	0	0	0
Zone 4 - Bed/Bay	1	1000	0	0	0
Zone 5 - Dangle	0	1000	0	1000	0
Zone 6 - Proximity	2	1000	10	200	1
Zone 7 - Way Finding	2	1000	10	200	1

2. Edit each desired field or checkbox to the configuration settings desired.

65

- **Device Configuration Name:** The name of the configuration as it will appear in the explorer pane.
- **Config Interval:** The time, in seconds, between each time the Tag will send out a signal to receive configuration information.
- **Wifi Blink Interval:** The time, in seconds, between each WiFi blink.
- **Wifi Unicast Power:** Absolute WiFi transmit power for connected communication setting in integers from **4** (14.8dbm) to **15** (4dbm)
- **Wifi Broadcast Power:** Absolute WiFi transmit power for broadcast communication setting in integers from **4** (14.8dbm) to **15** (4dbm)
- **Broadcast Channels:** Which WiFi channels the Beacon will broadcast on; 1-3 channels can be selected
- **Wifi Broadcast Repeat Count:** How many times to repeat the same messages
- **Wifi Broadcast Spacing:** The time, in milliseconds, between WiFi broadcast repeats
- **Maximum Number of Beacons:** Maximum number of Beacons for a Tag to report on, utilizing the strongest N beacons where N is the maximum number
- **Beacon Report Max Length:** Maximum size, in bytes, of the Beacon report length (max is 127)
- **Power Saving Mode:** Enabled by default to extend battery life
- **BLE On Time Entering PSM:** Length of time, in seconds, the Bluetooth Low Energy (BLE) is on before entering Power Saving Mode (PSM)
- **Sample Period in PSM:** Length of time, in seconds, in PSM between sending out WiFi reports
- **Margin Threshold in PSM:** The RSSI difference between the loudest and second loudest RSSI before entering PSM
- **Button Press:** When checked, allows Tag to be disabled by button press

- **Removal Detection:** When checked, sends a removal alert if Tag is removed from asset
- **Wifi Blink in absence of beacons:** When checked, Tag sends out WiFi blinks if no Beacon is detected

NOTE: Unless there is a specific reason to make changes, such as accuracy testing, the default numbers for these fields should be sufficient.

3. Click **Submit** to apply any changes made.

Alternatively, click **Cancel** to cancel any changes made.

6.1.4 Creating a New Configuration

You create a new configuration by copying a previously existing one and renaming it, then adjusting the configuration parameters as necessary.

1. In the explorer pane, drill down to the configuration that you want to copy and select it.
2. At the bottom of the configuration settings pane, click the **Copy** button.
3. In the **Device Configuration Name** field, enter the name for the new configuration.
4. Enter or edit the new configuration parameters.
5. Click **Submit** to save the changes and create your new configuration settings.

6.2 Network Config

Clicking the **Network Config** tab displays the following screen:

Network configuration information for filling in the fields is gathered by the Project Management team and given to the ASA team to be entered on site.

6.2.1 Text Fields

- **WLAN SSID** – In this text field, enter the wireless LAN SSID of the network. This is the SSID that will be used by Awarepoint devices to connect to the network.
- **Auto-Discover Appliance** – Select the radio button to enable or disable the auto-discovery feature.

From the first drop-down menu, select whether to search by hostname or IP address.

In the text field, enter the appliance hostname or IP address in accordance with the drop-down selection.

Auto-Discover Appliance ☐ Enable ☒ Disable

Appliance Hostname ▼

appliance.hostname.com

Appliance Hostname
Appliance IP Address

6.2.2 Manage Security Type

Click this link to display the **Security Type** window.

SysMan Map Devices ▼ Config ▼ Accuracy Tests ▼ MSE

Security Type

Security Type for Site

Security Type

WEP ▼

Save Site Setting

Back

Security Type for Each Device

PID	Security Type	EAP Method
No Data Found		
PID	- select security type - ▼	Add

6.2.2.1 Changing the Site Security Type

Use the **Security Type** drop-down menu to select the security type (e.g., WPA2 or WPA_ENT).

Security Type for Site

Security Type	▼ OPEN WEP WPA2 WPS_PBC WPS_PIN WPA_ENT
Security Type for Each Device	
PID	

If an EAP method is required for your chosen security type, a second drop-down displays for the **EAP Method**.

Security Type for Site

Security Type	WPA_ENT ▼
EAP Method	▼ TLS TTLS_TLS TTLS_MSCHAPv2 TTLS_PSK PEAP0_TLS PEAP0_MSCHAPv2 PEAP0_PSK PEAP1_TLS PEAP1_MSCHAPv2 PEAP1_PSK FAST_AUTH_PROVISIONING FAST_UNAUTH_PROVISIONING FAST_NO_PROVISIONING
Security Type for Each Device	
PID	
PID	

Click **Save Site Setting** to save the changes.

6.2.2.2 Changing a Device's Security Type

You can set a Tag or Beacon to have a different security type than the site's security by adding it to the **Security Type for Each Device** list.

Security Type for Each Device

PID	Security Type	EAP Method
No Data Found		
PID	- select security type -	Add

For each device, enter the PID for the device, followed by the Security Type and, if applicable, EAP Method.

Security Type for Each Device

PID	Security Type	EAP Method
No Data Found		
123456	WPA_ENT	- select eap method - - select eap method - - TLS - TTLS_TLS - TTLS_MSCHAPv2 - TTLS_PSK - PEAP_TLS - PEAP_MSCHAPv2 - PEAP_PSK - PEAP1_TLS - PEAP1_MSCHAPv2 - PEAP1_PSK - FAST_AUTH_PROVISIONING - FAST_UNAUTH_PROVISIONING - FAST_NO_PROVISIONING Add

After entering the information, click the **Add** button.

6.2.2.3 Updating or Deleting a Device's Security Type

Once you have added an individual device with its own security type, that security type can be changed or deleted as necessary.

Locate the device by PID in the list of devices and click it.

0	WPA_ENT	PEAP1_MSCHAPv2
1	WPA2	Update Delete
PID - select security type - Add		

If you are updating the security type, use the drop-down menu to change the security type and then click **Update**.

NOTE: If an EAP method is required, another drop-down menu will display for you to enter the EAP method.

To delete the security type, click the **Delete** button.

NOTE: There is no confirmation dialog that displays when you delete a device security type.

6.2.3 Manage Certificate

Click this link to display the **Certificates** window.

The screenshot shows the 'Certificates' window. It is divided into two main sections: 'Certificates for Site' and 'Certificates for Each Device'.

Certificates for Site: This section contains three text input fields: 'CA Cert' (containing 'BBQ00'), 'Client Cert' (containing 'BBQ01'), and 'Private Key' (containing 'BBQ0002'). Below these fields are two buttons: 'Save Site Settings' and 'Back'.

Certificates for Each Device: This section features a table with columns for 'PID', 'CA Cert', 'Client Cert', and 'Private Key'. The table is currently empty, displaying 'No Data Found'. Below the table is a form to add new data, including a 'PID' input field, three input fields for 'CA Certificate', 'Client Certificate', and 'Private Key', and an 'Add' button.

This window is divided into two parts:

- Certificates for Site
- Certificates for Each Device

6.2.3.1 Adding a Site Certificate

1. Copy the site certificate to your clipboard.
2. In the **Certificates** window in the **Certificates for Site** area, determine whether the certificate is a CA Cert, a Client Cert, or a Private Key, then paste it into the appropriate text field.
3. Click the **Save Site Settings** button.

6.2.3.2 Adding a Device Certificate

1. Copy the site certificate to your clipboard.
2. In the **Certificates** window in the **Certificates for Each Device** area, select the device for which you have the certificate.

If the device you want is not listed, add it by entering the PID of the device in the PID text field.

Certificates for Each Device

PID	CA Cert	Client Cert	Private Key
No Data Found			

3. Determine whether the certificate is a CA Cert, a Client Cert, or a Private Key, then paste it into the appropriate text field.
4. Click the **Add** button.

6.2.4 Manage Credentials

Click this link to display the **Credentials** window.

Credentials

Credentials for Site

Username:
 Password:

Credentials for Each Device

PID	Username	Password
No Data Found		

This window is divided into two parts:

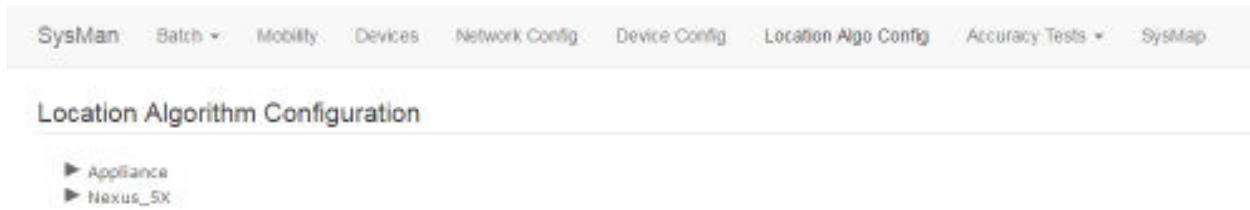
- Credentials for Site
- Credentials for Each Device

For site credentials, in the **Credentials for Site** area enter the username and password for connecting to the WLAN and click the **Save Site Settings** button.

For device credentials, in the **Credentials for Each Device** area enter the PID for each device, followed by the username and password each device will use. You will need to enter the username and password for each device that needs to use it.

6.3 Location Algorithm Config

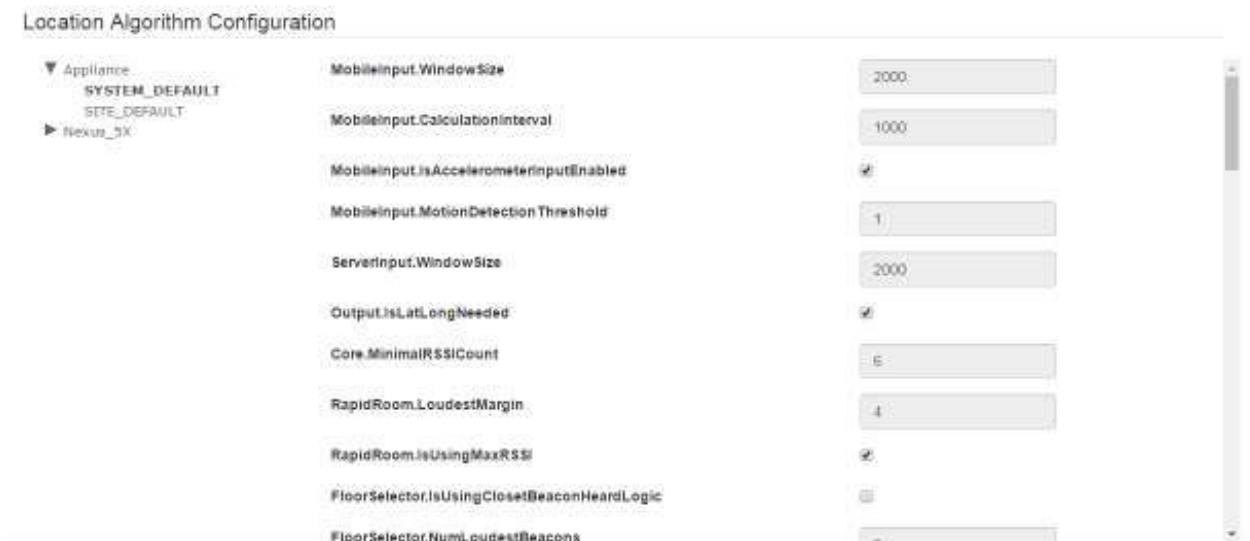
The **Location Algorithm Config** tab provides access to the location algorithm configuration for the site.



All Location Algorithm Configuration parent items that display are preloaded in System Manager. These cannot be added to, edited, or deleted.

6.3.1 Viewing an Algorithm Configuration

Expand the list of configurations on the left and select a configuration to see its configuration settings.



There are two configuration settings, **SYSTEM_DEFAULT** and **SITE_DEFAULT**. The System Default configuration is preloaded with System Manager and cannot be changed. The Site Default configuration is installed when a new site is first created. These values can be changed.

The following table provides an overview of the settings:

Parameter	Type	Default Value	Note
MobileInput.WindowSize	int	2000	Mobile calculation window size in milliseconds
MobileInput.CalculationInterval	int	1000	Mobile calculation interval in milliseconds

Parameter	Type	Default Value	Note
MobileInput.IsAccelerometerInputEnabled	boolean	TRUE	Whether to use accelerometer input or in/out motion input from the app
MobileInput.MotionDetectionThreshold	double	1.0	Motion detection threshold when using accelerometer input
ServerInput.WindowSize	int	2000	Server calculation window size in milliseconds
Output.IsLatLongNeeded	boolean	TRUE	Whether there is Lat/Long input to generate lat/long output
Core.MinimalRSSICount	int	6	Minimal number of RSSIs required to generate a new location calculation
RapidRoom.LoudestMargin	double	4.0	Loudness margin used in Rapid Room calculation
RapidRoom.IsUsingMaxRSSI	boolean	TRUE	Whether to use maximal RSSI in Rapid Room calculation
FloorSelector.IsUsingClosetBeaconHeardLogic	boolean	FALSE	Whether to use the closet beacon heard logic in Floor Selection
FloorSelector.NumLoudestBeacons	int	3	Number of loudest beacons used in the Floor Selection
RtIs.isStrongBeaconEnabled	boolean	FALSE	Whether to enable strongest beacon calculation in RTLS
RtIs.strongBeaconRSSIThreshold	double	-45.0	The beacon threshold when strongest beacon is enabled
RtIs.rssiDistanceConverter.roomPathLossExponent	double	2.15	Path Loss Exponent value for room
RtIs.rssiDistanceConverter.hallwayPathLossExponent	double	2.7	Path Loss Exponent value for hallway
RtIs.rssiDistanceConverter.openSpacePathLossExponent	double	1	Path Loss Exponent value for open space
RtIs.rssiDistanceConverter.defaultPathLossExponent	double	2.425	Default Path Loss Exponent value

Parameter	Type	Default Value	Note
WayFinding.loudestMargin	double	5.0	Loudness margin used in Way Finding
Calm.FloorSelector.inMotionWeight	double	0.34	Floor Selection in motion weight in CALM
Calm.FloorSelector.outMotionWeight	double	0.1	Floor Selection out motion weight in CALM
Calm.AssetRTLInMotionWeight	double	1.0	Asset RTLS in motion weight in CALM
Calm.AssetRTLSOutMotionWeight	double	0.0	Asset RTLS out motion weight in CALM
Calm.AssetRapidRoomInMotionWeight	double	1.0	Asset Rapid Room in motion weight in CALM
Calm.AssetRapidRoomOutMotionWeight	double	0.0	Asset Rapid Room out motion weight in CALM
Calm.AssetEgressInMotionWeight	double	1.0	Asset Egress in motion weight in CALM
Calm.AssetEgressOutMotionWeight	double	0.0	Asset Egress out motion weight in CALM
Calm.AssetBedBayInMotionWeight	double	1.0	Asset Bed/Bay in motion weight in CALM
Calm.AssetBedBayOutMotionWeight	double	0.0	Asset Bed/Bay out motion weight in CALM
Calm.PatientRTLInMotionWeight	double	1.0	Patient RTLS in motion weight in CALM
Calm.patientRTLSOutMotionWeight	double	0.0	Patient RTLS out motion weight in CALM
Calm.patientRapidRoomInMotionWeight	double	1.0	Patient Rapid Room in motion weight in CALM
Calm.patientRapidRoomOutMotionWeight	double	0.0	Patient Rapid Room out motion weight in CALM
Calm.patientEgressInMotionWeight	double	1.0	Patient Egress in motion weight in CALM
Calm.patientEgressOutMotionWeight	double	0.0	Patient Egress out motion weight in CALM
Calm.patientBedBayInMotionWeight	double	1.0	Patient Bed/Bay in motion weight in CALM
Calm.patientBedBayOutMotionWeight	double	0.0	Patient Bed/Bay out motion weight in CALM

Parameter	Type	Default Value	Note
Calm.staffRTLSInMotionWeight	double	1.0	Staff RTLS in motion weight in CALM
Calm.staffRTLSOutMotionWeight	double	0.0	Staff RTLS out motion weight in CALM
Calm.staffRapidRoomInMotionWeight	double	1.0	Staff Rapid Room in motion weight in CALM
Calm.staffRapidRoomOutMotionWeight	double	0.0	Staff Rapid Room out motion weight in CALM
Calm.staffEgressInMotionWeight	double	1.0	Staff Egress in motion weight in CALM
Calm.staffEgressOutMotionWeight	double	0.0	Staff Egress out motion weight in CALM
Calm.staffBedBayInMotionWeight	double	1.0	Staff Bed/Bay in motion weight in CALM
Calm.staffBedBayOutMotionWeight	double	0.0	Staff Bed/Bay out motion weight in CALM
Calm.wayFindingInMotionWeight	double	1.0	Way Finding in motion weight in CALM
Calm.wayFindingOutMotionWeight	double	0.0	Way Finding out motion weight in CALM
Log.logLevel	int	0	Log level (0:info 1:debug)

6.3.2 Editing an Algorithm Configuration

From the list of configurations on the left, drill down to the configuration you want to edit and select it.

NOTE: The **SYSTEM_DEFAULT** configuration cannot be edited.

Location Algorithm Configuration

▼ Appliance	MobileInput.WindowSize	2000
SYSTEM_DEFAULT	MobileInput.CalculationInterval	1000
► SITE_DEFAULT	MobileInput.IsAccelerometerInputEnabled	☒
► Flexus_5X	MobileInput.MotionDetectionThreshold	1
	ServerInput.WindowSize	2000
	Output.IsLatLongNeeded	☒
	Core.MinimalRSSICount	6
	RapidRoom.LoudestMargin	4
	RapidRoom.IsUsingMaxRSSI	☒
	FloorSelector.IsUsingClosestBeaconHeardLogic	☐
	FloorSelector.NumLoudestBeacons	4

Update

All fields and check boxes can be edited.

Once you change a value in the field, the default displays to the right.

MobileInput.WindowSize

2010

default: 2000

Once you have completed your edits, click the **Update** button on the bottom right to apply them.

7 Accuracy Tests Tab

The **Accuracy Tests** tab provides four drop-down options for selection. They are:

- Plans
- Distance Tests
- Room Tests
- Runs

7.1 Accuracy Test Plans

Select **Accuracy Tests -> Plans** to display the **Test Plans Manager** window.

Test Plans Manager			
ID	Name	Tests	Runs
6	Finding Nemo	Jordan Acceptance Test Jordan Acceptance Test234 Joaco Acceptance Room Test 1a	  
7	Joaco's Test Plan #1	Distance Test - 2nd Floor Room Test - 2nd Floor	 
16	Joaco's Test Plan #2	Jordan Acceptance Test Jordan Acceptance Test234 Joaco Acceptance Room Test 1a	  
21	Joaco's Test Plan #3	Joaco Acceptance Test 6	
			New

If any test plans have been created, they will display in this window. Test plans in the window display:

- **ID** – Test plan ID number, automatically assigned by System Manager as the test plan is created

- **Name** – The Name of the test plan
- **Tests** – Any tests (distance and/or room tests) that have been grouped into the plan
- **Runs** – The number of times the test has been run
- Green arrows allowing you to run the test they are next to

7.1.1 *Creating a New Test Plan*

1. From the **Test Plans Manager** window, click the **New** button in the bottom right corner.

The **Plan** window displays.

Test Plan

Plan

Name:

Available	Included
Jordan Test	
Jordan Test3	
DeathStar Trash Compactor	
Real Tag	
test 1	
Roomies	
Asa Room Test	
ASA Room Test #2	

Save Cancel

2. In the **Name** text field, enter a name for the Test Plan.
3. From the **Available** list on the left, single click the test you want to make part of your test plan.

Click each test you want to select.

Selected tests display in the **Included** list.

Included

Jordan Test
Jordan Test3

- When done selecting tests, click the **Save** button in the bottom right corner.

The new Test Plan now displays in the **Test Plans Manager** window.

Test Plans Manager

ID	Name	Tests	
12	Run This For ME!!!!	Jordan Test DeathStar Trash Compactor Roomies	  
13	Sample Test Plan		 

7.1.2 Updating a Test Plan

- From the **Test Plans Manager** window, single click the Test Plan you want to update.

The buttons on the bottom right change to **Clone**, **Update**, and **Delete**.

- Click the **Update** button.

The **Plan** window displays.

- If necessary, change the name of the Test Plan.
- If necessary, add or remove tests from the Test Plan.

To add a test, select it by clicking once on it from the **Available** list. The added test will move to the **Included** list.

To remove a test, select it by clicking once on it from the **Included** list. The removed test moves to the **Available** list.

- When done making your changes, click the **Save** button in the bottom right corner.

7.1.3 Cloning a Test Plan

If an existing Test Plan is substantially similar to one you want to create, you can save time by cloning that Test Plan.

1. From the **Test Plans Manager** window, single click the Test Plan you want to update.

The buttons on the bottom right change to **Clone**, **Update**, and **Delete**.

2. Click the **Clone** button.

The **Plan** window displays.

3. In the **Name** field, enter a new name for the cloned test plan.
4. Add or remove tests, as needed.
5. Click the **Save** button to save the cloned Test Plan.

7.1.4 Deleting a Test Plan

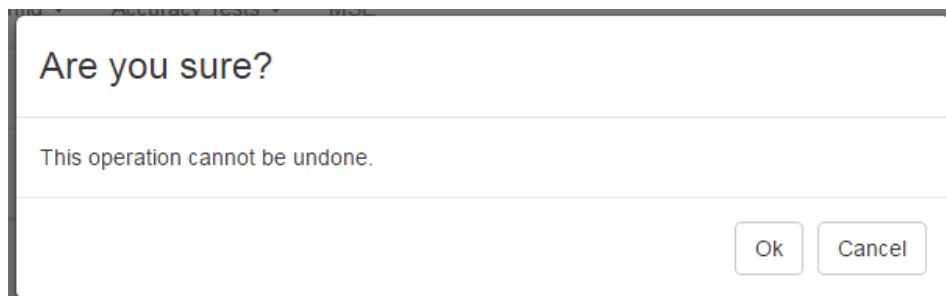
Deleting a Test Plan does not delete any of the included tests nor any of the test run data.

1. From the **Test Plans Manager** window, single click the Test Plan you want to update.

The buttons on the bottom right change to **Clone**, **Update**, and **Delete**.

2. Click the **Delete** button.

A confirmation dialog displays.



3. Click **OK** to delete the Test Plan.

7.2 Distance Tests

Distance tests are conducted to determine the accuracy of the Awarepoint system. A Tag is placed on the map at a specified location and then the test is run. After the test, results show the Tag's position on the map as determined by its reports from the Beacons it heard and their relative signal strength indicator (RSSI).

Select the **Accuracy Tests -> Distance Tests** link to display the **Distance Tests** window.

Distance Tests					
ID	Name	Floor	Duration	X,Y	PIDS
32	Name #2	1191998	60000	247, 416	A000FFE86 A000FFE89
33	rick	1191998	60000	584.5, 602	A000FFE89 A000FFEBE

New

Any Distance Tests that have already been created display in this window. Each Distance Test displays:

- **ID** – A sequence number generated by System Manager to identify separate tests
- **Name** – The name given to the test when it was created
- **Floor** – The floor ID as identified by System Manager
- **Duration** – The length, in milliseconds, of the Distance Test
- **X,Y** – The coordinates on the floor map as determined by System Manager where the marker was placed
- **PIDS** – The Product ID numbers of all Tags that were part of the test

- Green arrow – Runs the Distance Test

7.2.1 *Creating a New Distance Test*

1. From the **Distance Tests** window, click the **New** button in the bottom right corner.

The **Create Distance Test** window displays.

Create Distance Test

Details

Name

Duration

0

Region

PIDS

Save Cancel

2. In the **Details** area, enter a **Name** for the test and the **Duration**, in milliseconds.
3. Click the **Region** link.
4. In the **Region** area, drill down to find the floor on which you will be running the Distance Test and select it.

The selected floor will display as bold in the list.

Create Distance Test

Details

Region

▶ Awarepoint Medical Center

▼ Test Camp

▼ Building 1

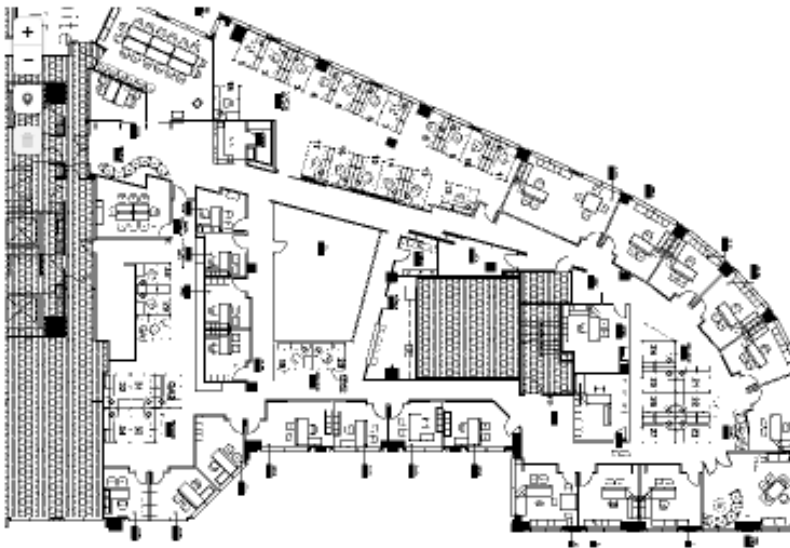
Test Floor 1

▶ 1 America Plaza

▶ 600 Broadway

▶ San Diego Campus

PIDS



Save Cancel

- Click the **PIDS** link.

A list of available Tags displays.

Create Distance Test

Details

Region

PIDS

A00000F001
A00000F221
A00000F337
A00001FE17
A000BBBB12
A000BBBB13
A000FFFE86
A000FFFE89
A000000000

- Select the PID of all Tags that will be used in the test.

Click a Tag PID to select it. You can select multiple PIDs by clicking them.

To de-select a Tag, click it again.

NOTE: Only Tags that have been batch created and are not assigned display as available for selection.

7. On the map, click the **Draw a marker** icon to place a marker on the map for the location of the selected Tag(s).



8. Drag the marker to the place on the map and click once to place it.

You can scroll the mouse wheel to increase or decrease the size of the map as well as click and drag the map without placing the marker.



9. Click **Save** to save the test.

The new test displays in the **Distance Tests** window and can be run by clicking the green arrow next to it.

Distance Tests

ID	Name	Floor	Duration	X,Y	PIDS	
32	Name #2	1191998	60000	247, 416	A000FFFE88 A000FFFE89	
33	rick	1191998	60000	564.5, 602	A000FFFE89 A000FFFE8E	
35	Sample Distance Test	1192074	6000	1565, 753	A00000F001 A00000F337 A000888812	

7.2.2 Updating a Distance Test

If a Distance Test needs to be edited, such as a change to a location or the use of different Tags, that is done through the update process.

1. In the **Distance Tests** window, click the Distance Test you want to edit.
2. In the lower right corner, click the **Update** button.

The **Update Distance Test** window displays.

Update Distance Test

Details

Name

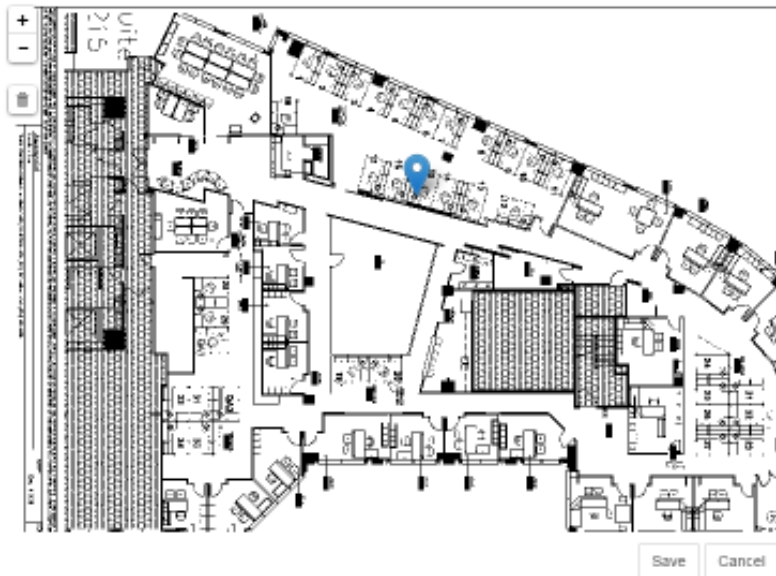
Sample Distance Test

Duration

6000

Region

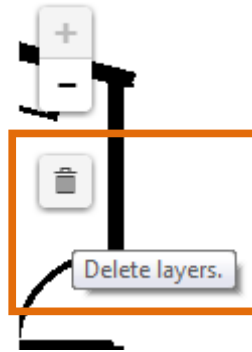
PIDS



3. As needed, edit the **Name** and **Duration** of the test.
4. Click the **Region** link and select a different floor, if necessary.
5. Click the **PIDS** link and select or deselect Tags, as necessary.

6. To remove a marker, click the **Delete layers** icon and then click the marker icon to be deleted.

If there are multiple markers, you must click the **Delete layers** icon once for each marker you want to remove.



7. After making all changes necessary, click **Save** to update the Distance Test.

NOTE: Updating a Distance Test does not erase the test's historical runs. The data from previous test runs, if applicable, will display along with any new data.

7.2.3 Cloning a Distance Test

Cloning a test is done to create a test substantially similar to one already in existence but without deleting one or creating a new one from scratch. This is especially useful for retaining historical test run data but also for tests that may be run on the same floor with the same parameters.

1. From the **Distance Tests** window, select the test you want to clone then click the **Clone** button in the lower right corner.

The **Update Distance Test** window displays.

2. Enter a new name for the cloned test.
3. If necessary, enter a new duration.
4. Click the **Regions** link and select a new floor, if necessary.
5. Click the **PIDS** link and select the new Tags, if necessary.
6. If necessary, use the **Delete layers** icon to remove the current marker, then place a new marker.

7. Click **Save**.

7.2.4 Deleting a Distance Test

If a Distance Test is no longer needed, it can be deleted from the system. However, any historical data from the test is also deleted, so a test should only be deleted when necessary.

1. From the **Distance Tests** window, select the test you want to delete.
2. In the lower right corner, click the **Delete** button.

A confirmation dialog displays.



3. Click **OK** to delete the test and all historical test run data.

7.3 Room Tests

Room tests are conducted to determine the accuracy of the Awarepoint system in identifying the location of a Tag as being in or out of a room. A Tag is placed on the map at a specified location and then the test is run. After the test, results show the Tag's position on the map as determined by its reports from the Beacons it heard and their relative signal strength indicator (RSSI).

Selecting the **Accuracy Tests -> Room Tests** link displays the **Room Tests** window.

Room Tests

ID	Name	Floor	Room ID	Duration	PIDS	
13	test 1	1192027	1192030	20	A00000F001 A00000F221 A00000F337	

New

Any Room Tests that have already been created display in this window. Each Room Test displays:

- **ID** – A sequence number generated by System Manager to identify separate tests
- **Name** – The name given to the test when it was created
- **Floor** – The floor ID as identified by System Manager
- **Room ID** – The room ID as identified by System Manager
- **Duration** – The length, in milliseconds, of the Distance Test
- **PIDS** – The Product ID numbers of all Tags that were part of the test
- Green arrow – Runs the Room Test

7.3.1 Creating a New Room Test

1. From the **Room Tests** window, click the **New** button in the bottom right corner.

The **Create Room Test** window displays.

Create Room Test

Details

Name

Duration

Region

PIDS

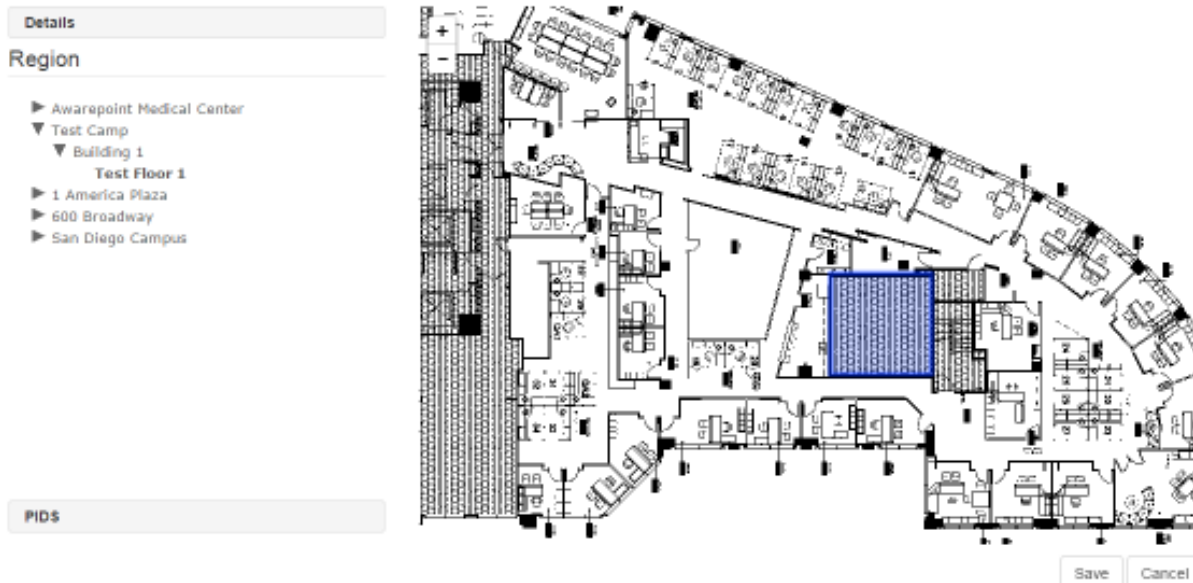
Save

Cancel

2. In the **Details** area, enter a **Name** for the test and the **Duration**, in milliseconds.
3. Click the **Region** link.
4. In the **Region** area, drill down to find the floor on which you will be running the Room Test and select it.

The selected floor will display as bold in the list.

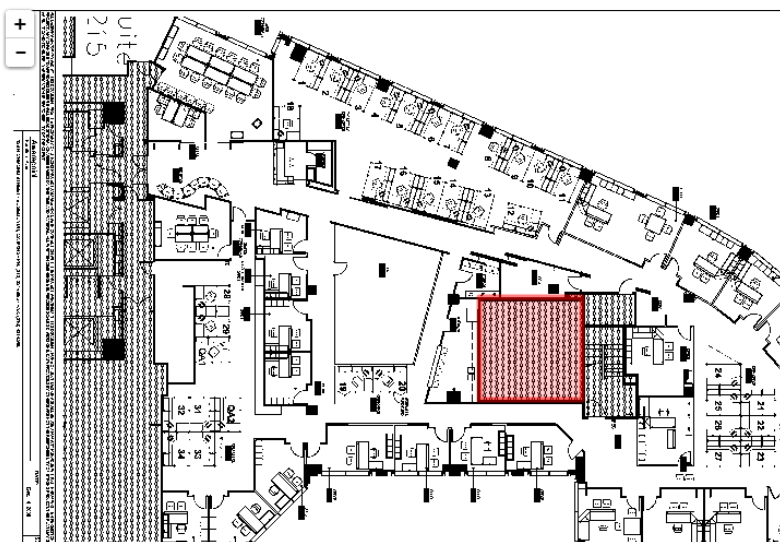
Create Room Test



NOTE: For a Room Test, defined rooms must already exist. If you have not yet defined the room where the Tag(s) will be placed for the test, click Cancel and follow the procedure in Defining an Area for creating a room.

5. Click the room to conduct the test.

The room region turns red when selected.



6. Click the **PIDS** link.

A list of available Tags displays.

Create Room Test

Details

Region

PIDS

A00000F001
A00000F221
A00000F337
A00001FE17
A000BBBB12
A000BBBB13
A000FFFE86
A000FFFE89
A000FFFF8E

7. Select the PID of all Tags that will be used in the test.

Click a Tag PID to select it. You can select multiple PIDs by clicking them.

To de-select a Tag, click it again.

NOTE: Only Tags that have been batch created and are not assigned display as available for selection.

8. Click **Save** to save the test.

The new test displays in the **Room Tests** window and can be run by clicking the green arrow next to it.

Room Tests

ID	Name	Floor	Room ID	Duration	PIDs	
13	test 1	1192027	1192030	20	A00000F001 A00000F221 A00000F337	
14	Roomies	1191998	1192020	12387129830	A00000F001 A00000F337	
15	Sample Room Test	1192074	1192075	6000	A00000F001 A00000F221 A00000F337	

New

7.3.2 Updating a Room Test

If a Room Test needs to be edited, such as a change to a location or the use of different Tags, that is done through the update process.

1. In the **Room Tests** window, click the Room Test you want to edit.
2. In the lower right corner, click the **Update** button.

The **Update Room Test** window displays.

Update Room Test

Details

Name

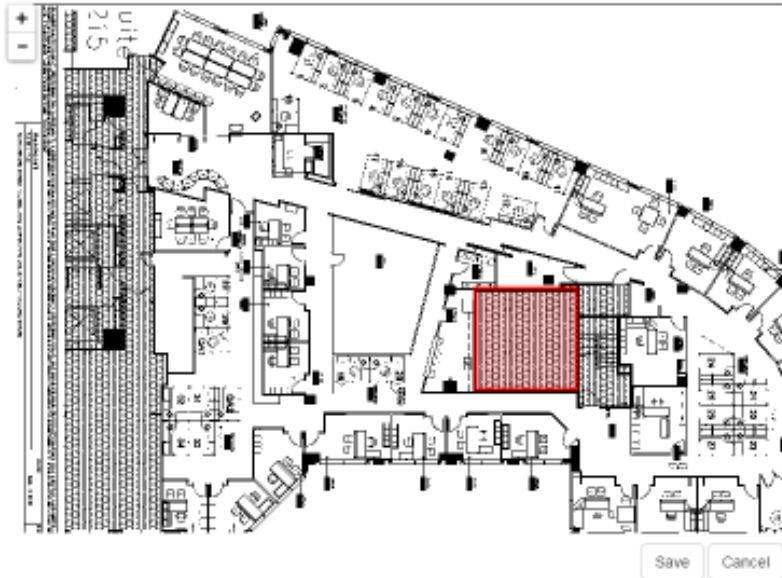
Sample Room Test

Duration

6000

Region

PIDS



3. As needed, edit the **Name** and **Duration** of the test.
4. Click the **Region** link and select a different floor or room, if necessary.
5. Click the **PIDS** link and select or deselect Tags, as necessary.
6. After making all changes necessary, click **Save** to update the Room Test.

NOTE: Updating a Room Test does not erase the test's historical runs. The data from previous test runs, if applicable, will display along with any new data.

7.3.3 Cloning a Room Test

Cloning a test is done to create a test substantially similar to one already in existence but without deleting one or creating a new one from scratch. This is especially useful for retaining historical test run data but also for tests that may be run on the same floor with the same parameters.

1. From the **Room Tests** window, select the test you want to clone then click the **Clone** button in the lower right corner.

The **Update Room Test** window displays.

2. Enter a new name for the cloned test.
3. If necessary, enter a new duration.
4. Click the **Regions** link and select a new floor or room, if necessary.

5. Click the **PIDS** link and select the new Tags, if necessary.
6. Click **Save**.

7.3.4 *Deleting a Room Test*

If a Room Test is no longer needed, it can be deleted from the system. However, any historical data from the test is also deleted, so a test should only be deleted when necessary.

1. From the **Room Tests** window, select the test you want to delete.
2. In the lower right corner, click the **Delete** button.

A confirmation dialog displays.

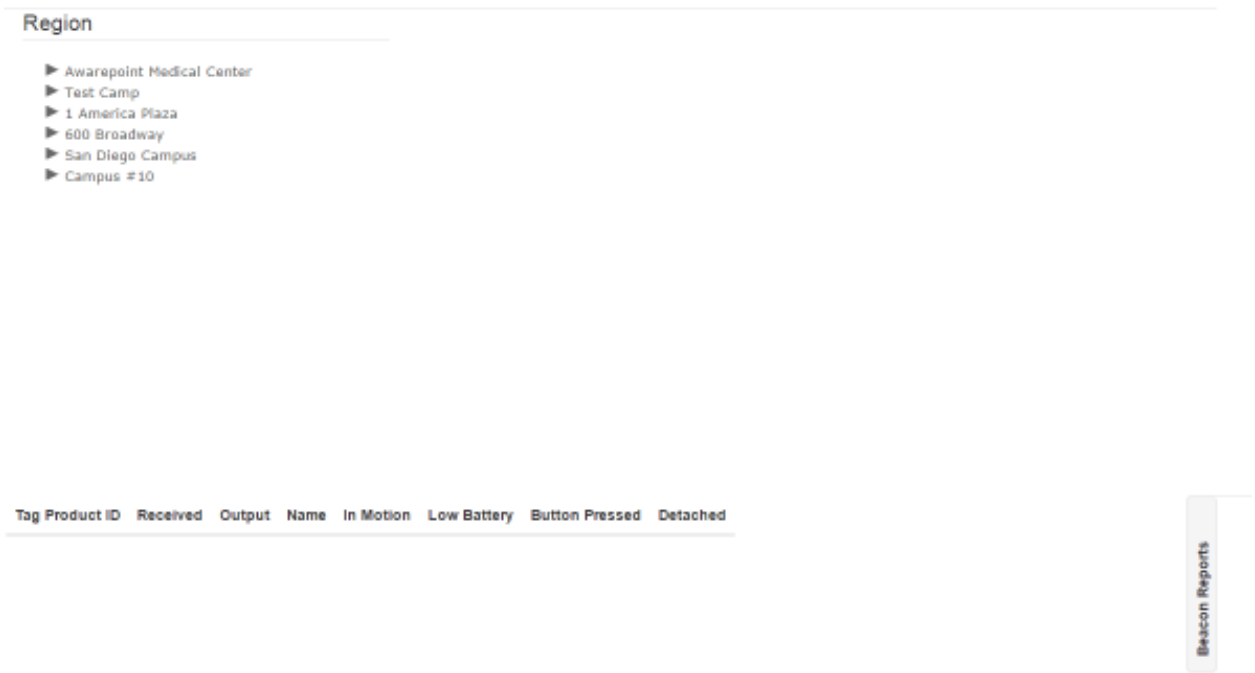


3. Click **OK** to delete the test and all historical test run data.

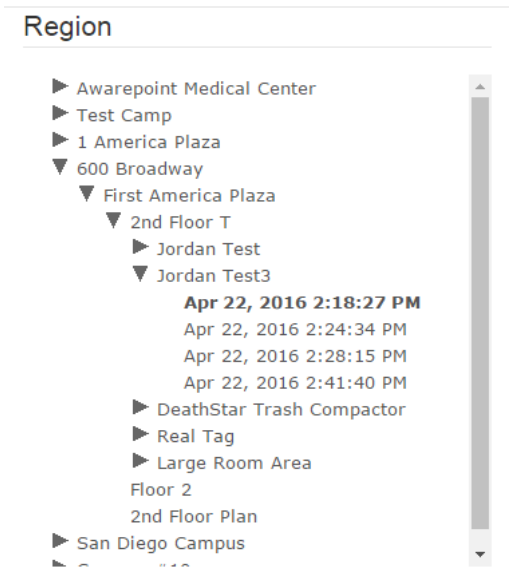
7.4 **Test Runs**

Test runs show the results of Distance and Room Tests individually.

Selecting the **Accuracy Tests -> Runs** link displays the **Region** window.



To view the results of a test, drill down in the explorer pane to the test level, which is below the floor level.



A selected test run becomes bold. If it was an Accuracy Test, the map area displays the marker on the map. The results of the test run display below the map at the bottom of the window.

NOTE: You may need to zoom in or out on the map to see it in its entirety.

Region

▶ Awarepoint Medical Center

▶ Test Camp

▶ 1 America Plaza

▼ 600 Broadway

▼ First America Plaza

▼ 2nd Floor T

▶ Jordan Test

▼ Jordan Test3

Apr 22, 2016 2:18:27 PM

Apr 22, 2016 2:24:34 PM

Apr 22, 2016 2:28:15 PM

Apr 22, 2016 2:41:40 PM

▶ DeathStar Trash Compactor

▶ Real Tag

▶ Large Room Area

Floor 2

2nd Floor Plan

▶ San Diego Campus



Tag Product ID	Received	Output	Name	In Motion	Low Battery	Button Pressed	Detached
687194828801	Apr 22, 2016 2:55:37 PM	Apr 22, 2016 2:55:37 PM	Awarepoint/One American Plaza/Floor 2/Engineering	false	true	false	true
687194828801	Apr 22, 2016 2:57:10 PM	Apr 22, 2016 2:57:10 PM	Awarepoint/One American Plaza/Floor 2/Engineering	false	true	false	true

Beacon Reports

The default information displayed below the map and explorer pane shows Tag information for the selected test.

Tag Product ID	Received	Output	Name	In Motion	Low Battery	Button Pressed	Detached
687194828801	Apr 22, 2016 2:55:37 PM	Apr 22, 2016 2:55:37 PM	Awarepoint/One American Plaza/Floor 2/Engineering	false	true	false	true
687194828801	Apr 22, 2016 2:57:10 PM	Apr 22, 2016 2:57:10 PM	Awarepoint/One American Plaza/Floor 2/Engineering	false	true	false	true

Beacon Reports

This information includes the Tag Product ID (PID), Name of the location where the test was run, and other Tag information.

Clicking the **Beacon Reports** link displays Beacon information for the selected test.

Tag Locations

Report ID	Tag Product ID	Received	Sequence	Records
9	687194828801	1461362230000	12	Beacon PID: 618475290648 RSSIS: [0,1,-1]
10	687194828801	1461362137000	12	Beacon PID: 618475290649 RSSIS: [0,1,-1]

This information contains the Tag PID, test run sequence, Beacon PID, and Beacon signal strength.

8 MSE Tab

Click the **MSE** tab to display the configuration information for connecting to the Mobility Services Engine (MSE).

Clear All Delete Selected Add new configuration											
	Id	Offline	Ip	Username	Password	Vendor Id	Poll Rate	Soap	Location Rest Path	Aaa Soap Path	Local
	1	false	10.6.20.66	apitester	A6t3ster	5355	1000	true	/api/contextaware/v1/...	/aaa/	/loc...
Total items: 1											

The configuration settings in this screen allow the Awareness server to connect to the MSE and retrieve information from Beacons on the network, such as Beacon reports and broadcast status messages.

8.1 Creating a New Configuration

1. Click the **Add new configuration** button.

A new row appears in the configuration list.

Clear All Delete Selected Add new configuration											
	Id	Offline	Ip	Username	Password	Vendor Id	Poll Rate	Soap	Location Rest Path	Aaa Soap Path	Local
	1	false	10.6.20.66	apitester	A6t3ster	5355	1000	true	/api/contextaware/v1/...	/aaa/	/loc...
		true	xxx.xxx.xxx...	<required>	<required>	5432	1000	true		/aaa/	/loc...

NOTE: The ID of the configuration is automatically set by the system and appears once you start entering information.

2. Double-click a field to enter information in it.

Clear All		Delete Selected		Add new configuration	
✓	Id	Offline	Ip	Username	Pa
✓	1	false	10.6.20.66	apitester	A6i
✓	6	true	xxx.xxx.xxx.xxx	<required>	<re

NOTE: The **Offline** field displays as a check box when double-clicked. A check indicates **true** and unchecked indicates **false**. This field should be set to **false** for the configuration to take effect.

After entering all necessary information, the configuration is set. There is no need to save or update it.

8.2 Editing an Existing Configuration

To edit an existing configuration, double-click the field you want to change and enter the new information. Once you click away from the field, the new information will be automatically saved.

NOTE: There is no limit to the number of configurations that can be present in this list. Before editing a configuration, it may be better to create a new one and set the configuration no longer needed to offline.

8.3 Deleting a Configuration

1. Click the checkbox to the left of the ID number.

Clear All

Delete Selected

Add new configuration

✓	Id	Offline	Ip	Username	Password	Vendor Id
✓	1	false	10.6.20.66	apitester	A6it3ster	5355
✓	6	true	xxx.xxx.xxx....	<required>	<required>	5432

You can select multiple configurations at once.

Clicking the checkmark again clears it. Click **Clear All** to clear all selected configurations.

2. Click the **Delete Selected** button.

The configuration is deleted.

NOTE: There is no confirmation dialog to confirm the deletion of all selected configurations, so be certain that all the selected configurations can be deleted before doing so. Deleted configurations cannot be retrieved.

9 BLE Tab

The **BLE** tab allows for the managing of BLE probes.

Select **BLE -> Probe Certificates** to display the Probe Certificates window.

SysMan	Map	Devices ▾	Config ▾	Accuracy Tests ▾	MSE	BLE ▾	Site Selector Logout	
Probe ID	Tag ID	Certified Date	Next Certified Date	Probe Type	Probe Status	PDF	+	⬇
C		Oct 4, 2016	Oct 28, 2017					
1A		Oct 21, 2016	Aug 30, 2017					
481	687211544078			RTD_4WIRE	OK			
91C		Oct 4, 2016	Oct 27, 2016					
1573	687211544077			HUMIDITY	OK			
158D	687211544069			HUMIDITY	OK			
BEBC208				RTD_4WIRE	REMOVED			
FFFFFFFE				TEMPERATURE	REMOVED			
FFFFFFF				UNKNOWN	REMOVED			

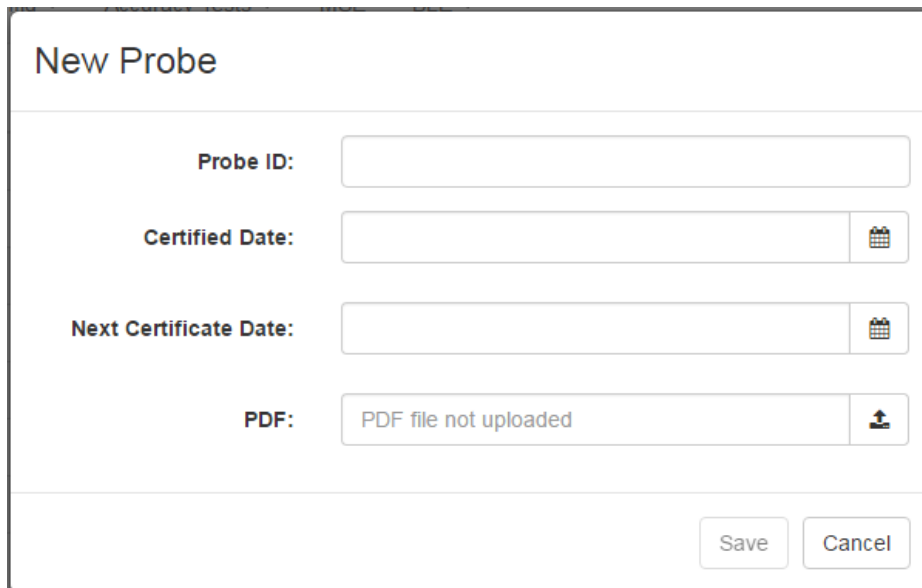
If there are any probe certificates already loaded into the system, they will display in this window. Probe certificates in the window display:

- **Probe ID** – The ID number of the probe associated with the certificate
- **Tag ID** – The ID number of the tag associated with the probe
- **Certified Date** – Date the probe was certified
- **Next Certified Date** – Date the probe will next need to be certified
- **Probe Type** – The type of probe
- **Probe Status** – The status of the probe
- **PDF** – A clickable link to view the PDF version of the certificate of the probe
- **+** – A clickable link to add a new probe and probe certificate
- **Upload link** – A clickable link to upload a PDF certificate

9.1 Adding a New Probe

1. Click the **+** link.

The **New Probe** window displays.

A screenshot of a web form titled "New Probe". The form contains four input fields: "Probe ID:" with a text box; "Certified Date:" with a text box and a calendar icon; "Next Certificate Date:" with a text box and a calendar icon; and "PDF:" with a text box containing "PDF file not uploaded" and an upload icon. At the bottom right are "Save" and "Cancel" buttons.

New Probe	
Probe ID:	
Certified Date:	
Next Certificate Date:	
PDF:	PDF file not uploaded 
Save Cancel	

2. In the **Probe ID** text field, enter the probe's ID number.
3. In the **Certified Date** text field, enter the date the probe was certified or click the calendar icon to select the date.

If you enter the date, the date format is **Mmm D, YYYY**.

4. In the **Next Certificate Date** text field, enter the date the probe will need to be re-certified or click the calendar icon to select the date.
5. In the **PDF** field, click the upload link to open an explorer window and locate the PDF certificate for the probe.

NOTE: This upload link will upload one or multiple probe certificates. System Manager will automatically assign the certificates to the proper probes as long as they are already in the system.

6. Click **Save**.

9.2 Viewing a Probe Certificate

From the list of probes, locate the one you want to view the certificate for. Then click the download icon in the **PDF** column to view the PDF certificate. The PDF file opens in a new tab or browser window (depending on your browser settings).



Certificate of Calibration

TEST NUMBER
384093



Manufacturer:	AwarePoint	Report #:	384093
Description:	Temperature Tag, RFID Temperature Sensor	P.O. #:	0000-001722
Model #:	T2T	Procedure:	T2T Calibration Procedure
Serial #:	9D8C1	Asset #:	9D8C1

Customer: AwarePoint
600 W. Broadway
Suite 250
San Diego, CA 92101

This certifies that the above instrument was calibrated in compliance with the Calibration Systems Requirement of ISO/IEC 17025:2005 in accordance with referenced procedures. Standards used to perform this calibration are certified by or traceable to NIST, natural physical constants, consensus standards or derived by the ratio type calibrations. Expanded uncertainties are determined as required with a distribution that corresponds to a probability of approximately 95%(2sigma), no sampling plan or other process was used for this calibration, the results reported herein apply only to the calibration of the item described above. All calibrations are performed to manufacturer's specifications, unless otherwise noted. Customer has been contacted concerning re-certification interval and documentation has been received and is on file. This form shall not be reproduced, except in full, without the expressed written consent of Techmaster Electronics.

Condition Received:	In Tolerance	Calibration Cycle:	12 Months
Condition Returned:	In Tolerance	Calibration Date:	10/24/2012
Temperature:	22° C	Next Due Date:	10/24/2013
Relative Humidity:	56%	Certified By:	Le, Johnny

Standards Utilized				
Standard #	Manufacturer	Model #	Due Date	Test Report #
5493	Oakton Inc	91426-50	3/1/2013	350815

Special Remarks or Requirements:
Calibration completed by the technician at Hawaii's Mapunapuna Island facility.

9.3 Editing Probe Details

1. In the Probe Certificates window, locate the probe that you want to update and click the pencil icon for that probe. 

The **Update Probe** window for that probe displays.

Update Probe (2332)

Certified Date: Oct 4, 2016

Next Certificate Date: Oct 27, 2016

PDF: PDF file uploaded

Save Cancel

2. Enter new information as necessary in the **Certified Date** and **Next Certificate Date** text fields.
3. In the **PDF** field, use the upload button to upload a new PDF certificate, if necessary.

NOTE: This upload link will upload one or multiple probe certificates. System Manager will automatically assign the certificates to the proper probes as long as they are already in the system.

4. Click **Save** to update the probe's details.

Appendix A. System Manager Tools

SysMapToolbar Icons

ICON	DESCRIPTION
	Zoom in or out on the map in the viewport area Mouse scroll wheel also activates this feature
	Used to enter the map scale
	Creates a new multi-point polygonal region
	Creates a new rectangular region
	Place a Beacon marker on the map
	Delete a selected Beacon from the map
	Label a drawn region as a First Order Room
	Label a drawn region as a Hallway
	Establish a latitude/longitude reference point to orient maps properly in the location engine
	Angle of rotation tool; click to start a line, then click again to end that line with the second click pointing the line to true north

Vaccines for Children

Installation and Setup Guide

March 01, 2017



FCC Compliance

BLEE	Environmental	FCC: UAG-BLEE, IC: 7348A-BLEE
BLEB	Beacon (Omni and Directional)	FCC: UAG-BLEB, IC: 7348A-BLEB
BLET	Tag	FCC: UAG-BLET, IC: 7348A-BLET
BLED	Environmental Display	FCC: UAG-BLED, IC: 7348A-BLED

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this Device may not cause harmful interference and (2) this Device must accept any interference received, including Interference that may cause undesired operation.

Changes or modifications to the equipment that are not expressly approved by the manufacturer could void the user's authority to operate the equipment under FCC Rules.

Radio Standards Specification Compliance

Per RSS-Gen, Section 8.4 This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Per RSS-Gen, Radio apparatus shall comply with the requirements to include required notices or statements to the user of equipment with each unit of equipment model offered for sale.

Par RSS-Gen, Section 8.4 Cet appareil est conforme aux normes RSS exonérées de licence d'Industrie Canada. Le fonctionnement est soumis aux deux conditions suivantes: (1) cet appareil ne doit pas provoquer d'interférence, et (2) cet appareil doit accepter toute interférence, y compris les interférences susceptibles de provoquer un fonctionnement indésirable de l'appareil.

Par RSS-Gen, l'appareil radio doit se conformer aux exigences pour inclure les avis requis ou les déclarations à l'utilisateur de l'équipement avec chaque modèle d'unité de matériel proposé.

1 Introduction

Awarepoint's Temperature tags combined with the Awarepoint software provide an ideal solution for the monitoring of vaccines for children (VFC) in controlled environments. The Awarepoint tags provide continual monitoring of environmental assets, alerting users when temperatures fall out of range.

This document provides information for installing VFC Tag assemblies at facilities and the setup procedures to enable alerts.

2 VFC Hardware

The Awarepoint VFC hardware is comprised of three different pieces:

- Awarepoint Environmental Tag
- VFC Probe
- VFC Display

2.1 Awarepoint Environmental Tag

The Awarepoint Environmental Tags are used to measure and monitor the temperature in hospital refrigerators, freezers and warmers. Precise temperature monitoring is vital to ensure patient safety, as well as to remain compliant with medication management standards and reduce potentially costly product loss.

2.2 VFC Probe

The VFC probe differs slightly from the standard Awarepoint temperature probe in the following ways:

- The VFC probe cable is 8 feet long.
- The sensor on the VFC probe is a real-time protocol (RTP) sensor that meets accuracy and range requirements.

Installation of the VFC probe follows the same procedure as described above.

In addition to the differences from other Awarepoint temperature probes, the VFC probe also has the following requirements:

- Has a temperature range of -55°C to 125°C
- Accuracy requirements:
 - -55°C to +50°C: $\pm 0.25^{\circ}$
 - +50°C to +100°C: $\pm 0.5^{\circ}$
 - +100°C to +125°C: $\pm 0.625^{\circ}$
- Probe must be completely immersed in 30-60 mL of glycol
- The probe end shall be .187" diameter and 3" long

- Probe end shall be medical grade stainless steel and must be completely sealed or potted
- The probe connector shall match the current environmental tag connector and be backwards compatible

2.3 VFC Display

The VFC display is connected to the temperature tag and attached to the outside of the temperature-controlled unit for easy viewing. The following figure provides a conceptual view of the display.



Figure 1 VFC Display Unit

The display has the following requirements:

- Powered by a single 9-volt battery with a minimum 2-year battery life
- 2.7-inch e-ink display with 26x176 resolution
- Displays the tag's last temperature sample taken
- The device displays the following:
 - Current temperature (last sample received)
 - Minimum and maximum temperature since last device reset
 - Battery health/low battery indicator

- “Alarm” indicator when alarm is active
- Displays current minimum and maximum temperature settings from a button press
- Two buttons on right side of display:
 - **Reset** button
 - **Mode** button
- When powered on, delays any audible alarms for 1 hour. This allows for time needed to set up and pair the device with a tag, as well as the time needed for setting the minimum and maximum temperature settings.

2.3.1 Reset Button

The **Reset** button operates in the following manner:

- When pressed for less than .25 seconds, shuts off the alarm and resets the max/min temperature.
- When pressed for 3 seconds, temporarily displays the current set points (max and min allowed temperatures); set points display for 5 seconds.

2.3.2 Mode Button

The **Mode** button operates in the following manner:

- When the display is off, press for 8 seconds to power on the display.
- When the display is on, press for 6 seconds to power off the display.
- With the display on, when pressed for 1 second, toggles the temperature readings on the display between degrees F and degrees C.
 - Default reading is degrees F

2.3.3 VFC Display Additional Features

The following list identifies additional features and requirements of the VFC display:

- The VFC display device contains a speaker capable of generating audible alarms.
 - The audible alarm level can be set via a config message.

- The default audible alarm level is High.
- The VFC display device receives temperature samples from its paired tag via Bluetooth low energy (BLE)
- The VFC display device also supports WiFi for configuration and firmware downloading, as well as changing alarm set points, enabling/disabling the audible alarm, setting the audible alarm level, and pairing with tags.

3 VFC Software

The Awarepoint VFC system is set up and run through the following software applications:

- System Manager – for initial setup
- Infopoint – for creating alerts for non-BLE tags
- awareHealth – for creating alerts for BLE tags

3.1 System Manager

When a tag is brought onsite, System Manager is used to make the Awarepoint solution aware of the tag, create the configuration necessary for the tag to report and respond as a VFC tag, and set up the tag's network connectivity.

3.2 Infopoint

For non-BLE tags, Infopoint is the client interface application to the Awarepoint Appliance. With Infopoint clients can search for, locate, and track tagged assets on the Awarepoint network. Clients can also view asset usability statistics, create alerts for tagged items, and view temperature and humidity data for temperature Tags.

3.3 awareHealth

awareHealth is the client interface application to the Awarepoint Appliance. With awareHealth clients can search for, locate, and track tagged assets on the Awarepoint network. Clients can also view asset usability statistics, create alerts for tagged items, and view temperature and humidity data for temperature Tags.

4 VFC Setup Procedures

Setting up the VFC tag and display unit is a multi-step process. In general, the procedures are:

1. In System Manager, [batch create](#) the Environmental Tag and VFC display units.

This step also includes checking the tag and display configuration parameters.

2. In System Manager, [pair the tag and display](#).

3. [Power on and provision the tag](#).

The tag must be powered on first, begin communicating with Infopoint, then the display can be powered on.

4. [Power on and provision the display](#).

This should be done within 5 minutes of powering on and provisioning the tag.

5. In System Manager, place the tag and display on a map.

6. In Infopoint (or awareHealth), associate the tag with an asset.

7. In Infopoint (or awareHealth), set an alert for when the temperature-controlled unit goes out of range.

4.1 Batch Creating Devices

The following procedure is done while in System Manager.

1. From the **Devices** tab drop-down, select **Create**.

The **Batch Create** screen displays.

SysMan Batch ▾ Mobility SysMap Devices Network Config Device Config

Device Type:

- None - ▾

MAC Addresses or Product ID's (PID):

Create

2. From the **Device Type** drop-down, select the type of device you are creating.

Device Type:

- None -
- BB-E - BLE Beacon (Enterprise)
- BB-HA - BLE Beacon (High Accuracy)
- BT-A - BLE Tag (Asset)
- BT-X - BLE Tag (Engineering-Only All Features)
- BT-W - BLE Tag (Wearable Patient/Staff)
- BT-S - BLE Tag (Sterilizable)

3. In the **MAC Addresses or Product ID's (PID):** field, enter the MAC address or product ID (PID) of the device or devices.

You can copy and paste this information or enter it by hand. Different MAC addresses or PIDs must be separated by commas or by carriage returns (one item per line).

4. Click **Create**.

4.2 Pairing the Display with the VFC Tag

Pairing of the Display with the VFC tag is done in System Manager before the tag and display are powered on.

In System Manager, the **Device Pairings** screen displays a list of devices (environmental tags) and the displays they are paired to.

From the **Devices** tab drop-down, select **Device Pairings**. The **Device Pairings** screen displays:

Device Pairings		
Device	Paired To	
C000AAAA01 (BT_E)		Pair
C000AAAA02 (BT_E)	D000AAAA01 (BT_ED)	Unpair
C000AAAA03 (BT_E)	D000AAAA02 (BT_ED)	Unpair
D000AAAA01 (BT_ED)	C000AAAA02 (BT_E)	Unpair
D000AAAA02 (BT_ED)	C000AAAA03 (BT_E)	Unpair
D000AAAA03 (BT_ED)		Pair

4.2.1 Pairing Devices

NOTE: Only environmental tags and displays can be paired.

Only environmental tags and displays that have already been batch created can be paired. If you have not batch created the devices, [do so first](#) before continuing with the following procedure.

1. From the **Device Pairings** window, locate the device (environmental tag) you want to pair with a display.

Only devices that are eligible for pairing display in the first column. Additionally, the second column for eligible devices will be blank. On the far right, the **Pair** button for that device is available.

1. Click the **Pair** button on the far right.

The **Select Device to Pair** window displays.

Select Device to Pair

D000AAAA03 (BT_ED)

Cancel

Only devices eligible for pairing appear in this window.

2. Left click on the device you want to pair.

The devices are paired and now display as paired in the **Device Pairings** window.

4.2.2 Unpairing Devices

1. From the **Device Pairings** window, locate the devices you want to unpair.
2. On the far right of the row with the devices you want to unpair, click the **Unpair** button.

The devices are now unpaired and show as eligible to be paired in the **Device Pairings** window.

4.3 Powering On and Provisioning Devices

VFC requires the powering on and provisioning of both hardware devices, the Environmental Tag and the Display. Perform the following procedures for each hardware device.

4.3.1 Environmental Tag Battery and Probe Installation

Perform the following procedure to power on the Environmental Tag:

1. Remove the top casing by squeezing the label sides of the tag and pulling up.
2. Pull off the casing, being careful not to pry it up from the non-sensor end.



3. Insert the three AAA batteries.



4. Insert the probe cable into the slot in the Tag next to the batteries.



When you plug the probe cable in, the LED in the upper right will light up. The color of the LED will indicate the tag status.

- Red – The tag and probe are not communicating. Unplug the probe cable and reattach. If the red LED still shows, RMA the tag.
 - Green – LF message received and probe and tag are communicating.
 - Red/Green Consecutively Multiple Times – The probe and cable are not communicating because of a bad probe. Unplug the probe cable and reattach. If you still receive the red/green LED, RMA the probe.
 - 3 x Green = Good Tag/probe (only when battery or probe replaced)
5. Curl the cord through the loop of the Tag.
 6. Close the casing.

4.3.2 Provisioning the Environmental Tag

After a device (tag, display, or beacon) has been batch created, it must be provisioned so that it can connect to the network and provide location information for tags. Use the following procedure to provision a device.

NOTE: Before beginning this procedure, an Awarepoint router must be connected and running close to the tablet running the provisioning application. Without this router, the SSID for the site will not be available to the app and the provisioning procedure will fail.

1. Open the Provisioning app on the Awarepoint tablet.



Figure 2 Provisioning Application Main Screen

The following areas should be noted as identified in the figure above:

- 1) Application version
- 2) The **Environment URL** drop-down list
- 3) The **REQUEST TOKEN** button
- 4) The **SYNC WITH SITES FROM IP** button

- 5) The **Select Site** drop-down list
 - 6) The **INITIATE PROVISIONING** slider
2. Enter the username and password for connection to the Awarepoint web services.
 3. From the **Environment URL** drop-down list, select the environment you are going to request the token from.



NOTE: There are four main environments to select from. Each environment has different sites associated with it, so be careful to choose the correct environment.

4. Press the **Request Token** button.

If the username and password were correct, a success message displays.

If you do not see a success message, re-enter the username and password and verify the **Environment URL**. If you still do not see a request message, contact the account manager to verify the credentials or to see if there is an outage.

5. Press the **SYNC WITH SITES FROM IP** button.

Pushing this button pulls a list of all sites associated with the selected **Environment URL**.

6. From the **Select Site** drop-down, select the site to synchronize with.



Figure 3 Sample Site List

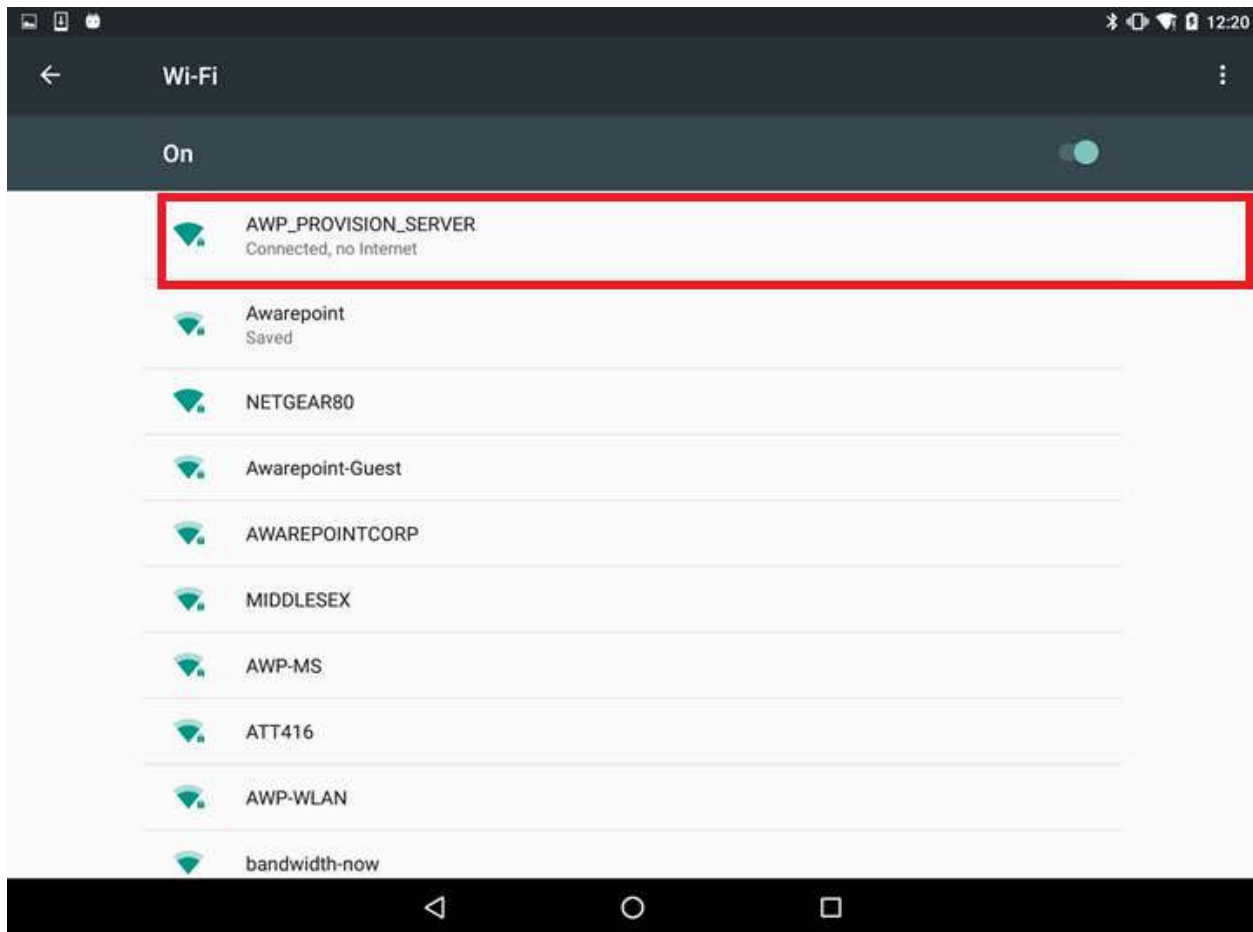
Once you select a site, the **SYNC WITH SITES FROM IP** button changes to **SYNC WITH SITE**.

7. Push the **SYNC WITH SITE** button.

This option requires an Internet connection.

You must wait until this step completes without any error before proceeding to the next step. If an error occurs, attempt to **SYNC WITH SITE** again. If this step does not complete due to an error, the data will not be available for provisioning devices.

8. After successful synchronizing with the site is complete, change the Wi-Fi Network to the SSID named **AWP_PROVISION_SERVER**.



This is the SSID in the Awarepoint router. The router must be preconfigured with the specific security options and the correct SSID name.

- Slide the **INITIATE PROVISIONING** slider to the **ON** position.



Figure 4 INITIATE PROVISIONING in OFF Position



Figure 5 INITIATE PROVISIONING in ON Position

Initiating provisioning does two things:

- Creates a Network Service Discovery that allows the tablet to start listening for devices in the same network

- Creates an SSL Server socket site in order to start communication with the devices

10. Power cycle the device by pulling the battery out and replacing.

NOTE: If the **DEVICES TO PROVISION** section is empty (clear list), the tablet will try to provision every Awarepoint device. If the list is not empty and you have entered specific device PIDs, the tablet will detect the devices (will appear in **DISCOVERED AWP DEVICES** section) but will just provision the devices in the list. Other devices will be ignored.



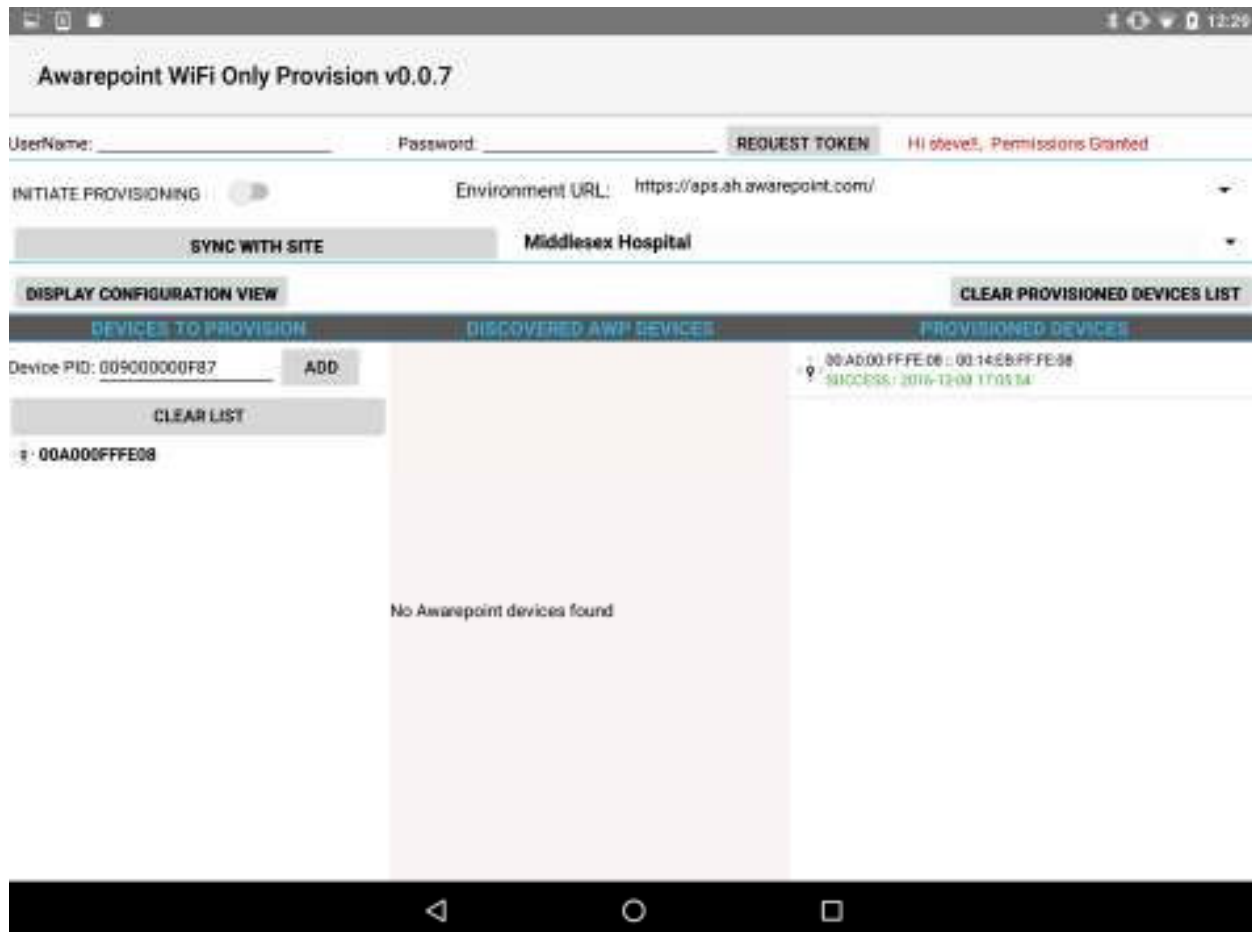
11. From the **Environment URL** drop-down, select the Awarepoint environment you want to pull network data from.

12. Enter the username and password in the appropriate fields.

These are the credentials to have access to execute the REST Web services to pull configuration data. This is an Oauth2 security type.

13. Press the **Request Token** button.

If the connection is successful, a Permission Granted message displays.



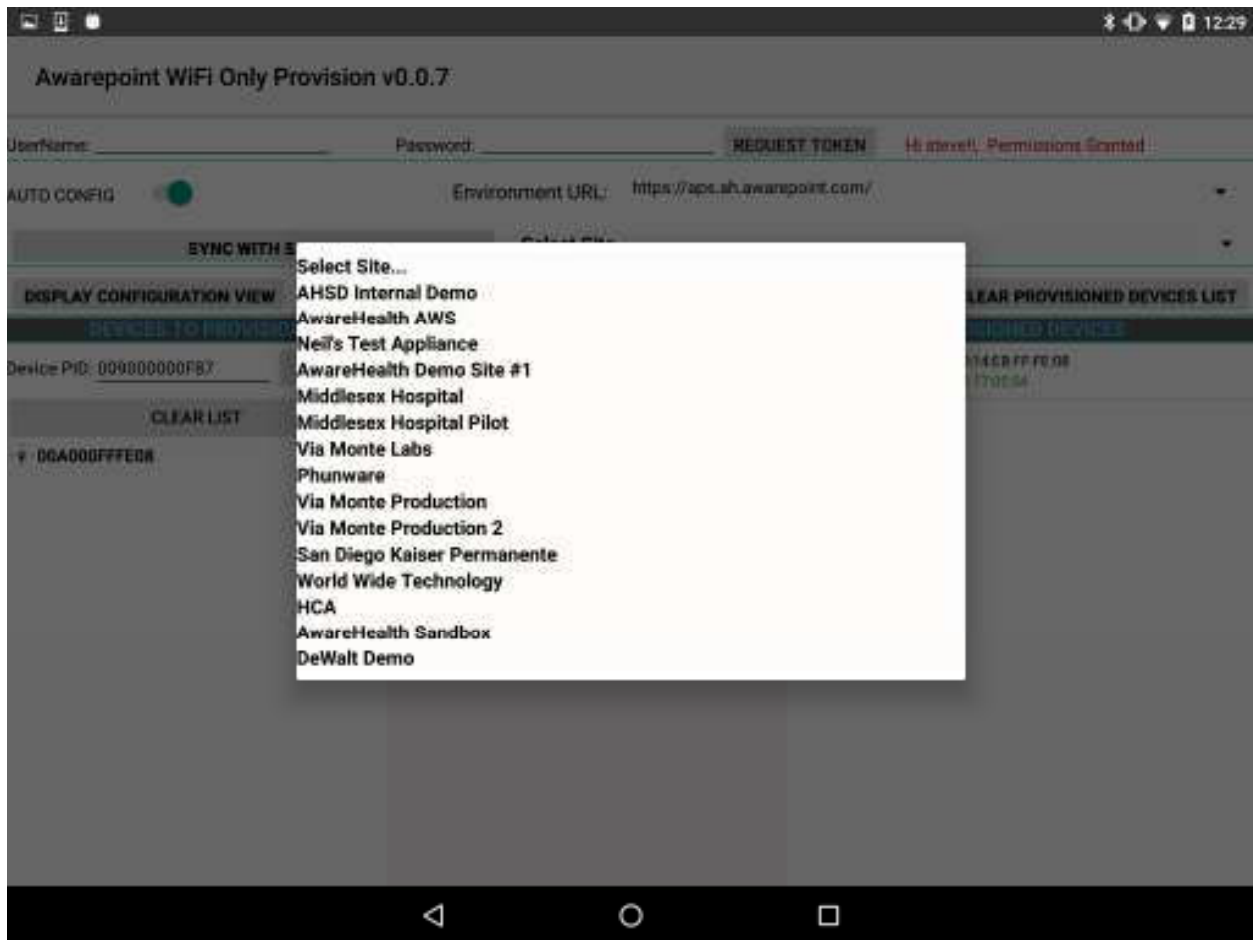
If you receive a Permission Denied message, check the Environment URL, username, and password, and retry. If you are still denied, contact the account manager.

14. Press the **SYNC SITES FROM IP** button.

This executes a call to pull every site for the Environment URL selected.

When the process of pulling the sites is complete, the **SYNC SITES FROM IP** button changes to **SYNC WITH SITE**.

15. Select a site from the drop-down next to the **SYNC WITH SITE** button.



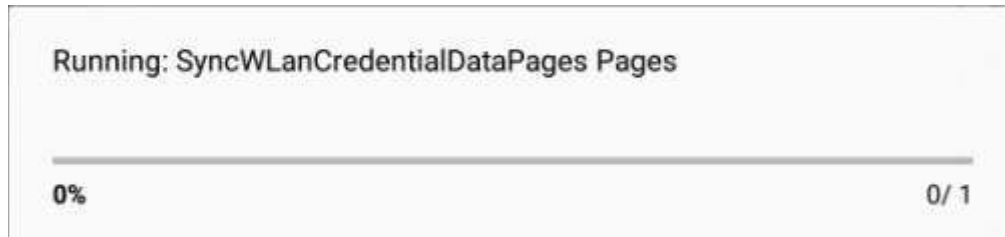
16. Press the **SYNC WITH SITE** button.

This begins the data pulling process. Progress bars display at each stage of the process.

- a. Pull Batch Created devices: If the device is not batch created in the system, it cannot be provisioned.



- b. WlanCredentialData: Contains the username and password for an individual device or a group of devices or a single user and password for the whole site.



- c. NetworkConfig: Contains the hostname by name or IP.



- d. SSIDData: Contains the SSID for an individual device or a group of devices or a single user and SSID for the whole site.



- e. CertificateData: Contains the certification information, private key and ca Certificate Root. Note that some sites do not require certificate information.



- f. WlanSecurity: contains the security information: EAP Method and security type.

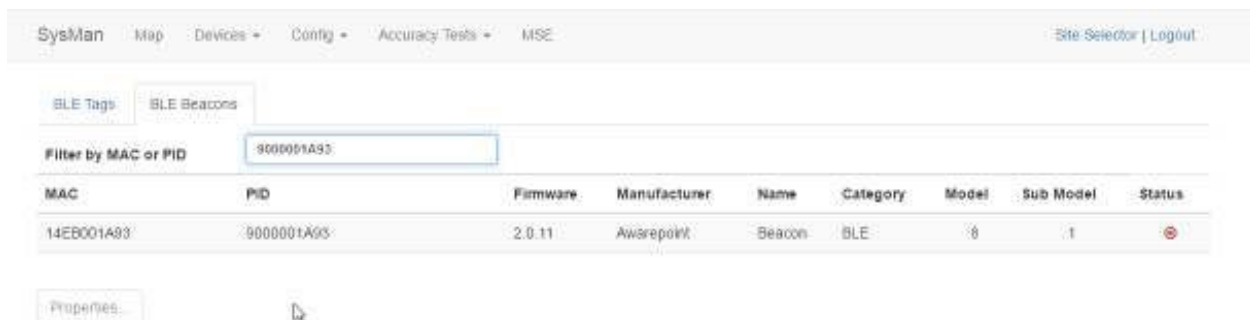


- g. The last step in the process is to put all the pieces together in order to have each device have a full configuration.



17. Be sure that the **AUTO SCAN** and **AUTO CONFIG** sliders are set to the on position.
18. After the MAC address of the device shows up in the discovered AWP devices list, click the MAC address.
19. When the **Start WiFi Provisioning** button displays, press it.
20. Once the device is provisioned successfully, the PID of the device shows in the **Provisioned Devices** list.

After the device has configured, the MAC address of the device(s) will show along with the PID of the device(s) in the **Device Management** window.



4.3.3 Setup and Installation of Environmental Tags

Environmental Tags may be deployed by placing the temperature probes in a stabilizing solution that is mounted inside the refrigerator, freezer, or warmer.



Figure 6 Temperature Monitoring Vial for Environmental Tags

The solution prevents non-buffered or uncontrolled swings in temperature that occur when the doors of temperature-controlled assets are opened. The temperature monitoring vial contains a 100% glycol solution. Assembly of these vials is completed on-site.

The following subsections provide the procedures for preparation and deployment of the hardware.

4.3.3.1 Environmental Tag Installation Required Materials

The following materials are required for each environmental tag being installed:

- Environmental Tag
- VFC Display Unit
- VHB tape
- A minimum of two zip ties per tag to hold excess cord inside and outside of the temperature-monitored asset
- Two anchors affixed in and out of asset for zip ties
- Three AAA alkaline batteries to power the Tag
- 39 mL (approximately 1.3 fl. oz.) propylene glycol
- Leather punch (to create hole in silicone lid of vial)



The temperature probe comes pre-assembled. No preparation is necessary for installation.

4.3.3.2 Glycol-based Temperature Vial Setup

Before beginning this procedure, be sure you have the following necessary equipment:

- 40 mL glass vial
 - Probe Cable Assembly
 - Leather Punch
 - Propylene Glycol: 1.3 fluid ounces
1. Fill the glass vial with 1.3 fluid ounces of glycol (approximately 39 mL).
 2. Using the leather punch, make a hole in the silicone material in the middle of the cap assembly.



NOTE: The hole should only be large enough to fit the probe snugly so that it maintains a good seal.

3. Screw the cap assembly onto the glass vial securely.
4. Insert the slim metal tube part of the probe cable assembly into the vial.



4.3.3.3 Physical Installation of Environmental Tags

Environmental Tags are installed on the outside of the asset to be monitored, and the probe/vial assembly is installed inside the asset. For the most accurate readings, the probe/vial assembly should be placed near where vaccines are being stored. This should be in the main body of the temperature-controlled asset away from the walls, the ceiling, cooling vents or fans, doors and the back of the unit.



Figure 7 Example Probe Storage Placement

If a pre-drilled hole through the wall of the asset is available, or a manufacturer's access point in the back of the asset, use this existing access point to thread the probe wire into the asset. If a pre-drilled hole is not available, discuss the possibility of having the Client's engineering team drill a hole in the back of the unit for this purpose.

If you are unable to install the probe through the back of the asset or through a hole, you may thread the wire through the door with written customer documentation to support the decision to go through the door. If existing temperature monitoring devices are in place, attempt to install the Awarepoint temperature vial as close to these as possible. If no temperature-monitoring device exists, install the vial as far back from the front door of the unit as possible to reduce fluctuations in readings caused by opening the asset door.

To install the Environmental Tag:

1. Ensure that the TAG MAC is visible and place the Tag on the outside of the temperature asset using 2 pieces of VHB tape affixed to the back of the unit.

Press the Tag firmly against the asset for approximately 30 seconds to ensure bonding.

2. Feed the probe through any service port on top, back, or side of device.

If a service port or other opening isn't available, it is recommended that a hole be drilled so the cord may pass through and the hole sealed after tag installation. This is not always possible.

3. Using a zip tie and anchor, make a service loop of any excess cord in order to relieve tension if it is pulled.

For best results, two loops should be placed on the device, one outside and one inside. A bow shape achieves the best results.



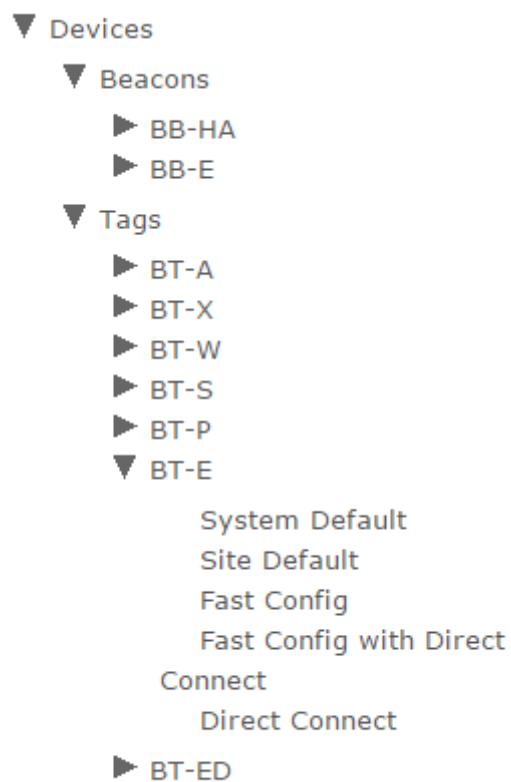
The Tag must be placed on the outside of the asset with the bar code facing forward or up for easy reading/scanning.

4.3.4 Tag Configuration and Map Placement

VFC Tag and Display devices must have the proper configurations to ensure efficiency. Additionally, for non-BLE deployments, Tags and Displays must be placed on a facility map manually. These procedures are performed in System Manager.

4.3.4.1 Tag Configuration Settings

1. In System Manager, select **Config > Device Config**.
2. From the list of devices on the left, select **BT-E** to show the configuration settings for Environmental Tags.



3. Select **Site Default** to display the configuration settings for the site.

SysMan

Map

Devices +

Config +

Accuracy Tests +

MSE

BLE +

Site Selector | Logout

▼ Devices

▼ Beacons

▶ BB-HA

▶ BB-E

▼ Tags

▶ BT-A

▶ BT-X

▶ BT-W

▶ BT-S

▶ BT-P

▼ BT-E

System Default

Site Default

Fast Config

Fast Config with Direct

Connect

Direct Connect

▶ BT-ED

Site Default

Intervals

Device Configuration Name

Site Default

Intervals

Config Interval

86400

86400

Wifi Blink Interval

20

20

Wifi Transmission Settings

Wifi Unicast Power

4

-4

Wifi Broadcast Power

4

-4

Broadcast Channels

☒ 1
 ☐ 2
 ☐ 3
 ☐ 4
 ☒ 5
 ☒ 6
 ☐ 7
 ☐ 8
 ☐ 9
 ☒ 10
 ☒ 11

Wifi Broadcast Repeat Count

0

0

Wifi Broadcast Spacing

50

50

Tag Settings

Maximum Number of Beacons

10

10

Beacon Report Max Length

127

127

Power Saving Mode

☒ Enabled
 ☐ Disabled

Environmental Tag Settings

Probe Sample Wifi Interval (seconds)

300

300

Probe Sample BLE Interval (seconds)

300

300

Probe Sample Transmit Power (signed)

4

-9

Enable Direct Connect

☒ Enabled

Wifi Beacon Report Timings

Submit

Copy

A full list of configuration setting descriptions is provided in the *System Manager User Guide*.

Most configuration settings can be left at their defaults.

4. Verify the following configuration settings:

- **Config Interval** – should be set to 86400
Sends a configuration signal to all affected tags every 24 hours
- **Probe Sample Wifi Interval (seconds)** – should be set to 900

For non-BLE tags, sends a probe reading to Infopoint every 15 minutes

- **Probe Sample BLE Interval (seconds)** – should be set to 150

For BLE tags, sends a probe reading to awareHealth every 2.5 minutes

Additionally, this BLE blink is used by the Display to establish a connection between the Tag and Display.

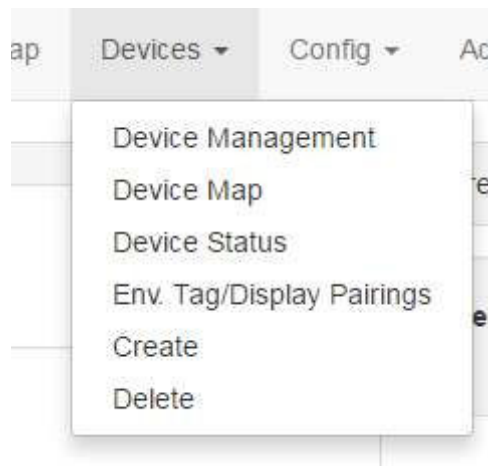
5. Click **Submit** if you made any changes.

Once a Tag has been brought online and configured, any configuration settings changes will be sent at the **Config Interval** time (in seconds). If a configuration setting change needs to be applied sooner than the set interval, power cycle the Tag by removing the batteries and then replacing them. When the Tag powers back on, it will take on the current settings.

4.3.4.2 Placing the Device on a Map

In the absence of BLE beacons for a non-MSE deployment, tag and VFC display placement are done through System Manager by placing the devices on a map during installation. Perform the following procedure to place the Tag and Display on a map:

1. In System Manager, click the **Devices** tab and then select **Device Map**.

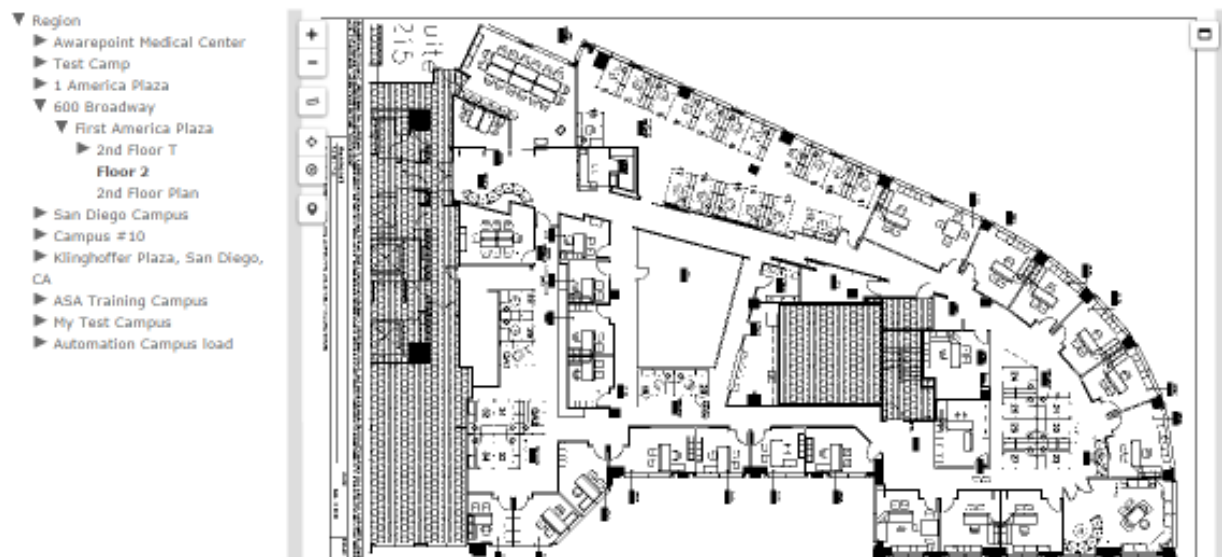


A device region manager list displays.

- ▼ **Region**
 - ▶ Awarepoint Medical Center
 - ▶ Test Camp
 - ▶ 1 America Plaza
 - ▶ 600 Broadway
 - ▶ San Diego Campus
 - ▶ Campus #10
 - ▶ Klinghoffer Plaza, San Diego, CA
 - ▶ ASA Training Campus
 - ▶ My Test Campus
 - ▶ Automation Campus load

2. Expand the list on the left to locate the floor where you will be placing the Tag and Display.
3. Click the floor.

The floor name will become bold in the list and the map of the floor displays.



4. Click the **Devices** icon on the left.

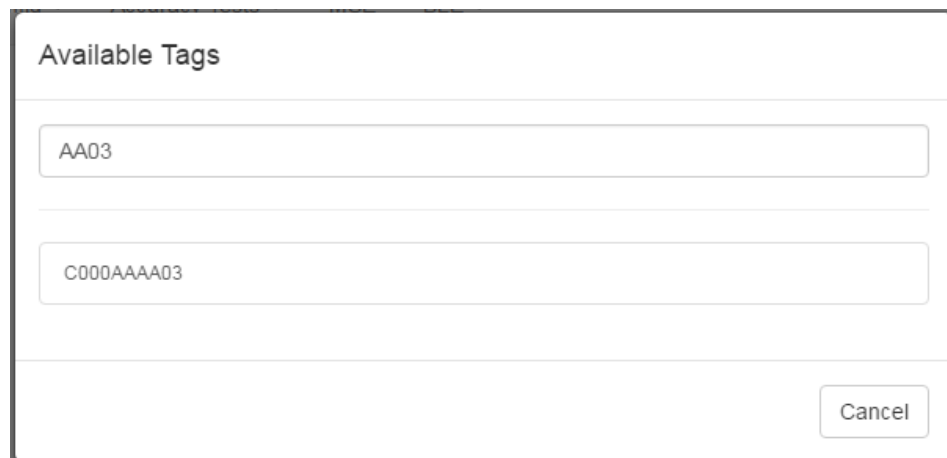


The **Available Tags** dialog displays.

A dialog box titled "Available Tags" with a text input field containing the placeholder text "Enter at least 4 digits of PID for results". A "Cancel" button is located at the bottom right.

5. In the text field, enter at least 4 digits of the device's PID to start a search for the device.

A list of devices matching the number you entered displays beneath the text box.

A dialog box titled "Available Tags" showing search results. The text input field contains "AA03". Below the input field, two matching tags are listed: "AA03" and "C000AAAA03". A "Cancel" button is located at the bottom right.

6. Click the PID of the device you want to place.

The window disappears and your cursor appears with a beacon icon.



7. Zoom in on the map in order to place the device as accurately as possible.
8. Click on the map to place the device.
9. If you have placed the device in the wrong place or placed the wrong device, click the icon to display a list of options.



To move the device, click the **Move** link, then click and drag the icon to the new location.

Click **Cancel** to cancel the operation and remove the icon.

Click **Remove** to remove the device icon, then click **Ok** at the confirmation dialog.

The Awarepoint tag connects directly to the appliance over WiFi. In an MSE environment, System Manager configures the tag to use either Broadcast or TCP for samples and configuration.

4.3.5 Tag Network Connectivity

There are two options for VFC tag network connectivity, direct connect and connection through the appliance.

4.3.5.1 Tag Direct Connect

When the tag is configured with Direct Connect enabled, it connects directly to the Awarepoint Appliance to send sample indications rather than sending via WiFi blink.

Perform the following procedure to configure the tag for direct connect:

1. Pair the VFC tag with its display.

NOTE: Only environmental tags and displays can be paired.

Only environmental tags and displays that have already been batch created can be paired. If you have not batch created the devices, do so first before continuing with the following procedure.

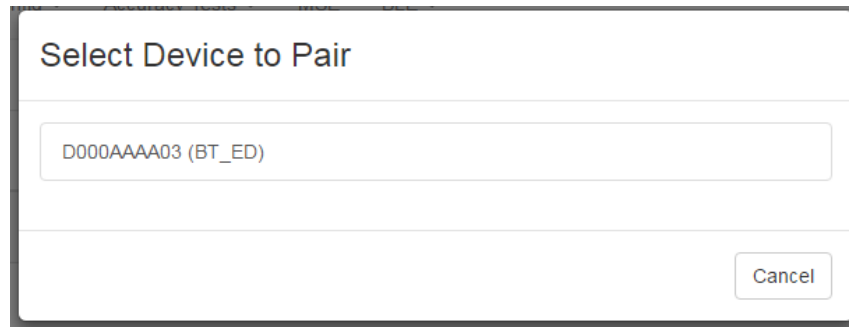
- a. In System Manager, from the **Devices** tab drop-down, select **Env. Tag/Display Pairings**.
- b. From the **Environmental Tag/Display Pairings** window, locate the device (environmental tag) you want to pair with a display in the **Environmental Tag** column.

NOTE: If you are on the **Display to Environmental Tag Pairings** tab, the first column would be **Display**, showing all environmental displays. The procedure, however, is still similar for pairing.

Only devices that are eligible for pairing display in the first column. Additionally, the second column for eligible devices will be blank. On the far right, the **Pair** button for that device is available.

- c. Click the **Pair** button on the far right in that device's row.

The **Select Device to Pair** window displays.



Only devices eligible for pairing appear in this window.

- d. Left-click the device you want to pair.

The devices are paired and now display as paired in the **Environmental Tag/Display Pairings** window.

2. Batch create the tag.
 - a. From the **Devices** tab drop-down, select **Create**.
 - b. From the **Device Type** drop-down, select the type of device you are creating.
 - c. In the **MAC Addresses or Product ID's (PID):** field, enter the MAC address or product ID (PID) of the device or devices.
 - d. Click **Create**.
3. Configure the tag to be a VFC tag.
 - a. From the devices list on the left, drill down to find the Tag type whose configuration you want to change or update, then select the configuration beneath it.
 - b. Edit each desired field or checkbox to the configuration settings desired.

NOTE: Refer to the *System Manager User Guide* for detailed information on all fields and a full description of the configuration process.

- c. Click **Submit** to apply any changes made.

4.3.5.2 Tag Connected Through Awarepoint Appliance

Perform the following procedure to configure the tag for use in the Awarepoint solution with awareHealth:

1. Pair the VFC tag with its display.

See the procedure in [Pairing Devices](#).

2. Batch create the tag.
 - a. From the **Devices** tab drop-down, select **Create**.
 - b. From the **Device Type** drop-down, select the type of device you are creating.
 - c. In the **MAC Addresses or Product ID's (PID)**: field, enter the MAC address or product ID (PID) of the device or devices.
 - d. Click **Create**.
3. Configure the tag to be a VFC tag.
 - a. From the devices list on the left, drill down to find the Tag type whose configuration you want to change or update, then select the configuration beneath it.
 - b. Edit each desired field or checkbox to the configuration settings desired.

NOTE: Refer to the *System Manager User Guide* for detailed information on all fields and a full description of the configuration process.

- c. Click **Submit** to apply any changes made.

Following this procedure, the tag will display in awareHealth and an alert can be set to notify personnel when the temperature asset goes out of range.

4.3.6 VFC Display Setup

The VFC Display functions as a separate device on the network and requires its own setup and procedures apart from the Environmental Tag. The setup consists of the following:

- Batch Creating and Pairing
- Battery Installation and Powering On
- Provisioning

- Mounting

These procedures must be done in the order described or the system may not work.

4.3.6.1 Batch Creating and Pairing

Batch creating and pairing of the VFC Display is done following the procedures previously described.

- [Batch creating](#)
- [Pairing](#)

4.3.6.2 Battery Installation and Powering On

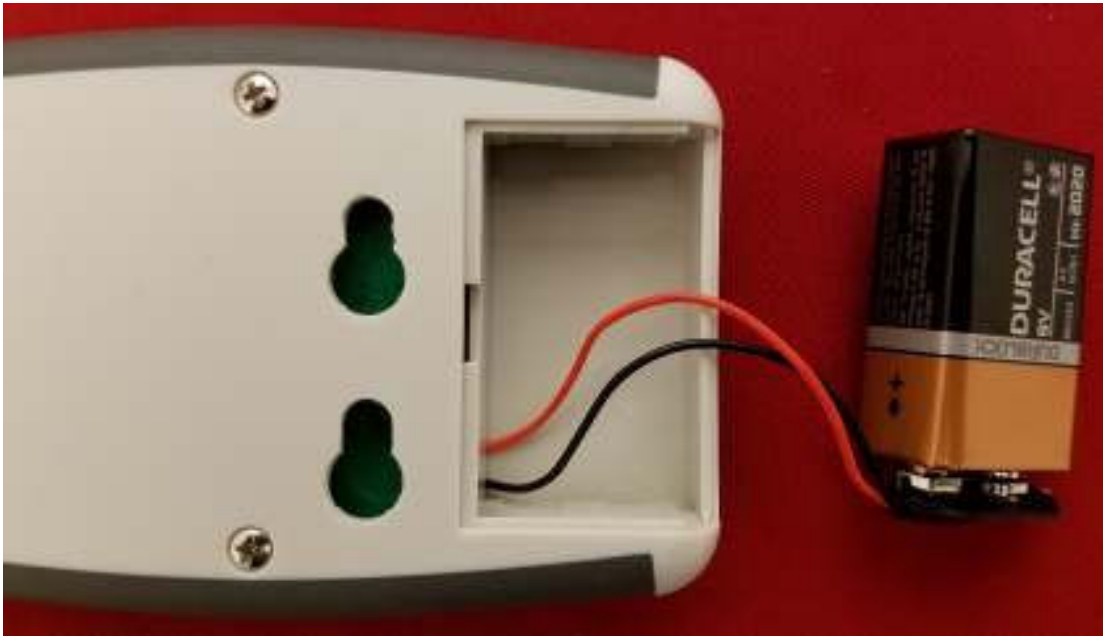
Perform the following procedure to install the battery and power on the VFC Display:

NOTE: These procedures must be completed **within 5 minutes** of the Environmental Tag's first signal input to Infopoint. If not, the Tag and Display will wait 30 minutes before attempting to contact each other again in order to preserve battery life.

1. On the back of the VFC Display, locate the battery cover.



2. Using your thumb, apply some pressure to the ridged area with the area and slide the cover away from the display.
3. Attach the 9-volt battery to the battery connector.



4. Place the battery back in the Display and replace the battery cover.

NOTE: Placing the battery back in the Display with the connector wires **on top** of the battery instead of underneath makes it easier to close the cover and to remove the battery later on for changing.

5. Power on the Display by pressing and holding the **Mode** button for 8 seconds.
6. When the Display powers on, immediately provision the device.

4.3.7 Provisioning the VFC Display

After a device (tag, display, or beacon) has been batch created, it must be provisioned so that it can connect to the network and provide location information for tags. Use the following procedure to provision a device.

NOTE: Before beginning this procedure, an Awarepoint router must be connected and running close to the tablet running the provisioning application. Without this router, the SSID for the site will not be available to the app and the provisioning procedure will fail.

1. Open the Provisioning app on the Awarepoint tablet.



Figure 8 Provisioning Application Main Screen

The following areas should be noted as identified in the figure above:

- 1) Application version
 - 2) The **Environment URL** drop-down list
 - 3) The **REQUEST TOKEN** button
 - 4) The **SYNC WITH SITES FROM IP** button
 - 5) The **Select Site** drop-down list
 - 6) The **INITIATE PROVISIONING** slider
2. Enter the username and password for connection to the Awarepoint web services.
 3. From the **Environment URL** drop-down list, select the environment you are going to request the token from.



NOTE: There are four main environments to select from. Each environment has different sites associated with it, so be careful to choose the correct environment.

4. Press the **Request Token** button.

If the username and password were correct, a success message displays.

If you do not see a success message, re-enter the username and password and verify the **Environment URL**. If you still do not see a request message, contact the account manager to verify the credentials or to see if there is an outage.

5. Press the **SYNC WITH SITES FROM IP** button.

Pushing this button pulls a list of all sites associated with the selected **Environment URL**.

6. From the **Select Site** drop-down, select the site to synchronize with.



Figure 9 Sample Site List

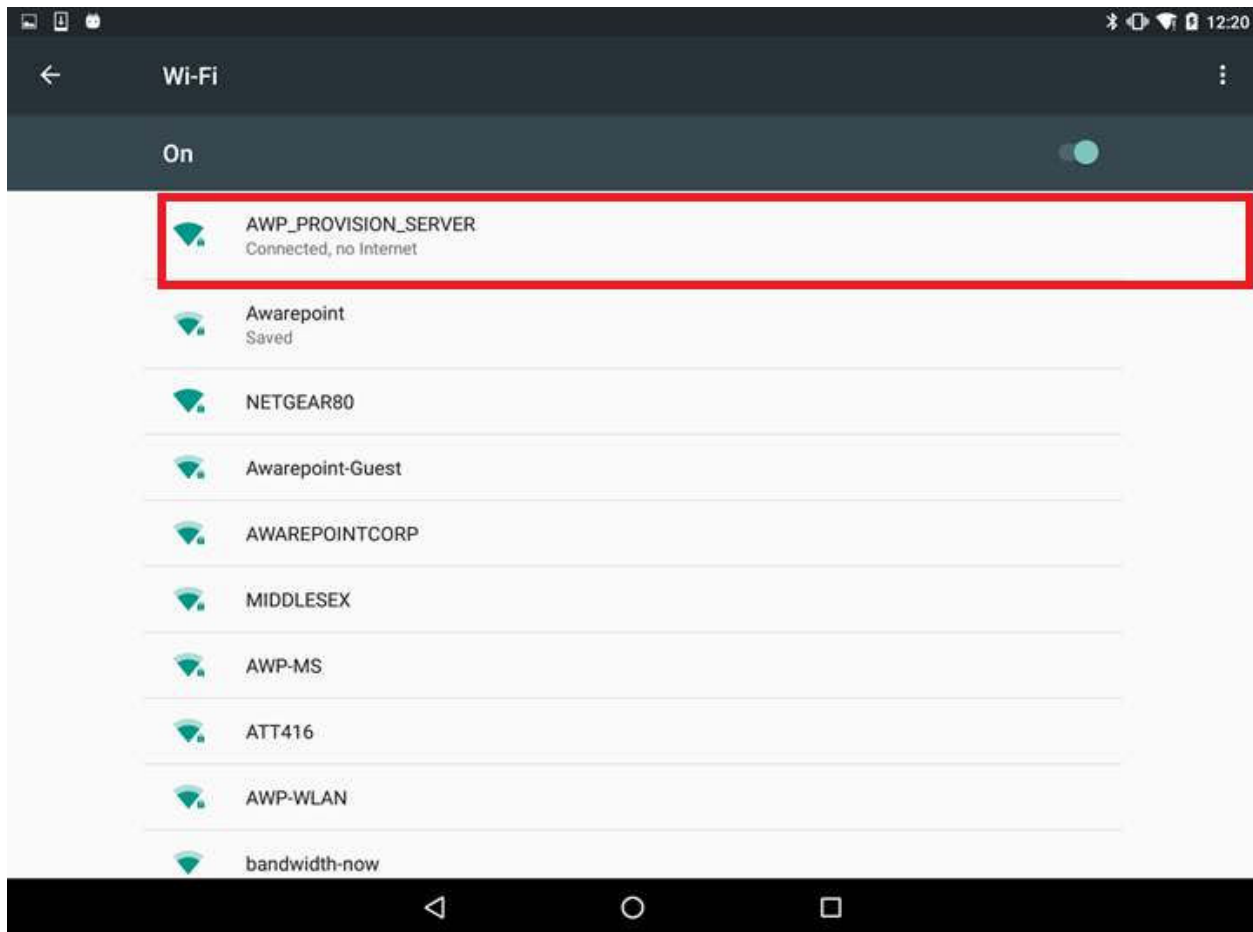
Once you select a site, the **SYNC WITH SITES FROM IP** button changes to **SYNC WITH SITE**.

7. Push the **SYNC WITH SITE** button.

This option requires an Internet connection.

You must wait until this step completes without any error before proceeding to the next step. If an error occurs, attempt to **SYNC WITH SITE** again. If this step does not complete due to an error, the data will not be available for provisioning devices.

8. After successful synchronizing with the site is complete, change the Wi-Fi Network to the SSID named **AWP_PROVISION_SERVER**.



This is the SSID in the Awarepoint router. The router must be preconfigured with the specific security options and the correct SSID name.

9. Slide the **INITIATE PROVISIONING** slider to the **ON** position.



Figure 10 INITIATE PROVISIONING in OFF Position

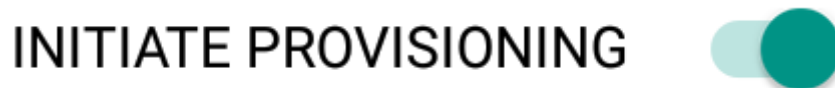


Figure 11 INITIATE PROVISIONING in ON Position

Initiating provisioning does two things:

- Creates a Network Service Discovery that allows the tablet to start listening for devices in the same network

- Creates an SSL Server socket site in order to start communication with the devices

10. Power cycle the device by pulling the battery out and replacing.

NOTE: If the **DEVICES TO PROVISION** section is empty (clear list), the tablet will try to provision every Awarepoint device. If the list is not empty and you have entered specific device PIDs, the tablet will detect the devices (will appear in **DISCOVERED AWP DEVICES** section) but will just provision the devices in the list. Other devices will be ignored.



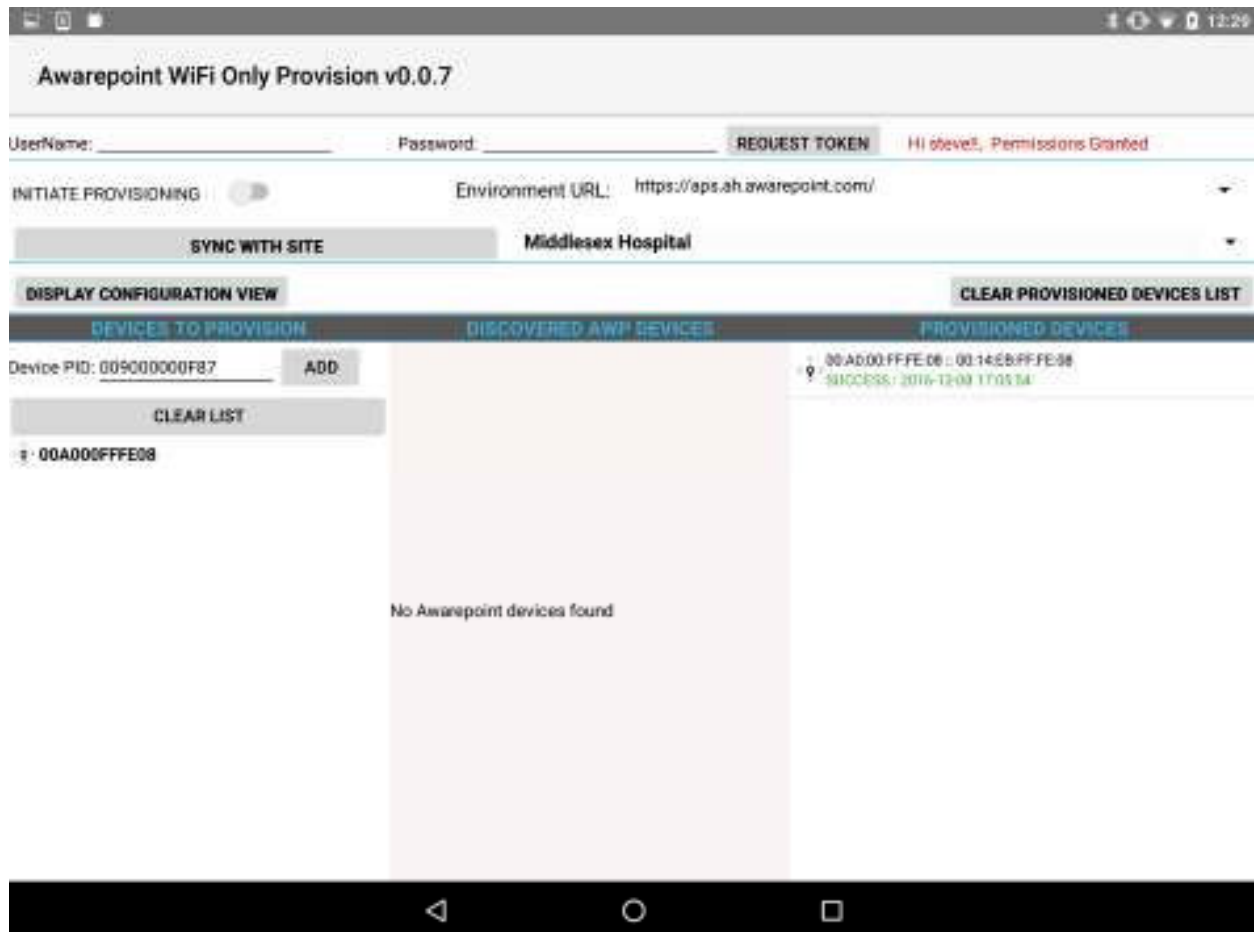
11. From the **Environment URL** drop-down, select the Awarepoint environment you want to pull network data from.

12. Enter the username and password in the appropriate fields.

These are the credentials to have access to execute the REST Web services to pull configuration data. This is an Oauth2 security type.

13. Press the **Request Token** button.

If the connection is successful, a Permission Granted message displays.



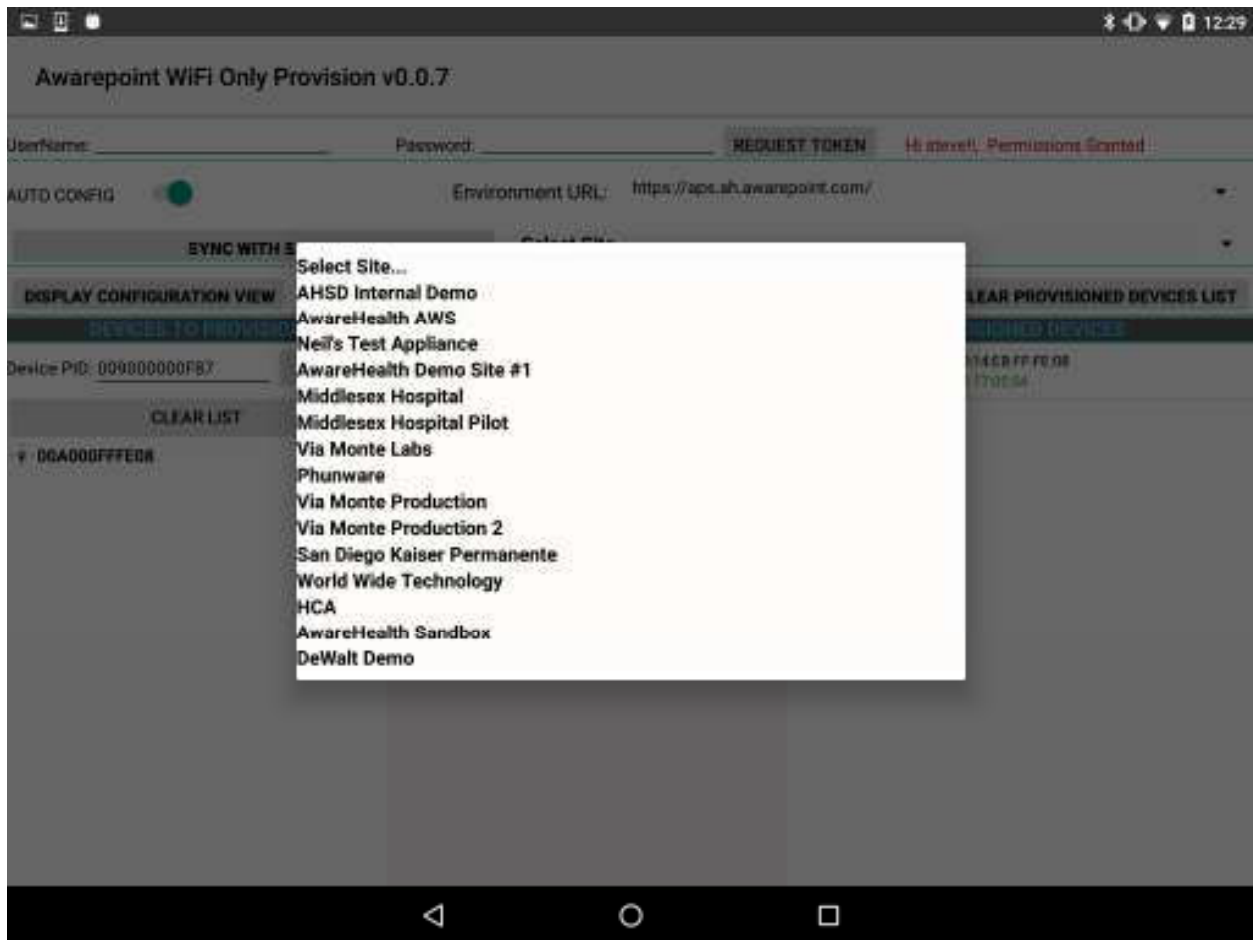
If you receive a Permission Denied message, check the Environment URL, username, and password, and retry. If you are still denied, contact the account manager.

14. Press the **SYNC SITES FROM IP** button.

This executes a call to pull every site for the Environment URL selected.

When the process of pulling the sites is complete, the **SYNC SITES FROM IP** button changes to **SYNC WITH SITE**.

15. Select a site from the drop-down next to the **SYNC WITH SITE** button.



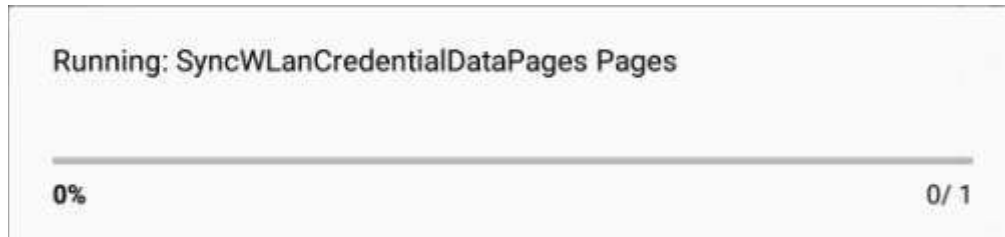
16. Press the **SYNC WITH SITE** button.

This begins the data pulling process. Progress bars display at each stage of the process.

- a. Pull Batch Created devices: If the device is not batch created in the system, it cannot be provisioned.



- b. WlanCredentialData: Contains the username and password for an individual device or a group of devices or a single user and password for the whole site.



- c. NetworkConfig: Contains the hostname by name or IP.



- d. SSIDData: Contains the SSID for an individual device or a group of devices or a single user and SSID for the whole site.



- e. CertificateData: Contains the certification information, private key and ca Certificate Root. Note that some sites do not require certificate information.



- f. WlanSecurity: contains the security information: EAP Method and security type.

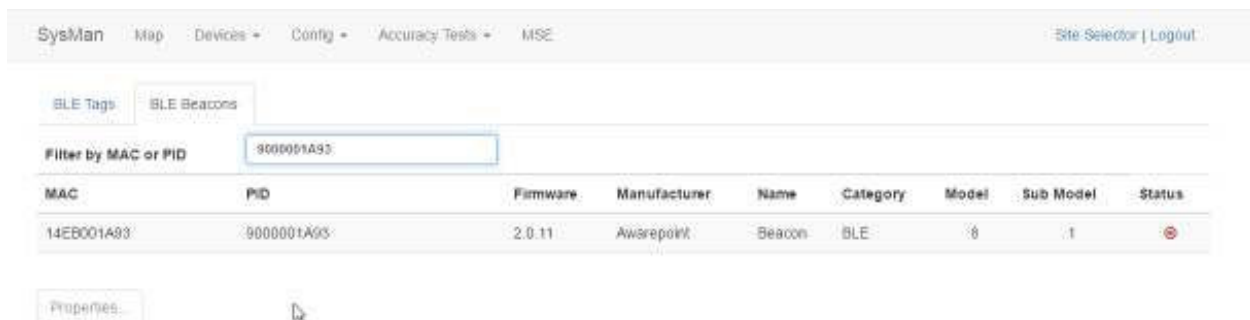


- g. The last step in the process is to put all the pieces together in order to have each device have a full configuration.



17. Be sure that the **AUTO SCAN** and **AUTO CONFIG** sliders are set to the on position.
18. After the MAC address of the device shows up in the discovered AWP devices list, click the MAC address.
19. When the **Start WiFi Provisioning** button displays, press it.
20. Once the device is provisioned successfully, the PID of the device shows in the **Provisioned Devices** list.

After the device has configured, the MAC address of the device(s) will show along with the PID of the device(s) in the **Device Management** window.



4.3.8 VFC Display Configuration and Map Placement

VFC Tag and Display devices must have the proper configurations to ensure efficiency. Additionally, for non-BLE deployments, Tags and Displays must be placed on a facility map manually. These procedures are performed in System Manager.

4.3.8.1 VFC Display Configuration Settings

1. In System Manager, select **Config > Device Config**.
2. From the list of devices on the left, select **BT-ED** to show the configuration settings for VFC Display devices.



3. Select **Site Default** to display the configuration settings for the site.

The screenshot shows the SysMan configuration interface. The top navigation bar includes links for SysMan, Map, Devices, Config, Accuracy Tests, MSE, and BLE. The right side of the bar has 'Site Selector' and 'Logout'. On the left, a 'Devices' sidebar lists 'Beacons' (BB-HA, BB-E) and 'Tags' (BT-A, BT-X, BT-W, BT-S, BT-P, BT-E, BT-ED), with 'System Default' and 'Site Default' selected. The main area is titled 'Site Default' and contains several sections: 'Intervals' with a 'Device Configuration Name' field set to 'Site Default'; another 'Intervals' section with 'Config Interval' (66400) and 'Wifi Blink Interval' (20); 'Wifi Transmission Settings' with 'Wifi Unicast Power' (4), 'Wifi Broadcast Power' (4), 'Broadcast Channels' (1-11), 'Wifi Broadcast Repeat Count' (0), and 'Wifi Broadcast Spacing' (50); and 'Display Tag Settings' with 'Audible Alarm Level' (Level 2). 'Submit' and 'Copy' buttons are at the bottom.

A full list of configuration setting descriptions is provided in the *System Manager User Guide*.

Most configuration settings can be left at their defaults.

4. Verify the following configuration settings:

- **Config Interval** – should be set to 259200

Sends a configuration signal to all affected display devices every 3 days

- **Audible Alarm Level** – volume of audible alarm, from **OFF** to **Level 4**

Default is **Level 2**

5. Click **Submit** if you made any changes.

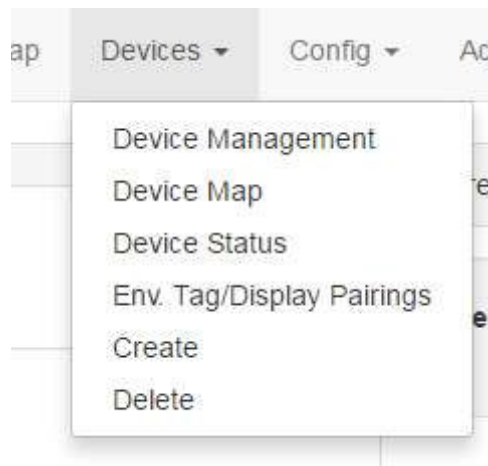
Once a Display has been brought online and configured, any configuration settings changes will be sent at the **Config Interval** time (in seconds). If a configuration setting

change needs to be applied sooner than the set interval, power cycle the Display by removing the batteries and then replacing them. When the Display powers back on, it will take on the current settings.

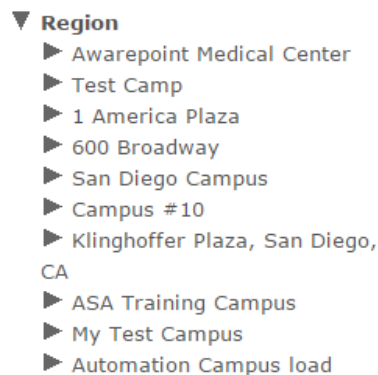
4.3.8.2 *Placing the Device on a Map*

In the absence of BLE beacons for a non-MSE deployment, tag and VFC display placement are done through System Manager by placing the devices on a map during installation. Perform the following procedure to place the Tag and Display on a map:

1. In System Manager, click the **Devices** tab and then select **Device Map**.

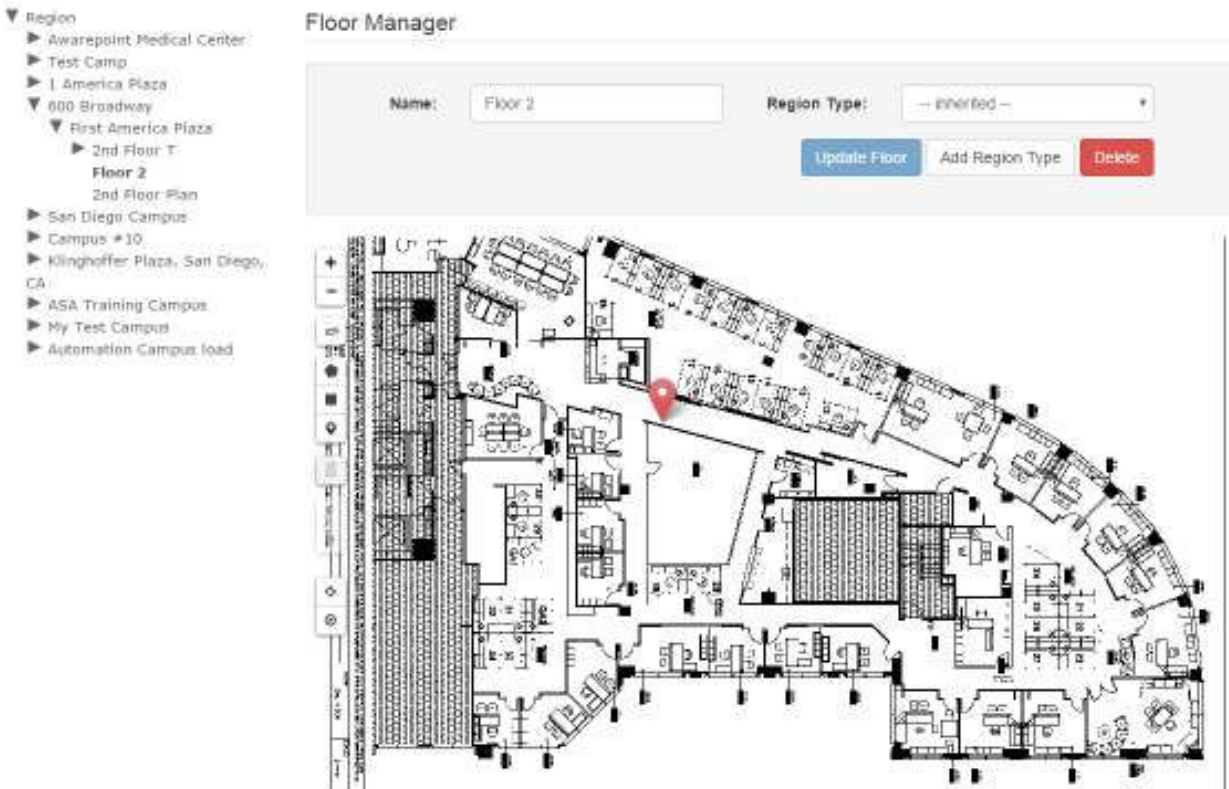


A device region manager list displays.



2. Expand the list on the left to locate the floor where you will be placing the tag and Display.
3. Click the floor.

The floor name will become bold in the list and the map of the floor displays.



4. Click the **Devices** icon on the left.

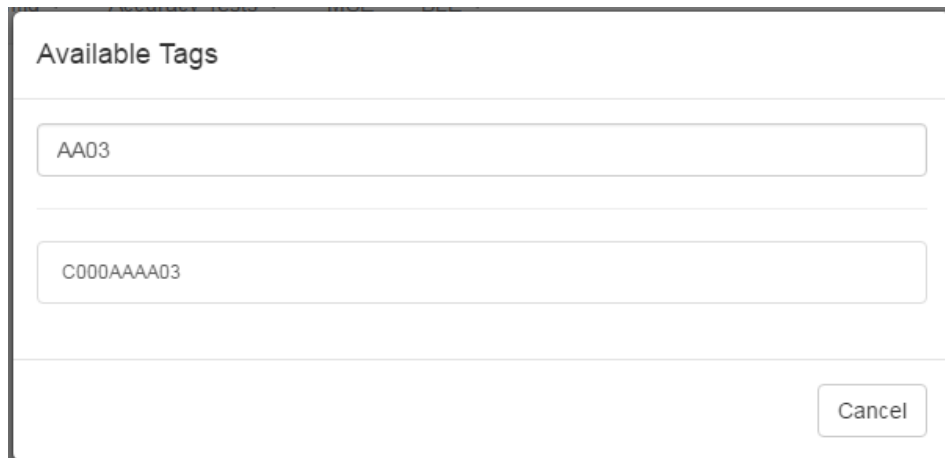


The **Available Tags** dialog displays.

The 'Available Tags' dialog box is shown. It has a title bar 'Available Tags'. Below the title bar is a text input field with the placeholder text 'Enter at least 4 digits of PID for results'. Below the input field is a list area that is currently empty. At the bottom right of the dialog is a 'Cancel' button.

5. In the text field, enter at least 4 digits of the device's PID to start a search for the device.

A list of devices matching the number you entered displays beneath the text box.

A dialog box titled "Available Tags" with a light gray background. It contains two text input fields. The first field contains the text "AA03". The second field contains the text "C000AAAA03". At the bottom right of the dialog box is a "Cancel" button.

6. Click the PID of the device you want to place.

The window disappears and your cursor appears with a beacon icon.



7. Zoom in on the map in order to place the device as accurately as possible.
8. Click on the map to place the device.
9. If you have placed the device in the wrong place or placed the wrong device, click the icon to display a list of options.



To move the device, click the **Move** link, then click and drag the icon to the new location.

Click **Cancel** to cancel the operation and remove the icon.

Click **Remove** to remove the device icon, then click **Ok** at the confirmation dialog.

4.3.9 Mounting the VFC Display

The VFC Display is mounted on the outside of the temperature asset it is monitoring. To mount the VFC Display you will need:

- The powered on and provisioned VFC Display
- Mounting bracket



Figure 12 VFC Display Mounting Bracket - Top View



Figure 13 VFC Display Mounting Bracket - Side View

- VHB tape
1. Place a piece of VHB tape on the flat side of the mounting bracket.
 2. Locate a clean, dry, flat surface on the outside of the temperature asset and place the bracket there with the VHB tape, pressing firmly to secure the bracket.

The bracket should be mounted vertically so that the extended parts are one over the other.

The bracket should also be in a location so that the VFC Display can be easily read and buttons accessed.

3. Place the VFC Display keyhole openings on the back over the extensions on the bracket and then slide down to secure the display in place.



5 Associating Tags with Assets

For an alert to be set, the Tag must first be associated with an asset. Associating a Tag with an asset also allows users to know the location of the asset when an alert notification is sent. Associating is done in Infopoint or awareHealth.

5.1 Associating a Tag with an Asset in Infopoint

Tags can be associated with an asset in Infopoint by either creating a new asset and assigning a Tag to it or assigning a tag to an existing asset.

5.1.1 Assigning a Tag to a New Asset

Perform the following procedure to create a new asset and associate a Tag with that asset.

NOTE: Creating an asset or associating a Tag with an asset may not be available to all users depending on each user's permissions.

1. Log in to Infopoint and click the **Assets** tab.

The **Find Assets** page displays.

ACN	ACN2	Name	column 1	L2	field 3	field 4	field 5	Type	MAC	Manufacturer	Model	Serial Number	Owner	Description	Temperature	H
Temp Monitoring - 1218 update2		Temp Monitoring - 1218						BC Asset Type Test: test				test			23.1° C	
Rock Bug fix 19a0 long name 1234567890 1234567890 1234567890		Bug fix 19a0 long name 1234567890 1234567890 1234567890						p type : p sub1							21.3° C	
Temp Monitoring - EEB update	Test	Temp Monitoring - EEB update 2						p type : p sub1	3005000web						23.3° C	

2. Click the **Create an Asset** link.

The **Create New Asset** page displays.

The screenshot shows the 'Asset Create New Asset' page in the AWP Grumpy application. The page has a navigation bar with 'Administration', 'Assets', 'Temperature/Humidity', 'Patients', and 'Reports'. Below the navigation bar, there's a breadcrumb trail: 'Create an Asset' > 'Find Assets' > 'Asset Types' > 'Asset Manufacturers' > 'Asset Models' > 'Asset Owners' > 'List Utilization Rules' > 'Create Utilization Rule' > 'Asset Groups' > 'Alerts' > 'List Alert Rules'.

The main form area contains the following fields and options:

- Asset Control Number: *
- Asset Control Number 2:
- Display Name: *
- Serial Number:
- Description:
- Tag MAC:
- column 1:
- column 2:
- field 3:
- field 4:
- field 5:
- Asset Type: * None (dropdown with 'Create New' link)
- Owner: None (dropdown with 'Create New' link)
- Manufacturer: None (dropdown with 'Create New' link)
- Model: None (dropdown with 'Create New' link)
- Date Placed in Service: 03/14/2017
- Next Maintenance Date:
- Out of Service: ☐
- Is Rental: ☐
- Is Capital: ☐
- Set Minimum Temperature: ☐
- Set Maximum Temperature: ☐
- Set Temperature Corrective Action Required Time: ☐
- Temperature Display Units: Inherit from the asset type (dropdown)
- Perform scheduled temperature checks: ☐
- Set Minimum Humidity: ☐
- Set Maximum Humidity: ☐
- Set Humidity Corrective Action Required Time: ☐
- Perform scheduled humidity checks: ☐

Required fields are marked with an asterisk (*). At the bottom of the form, there are three buttons: 'Create', 'Create and Duplicate', and 'Cancel'.

Footer information includes: 'Email: awp@point.com or call toll free: 1-888-824-4886', 'pat: <http://www.awarepoint.com/patents>', '©2017 Awarepoint Corporation', and '7.4.0'.

3. Fill in the necessary asset information.

Fields marked with an asterisk * are required.

4. In the **Tag MAC** field, enter the MAC address of the Environmental Tag.

Asset Control Number:	*	
Asset Control Number 2:		
Display Name:	*	
Serial Number:		
Description:		
Tag MAC:		
column 1:		

- When done entering all necessary information, click the **Create** button.

The new asset will appear in the list of assets with associated Tag.

5.1.2 Assigning a Tag to an Existing Asset

- Log in to Infopoint and click the **Assets** tab.

The **Find Assets** page displays.

Administration Assets Temperature/Humidity Patients Reports														
Asset Find Assets														
Create an Asset Find Assets Asset Types Asset Manufacturers Asset Models Asset Owners List Utilization Rules Create Utilization Rule Asset Groups Alerts List Alert Rules														
Search Asset Search														
Note: some search terms may be found in columns that are not currently displayed. Use the "Change Columns" button to change your display.														
Showing 1 to 10 of 23 entries														
Rentals: v	Capital: v	Temperature: v	Mixing: v	In Service: v										
ACN1	ACN2	Name	column 1	field 2	field 3	field 4	field 5	Type	MAC	Manufacturer	Model	Serial Number	Owner	Description
Temp Monitoring - 1218 update2		Temp Monitoring - 1218						BC Asset Type Test: test1				test		23.1° C
Rock Bug fix 1240 long name 1234567890 1234567890 1234567890		Bug fix 18x0 long name 1234567890 1234567890 1234567890						p type - p sub1						21.9° C
Temp Monitoring - EEB update	Test	Temp Monitoring - EEB update 2						p type - p sub1	3005000wss					23.3° C

- Using either the Search text box or by scrolling through the list of assets, locate the asset you want to assign a Tag to and click the ACN (link in first column) of that asset.

The **Edit Asset Control Number** page displays.

infopoint

Welcome, spgregory@awarepoint.com (2017-03-14 10:24:58 PDT) | AWP Grumpy

Home | My Account | Support | Change Site | Log Out

Administration Assets Temperature/Humidity Patients Reports

Asset - Edit Asset Control Number: Temp Monitoring - 12f8 update2

Create an Asset Find Assets Asset Types Asset Manufacturers Asset Models Asset Owners List Utilization Rules Create Utilization Rule Asset Groups Alerts

List Alert Rules

Asset Control Number: Temp Monitoring - 12f8 update2

Asset Control Number 2:

Display Name: Temp Monitoring - 12f8

Serial Number: test

Description:

Tag MAC:

column 1:

c2:

field 3:

field 4:

field 5:

Asset Type: BC Asset Type Test - test1 Create New

Owner: None Create New

Manufacturer: None Create New

Model: None Create New

Date Placed in Service: 03/17/2013

Next Maintenance Date:

Out of Service:

Is Rental:

Is Capital:

Set Minimum Temperature:

Set Maximum Temperature:

Maximum Temperature (°C): 37.8

Set Temperature Corrective Action Required Time:

Corrective Action Required Time (Minutes): 5 minutes

Temperature Display Units: Inherit from the asset type

Perform scheduled temperature checks:

Add Check Time: Hour: 0 Minute: 0 Add

Check Time: 10:40:00 Delete

Check Time: 10:41:00 Delete

Check Time: 10:50:00 Delete

Check Time: 10:54:00 Delete

Set Minimum Humidity:

Minimum Humidity (%): 20.0

Set Maximum Humidity:

Maximum Humidity (%): 50.0

Set Humidity Corrective Action Required Time:

Humidity Corrective Action Required Time (Minutes): no delay

Perform scheduled humidity checks:

Add Check Time: Hour: 0 Minute: 0 Add

Check Time: 10:52:00 Delete

Check Time: 10:57:00 Delete

Required fields are marked with an asterisk (*)

Save Cancel

Email Awarepoint or call toll free: 1-888-924-4866
pat. http://www.awarepoint.com/patents

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3. In the **Tag MAC** field, enter the MAC address of the Environmental Tag.

Asset Control Number:	*	
Asset Control Number 2:		
Display Name:	*	
Serial Number:		
Description:		
Tag MAC:		
column 1:		

4. Click the **Save** button.

The asset is now associated with the Environmental Tag.

5.2 Associating a Tag with an Asset in awareHealth

Tags can be associated with an asset in awareHealth by either creating a new asset and assigning a Tag to it or assigning a tag to an existing asset.

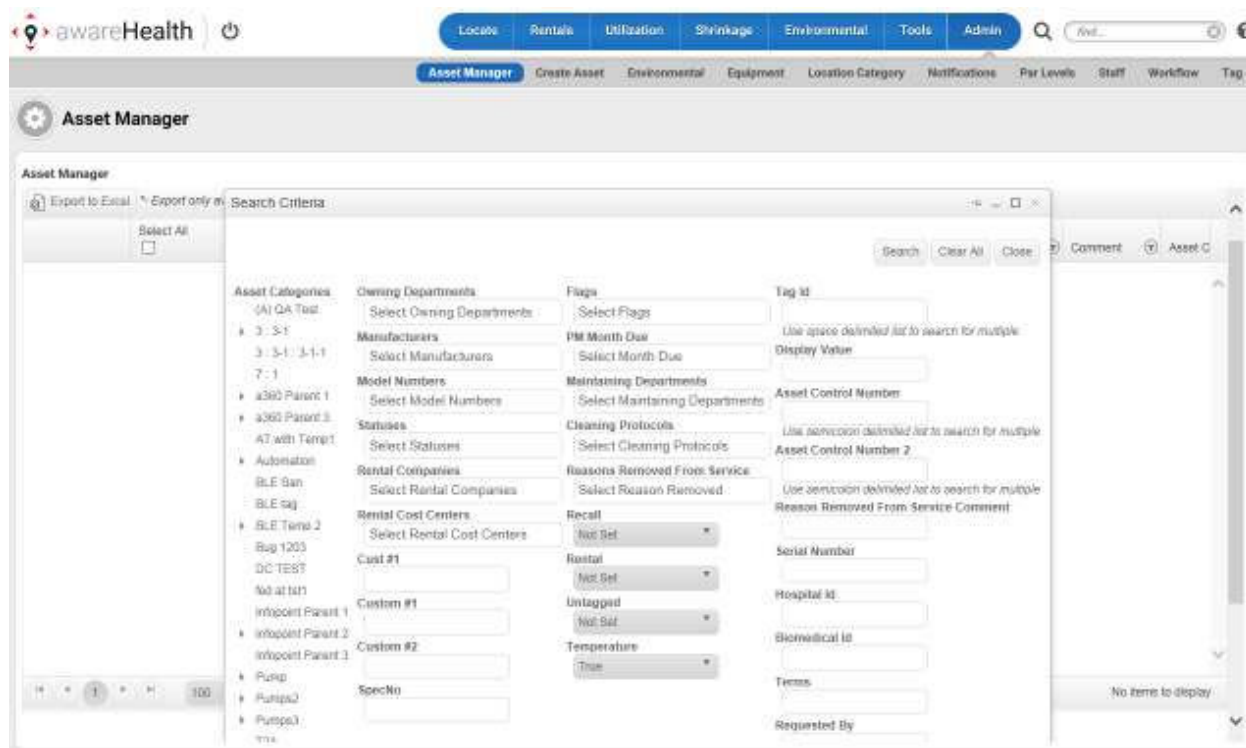
5.2.1 Assigning a Tag to a New Asset

Perform the following procedure to create a new asset and associate a Tag with that asset.

NOTE: Creating an asset or associating a Tag is available only to users with administrator privileges.

1. Log in to awareHealth and click the **Admin** tab.

The **Asset Manager** page displays.



2. In the **Search Criteria** pop-up, click the **Close** button in the upper right to close it.
3. Underneath the **Asset Manager** page title, click the **Create Asset** button.

The **Create Asset** window displays.

The 'Create Asset' window contains the following fields and controls:

- Buttons:** Create, Clear All, Close
- Asset Category:** (A) QA Test, 3 : 3-1, 3 : 3-1 : 3-1-1, 7 : 1, a360 Parent 1, a360 Parent 3, AT with Temp1, Automation, BLE San, BLE tag, BLE Temp 2, Bug 1203, DC TEST, fed at tst1, Infopoint Parent 1, Infopoint Parent 2, Infopoint Parent 3, Pump, Pumps2, Pumps3, T3A
- Tag Id:** [Text Field]
- Status:** Decommissioned (dropdown)
- Display Value:** [Text Field]
- Manufacturer:** Select one (dropdown)
- Asset Control Number:** [Text Field]
- Model Number:** Select one (dropdown)
- Asset Control Number 2:** [Text Field]
- Owning Department:** Select one (dropdown)
- Serial Number:** [Text Field]
- Maintaining Department:** Select one (dropdown)
- Hospital Id:** [Text Field]
- PM Month Due:** Select one (dropdown)
- Biomedical Id:** [Text Field]
- Cleaning Protocols:** Select one (dropdown)
- Interface Id:** [Text Field]
- Reason Removed From Service:** Select one (dropdown)
- Comment:** [Text Field]
- Reason Removed From Service Comment Recall:** [Text Field]
- Description:** [Text Field]
- Cust #1:** [Text Field]
- Recall Comments:** [Text Field]
- Custom #1:** [Text Field]
- Date In Service:** [Calendar Picker]
- Recall Date:** [Calendar Picker]
- Recall Resolved Date:** [Calendar Picker]
- Next PM Date:** [Calendar Picker]
- Last PM Date:** [Calendar Picker]
- Last Cleaning Date:** [Calendar Picker]
- Date Removed From Service:** [Calendar Picker]
- Depreciation Date:** [Calendar Picker]
- Capital Equipment:** Not Set (dropdown)
- Is Rental?** [Checkbox]

4. Fill in all information for the asset as needed, including selecting the Asset Category.
5. In the **Tag Id** field, enter the ID number of the Environmental Tag you are associating with the asset.

Partial view of the 'Create Asset' window showing:

- Asset Category:** (A) QA Test, 3 : 3-1, 3 : 3-1 : 3-1-1
- Tag Id:** [Text Field]
- Display Value:** [Text Field]

6. Scroll to the bottom of this window and select the checkbox for **Is Temperature?** to indicate this is a temperature asset.

Capital Equipment

Not Set

Is Rental?
☐

Is Temperature?
☐

- When done, click the **Create** button in the top right of the window.

The new asset has been created with the associated Environmental Tag.

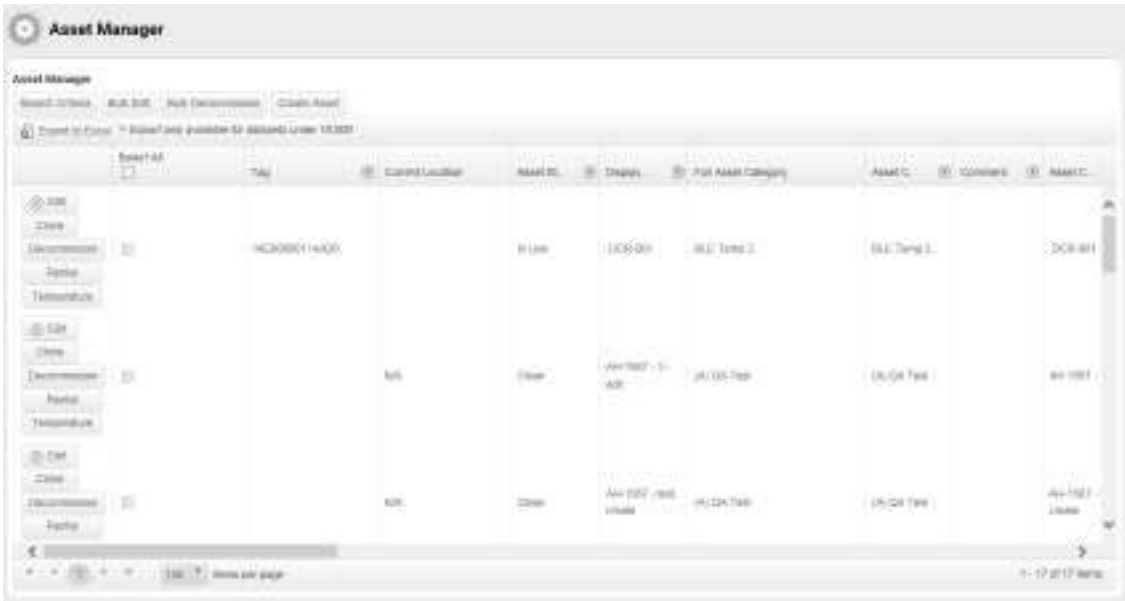
5.2.2 Assigning a Tag to an Existing Asset

- Log in to awareHealth and click the **Admin** tab.

The **Asset Manager** page displays.

- In the **Search Criteria** pop-up, enter any search criteria that might be necessary to help locate the asset you want to assign a tag.
- Click the **Search** button.

A list of assets matching your search criteria displays in the **Asset Manager** window.

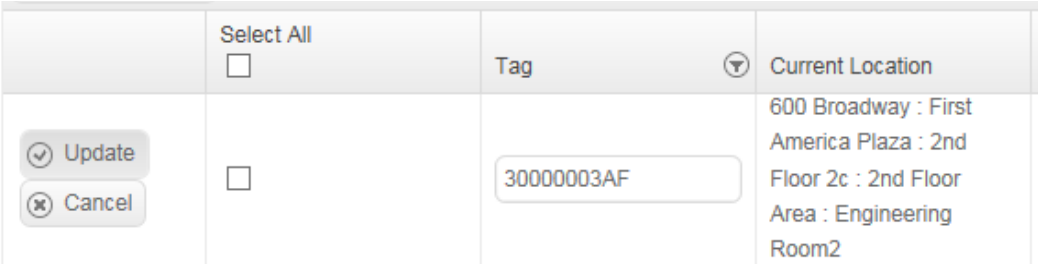


4. Locate the asset you want to assign the Tag to and click the **Edit** button on the far left of the row.



The available buttons change to **Update** and **Cancel** and the fields for the asset become editable.

5. In the Tag column, enter the Tag ID (MAC address) of the Tag you want to associate with the asset.



6. Click the **Update** button.

The asset now displays with the associated Tag.

6 Setting Alerts

Alerts can be set in Infopoint or awareHealth. When triggered, alerts send notifications to personnel to check temperature assets to make sure vaccines and other perishables are kept per regulations.

6.1 Setting an Infopoint Alert

Infopoint allows you to create alert rules that can range from simple to complex. You can change alert rules only with certain permissions.

From the **Asset Rules** page, click the **Create New Rule** link. The **Rule Wizard** opens.

Rule Wizard: Choose Alert Type

Instructions: In this step you name your rule, choose the basic rule type, and set the priority of your rule.
It is useful to give your rule a meaningful name. This name will appear prominently in your alert messages.

Name:

Rule Type:

- ☒ Entry - An 'Entry' alert will notify you when an asset has entered an area.
- ☐ Exit - An 'Exit' alert will notify you when an asset has left an area and is located in another area.
- ☐ Missing - A 'Missing' alert will notify you when an asset is not located in any covered area.
- ☐ Slider Position - A 'Slider Position' alert will notify when an assets tag slider is switched.
- ☐ Par-Level - A 'Par-Level' alert will notify you when the number of assets in an area exceeds or falls below a threshold.
- ☐ Tag Removal - A 'Tag Removal' alert will notify you when a tag has been detached from its asset.
- ☐ Rental Expiration - A 'Rental Expiration' alert will notify you when a rental asset nears its expiration date.
- ☐ Maintenance Required - A 'Maintenance Required' alert will notify you when an asset nears its next maintenance date.
- ☐ Idle Asset Alert - An 'Idle Asset Alert' alert will notify you when an asset has been out of use for certain amount of time.

Priority: ☒ Low ☐ Medium ☐ High

Send an alert when any asset enters LOCATIONS for at least 15 minutes.

Cancel Back Next Finish

The first page of the wizard opens as static; however, after choosing a **Rule Type**, the wizard moves through steps specific to the selected rule type. For instance, different information is needed for a Par-Level rule than is needed for a Maintenance Required rule. Thus, the wizard presents different pages and asks for different information depending on the rule type.

1. Enter a name in the **Name** field

Alert names should be indicative of the actual rule. When possible, shorten spelling. For example, a 1st Floor Lobby Exit Alert could be shortened to "1st Fl Lobby Exit."

2. Select a **Rule Type** check box.
3. Set the rule priority to **Low**, **Medium**, or **High**.
4. Click **Next**.

You can view the rule being built as you select information in the wizard with the pane at the bottom of the page that contains additional information. You can ignore this pane and fill in information later or click on the links and provide the information at any time during rule creation.

The next step in the rules wizard is a page for selecting target asset attributes or asset types.

Rule Wizard: Choose Assets for alert type - Entry
Instructions: Use the select boxes below to specify the asset criteria for your alert.
If you don't select anything, your alert will apply to all assets.

Owner	Type	Manufacturer	Model	Group
650-33 owner 2	T2T Type	Chairs		Golden Test
ADK	T3E	EDK_Factory		Pharmacy
BillSheehan	T3S	Fed Man site 64-2		Rick's Group
EDK	T3W	JZMANU		special test
Fed Owner site 64-2	Temperature	man created on model		Test2 update

☐ Rental Assets Only ☐ Non Rental Assets Only ☒ Rental and Non Rental Assets

NOTE: You can select multiple items using SHIFT+CLICK or CTRL+CLICK.

Send an alert when any asset enters LOCATIONS for at least 15 minutes.

Cancel Back Next Finish

Multiple asset attributes can be selected. You can filter by rental assets and non-rental assets.

Rule Wizard: Choose Assets for alert type - Entry
Instructions: Use the select boxes below to specify the asset criteria for your alert.
If you don't select anything, your alert will apply to all assets.

Owner	Type	Manufacturer	Model	Group
Test Owner 1	BC Asset Type Test	dup name	ABC	BC Test Group
Test Owner 1		Test Manufacturer 1		BC Test Group 2
		Widgets Inc.		BC Test Group 3
				EPI Study - All
				EPI Study - Commercial

☐ Rental Assets Only ☐ Non Rental Assets Only ☒ Rental and Non Rental Assets

NOTE: You can select multiple items using SHIFT+CLICK or CTRL+CLICK.

Send an alert when any asset in group BC Test Group owned by Test Owner 1 made by Test Manufacturer 1 of model ABC enters 600 W Broadway for at least 15 minutes.

Cancel Back Next Finish

NOTE: Infopoint maintains an asset filtering hierarchy. The selected **Owner** determines which **Type** of asset displays in the following list. The selected **Type** determines which **Manufacturer** displays in the following list, etc.

- Click **Next**.
- Choose the slider position, if necessary.

Slider position can be set to **Any**, **Red**, or **Green**. Setting a tag to red or green does not turn the tag on/off. Leaving the position set to the default of **Any** is common.

Rule Wizard: Choose Slider Position for alert type - Exit
Instructions: If you would like your alert to only apply to assets with a certain tag slider position, select that below.

Slider Position: Any

Send an alert when any asset in group BC Test Group owned by Test Owner 1 of type TEST: UPLOAD TEST made by Test Manufacturer 1 of model ABC exits LOCATIONS for at least 15 minutes.

Cancel Back Next Finish

7. Click **Next**.

The **Choose Locations** page displays.

Rule Wizard: Choose Locations for alert type - Exit
Instructions: Use the select boxes below to specify the location criteria for your alert.

Building	Floor	Area	Room
225 Broadway 600 W Broadway			

Region Type Constraint: ☐ In Region Type(s) ☒ Anywhere

Region Type

- Subclass
- entry area
- executive area
- executive suite
- hallway

NOTE: You can select multiple items using SHIFT+CLICK or CTRL+CLICK.

Send an alert when any asset in group BC Test Group owned by Test Owner 1 of type TEST: UPLOAD TEST made by Test Manufacturer 1 of model ABC exits LOCATIONS for at least 15 minutes.

Cancel Back Next Finish

8. Choose a location for the alert.

A location is not required for an alert if your rule is for all assets. Locations should be set if you are specifying a location as an Exit or Entry location.

Location can also be set by clicking the **LOCATIONS** link in the alert description pane at the bottom of the page.

of model ABC exits **LOCATIONS** for at least 15 minutes.

Cancel Back Next Finish

9. Click **Next**.

The **Choose Recipients** page displays.

Rule Wizard: Choose Recipients for alert type - Exit

Instructions: In this step you configure the e-mail accounts that will receive alert messages.
The Notify/ recipients receive the alert as soon as it is triggered.
Additionally, you can choose to escalate the alert to another account if it is not acknowledged within the specified amount of time.

Notify: [Text Field] Pager ☒ Sun ☒ Mon ☒ Tue ☒ Wed ☒ Thu ☒ Fri ☒ Sat From 12:00 am To 12:00 am
[Text Field] Pager ☒ Sun ☒ Mon ☒ Tue ☒ Wed ☒ Thu ☒ Fri ☒ Sat From 12:00 am To 12:00 am

Require Acknowledgement: ☒ Send Acknowledgement Email ☒
Re-notify if Condition Still Exists after acknowledgement? ☐
Delay before re-notifying: After 30 minutes
Escalate: No escalation to [Text Field]
Pager Escalation Recipients: [Text Field]
Acknowledgements do not reset Escalation timer: ☒
Re-escalate: No re-escalation
NOTE: You can put more than one e-mail address into the address fields if you separate them by spaces or commas.

Send an alert when any asset in group BC Test Group owned by Test Owner 1 of type TEST - LIPLoad TEST made by Test Manufacturer 1 of model ABC exits 500 W Broadway for at least 15 minutes.

Cancel Back Next Finish

10. Enter the email of recipients in the **Notify** text box, separated by commas.

There are two rows of initial recipients. Using the checkboxes and time drop-down menus, you can designate initial recipients based on work schedules, as appropriate.

More rows can be added by clicking **Finish**, then edit the alert rule and navigate to this page.

NOTE: All recipients listed on the same line are subject to the same day/time restrictions.

11. Select the options, including for escalation.

12. Click **Next**.

The **Choose Acknowledgements** page displays.

Rule Wizard: Choose Acknowledgements Appropriate for This Rule for alert type - Exit

Instructions: Choose the appropriate pre-defined acknowledgements for this rule. Users will be able to choose from these options when responding to an alert.

Acknowledgements for this Rule

- Closed Acknowledgement
- Closed Door
- Contacted Engineering Regarding AWP Bumpy Network Coverage
- Plugged in Unit
- Replaced Temp Tag with Spare from Tom's Office
- Temperature Noted
- Unable to Verify

Note: You can select multiple items by using SHIFT+CLICK or CTRL+CLICK.

► Create New Acknowledgement

Acknowledgement Text: Add

Acknowledgements can be deleted in the Acknowledgement Administrator which is located under the Administration tab.

Send an alert when any asset in group BC-Test Group owned by Test Owner 1 of type TEST : UPLOAD TEST made by Test Manufacturer 1 of model ABC exits 500 W Broadway for at least 15 minutes.

Cancel Back Next Finish

13. Select one or more automated acknowledgements a recipient can enter after responding to the alert.

You can also create a new acknowledgement by clicking the **Create New Acknowledgement** link

14. Click **Next**.

The **Choose Delay** page displays.

Rule Wizard: Choose Delay for alert type - Exit

Instructions: Typically you want to configure an alert to trigger after the conditions have been met for some period of time. This helps prevent spurious alerts.

Delay: 15 minutes ▼

Send an alert when any asset in group BC-Test Group owned by Test Owner 1 of type TEST : UPLOAD TEST made by Test Manufacturer 1 of model ABC exits 500 W Broadway for at least 15 minutes.

Cancel Back Next Finish

15. Select a delay time before the alert is sent.

Delay times range from **0 minutes** to **7 days**.

16. Click **Finish** to create your alert rule.

6.2 Setting an awareHealth Alert

Alert rules are set from the **Environmental** tab in awareHealth.

1. From the **Environmental** tab, click the **Alert Rules** link.
2. Click the **Create New Rule** link above the list of current rules.



The Rule Wizard begins and the **Choose Alert Type** window displays.

A screenshot of a 'Create Rule...' window. The title bar says 'Create Rule...'. Inside, there's a 'Choose Alert Type' section. It includes instructions: 'In this step you name your rule, choose the basic rule type, and set the priority of your rule. It is useful to give your rule a meaningful name. This name will appear prominently in your alert messages.' Below this is a 'Name:' text box. Then, under 'Rule Type:', there are three radio button options: 'Temperature / Humidity Out of Range - A 'Temperature / Humidity Out of Range' alert will notify you when an asset's temperature or humidity is out of range.', 'Temperature / Humidity Corrective Action Required - A 'Temperature / Humidity Corrective Action Required' alert will notify you when an asset's temperature or humidity is out of range for the configured amount of time which requires a corrective action.', and 'Environmental Tag not Reporting - Will notify you when an environmental tag has stopped reporting'. Below these is a 'Priority:' section with three radio button options: 'Low', 'Medium', and 'High'. At the bottom, there's a large text box containing the text: 'Send an alert when any asset in LOCATIONS has a temperature or humidity that is out of range for at least 15 minutes.' The window has 'Next Step' and 'Save' buttons in the top right corner.

3. Enter a name for the rule in the **Name** text box.
4. Select the radio button for the **Rule Type** you are creating.
5. Select the radio button for the rule **Priority**.

In the description text box, **LOCATIONS** and time (in this example **15 minutes**) are links. You can click these links now to jump to those settings or follow the steps of the wizard.

6. Click **Next Step**.

The **Choose Assets** window displays.

Create Rule...

4 Previous Step Next Step > Save

Choose Assets for alert type - Temperature Out of Range

Instructions: Use the select boxes below to specify the asset criteria for your alert.
If you don't select anything, your alert will apply to all assets.

Owner	Type	Manufacturer	Model	Group
2 West	A Test	ENIL		Allergy
3 North	Analyzer: Portable Che	Abbott Labs		Blood Bank
3 West	ASPIRATOR	Acme Corporation		Bob is your Uncle
3rd Floor Hospital	Anavaport Ultracon	Acuson		Cardiology
4 East	BARBATIC RENTAL BO	Aeros		Chemo Dept.

☐ Rental Assets Only
 ☐ Non Rental Assets Only
 ☒ Rental and Non Rental Assets

NOTE: You can select multiple items using SHIFT+CLICK or CTRL+CLICK.

Send an alert when any asset in **LOCATIONS** has a temperature or humidity that is out of range for at least **15 minutes**.

7. From the **Owner** column, select an owner. You can use **SHIFT+CLICK** or **CTRL+CLICK** to select multiple owners.

After each selection, subsequent columns may change their listings to reflect only the items that meet the prior column's filter selection.

8. Select the radio button for the type of assets (**Rental Assets Only**, **Non Rental Assets Only**, or **Rental and Non Rental Assets**).
9. Click **Next Step**.

The **Choose Locations** window displays.

Create Rule...

◀ Previous Step Next Step ▶ Save

Choose Locations for alert type - Temperature Out of Range

Instructions: Use the select boxes below to specify the location criteria for your alert.

Location Constraint: ☒ In Area(s) ☐ Not In Area(s) ☐ Anywhere

Building	Floor	Area	Room
BioMed Trailer			
Health Ed/ Hearing & C			
Hospital			
Medical Offices I - Wes			
Medical Offices II - Wes			

Region Type Constraint: ☐ In Region Type(s) ☐ Not In Region Type(s) ☒ Anywhere

Region Type

Biomed/ Clinical Engine
Dirty Utility Room
Exit
Out-Of-Use
Patient Care Area

NOTE: You can select multiple items using SHIFT+CLICK or CTRL+CLICK.

10. Select the radio button for the **Location Constraint (In Area(s), Not In Area(s), Anywhere)**.

11. From the **Building** column, select a building.

The **Floor**, **Area**, and **Room** columns will populate based on the previous column's selection.

12. Select a floor, area, and room.

13. Select the radio button for the **Region Type Constraint (In Region Type(s), Not In Region Type(s), Anywhere)**.

14. If you selected **In Region Type(s)** or **Not In Region Type(s)** in the previous step, select a **Region Type** from the types now available in the list box.

If you selected **Anywhere** in the previous step, the **Region Type** list box remains grayed out.

15. Click **Next Step**.

The **Choose Recipients** window displays.

Create Rule...

Choose Recipients for alert type - Temperature Out of Range

Instructions: In this step you configure the e-mail accounts that will receive alert messages. The 'Notify' recipients receive the alert as soon as it is triggered. Additionally, you can choose to escalate the alert to another account if it is not acknowledged within the specified amount of time.

Notify: ☐ Pager ☐ Pager ☐ Su ☐ M ☐ T ☐ W ☐ R ☐ F ☐ S From 12:00 am To 12:00 am

☐ Pager ☐ Su ☐ M ☐ T ☐ W ☐ R ☐ F ☐ S From 12:00 am To 12:00 am

Require Acknowledgement: ☒ Send Acknowledgement Email: ☒
 Re-notify if Condition Still Exists after acknowledgement? ☐
 Delay before re-notifying: After 30 minutes.
 Escalate: No escalation to
 Pager Escalation Recipients
 Acknowledgements do not reset Escalation timer: ☒
 Re-escalate: No re-escalation

Open Room Alarms Configuration

NOTE: You can put more than one e-mail address into the address fields if you separate them by spaces or commas.

16. In the first **Notify** field, enter the email address of the person to be notified.

Separate emails by a comma if entering more than one email address. You can enter up to 8 per field.

17. Select the day(s) and time for the recipient(s).

18. In the second **Notify** field, enter the email address of the person to be notified.

The use of the second **Notify** field allows you to select different recipients for alerts. For example, personnel in the first field might work a day shift, while personnel in the second field work the night shift.

19. Select the checkboxes, as desired, for acknowledgements.

20. If you selected to re-notify, select the time delay for the re-notification.

Require Acknowledgement: ☒ Send Acknowledgement Email: ☒
Re-notify if Condition Still Exists after acknowledgement? ☒
Delay before re-notifying: After 30 minutes. ▾
Escalate: No escalation ▾
Pager Escalation Recipient:
Acknowledgements do not require acknowledgement: ☒
Re-escalate: No re-escalation ▾
Open Room Alarms Configuration

- After 30 minutes.
- After 1 hour.
- After 2 hours.
- After 3 hours.
- After 4 hours.
- After 5 hours.
- After 6 hours.
- After 12 hours.
- After 24 hours.
- After 48 hours.

21. Select the desired options for escalation.

22. Click **Next Step**.

The **Choose Acknowledgement Appropriate for This Rule** window opens.

Create Rule...

4 Previous Step Next Step 5 Save

Choose Acknowledgements Appropriate for This Rule for alert type - Temperature Out of Range

Instructions: Choose the appropriate pre-defined acknowledgements for this rule. Users will be able to choose from these options when responding to an alert.

Acknowledgements for this Rule

- Plugged in Unit
- Product Relocated
- Temp and humidity reviewed. Safe to proceed with surgery per infection prevention.
- test 1
- test 2
- test 3
- Unable to Verify
- Unit checked and is in working order. Will keep door closed and continue to monitor.
- Unit is running too cold. Thermostat adjusted. Will continue to monitor.
- Unit is running too warm. Thermostat adjusted. Will continue to monitor.

Note: You can select multiple items by using SHIFT+CLICK or CTRL+CLICK.

Create New Acknowledgement

Acknowledgement Text: Add

Acknowledgements can be deleted on the 'Alert Acknowledgements' dashboard

Send an alert when any asset owned by 2 West or 3 North or 3 West or 4 East in Hospital has a temperature or humidity that is out of range for at least

23. Select the acknowledgement(s) for the rule.

You can use **SHIFT+CLICK** or **CTRL+CLICK** to select multiple acknowledgements.

Create Rule...

◀ Previous Step Next Step ▶ Save

Choose Recipients for alert type - Temperature Out of Range

Instructions: In this step you configure the e-mail accounts that will receive alert messages.
The 'Notify' recipients receive the alert as soon as it is triggered.
Additionally, you can choose to escalate the alert to another account if it is not acknowledged within the specified amount of time.

Notify: ☐ Pager **Su M T W T F S** From 12:00 am ▼ To 12:00 am ▼

☐ Pager **Su M T W T F S** From 12:00 am ▼ To 12:00 am ▼

Require Acknowledgement: ☒ Send Acknowledgement Email: ☒

Re-notify if Condition Still Exists after acknowledgement? ☐

Delay before re-notifying: After 30 minutes. ▼

Escalate: No escalation ▼ to

Pager Escalation Recipients

Acknowledgements do not reset Escalation timer: ☒

Re-escalate: No re-escalation ▼

Open Room Alarms Configuration

NOTE: You can put more than one e-mail address into the address fields if you separate them by spaces or commas.

16. In the first **Notify** field, enter the email address of the person to be notified.

Separate emails by a comma if entering more than one email address. You can enter up to 8 per field.

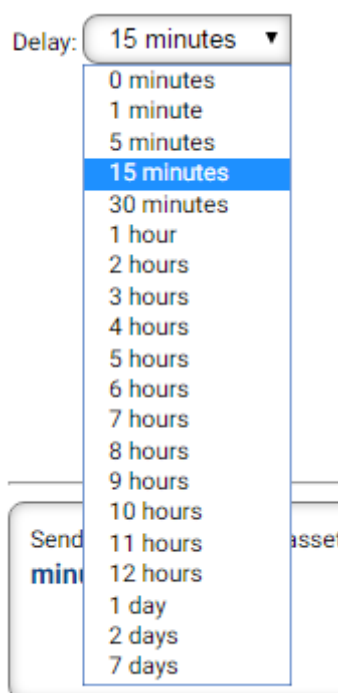
17. Select the day(s) and time for the recipient(s).

18. In the second **Notify** field, enter the email address of the person to be notified.

The use of the second **Notify** field allows you to select different recipients for alerts. For example, personnel in the first field might work a day shift, while personnel in the second field work the night shift.

19. Select the checkboxes, as desired, for acknowledgements.

20. If you selected to re-notify, select the time delay for the re-notification.



26. In the alert text field, read your rule settings to verify they are correct.

Use the **Back** button to go back to previous windows if you need to make changes to your rules.

27. Click **Save** to create the rule alert listing.

Alternatively, clicking the **X** in the upper right will cancel the creation of the rule alert listing and return you to the alerts listing.