

Honeywell

Device Finder

for Honeywell Mobility Edge powered by Android™

User Guide

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Patents

For patent information, refer to www.hsmpats.com.

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Customer Support

Technical Assistance

To search our knowledge base for a solution or to log in to the Technical Support portal and report a problem, go to sps.honeywell.com.

Product Service and Repair

Honeywell International Inc. provides service for all of its products through service centers throughout the world. Go to sps.honeywell.com and select Support to find a service center near you or to get a Return Material Authorization number (RMA #) before returning a product.

Limited Warranty

For warranty information, go to sps.honeywell.com and select **Support > Productivity > Warranties**.

GET STARTED

This chapter introduces the Device Finder application and includes the following sections.

- [About Device Finder](#)
- [Online Mode/Macro Positioning Mode](#)
- [Offline Mode/Micro Positioning Mode](#)
- [Key Features Comparison](#)

About Device Finder

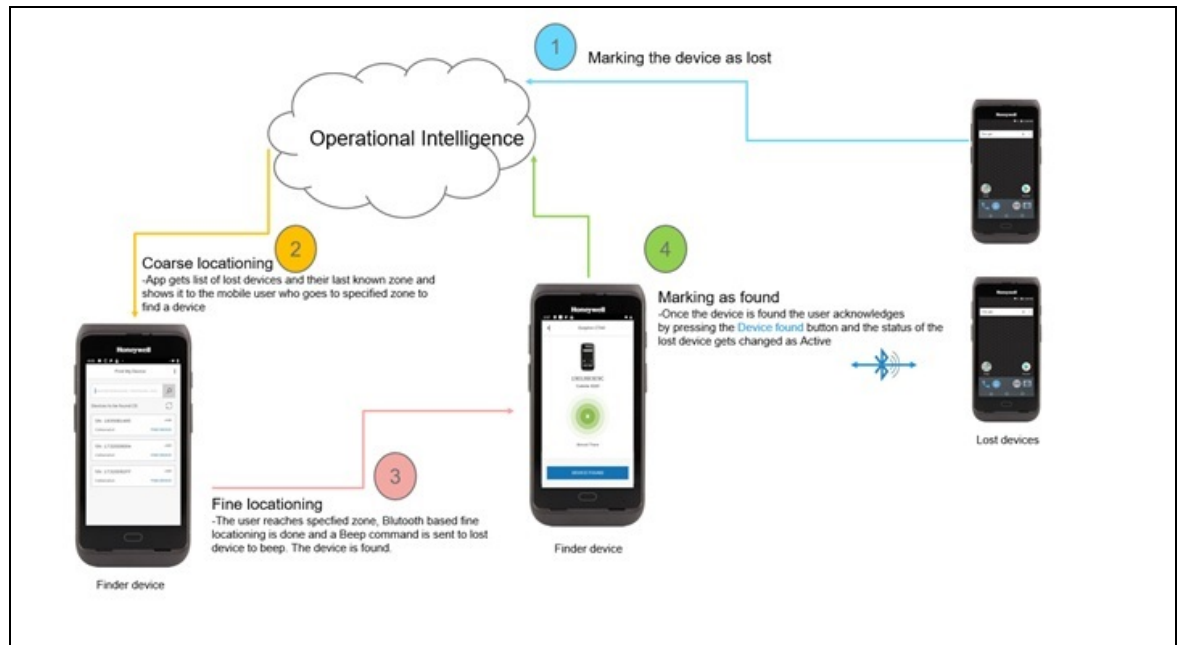
Device Finder is an application that allow users to locate their lost or misplaced devices and avoid productivity loss and unnecessary capital expenditure. It is recommended to use the solution in conjunction with Honeywell's Operational Intelligence tool for increased simplicity, flexibility, and accuracy.

This document provides information on how to securely set up the solution and explains the different features available. Refer to the FAQ section to find answers to most common questions.

Functional Overview

The Device Finder solution enables users with a Honeywell mobility device with the app installed to track lost mobility devices based on either a Bluetooth beacon or the locating function in Operational Intelligence.

Note: Honeywell mobile computers with battery-based Bluetooth Low Energy (BLE) can emit beacons during normal operation and even when the device is shut down until the battery is drained completely.



Function Diagram

The Device Finder solution is offered in two modes to track and locate a lost device.

- Online Mode/Macro Positioning Mode using Operational Intelligence
- Offline Mode/Micro Positioning Mode using the Bluetooth beacon

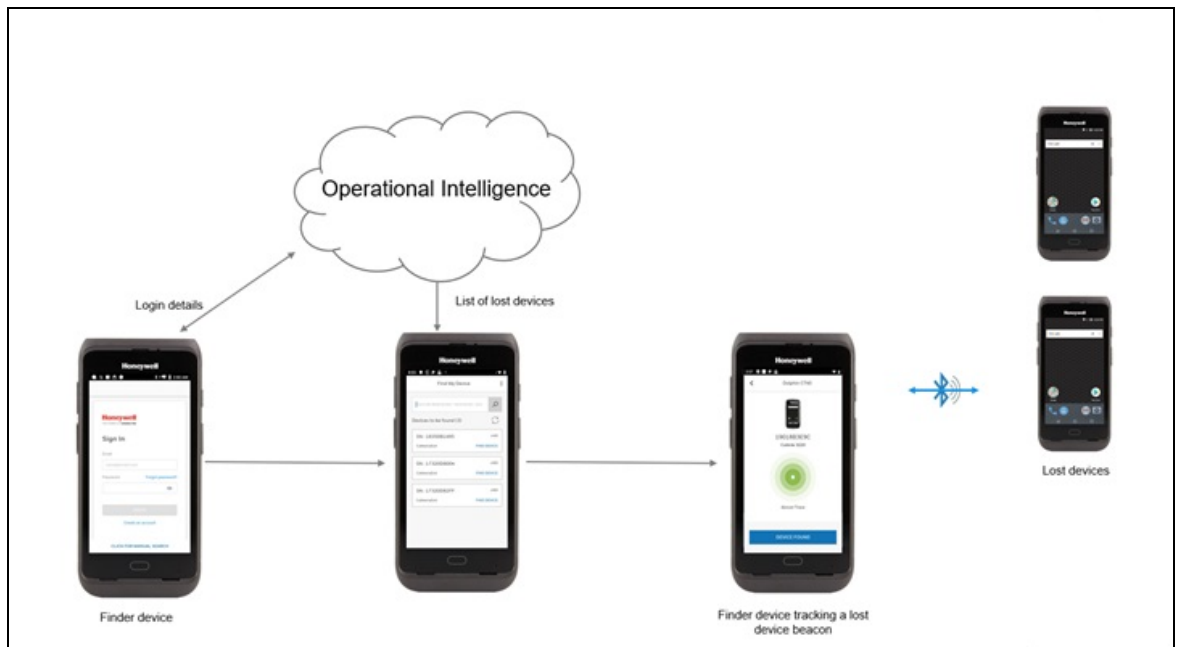
Online Mode/Macro Positioning Mode

This mode allows zone level tracking and locating of the lost device by leveraging Operational Intelligence's Indoor Positioning Service (IPS) technology.

Working Principle

- The mobility devices must be enrolled in Operational Intelligence to leverage the IPS feature, which enable the devices to be tracked at zone level.
- Once the devices are enrolled based on the rules configured in Operational Intelligence, the devices can be put into lost status manually. The last known zone location is captured. You can use the Device Finder application in another existing Mobility Edge device and log into the Operational Intelligence account.

- Upon login, the list of lost devices with last known zone location is accessible to the user.
- To track a lost device, you can go to the last known zone location and select the device to be tracked from the list.
- If the lost device is emitting Bluetooth beacons, it can be tracked, and the Device Finder shows the approximate distance of the device in different colored circles.
 - a. Green (Almost there)
 - b. Yellow (Moving closer)
 - c. Orange (In range)
- Once you are in the nearby range, click on the bell icon to ring the device so that the device can be located. Apart from ringing, the device can be configured to vibrate, flash the screen and toggle the flash light.
- After the device is found, click on the Device Found button to set the device back into active status in Operational Intelligence.



Online Mode

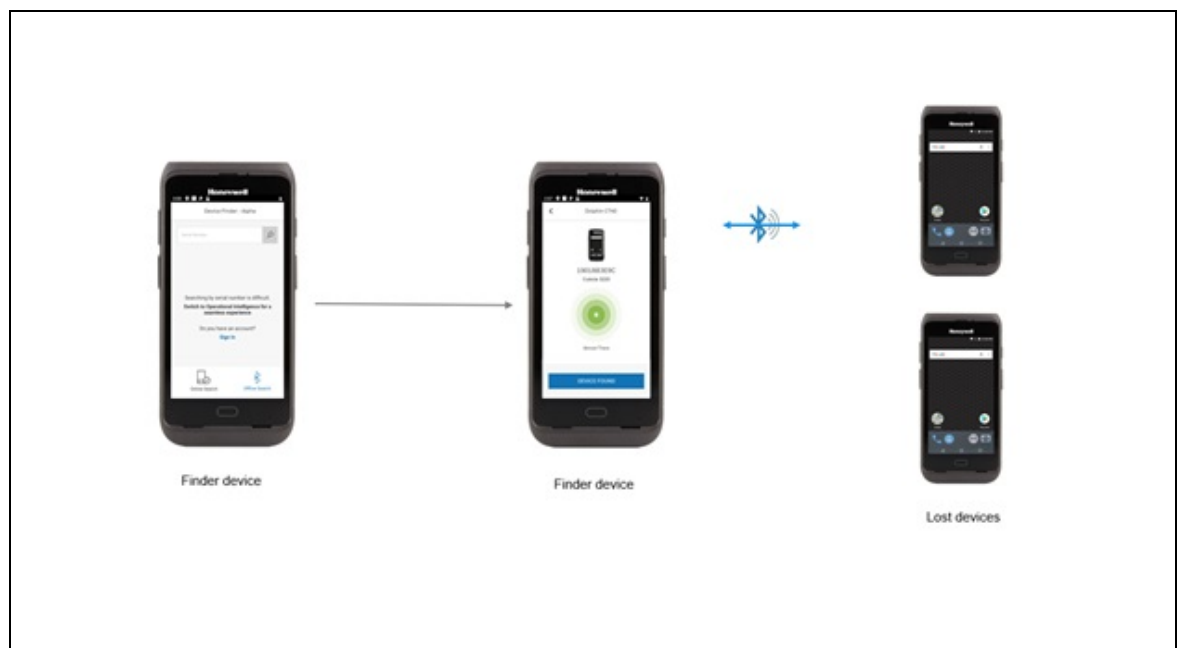
Offline Mode/Micro Positioning Mode

This mode allows use of the Device Finder solution without Operational Intelligence but reduces the chances of locating the device as zone level information is not available, which increases the effort to search for a device in a broader area.

Note: You must register the device with Operational Intelligence to use this mode.

Working Principle

- Once the device is reported as lost, you can use the Device Finder application in another existing Mobility Edge device (i.e., Finder device) to find the lost device.
- You can go to the last known location based on the information given by the user who lost the device.
- Click the Search by ID icon, enter the serial number of the device to be located in the search box, and tap Search.
- If the lost device is emitting Bluetooth beacons, it can be tracked, and the Device Finder shows the approximate distance of the device in different colored circles.
 - a. Green (Almost there)
 - b. Yellow (Moving closer)
 - c. Orange (In range)
- Once you are in the nearby range, click on the bell icon to ring the device so that the device can be located. Apart from ringing, the device can be configured to vibrate, flash the screen and toggle the flash light.



Offline Mode

Key Features Comparison

Feature	Online Mode	Offline Mode
Search Area	Can be at a small zone level if used along with Operational Intelligence's Indoor Positioning feature.	Large
Effort to Locate	Minimum	Maximum
Settings Configurable	Via Operational Intelligence, EZConfig	EZConfig
Lost Devices List	Yes	No, search by serial number only.
Application Updates	Remote update via Operational Intelligence	Manual update via Provisioner or MDM
Physical Indications	Ring, Vibrate, Screen flash, Flashlight	Ring, Vibrate, Screen flash, Flashlight
Operational Intelligence Registration	Required	Not Required

ONLINE SEARCH MODE

This chapter explains how to use the Device Finder application in Online Mode. The chapter includes the following sections:

- [Log into Operational Intelligence](#)
- [Device Management with Operational Intelligence](#)
 - [Filter Device](#)
 - [Track Lost Device](#)
 - [Locate Lost Device](#)
 - [Marking the Device as Found](#)
 - [Error Screens](#)

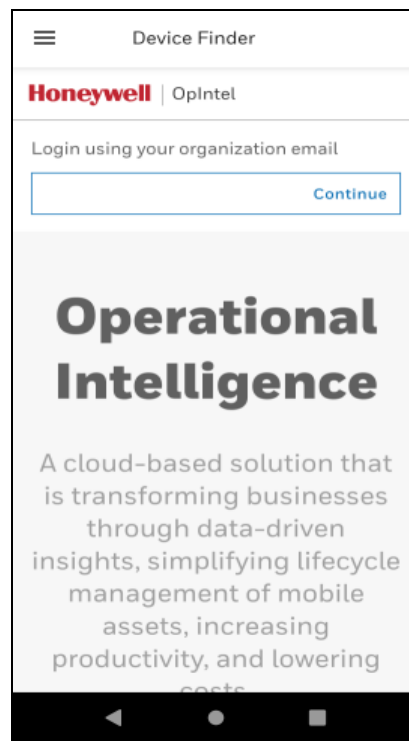
Log into Operational Intelligence

The following requirements must be met to log into the Device Finder app in online mode:

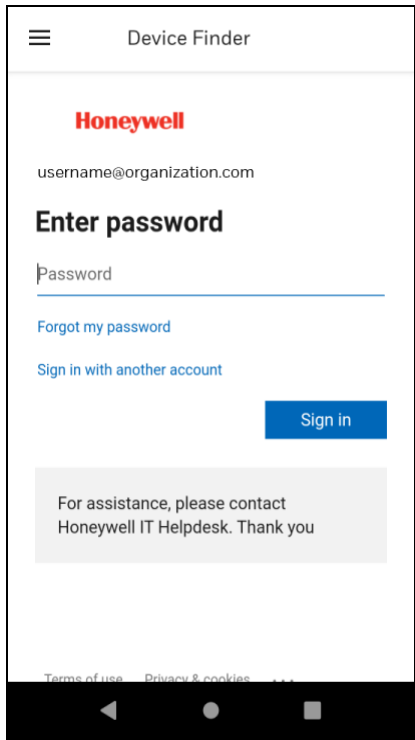
- Users must have an account in Operational Intelligence. User accounts must be created by the Op Intel administrator.
- The finder device must be connected to Wi-Fi.

Log In

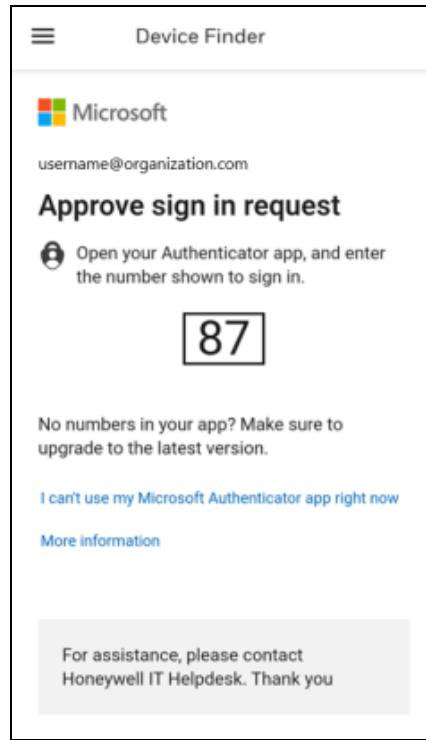
Launch the Device Finder app by tapping the icon on the device home screen then enter the email address used in Op Intel and tap **Continue**.



Operational Intelligence Sign In



Operational Intelligence Sign In

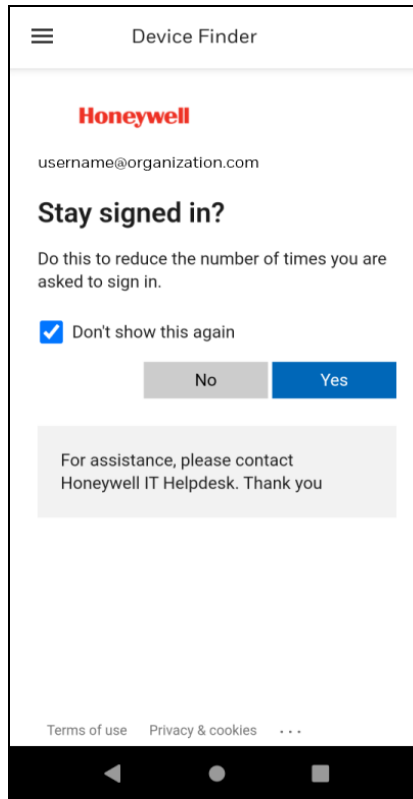


Operational Intelligence Sign In with MFA

Enter your password for Op Intel and tap **Sign In**.

OR

If your site uses Multi-Factor Authentication (MFA), open the Microsoft Authenticator app and enter the number displayed in Device Finder to continue logging in.

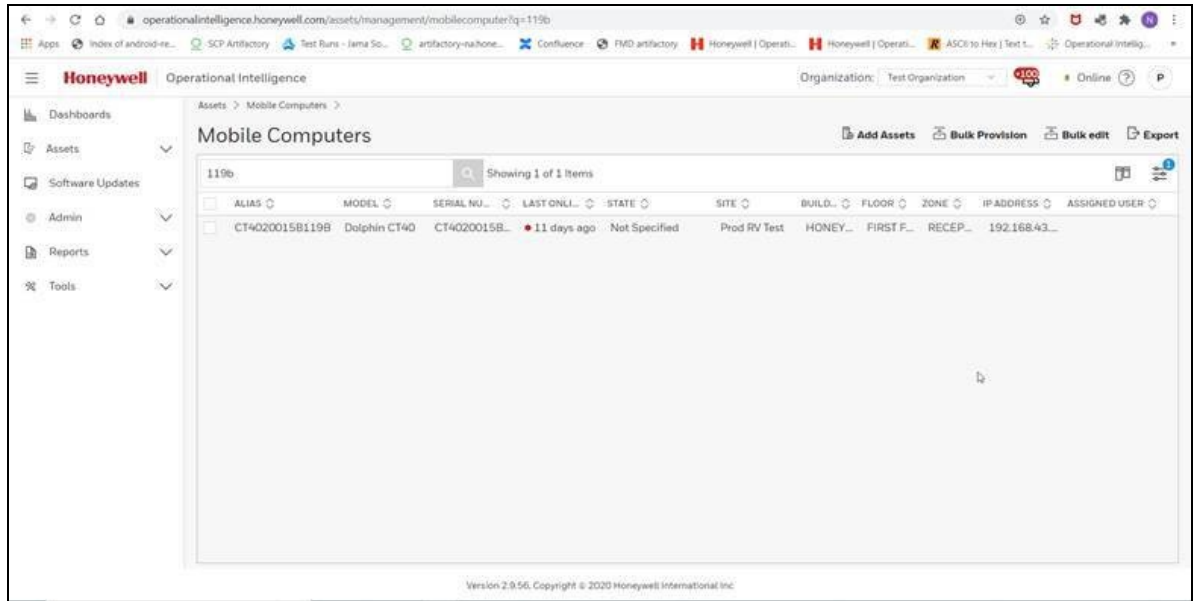


Stayed Signed In

Tap **Yes** to stay signed into the Device Finder app on this device or **No** to be signed out of the app after closing it.

Device Management with Operational Intelligence

Once you log into the Dashboard, you will be able to see the devices in the site and their respective zone. The State column indicates if the device is Active or Lost.

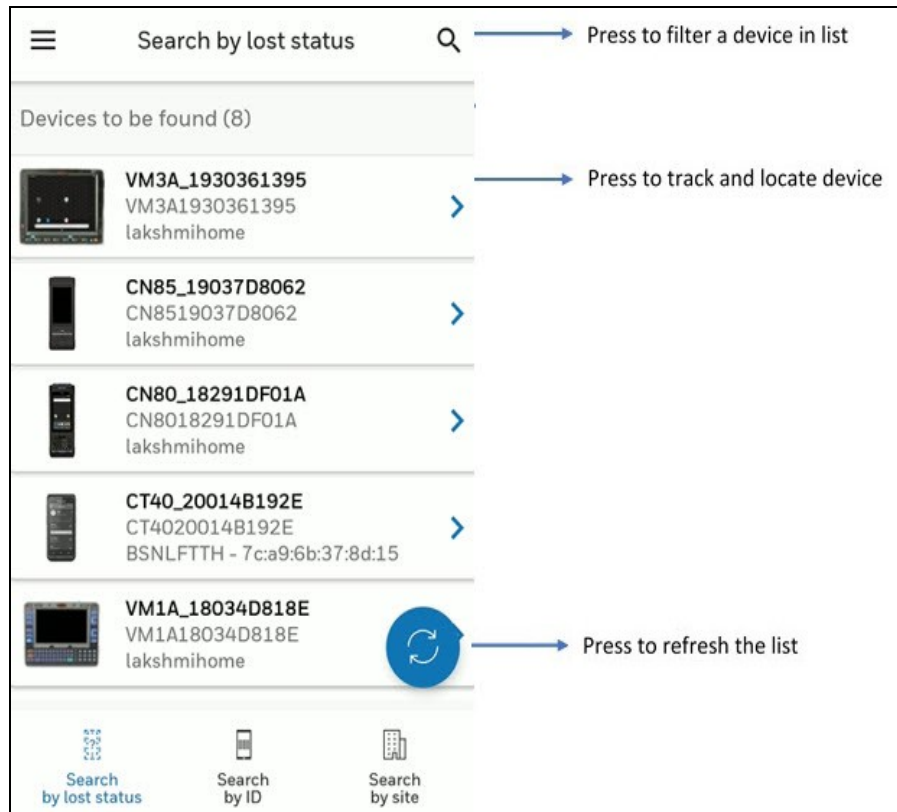


Operational Intelligence Dashboard

Search by Lost Status

On successful login, the Device Finder application lists information on lost devices and their last known location from Operational Intelligence.

The Search by lost status screen displays all devices in an organization that have the status as lost.



Device Finder Application Interface

Search by ID

Use the Search by ID screen to locate a device by searching for the serial number.

Enter the serial number of the device then tap the Search button.

Search by ID

Type serial number to search for your device

123456789A

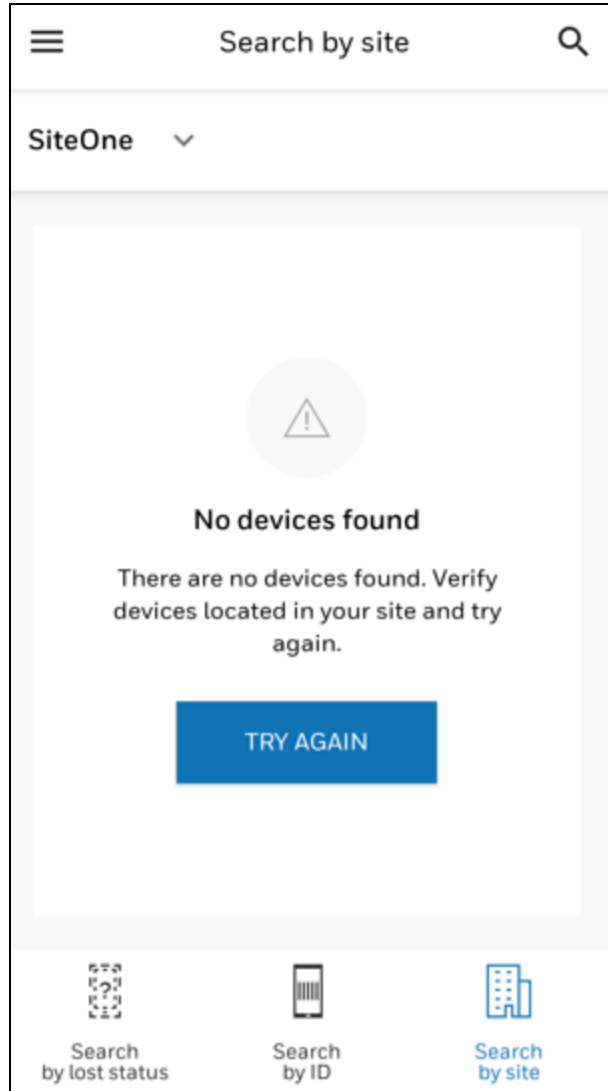
SEARCH

Search by lost status Search by ID Search by site

Search by ID

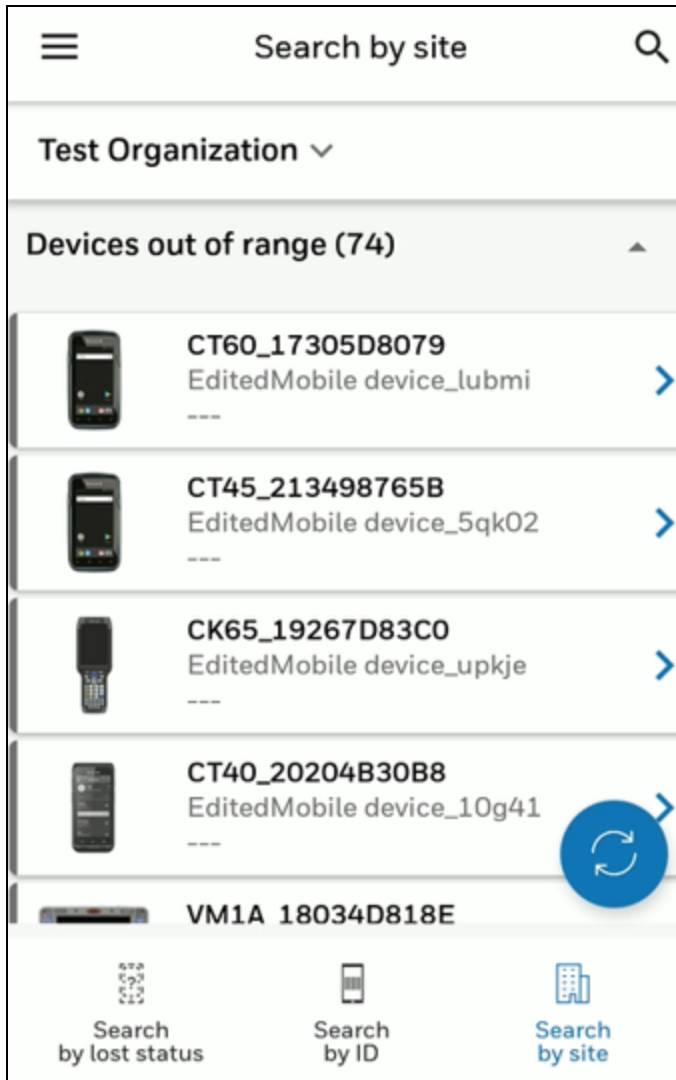
Search by Site

Use the Search by Site screen to view the devices associated with a selected site.



Search by Site

Select the Search by site screen then select a site from the drop-down list. All devices associated with the selected site will be listed along with the distance information.

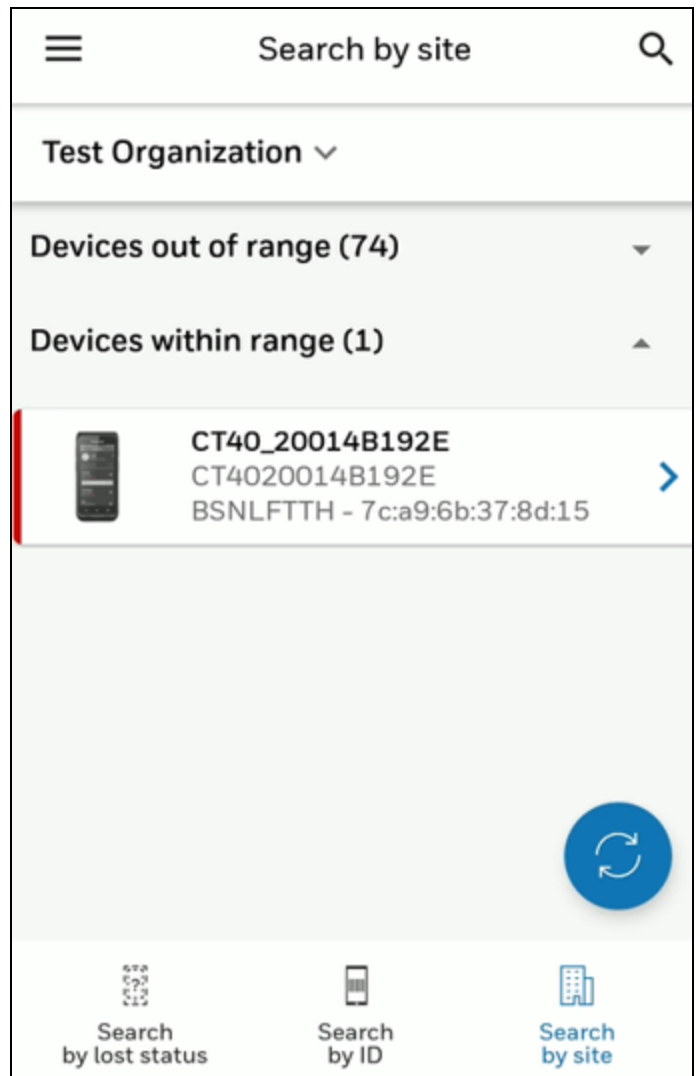


Devices out of range

Expand a list to view devices out of range or devices within range.

The model, serial number, alias name, and zone location are displayed for each device. If the zone is not known, "---" is displayed.

Devices within range displays the color indicating the device's distance (green for close range, yellow for mid-range, or red for long range).

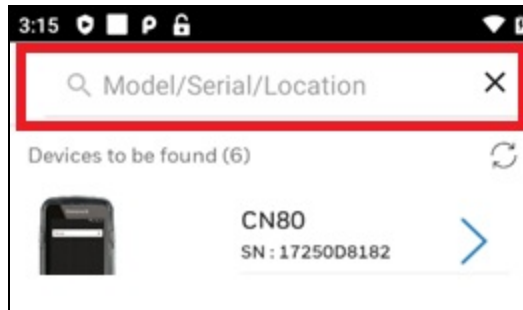


Devices within range

Filter Device

You can filter the lost devices based on Device Model, Serial Number or Location.

- In the Device Finder application, click the search button at the top right corner.
- Provide the Model/Serial Number/Location of the lost device to be filtered in the search bar shown below.



Device Finder Search Bar

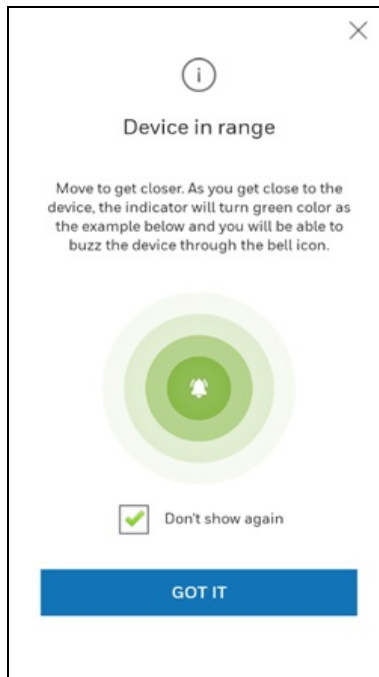
Track Lost Device

For devices enrolled in Operational Intelligence, you can track the device using either the signal from the Bluetooth Low Energy beacon (BLE) to move closer to its location or by using the network signal to make the device buzz.

Select a device from the list of lost devices and go to the last known zone location. After you select a device to find, the app indicates how close you are to it based on the strength of the BLE beacon.

Information Screen

When you use the application for the first time, an information screen pops up as shown below. You can select the “Don’t show again” option and then click the “GOT IT” button to go to the tracking screen, or you can click the “X” icon at the top right corner to skip this step. The green circle on this screen does not indicate actual proximity to the device.



Information Screen

Tracking Screen

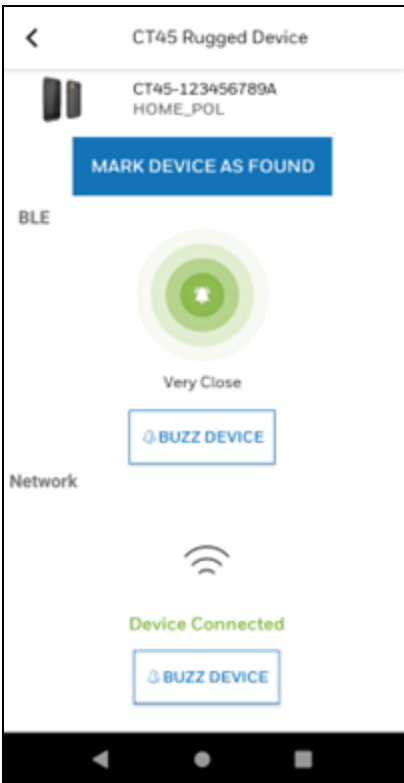

In online mode, the Device Finder tracking screens for Search by lost status and Search by site have two sections. (In offline mode, users can only access the Search by ID screen):



- The **BLE** section indicates if the app is detecting the BLE signal and how close you are to the lost device.
- The **Network** section indicates if the lost device is on the network and connected to Op Intel.

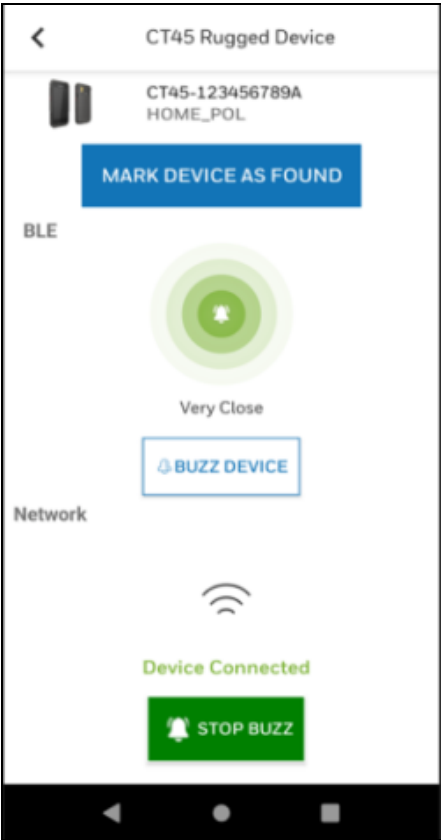
When the finder device is in range of the lost device or the lost device is connected to the network, the **BUZZ DEVICE** button will be active in that section. Tap the **BUZZ DEVICE** button to cause the lost device to make an audible signal so that you can locate it.

To use the Network-based alarm, both devices must be onboarded to Op Intel and in Connected status, and both devices must be connected with Wi-Fi.

The following table shows possible options when tracking a lost device.

View	Description
	<p>BLE: The app is picking up the BLE signal from the lost device.</p> <p>Network: The lost device is connected to the network and in Connected status in Op Intel.</p>
	<p>BLE: The app is picking up the BLE signal from the lost device.</p> <p>Network: The lost device is connected to the network and in Connected status in Op Intel; however, the finder device does not have Wi-Fi. The BUZZ DEVICE button is inactive under Network.</p>

View	Description
 <p>The screenshot shows the app interface for a 'CT45 Rugged Device'. At the top, there is a back arrow, the device name 'CT45 Rugged Device', and a status bar with signal strength, battery, and time. Below this, the device ID 'CT45-123456789A' and location 'HOME_POL' are displayed. A blue button labeled 'MARK DEVICE AS FOUND' is present. Under the 'BLE' section, there is a circular icon with a lightning bolt, the text 'Device not found', and a red button labeled 'TRY AGAIN'. Under the 'Network' section, there is a Wi-Fi icon, the text 'Device Connected', and a blue button labeled 'BUZZ DEVICE'.</p>	<p>BLE: The app is not picking up the BLE signal from the lost device. Click TRY AGAIN to search for the BLE signal.</p> <p>Network: The lost device is connected to the network and in Connected status in Op Intel.</p>
 <p>The screenshot shows the app interface for a 'CT45 Rugged Device'. At the top, there is a back arrow, the device name 'CT45 Rugged Device', and a status bar with signal strength, battery, and time. Below this, the device ID 'CT45-123456789A' and location 'HOME_POL' are displayed. A blue button labeled 'MARK DEVICE AS FOUND' is present. Under the 'BLE' section, there is a circular icon with a lightning bolt, the text 'Searching device', and three dots. Under the 'Network' section, there is a Wi-Fi icon, the text 'Device Not Connected', and a blue button labeled 'BUZZ DEVICE'.</p>	<p>BLE: The app is not picking up the BLE signal from the lost device. In this example, the user has clicked TRY AGAIN, and the app is searching for the BLE signal.</p> <p>Network: The lost device is not connected to the network.</p>

View	Description
	<p>Network: The lost device has been located and is making an audible signal.</p> <p>Press STOP BUZZ to turn off the alarm on the lost device.</p> <p>Press MARK DEVICE AS FOUND to update the status of the device from "Lost" to "Active" in Op Intel.</p>

Track by Bluetooth Low Energy Beacon (BLE)

To help you move in the right direction toward the lost device, the tracking system is enabled with messages in the form of three different colored circles indicating how close the finder device is to the lost device.

The three colored circles are:

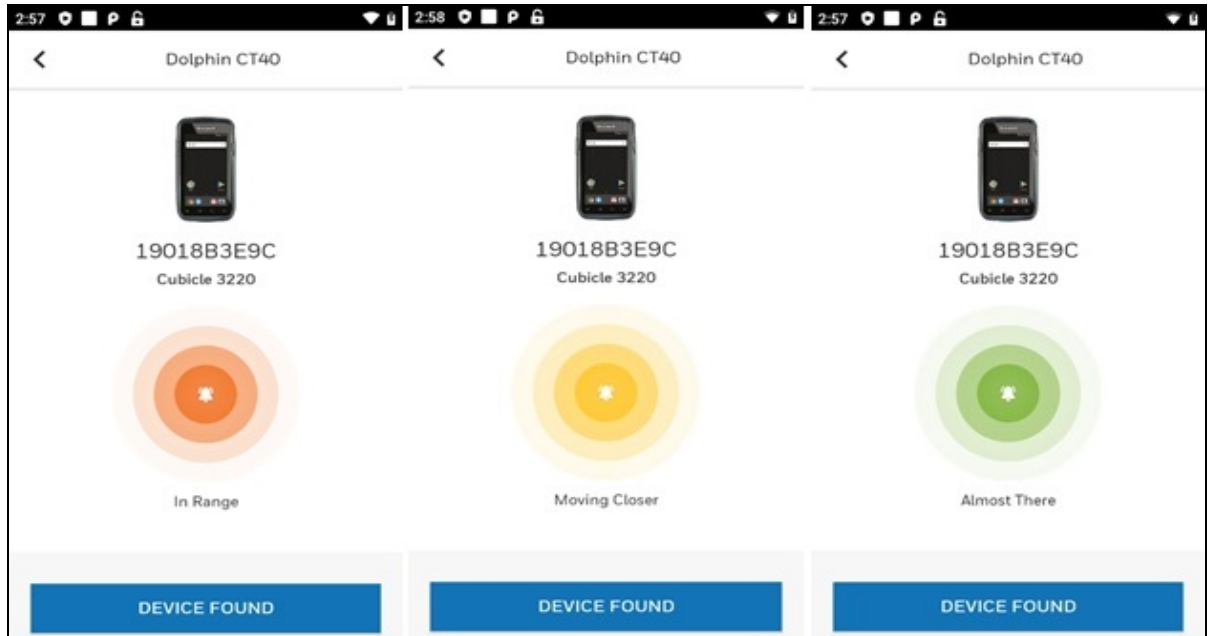
- a. Green (Almost there)
- b. Yellow (Moving closer)
- c. Orange (In range)

Understanding the Circles

When you start tracking:

- If the finder device is far but still in the range that it receives the beacon from the lost device, then an orange circle is shown with the message "In Range."

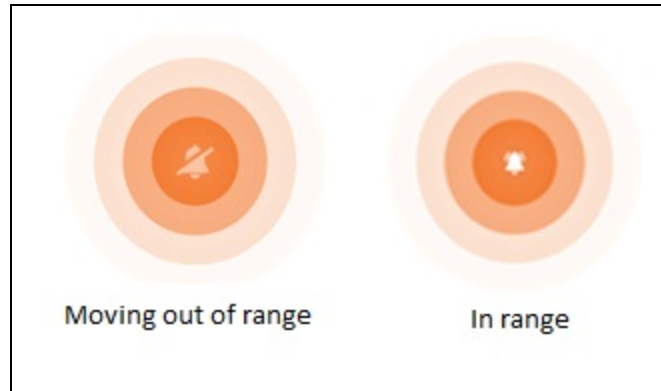
- If the finder device is moving away from the lost device, an orange circle is displayed with the message “Moving Out of Range.”
- If the finder device moves towards the lost device, then a yellow circle is displayed with the message “Moving Closer.”
- If the finder device keeps moving towards and reaches the proximity of the lost device, then a green circle is displayed with the message “Almost There.”
- When the finder device is very near to the lost device, the green circle displays the message "Very Close."



Device Finder Status Screen

Locate Lost Device

Depending on how far you are from the lost device, the **BUZZ DEVICE** button or the bell icon at the center of the circle might be inactive. When the bell icon is inactive, it has a slash through the icon as shown in the below image. This indicates that there is no communication link established between the finder device and the lost device.

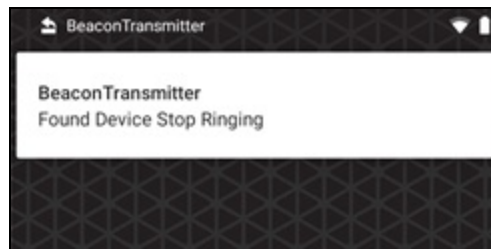


Communication Link Status

- Once the communication link is established, either the **BUZZ DEVICE** button or bell icon will be enabled.
- Once the bell icon is enabled, click on the icon to ring the device so that the device can be located. Apart from ringing, the device can be configured to vibrate, flash the screen and toggle the flash light.

Note: The ringing will stop automatically after one minute, and you need to tap the button or bell icon again to ring it.

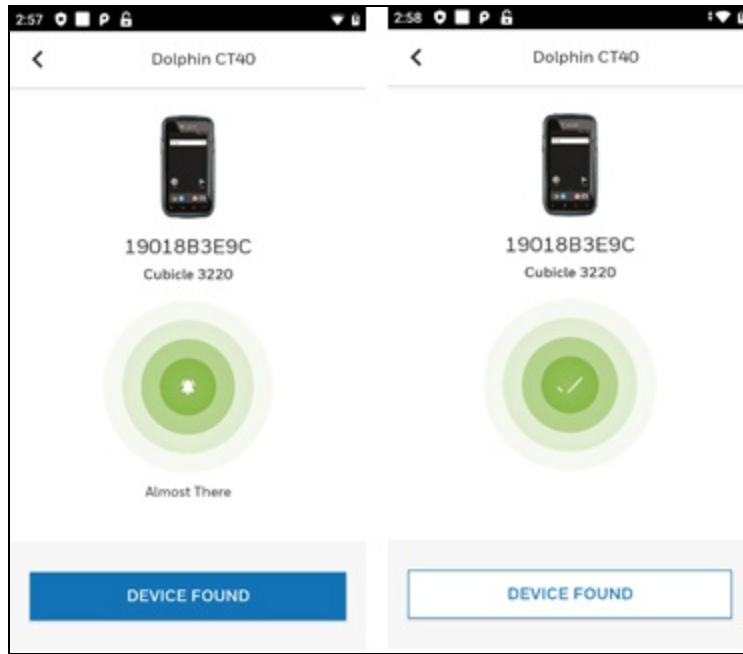
- The ringing can be stopped from the finder device by pressing the **STOP BUZZ** button on the Search by lost status and Search by site screens or the bell icon on the Search by ID screen.
- The ringing can be stopped from the located device by tapping the notification.



Beacon Transmitter Screen

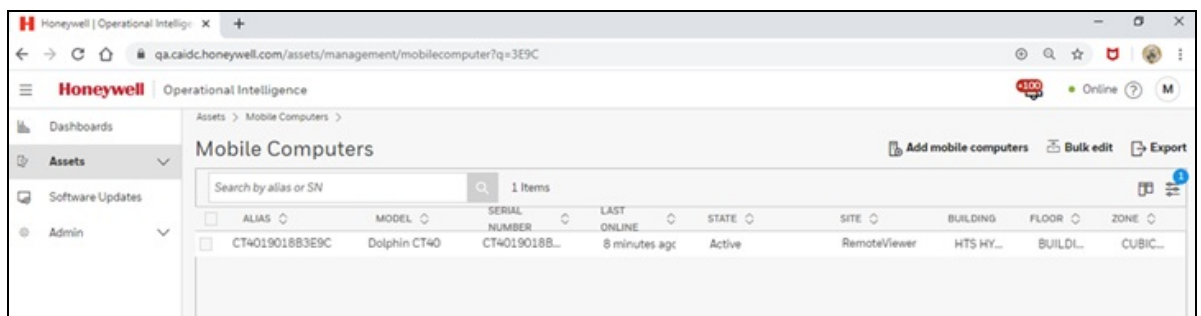
Marking the Device as Found

After the device is found, tap the **DEVICE FOUND** or **MARK DEVICE AS FOUND** button to set the device back into Active status in Operational Intelligence.



Device Found Screen

Once the found device is updated as active in Operational Intelligence, the device gets removed from the list of lost devices, and the State is updated to Active.

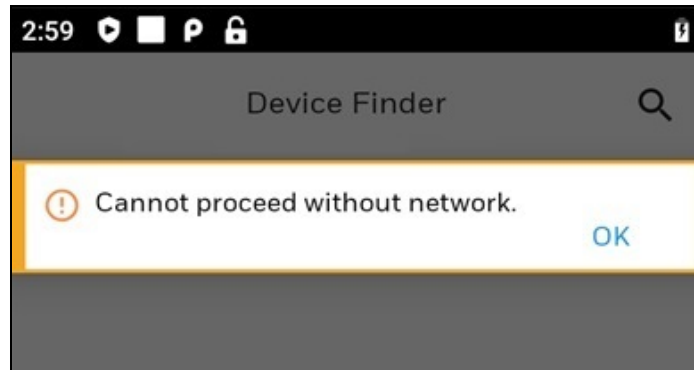


Operational Intelligence Screen

Error Screens

Lost Network

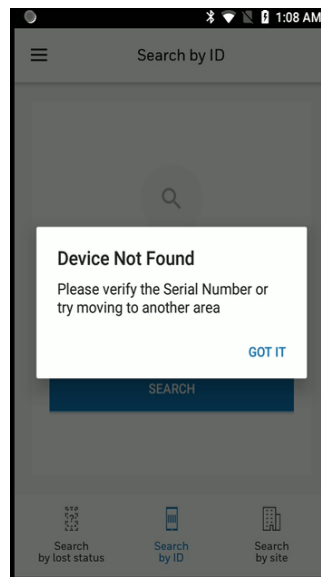
The following message will be displayed if the network connection is lost while in the process of finding a lost device. Once the network connection is re-established, click on the Refresh button to continue.



Network Error Screen

Device Not Found Error

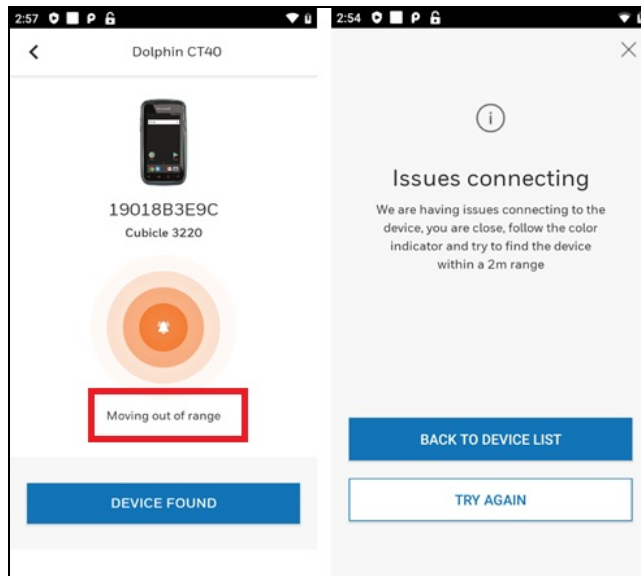
If you try to search a lost device without being in the zone/range of the lost device, an error is shown as below suggesting to move to a different zone.



Device Not Found Error Screen

Lost Device Connection Error

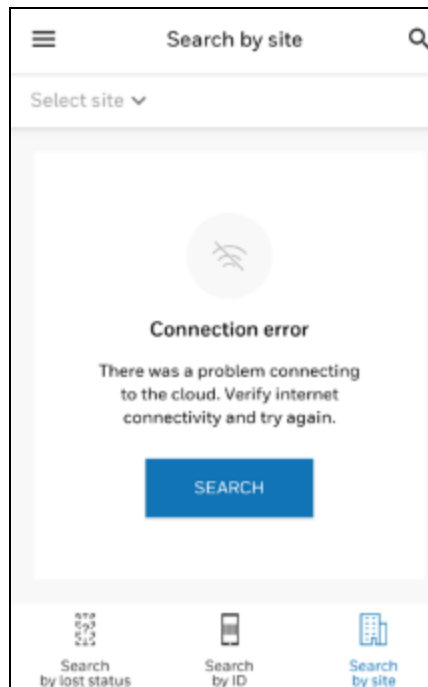
The below error screen is displayed on the finder device if you move out of range of the lost device.



Lost Device Connection Error Screen

Internet Connection Error

The following screen is displayed if there is no network connection.



Connection Error Screen

Reports

Operational Intelligence provides reports on Lost and Found devices to track how often devices are being lost and found in a given time period. The reports include devices that were set to Lost status in Op Intel and devices that were marked as Found by a user in the Device Finder app.

To access the report, log into Op Intel and select Event Reports from the main menu then select "Lost and found devices" as the report type. Filtering options can be applied to search for only lost or only found devices and to define the time period included in the search.

For more information on reports, refer to the Operational Intelligence user guide available at sps.honeywell.com.

OFFLINE SEARCH MODE

This chapter explains how to use the Device Finder application in Offline Mode. The chapter includes the following sections:

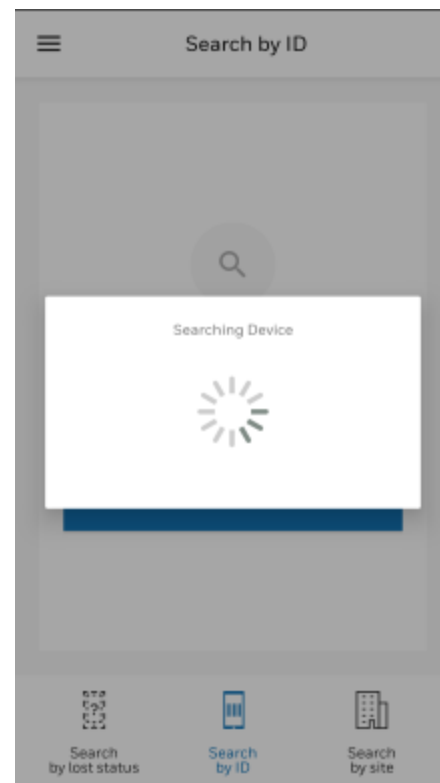
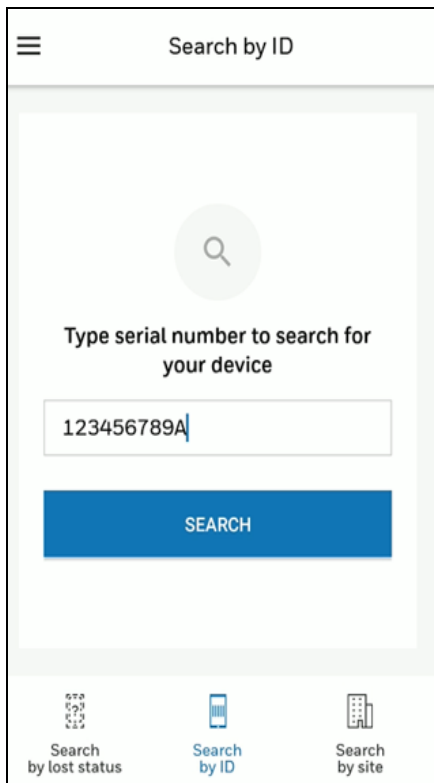
- [Device Management in Offline Mode](#)
 - [Locate Lost Device](#)
 - [Error Screens](#)
- [Toggle Between Online and Offline Mode](#)

Device Management in Offline Mode

This mode allows the use of the Device Finder solution without Operational Intelligence. It reduces the chances of locating the device as zone level information is not available, which increases the effort to search for a device in a broader area.

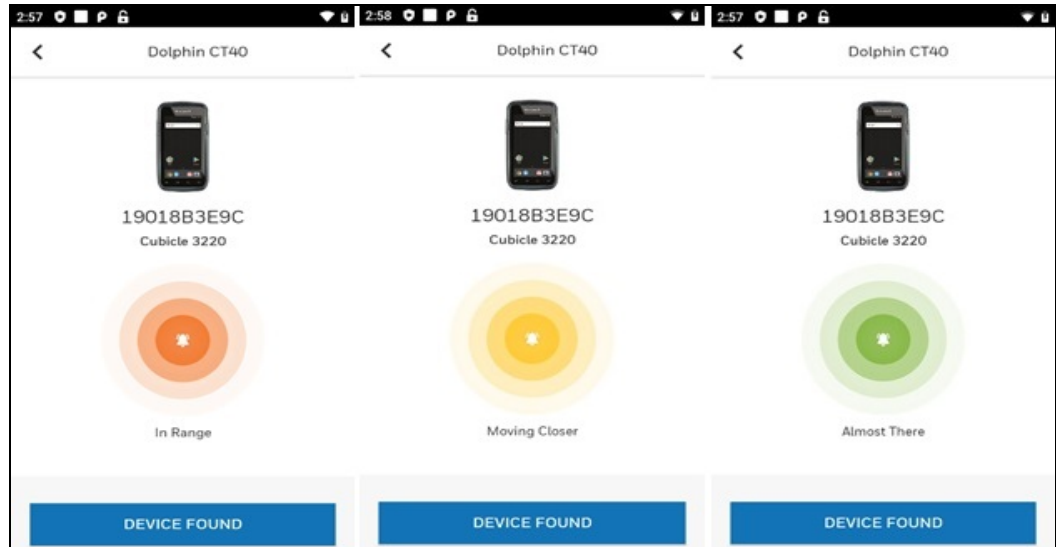
Note: To use offline mode without requiring Op Intel login, configure the OIAuthentication setting to bypass the Operational Intelligence login screens.

- Once the device is reported as lost, you can use the Device Finder application in another existing Mobility Edge device (i.e., Finder device) to find the lost device.
- You can go to the last known location based on the information given by the user who lost the device.
- Launch the Device Finder app and log in.
- Upon login, click the Search by ID icon, enter the serial number of the device to be located in the search box, and tap Search.



Search by ID

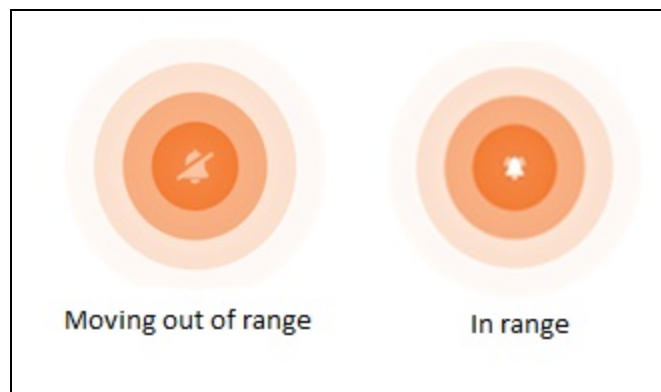
- If the lost device is emitting Bluetooth beacons, it can be tracked, and the Device Finder shows the approximate distance of the device in different colored circles.
 - a. Green (Almost there)
 - b. Yellow (Moving closer)
 - c. Orange (In range)



Device Finder Status Screen

Locate Lost Device

Once you start tracking the lost device, the bell icon at the center of the circle might be disabled (striked off) as shown in the below screen. This indicates that there is no communication link established between the finder device and the lost device.



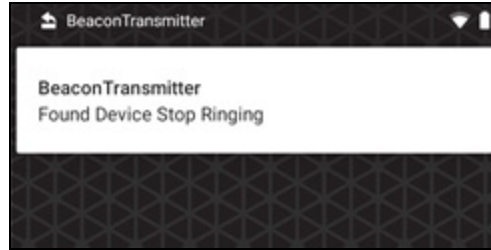
Communication Link Status

- Once the communication link is established, the bell icon will be enabled.

- Once the bell icon is enabled, click on it to ring the device so that the device can be located. Apart from ringing, the device can be configured to vibrate, flash the screen and toggle the flash light.

Note: The ringing will stop automatically after one minute, and you need to click on the bell icon again to ring it.

- The ringing can also be stopped from the finder device by pressing the bell icon once you locate the lost device, or it can be stopped from the located device by tapping the notification.



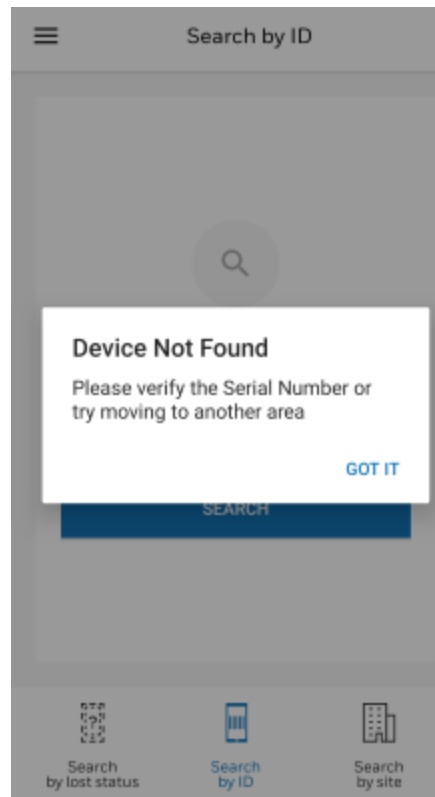
Beacon Transmitter Screen

Note: The “Device Found” button is not available in Offline Search mode in the Device Finder application.

Error Screens

Device Not Found Error

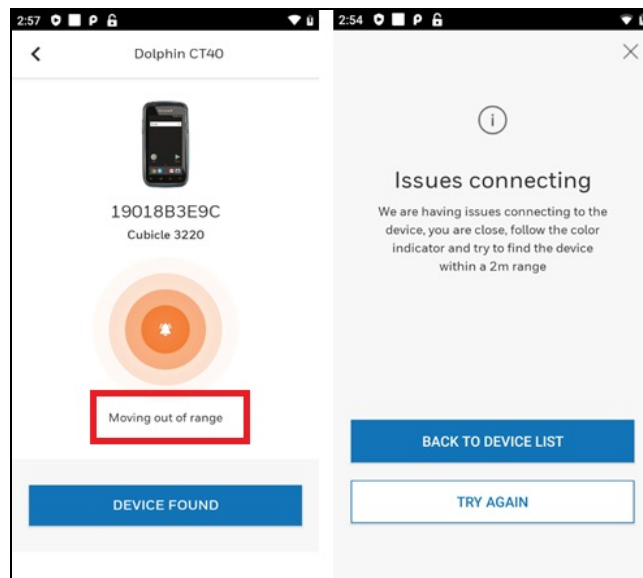
If you try to search a lost device without being in the zone/range of the lost device or if you enter a wrong serial number, an error is shown as below suggesting to enter a correct serial number or move to a different zone.



Device Not Found Error Screen

Lost Connection Error

The below error screen is displayed on the finder device if you move out of range of the lost device.

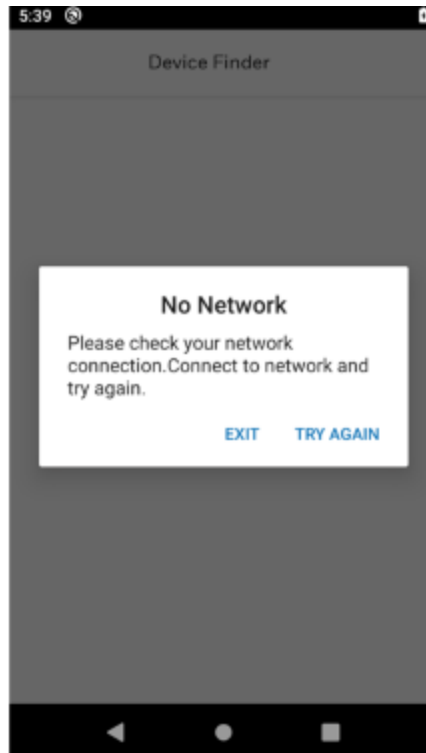


Lost Connection Error Screen

- “TRY AGAIN” will try to search for the same device again and redirect to the tracking screen.
- “BACK TO DEVICE LIST” will navigate to the offline search screen where you can enter a different serial number.

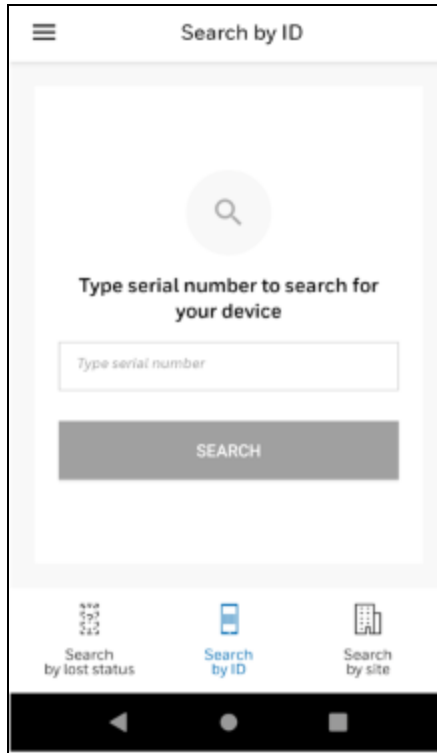
Toggle Between Online and Offline Mode

If there is no internet connectivity after the launch of the Device Finder application, the app displays the following message:



No Network Message

- If you want to switch back to Search by Lost Status/Search by Site mode, you can select the menu option available at the bottom of the screen.
- If you are in Search by Lost Status/Search by Site mode and want to switch to Search by ID, you can select the Search by ID option at the bottom of the screen.



Toggle Screen

INSTALL COMPONENTS

This chapter explains how to install different components of Device Finder. The chapter includes the following sections:

- [Install Beacon Transmitter Service](#)
- [Start Beacon Transmitter Service](#)
- [Install Device Finder Application](#)
- [Launch Device Finder Application](#)

Overview

The Device Finder solution is a combination of two system components, Beacon Transmitter service and Device Finder application.

Beacon Transmitter service emits beacons at an interval of one second. These are connectable beacons which broadcast model number and serial number of the device in which it runs. It is a background service which can run on all devices that need to be tracked and by default it is turned off.

Device Finder is an application which finds lost devices via scanning and tracking beacons emitted by devices running the Beacon Transmitter service.

SSClient

SSClient is the Op Intel agent and is used to configure mobile computers that are onboarded in Operational Intelligence. To use the Device Finder alarm feature in online mode, devices must have a version of the SSClient.apk greater than 5.12.03.0227.

The following maintenance releases (MR) include SSClient version 5.13.00.0001 and can be used directly with Device Finder:
MR23 P(A09), MR19 Q(A10), and MR14 Hon660 R(A11) .

Android versions and maintenance releases higher than these will include the required SSClient version.

For earlier Android versions, SSClient version 5.12.03.0227 must be installed on the device. The SSClient apk can be downloaded from honeywell.com/PSSsoftware-downloads under **Software > Software and Tools > Device Management > SSClient - Operational Intelligence**.

Install Beacon Transmitter Service

The BeaconTransmitter.apk needs to be installed on all Mobility Edge devices which need to be tracked. This section explains on how to update Beacon Transmitter on Android Pie MR08 OS or higher and on Android Oreo MR25 OS or higher. For support on earlier releases, refer to [Miscellaneous information](#).

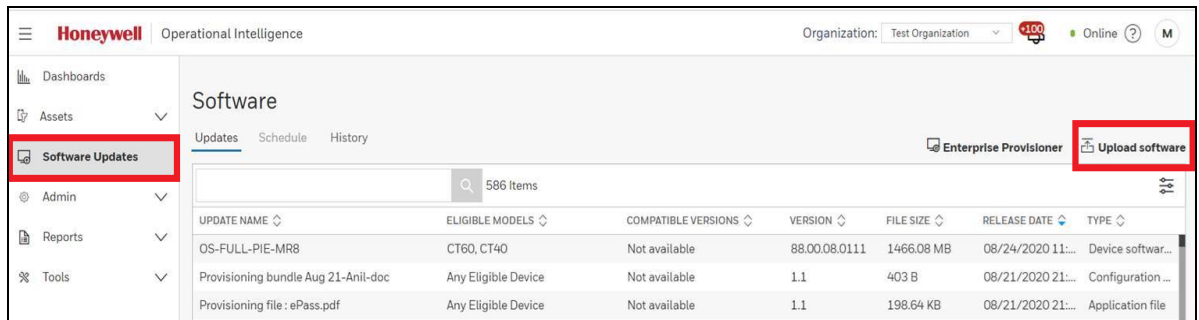
You can install the Beacon Transmitter service via the following methods:

- Operational Intelligence
- Enterprise Provisioner
- Autoinstall
- Adb Command

Operational Intelligence

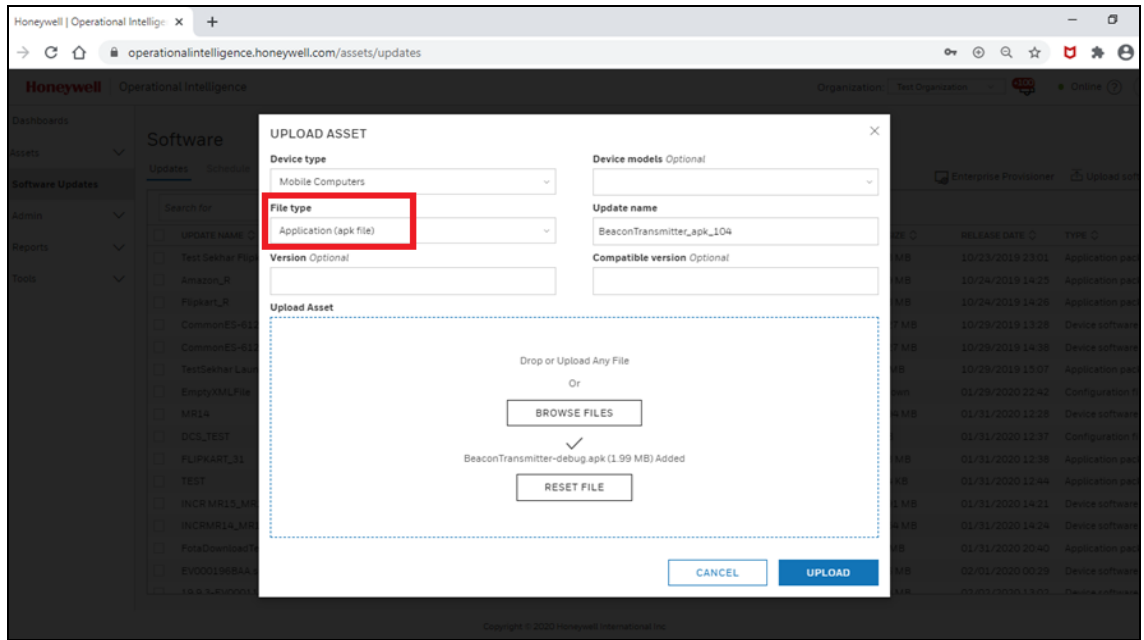
Update the apk using software update procedure and transfer the “BeaconTransmitter.apk” to Mobility Edge devices on which Beacon Transmitter service needs to be installed.

- Log in to Operational Intelligence and go to the Software Updates tab.



Operational Intelligence Screen

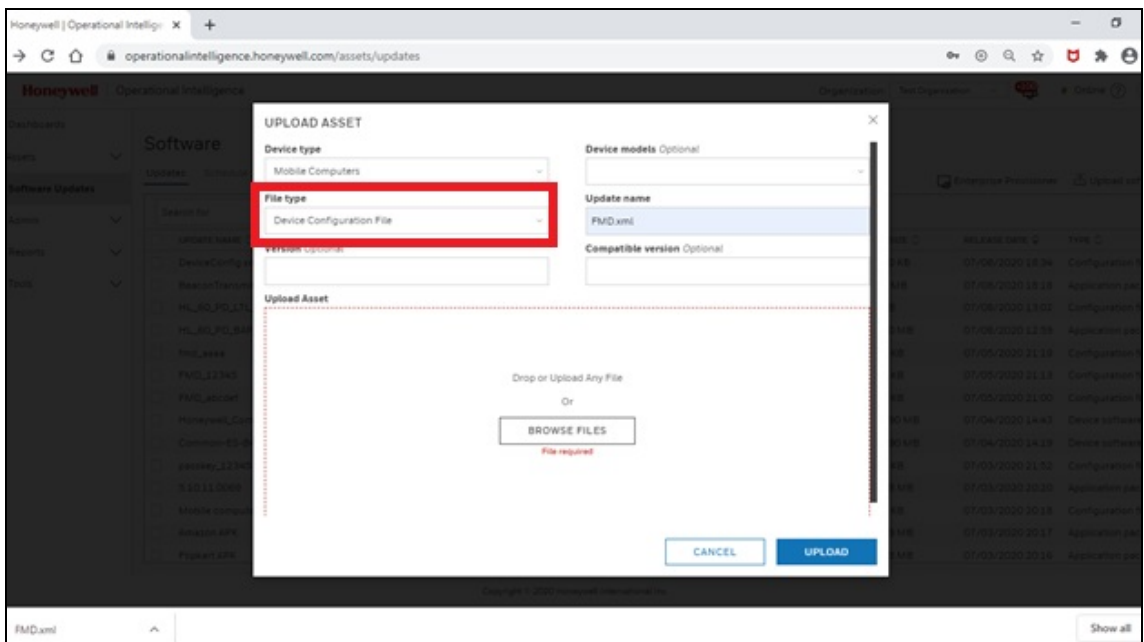
- Click on Upload Software to update Beacon Transmitter. Select File Type as Application (Apk file).



Beacon Transmitter Update Screen

- Upload FMD.xml to cloud.
- Select File Type as Device Configuration file.

Note: FMD.xml can be exported from Enterprise Provisioner (EP). Refer to [Export FMD.xml from Enterprise Provisioner](#).



Upload FMD.xml Screen

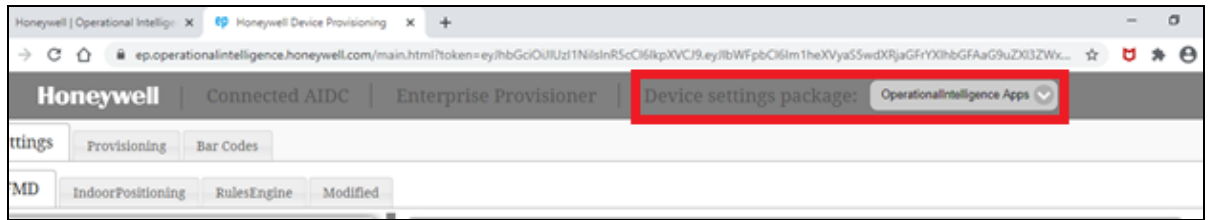
Export FMD.xml from Enterprise Provisioner

Go to Software Updates and click on Enterprise Provisioner at the top right corner of the screen as shown.



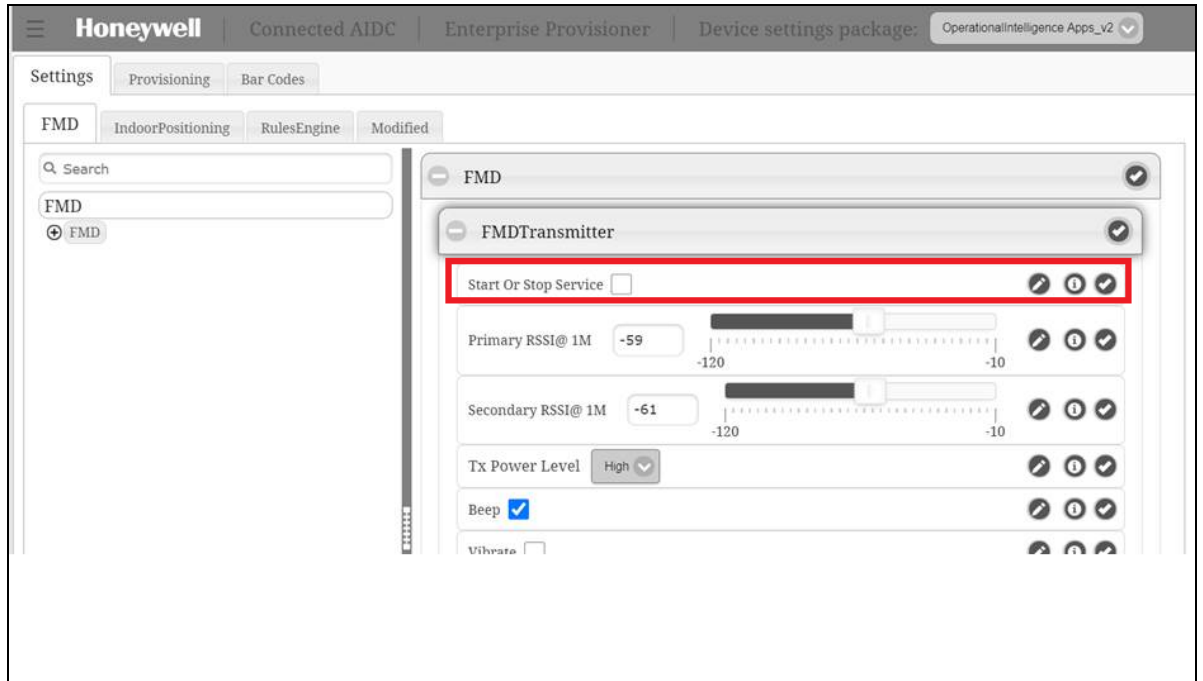
Operational Intelligence Screen

In Enterprise Provisioner, select Operational Intelligence Apps for the Device settings package.



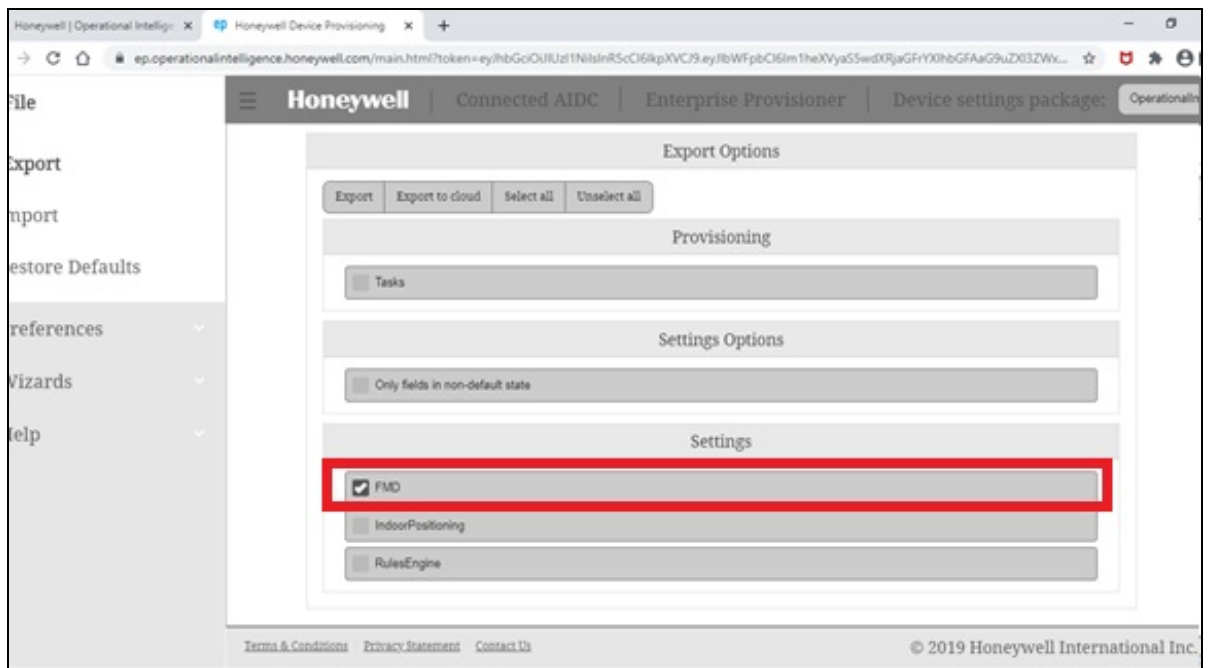
Enterprise Provisioner Screen

Go to **Settings > FMD > FMDTransmitter**. Enable Start Or Stop Service.



FMD Transmitter Option

Go to Export Options, select FMD and click on Export. This exports the FMD.xml to your PC.



Export Options

Note: To upload Deviceconfig.xml to cloud, follow the same steps as [Upload FMD.xml to cloud](#).

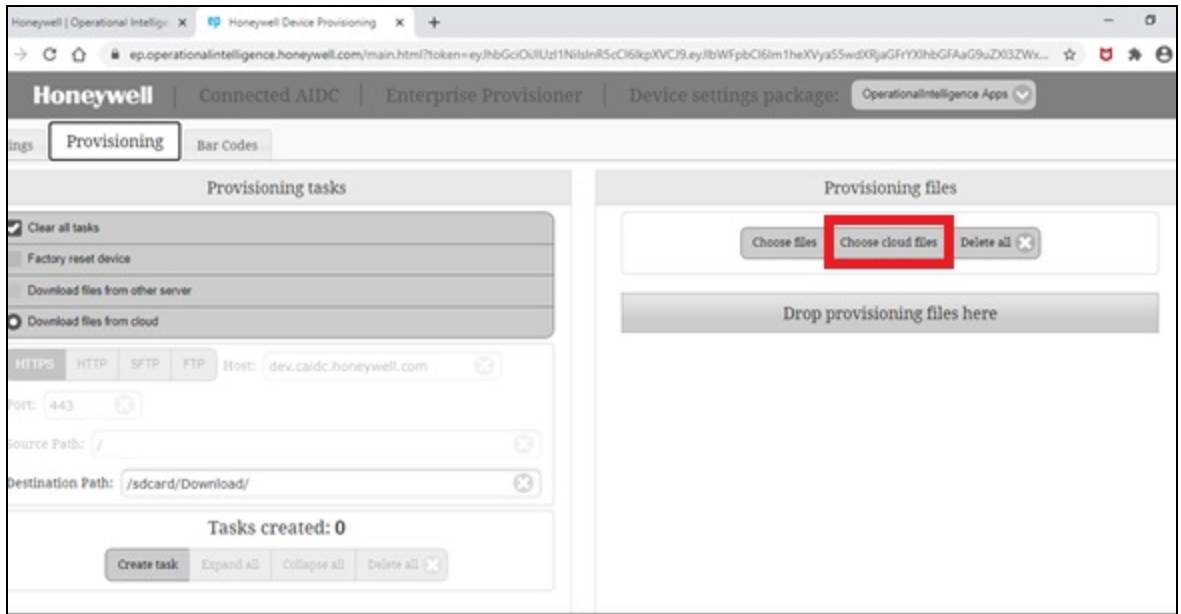
Create a bundle in Enterprise Provisioner

Go to Software Updates and click on Enterprise Provisioner at the top right corner of the screen as shown.



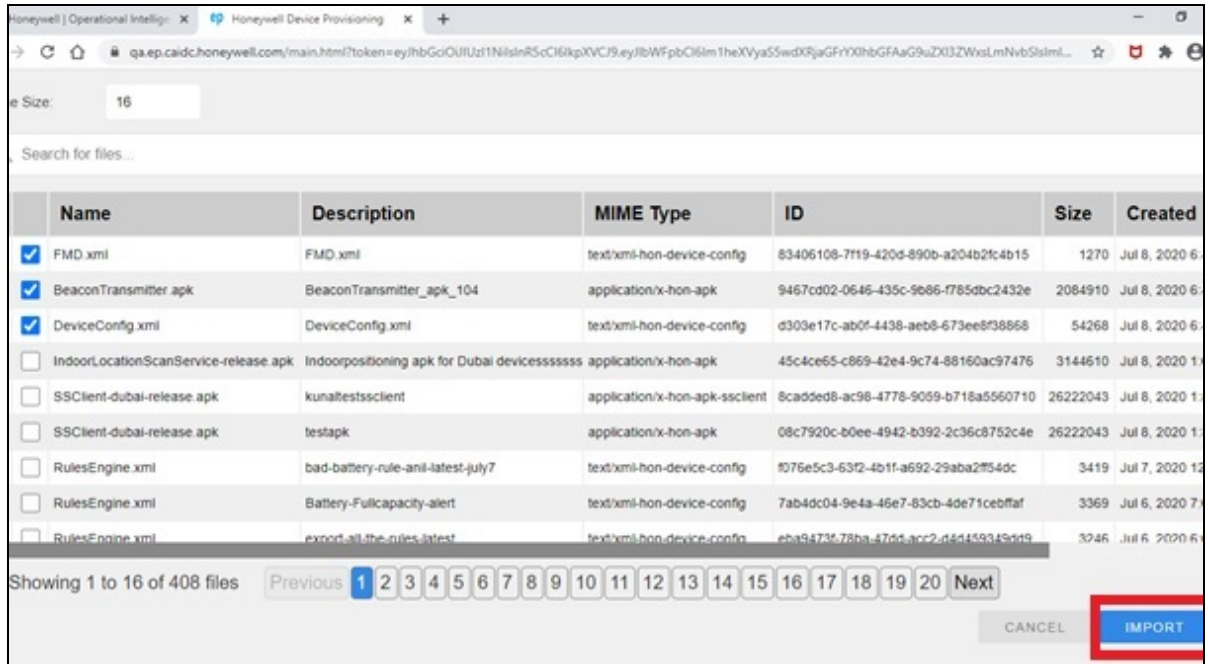
Operational Intelligence Screen

In Enterprise Provisioner, click on the Provisioning Tab and select Choose cloud files.



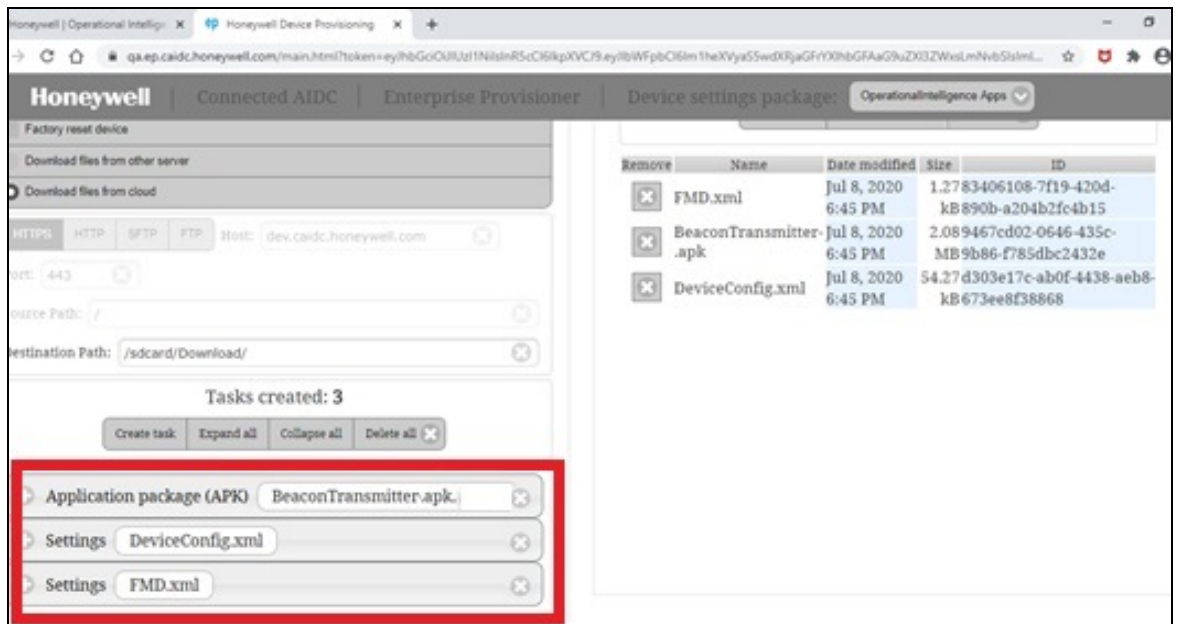
Provisioning Tab

Select FMD.xml, Beacontransmitter.apk, Deviceconfig.xml files and click on IMPORT.



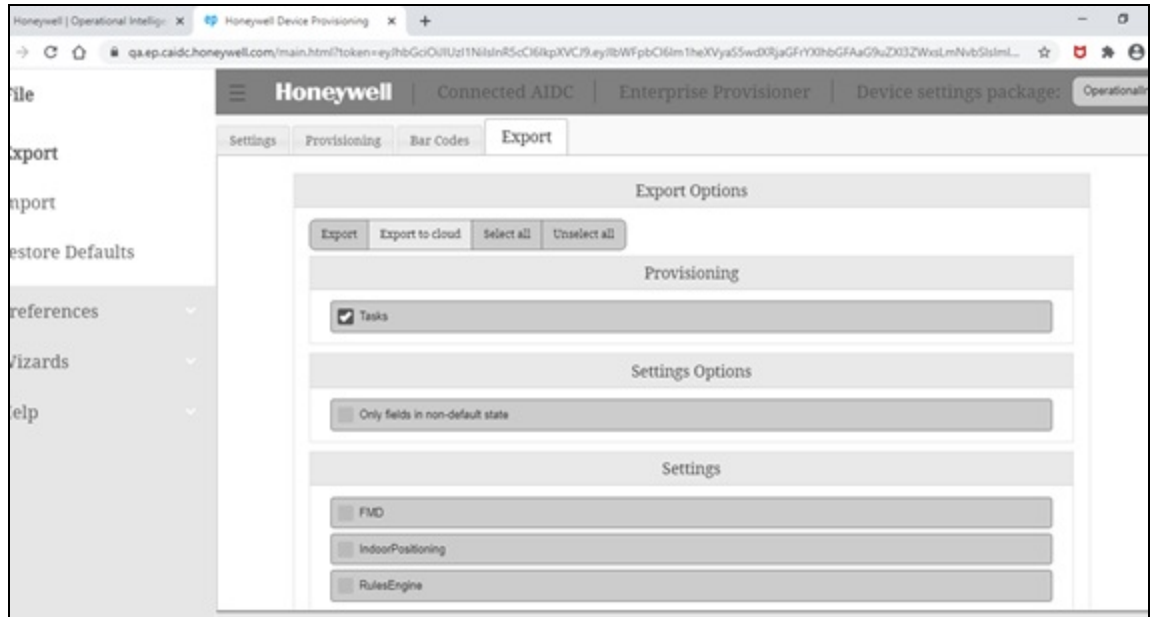
Import Screen

Once Imported, three tasks are created in Enterprise Provisioner. Arrange the tasks in the sequence shown below.



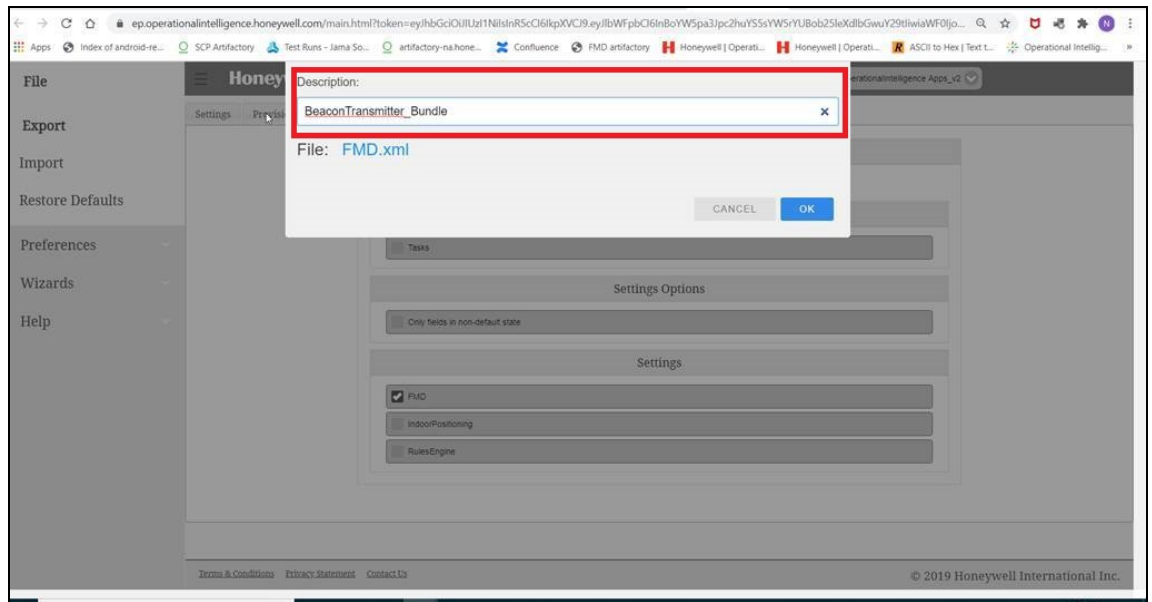
Import Sequence

Navigate to Export options, select Tasks and click on Export.



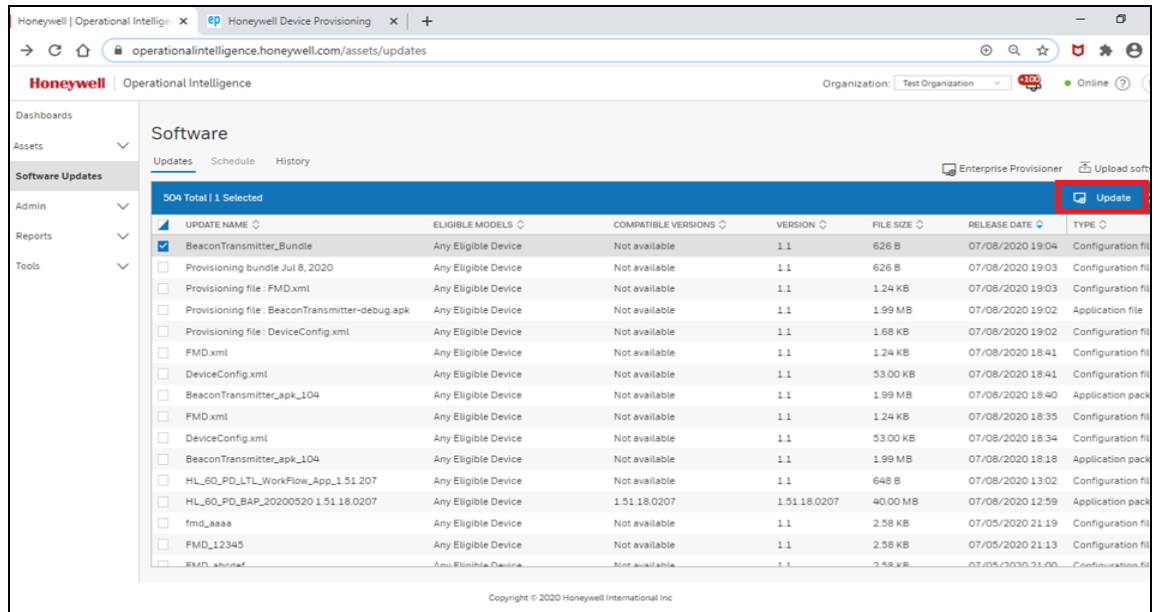
Export Bundle

Provide a desired name for the bundle and click OK to create the bundle.



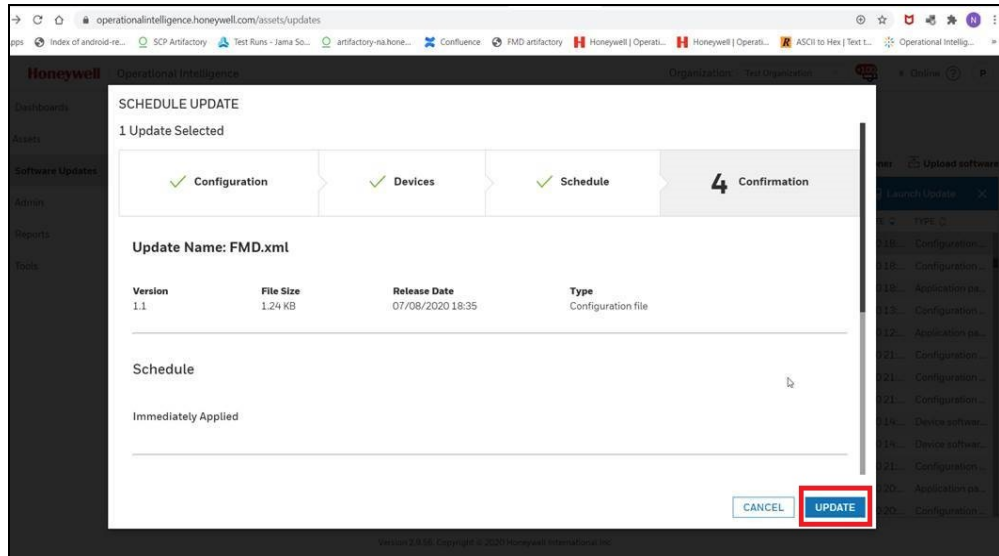
Name the Bundle

In Operational Intelligence, select the BeaconTransmitter_Bundle and click on the Update option in the toolbar.

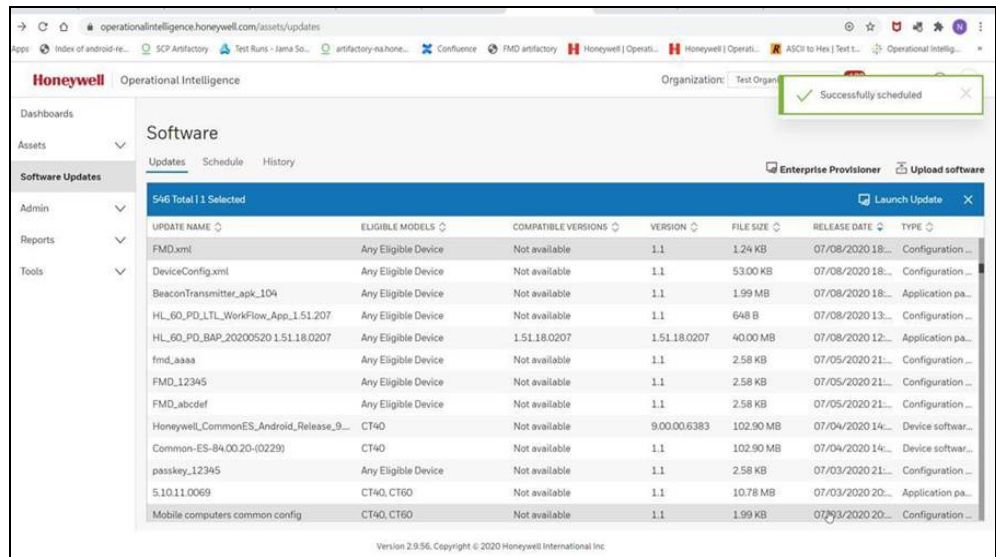


Update Bundle

Select the devices and click on Update to push the bundle to the devices.



Push Bundle to Device



Operational Intelligence Screen

Enterprise Provisioner

To install the Beacon Transmitter service through Enterprise Provisioner:

Go to **Enterprise Provisioner > Provisioning > Create Task > Application Package (APK) (Generate barcode) > In Source Path Option > Add URL** to download the apk from the server location - http/ftp.

Autoinstall

To autoinstall the Beacon Transmitter service on a device:

- Turn on Provisioning mode manually through **Settings > Honeywell Settings** or **MDM**.
- Use one of these options to copy the apk file to **\IPSM Card\Honeywell\AutoInstall** or **\Internal Storage\Honeywell\AutoInstall**
 - Manually connect to the system and enable File Transfer mode
 - **Mobile Device Management (MDM)**
 - **Enterprise Provisioner > Provisioning > Create Copy File Task**
- Reboot the device.

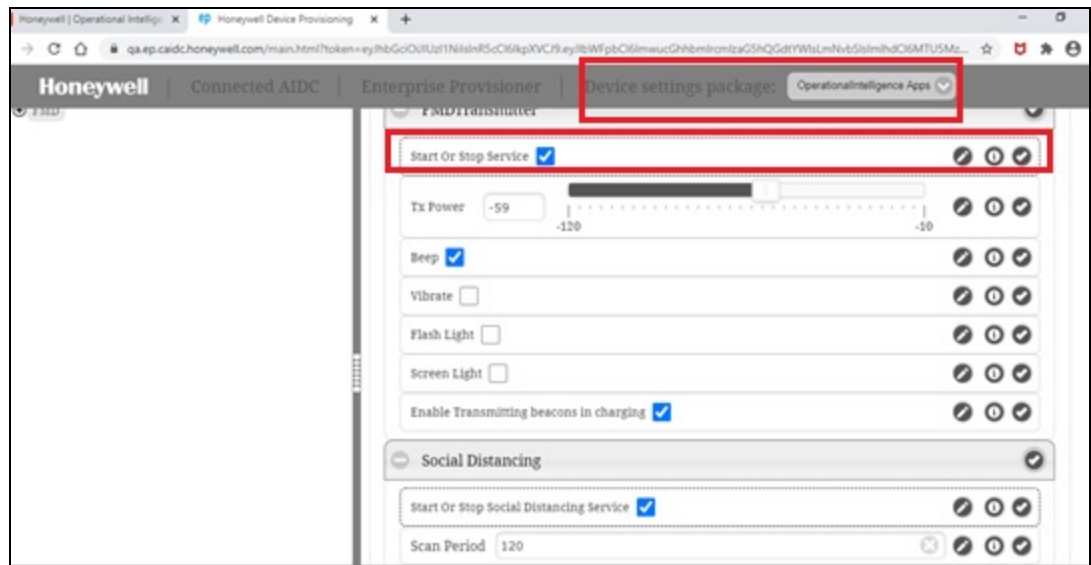
Abd Command

To install the Beacon Transmitter service through Abd Command, use `abd install BeaconTransmitter.apk`.

Start Beacon Transmitter Service

To start Beacon Transmitter Service with Operational Intelligence in Enterprise Provisioner, you must configure FMD.xml and enable the start option.

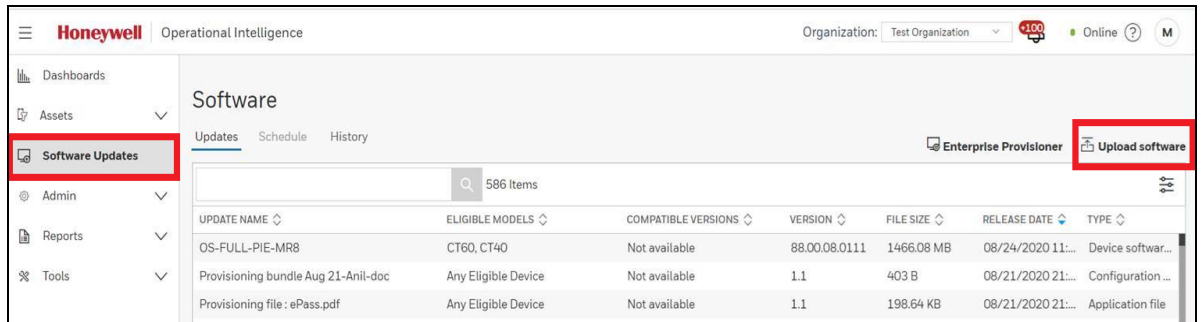
- In Enterprise Provisioner, select **Operational Intelligence Apps** bundle for Device settings package and navigate to **FMD**.
- Go to **FMDTransmitter > StartOrStop Service > Enable**.
- Go to Export options, select the application whose xml needs to be imported. Choose FMD and click the export button to generate and download the configuration file to your PC.



Enterprise Provisioner Screen

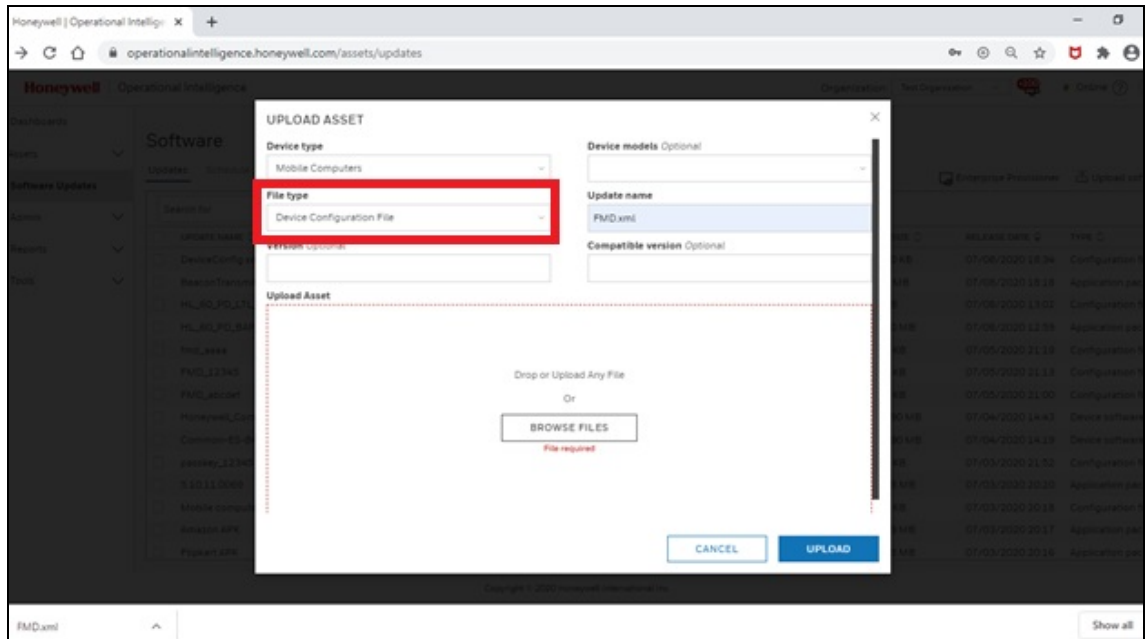
Upload XML to Operational Intelligence

Log in to Operational Intelligence and go to the Software Updates tab.



Operational Intelligence Screen

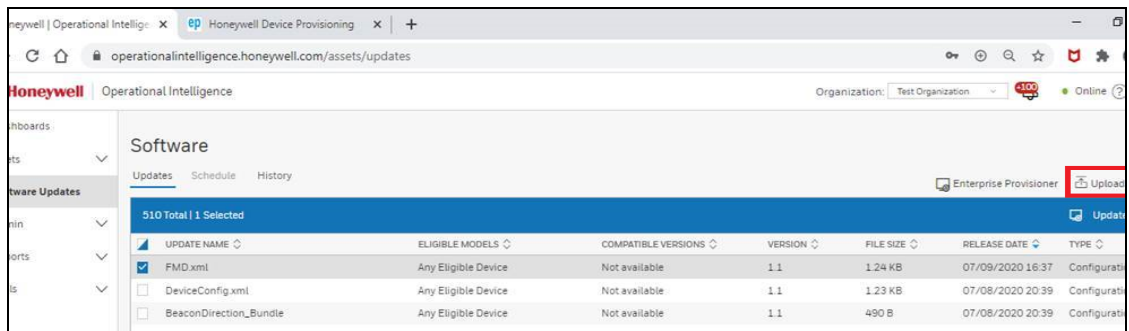
Click on Upload software, select File Type as Device Configuration file and upload the FMD.xml file.



Upload FMD.xml Screen

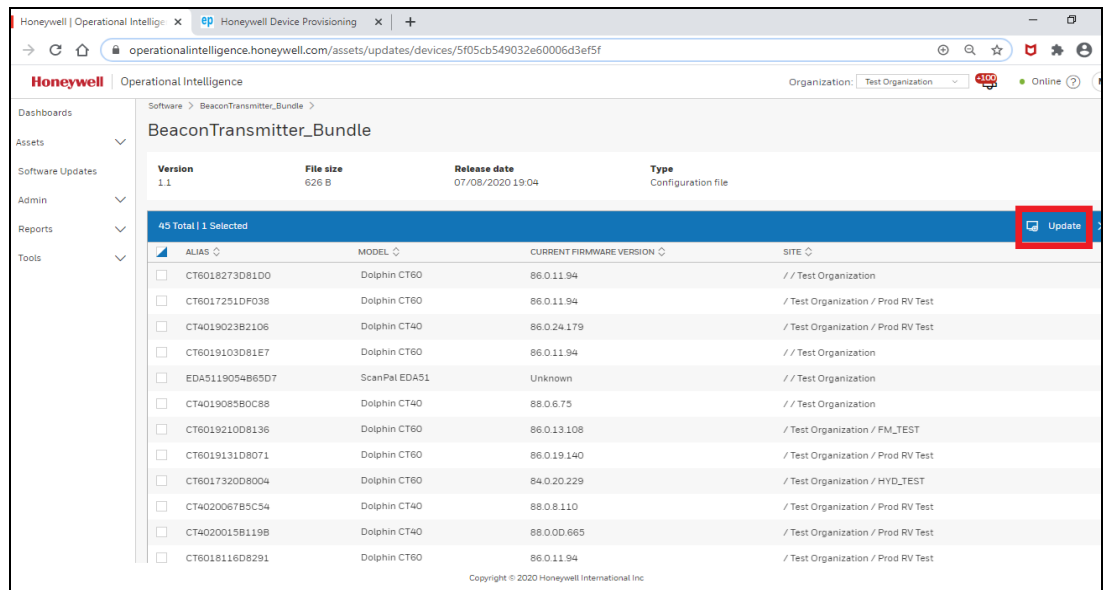
Push FMD.xml to Devices

Select the FMD.xml file and click on Upload.



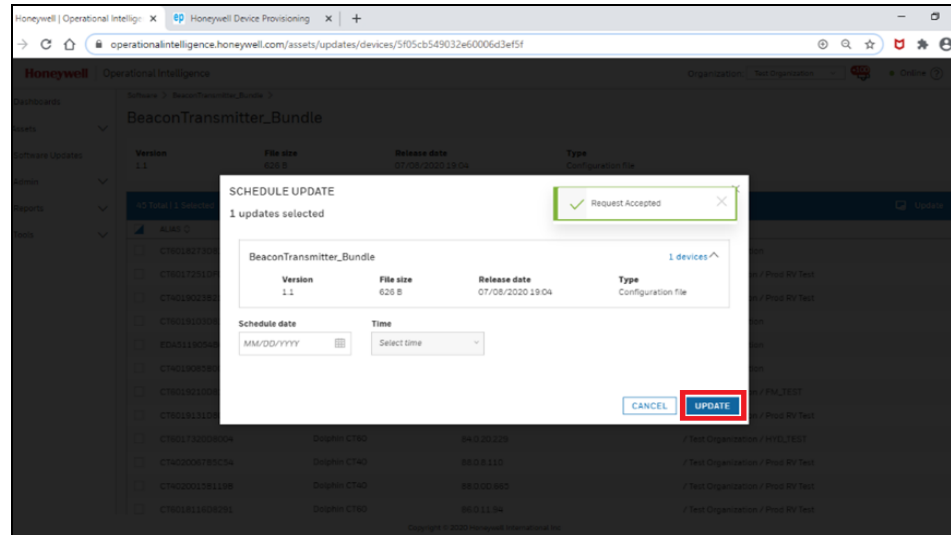
Update Bundle

Select the devices and click on Update option in the toolbar.



Device Selection Screen

This screen appears once the file is pushed to the device.



Bundle Pushed to Device

Enable Beacon Transmitter Service with EZConfig

To enable EZConfig, launch Power Tools from All Apps menu and then launch EZconfig.

In EZConfig, click on  at the top left corner.



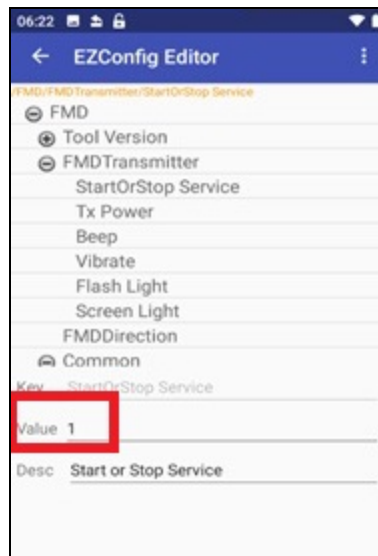
EZConfig Application

Select **Generator** and open FMD.xml.



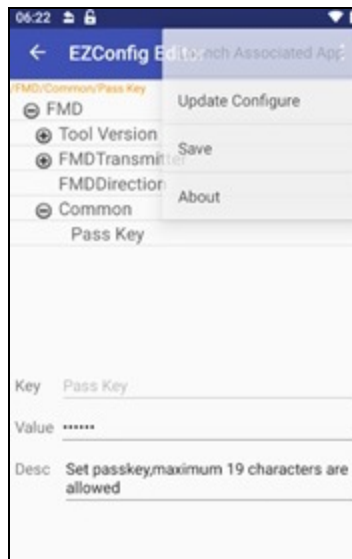
EZConfig Files

In FMD settings, navigate to **FMDTransmitter** then select **StartOrStop Service** and enter the value as **1**.



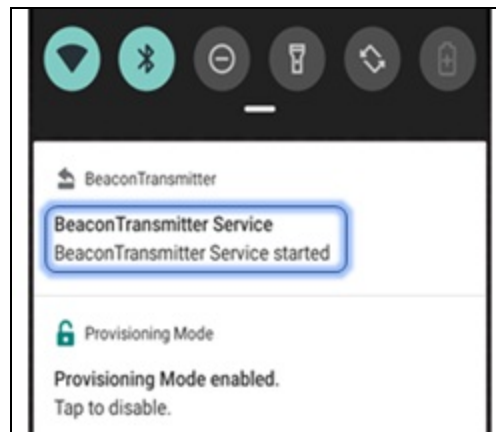
Navigation in FMD

Click on Save and then Update Configure.



Save Settings

Beacon Transmitter service notifies that the application has started transmitting beacons.



Beacon Transmitter Notification

Install Device Finder Application

You can install the Device Finder application (BeaconDirection.apk) on existing Mobility Edge devices which can be used to track and find lost devices.

Install the Device Finder application via one of the following methods.

Operational Intelligence

To install the Device Finder application, update the BeaconDirection.apk and DeviceConfig.xml as described in the section “[Install Beacon Transmitter Service](#)” using the software update procedure and pushing the bundle through Operational Intelligence.

Note: Instead of BeaconTransmitter.apk use BeaconDirection.apk for the Device Finder application installation.

Enterprise Provisioner

To install the Device Finder application through Enterprise Provisioner:

Go to **Enterprise Provisioner > Provisioning > Create Task > Application Package (APK) (Generate barcode) > In Source Path Option > Add URL** to download apk from the server location - http/ftp.

Autoinstall


To autoinstall the Device Finder application:

- Turn on Provisioning mode manually through **Settings > Honeywell Settings** or **MDM**.
- Copy the apk file to **\IPSM Card\Honeywell\AutoInstall** or **\Internal Storage\Honeywell\AutoInstall** using one of the following methods:
 - Manually connect to the system and enable File Transfer mode
 - **Mobile Device Management (MDM)**
 - **Enterprise Provisioner > Provisioning > Create Copy File Task**
- Reboot the device.

Abd Command

To install the Device Finder application through Abd Command, use `abd install BeaconDirection.apk`.

Launch Device Finder Application

Click on  to launch the Device Finder application on the finder device. If internet connectivity is available, a login screen will be displayed. If there is no internet connection, you will receive a pop up on your screen to connect to the internet.

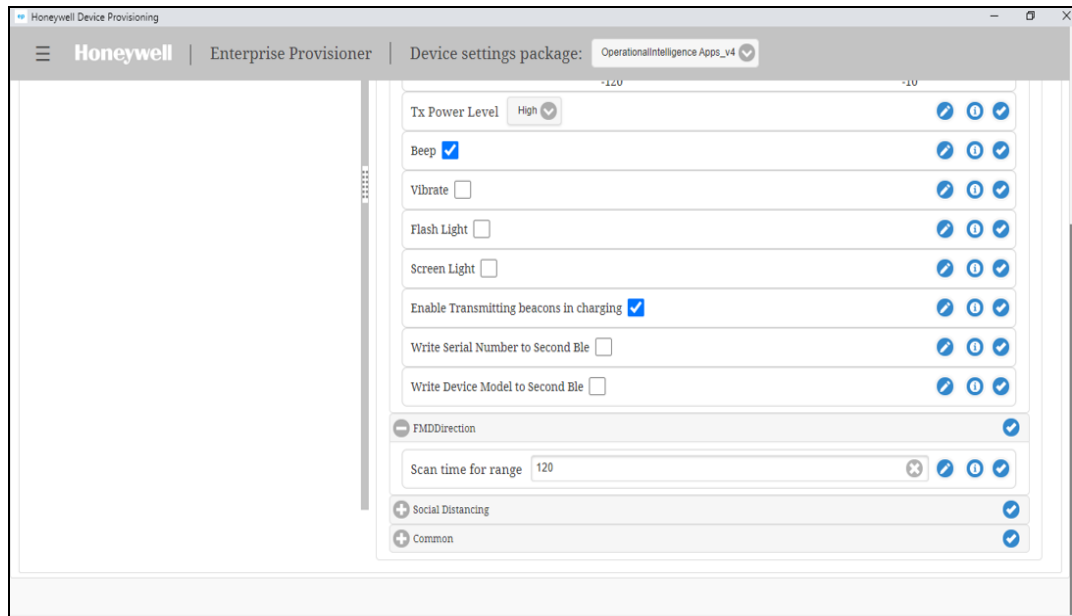
CONFIGURE AND MANAGE

This chapter explains how to configure the Device Finder application by editing the FMD.xml configuration file from Operational Intelligence. The chapter includes the following sections:

- [Configurable Settings in Beacon Transmitter Service](#)
- [Common Configurable Settings](#)
- [Configure Settings in Enterprise Provisioner via Operational Intelligence](#)

Configurable Settings in Beacon Transmitter Service

FMD.xml has the following configurable options:



Settings in Beacon Transmitter Service

Start or Stop Service

Use this setting to start or stop Beacon Transmitter Service.

Possible values are:

- 1 to start the service
- 0 to stop the service.

Default Value

0

Primary RSSI@ 1M

Use the slider to set the value for the setting. Move the slider towards right side to increase the value and move the slider towards left side to decrease the value.

The valid value ranges between -120 and -10.

Default Value

-59

Secondary RSSI@ 1M

Use the slider to set the value for the setting. Move the slider towards right side to increase the value and move the slider towards left side to decrease the value.

The valid value ranges between -120 and -10.

Default Value

-61

Tx Power Level

Set the Transmission Power by selecting a value from the drop-down list provided.

Possible values are:

- High
- Medium
- Low

Default Value

High

Beep

This setting will ring the lost device when the bell icon is pressed in the Device Finder application from the finder device.

Possible values are:

- 1 to enable the ring
- 0 to disable the ring

Default Value

1

Vibrate

This setting will vibrate the lost device when the bell icon is pressed in the Device Finder application from the finder device.

Possible values are:

- 1 to enable the vibration
- 0 to disable the vibration

Default Value

0

Flash Light

This setting will turn on flash light on the lost device when the bell icon is pressed in the Device Finder application from the finder device.

Possible values are:

- 1 to enable the flash light
- 0 to disable the flash light

Default Value

0

Note: This feature is only applicable for devices that support camera flash light. For devices without this feature, the values 0 or 1 will not have any impact.

Screen Light

This setting will flicker the screen on the lost device when the bell icon is pressed in the Device Finder application from the finder device.

Possible values are:

- 1 to enable the flickering
- 0 to disable the flickering

Default Value

0

Enable Transmitting Beacons in Charging

This setting allows you to enable or disable transmission of beacons based on the device power state.

You can set the value as 1 to enable transmitting beacons and 0 to stop transmitting beacons in charging mode.

Possible values are:

- 1 to enable transmitting beacons
- 0 to disable transmitting beacons

Default Value

1

Write Serial Number to Second Ble

This setting writes the device's serial number to the second Bluetooth Low Energy beacon. Applicable only for devices with second BLE.

Possible values are:

- 1 to enable writing the serial number to the second BLE
- 0 to disable writing the serial number to the second BLE

Default Value

0

Write Device Model to Second Ble

This setting writes the device model to the second Bluetooth Low Energy beacon. Applicable only for devices with second BLE.

Possible values are:

- 1 to enable writing the device model to the second BLE
- 0 to disable writing the device model to the second BLE

Default Value

0

Scan Time for Range

This setting configures the scan time in seconds to find the range of the device.

Valid values range from 1 to 300.

Default Value

120

OIAuthentication

This setting determines if the user must log in with Op Intel credentials or if the Op Intel login screens are bypassed.

Possible values are:

- 0 to require Op Intel Authentication
- 1 to bypass Op Intel login screens

Default Value

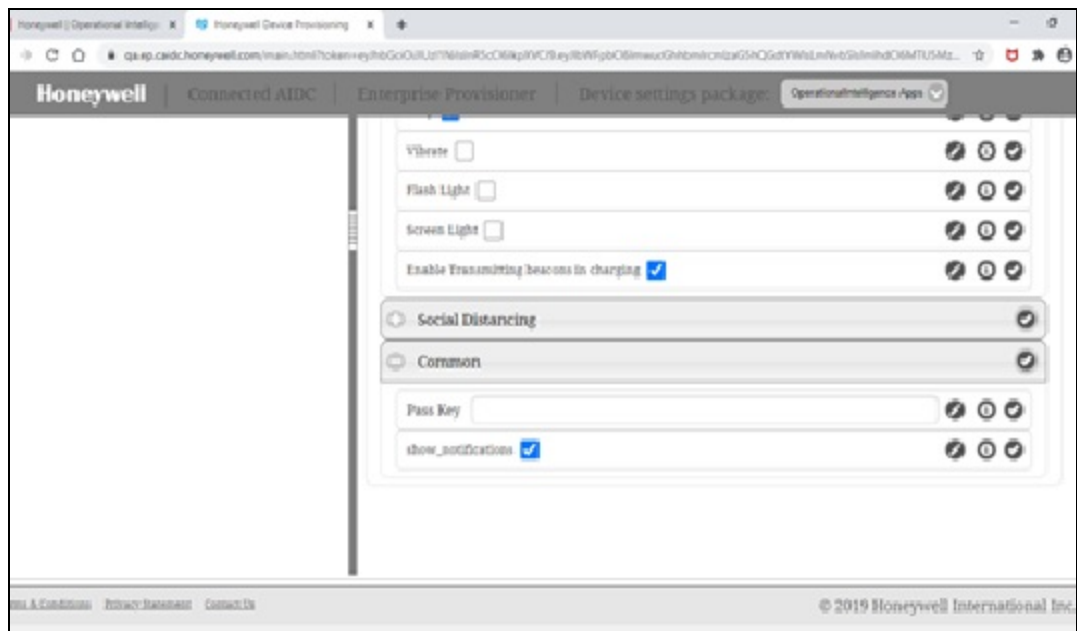
0

Note: The lost devices that are displayed on the Search by lost status tab depend on the setting for OIAuthentication.

- When OIAuthentication is set to 1, the Search by lost status tab will display all devices that are marked as lost, have location details, and are in the same **Site** as the finder device.
- When OIAuthentication is set to 0, the Search by lost status tab will display all devices that are marked as lost, have location details, and are in the same **Organization** as the user's last Op Intel login.

Common Configurable Settings

Following are the common configurable settings between the Device Finder application and Beacon Transmitting service.



Common Settings

Pass Key

This option is used to set a Pass Key for a secure communication over the Bluetooth network between the finder device and lost device. A maximum of 19 characters are allowed for the Pass Key and it will be stored in an encrypted format.

If you do not provide a value for the setting, the device will use the default value.

Show Notifications

This setting allows you to disable application generated notifications.

Set the value as 1 to show notifications and 0 to hide notifications.

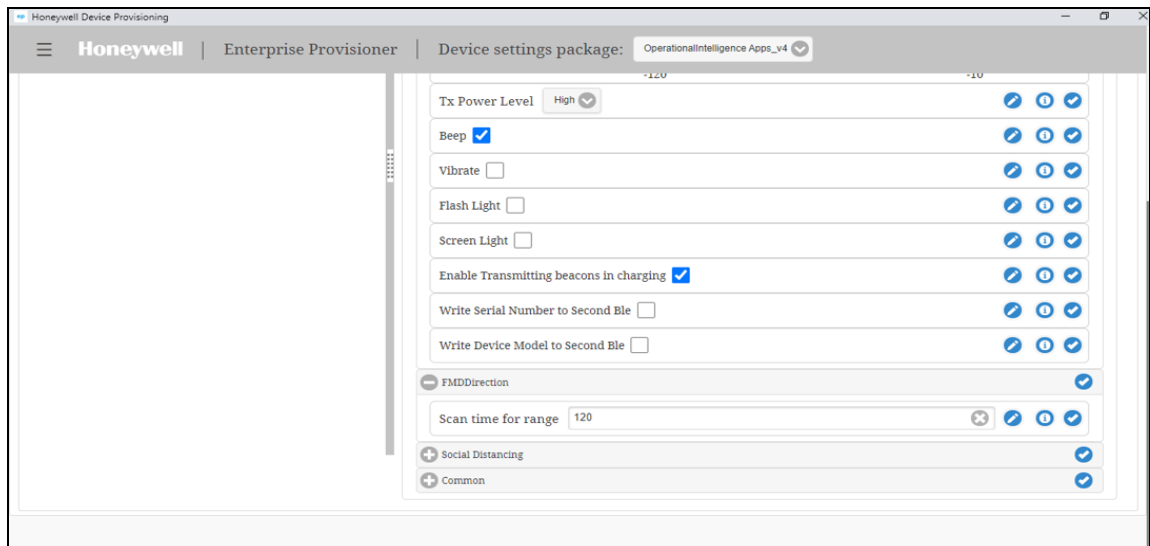
Default Value

1

Configure Settings in Enterprise Provisioner via Operational Intelligence

To configure settings through Enterprise Provisioner:

- Open the Enterprise Provisioner application on your computer.
- Go to **File > Import > Load > FMD.xml**.



Configure Settings via EP

- Configure settings as required.
- Export the XML to push to the device or generate barcode and scan.

ADDITIONAL INFORMATION

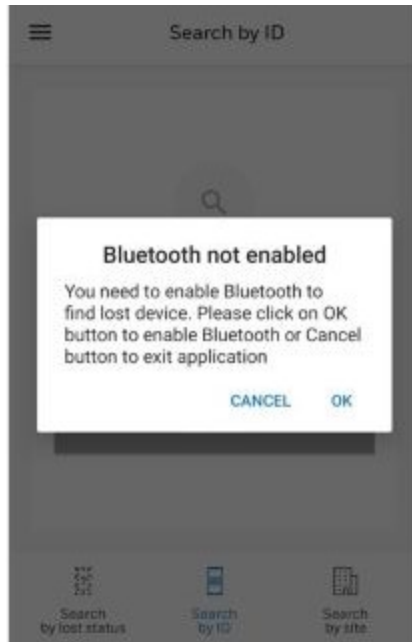
This chapter explains how the Device Finder application handles different scenarios like Bluetooth ON/OFF, Network ON/OFF, and Exit Application. The chapter includes the following sections:

- [Bluetooth ON/OFF in Device Finder Application](#)
- [Network ON/OFF in Device Finder Application](#)
- [Back Key Press/Exit Application in Device Finder](#)
- [Bluetooth ON/OFF with Beacon Transmitter Service](#)
- [Find Version Details](#)

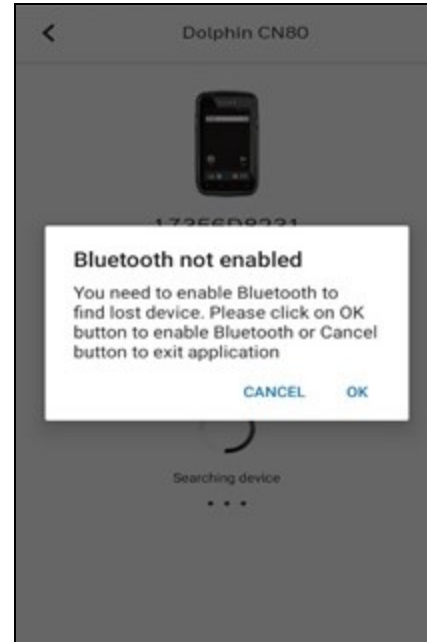
Bluetooth ON/OFF in Device Finder Application

If the Device Finder application cannot find network connectivity upon launch, it will redirect to Offline Search mode.

If Bluetooth is off after launching the application or if Bluetooth is disabled while tracking a lost device, you will receive a pop up prompting you to enable Bluetooth.



Bluetooth OFF at Launch

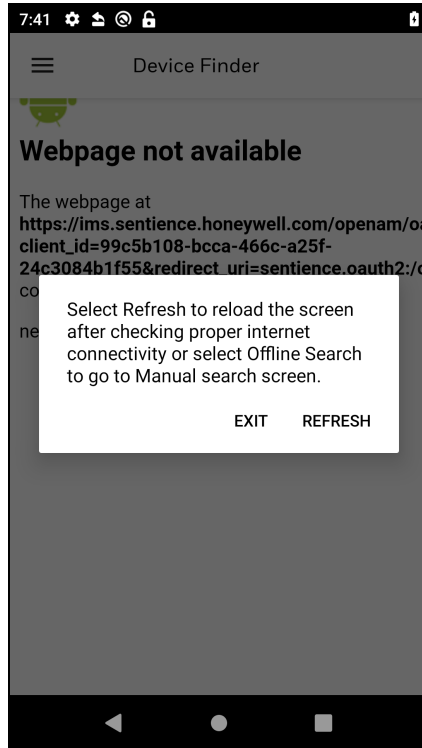


Bluetooth OFF while Tracking

Network ON/OFF in Device Finder Application

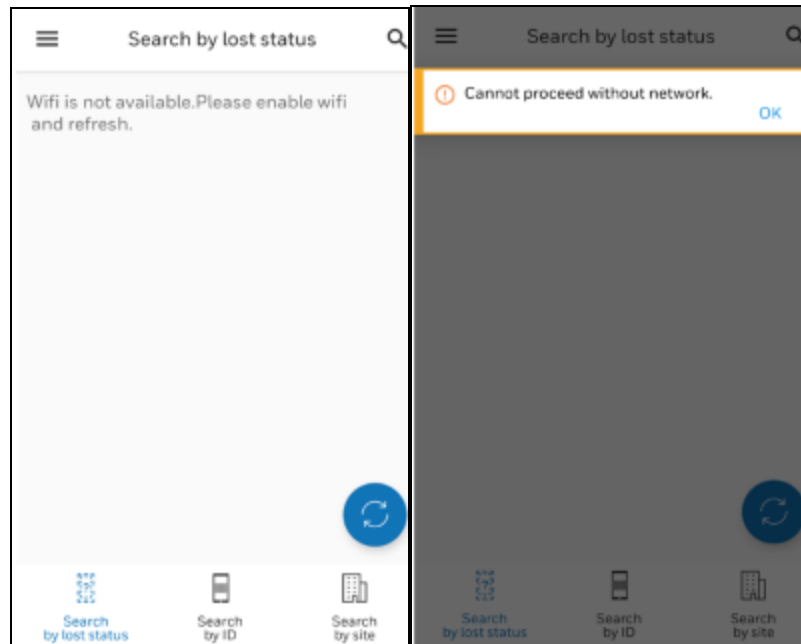
If the Device Finder application cannot find network connectivity upon launch, you will receive a pop up on your screen to connect to the internet.

If network connectivity fails while loading the login page or while signing in, you will receive a pop up to choose to either refresh the page or switch to Offline Search mode.



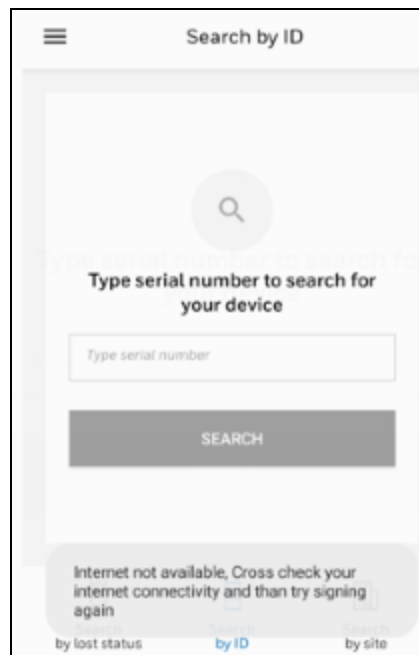
Network Unavailable while Signing In

If there is no network connectivity while fetching the list of the lost devices from the cloud, you will see the below screens.



Internet/Wi-Fi Unavailable

If you try to switch from Offline Mode to Online Mode without a network connection, a message will be displayed asking you to check the network connection and try again.



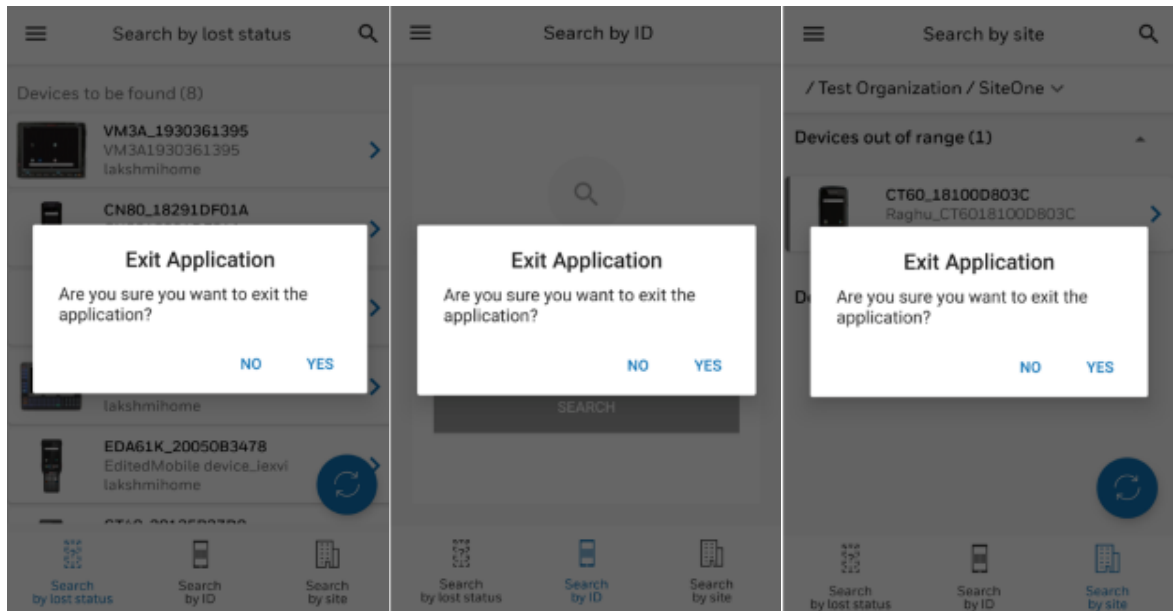
Network Unavailable While Switching Modes

Back Key Press/Exit Application in Device Finder

You can press the Back key in the Login screen/Lost devices list screen/Offline search screen to exit the Device Finder application.

To make sure the user really wants to exit the application and has not pressed the Back key by mistake, a confirmation message is displayed as shown in the below figures.

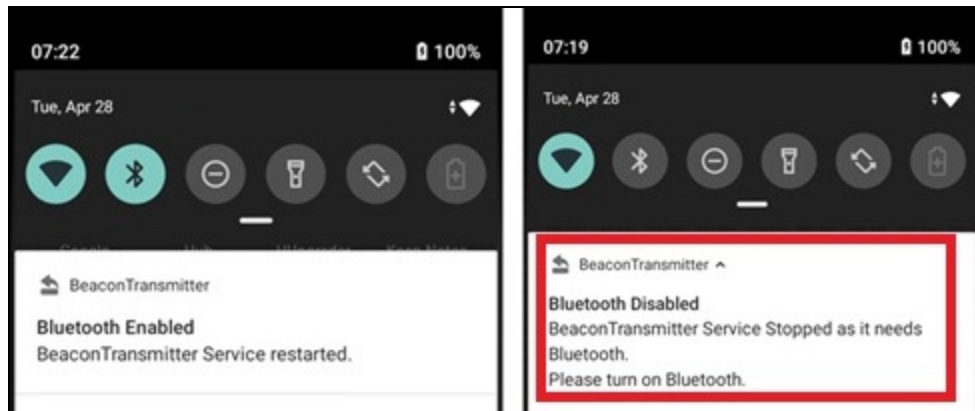
Note: Pressing the Back key in other screens will take you back to the previous screen.



Back Key Press Functionality

Bluetooth ON/OFF with Beacon Transmitter Service

Beacon Transmitter Service is a background service without any user interface. All updates and events are shown as notifications. If Bluetooth is turned off when Beacon Transmitter Service is active, then you will see the below notification.

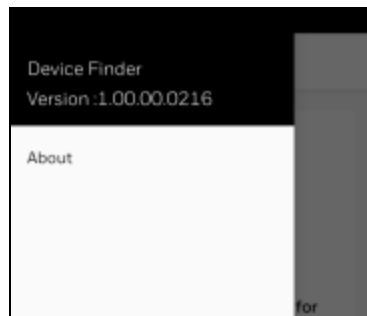


Beacon Transmitter Notifications

Find Version Details

Device Finder Application

Version details for the Device Finder application can be found by tapping the three bars at the top left corner of the screen.

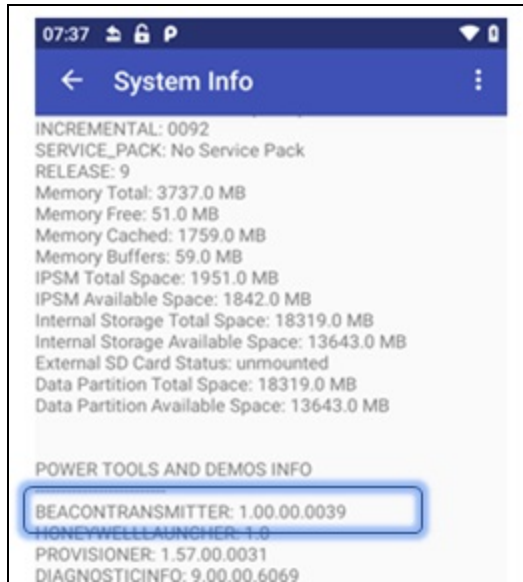


Device Finder Version Details

Beacon Transmitter Service

To find the version details of Beacon Transmitter Service:

Go to **Power Tools > Diagnostic Information > System Info > BeaconTransmitter.**



Beacon Transmitter Version Details

FREQUENTLY ASKED QUESTIONS (FAQ)

This section provides answers to some common questions about the Device Finder app. For specific information about the Honeywell mobility device you are using, refer to the device user guide or data sheet available at sps.honeywell.com.

1. What will happen if my lost device is in sleep mode?

You can still search and ring the device. The lost devices will send Bluetooth beacons even when it is in sleep mode.

2. What will happen if my lost device is switched off?

Devices with battery based BLE will continue to send beacons until the battery is fully discharged, so for the user carrying the Device Finder application, there won't be any difference if the lost device is on or off.

3. How long does the lost device send the BLE beacon after it goes into shut-down?

The hardware beacon will run on the super capacitor and will send the beacons up to ~5 days.

Refer to the specifications for your device to determine if it has battery based BLE, which has the ability to send beacons until the battery is fully discharged.

4. What is the battery consumption of the Beacon Transmitter Service?

Battery consumption is very low, approximately 0.02%/hr during sleep and 0.11%/hr during normal operation.

5. What is the difference between CT40XP and CT40 Beacon Operation?

Beacon Operation Information	Main Battery	Main Battery for 2nd BLE
CT40	> 3.2V (Prim BLE)	N/A
CT40XP	> 3.2V (Prim BLE)	3.2V-2.815V (2nd BLE)
Beacon Operational Time	> 12 hrs	5 days

6. How secure is our connection?

Any connection and data exchange related to Device Finder will only happen between the lost device and the finder device if they have the same pass key. This ensures that only authenticated devices are connecting with each other.

7. What will happen if the pass key is different in the lost device and the finder device or if a pass key is pushed from the cloud while a lost device is switched off?

If the pass key does not match, no communication will happen between a lost device and the finder device.

Devices will be able to communicate using up to five previous pass keys. This is designed to cover scenarios where the lost device switches off or gets disconnected from the network and then the pass key is updated.

8. Does Device Finder handle Bluetooth Replay Attack?

A Replay Attack occurs when a hacker eavesdrops on a secure network communication, intercepts it and fraudulently delays or resends it to misdirect the receiver into doing what the hacker wants. In this case, it can listen and resend the payload.

Device Finder handles Bluetooth Replay Attack by generating a unique key for each connection, which means every connection will have its own unique random key. If hackers try to copy raw payload data from a connection and resend, the attack will fail.

Note: For additional information on securing an Android device, refer to the Android Network and Security Guide available at sps.honeywell.com.

9. How accurate is the Range Calculation?

Range may get impacted by things like being in between walls or near computers, tables, etc. That is why distance ranging circles are shown, which will not mislead users.

10. Can I only ring the device when I am in the Green Circle?

No, you can ring the lost device as soon as your bell icon is enabled no matter which circle you are in; however, ringing will be more audible when you are in the green circle, i.e., near a lost device.

11. What configurable options are available?

You can configure pass key, transmission power and actions to be performed when a lost device is found like Ring (default) , Vibrate, Flicker Flash Light , Flicker Screen Light, etc.

12. Which devices/OS Versions are supported?

The following Mobility Edge devices are supported with Android 9 or higher: CT30 XP, CT40 XP, CT45, CT45 XP, CK65, CT47.

The following Mobility Edge devices are supported with Android 8 or higher: CN80, CT40, CT60, CT60 XP, RT10A, VM1A.

13. **What are the MRs supported in this feature?**

Refer to the table "*OS Comparison* " on page 76 from [Miscellaneous information](#) for MR information.

14. **Where can I get the Device Finder Apk?**

To download the latest version of the Device Finder Apk:

- Go to honeywell.com/PSSsoftware-downloads.
- Navigate to **Software > Software and Tools > Locationing Solutions**.

MISCELLANEOUS INFORMATION

This chapter explains how to install different components of Device Finder for releases prior to Android 9 MR08 and Android 8 MR25 on Mobility Edge devices and for Android 9 MR17 on ScanPal EDA61K devices with Operational Intelligence.

The chapter includes the following sections:

- [OS Comparison](#)
- [Install Beacon Transmitter Service for Earlier OS Releases](#)
- [Install Device Finder Application for Earlier OS Releases](#)

OS Comparison

For devices on Android 10 and higher, the Device Finder app is verified on all maintenance releases (MR) for all supported devices.

The following table provides information on version requirements for devices on Android 8 and 9.

Devices	Android 9	Android 8
Mobility Edge Devices (CT40, CT45, CT60, CN80, CN85, and CK65)	<ul style="list-style-type: none"> • For MR08 and above - No commonES upgrade needed. • For MR05 to MR07 - commonES needs to be upgraded 9.00.00.6345. • For MR04 and below - Not supported. 	<ul style="list-style-type: none"> • For MR25 and above - No commonES upgrade needed. • For MR24 and below - CommonES needs to be upgraded to 8.01.05.6410.
ScanPal EDA61K	<ul style="list-style-type: none"> • For MR 17 and above - No commonES upgrade is needed. • For MR 16 - CommonES needs to be upgraded 9.02.01.5918. • MR 15 - Not supported. 	

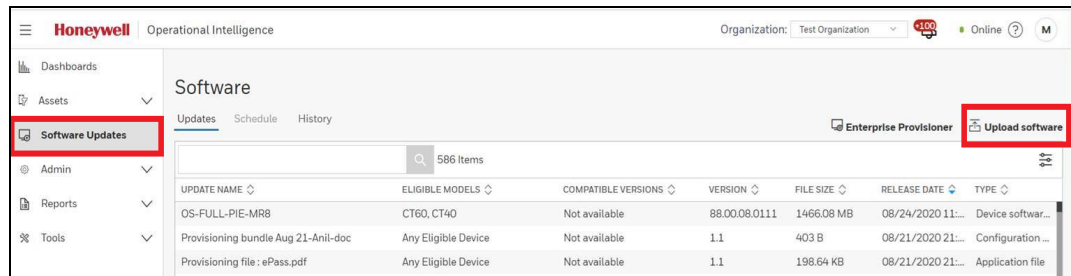
Note: For Android 9 releases prior to MR05, the Operational Intelligence method update is not possible as the Provisioner in earlier MR does not support Operational Intelligence bundle download.

Note: It is advised to use the OTAs which support the Device Finder instead of upgrading the commonES.

Install Beacon Transmitter Service for Earlier OS Releases

Update the apk using software update procedure and transfer the “BeaconTransmitter.apk” to Mobility Edge devices on which Beacon Transmitter service needs to be installed.

Log in to Operational Intelligence and go to the Software Updates tab.

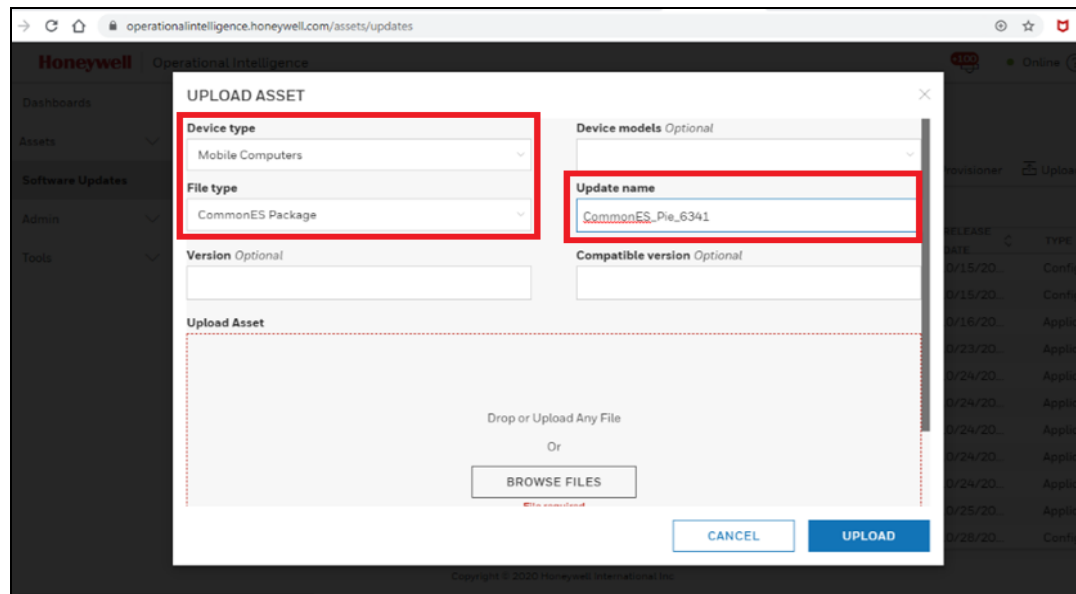


Operational Intelligence Screen

Click on Upload Software to update CommonES package to cloud.

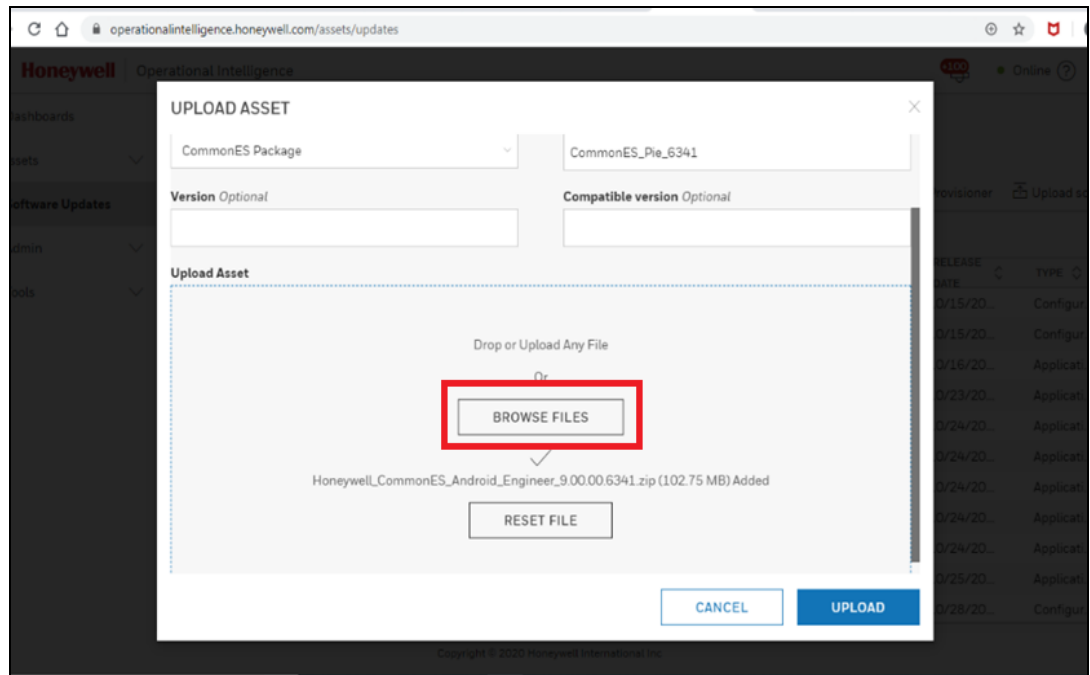
Select the File type as CommonES Package, Device type as Mobile Computers, and enter a name in the Update name field as below.

- CommonES for Pie: 9.00.00.6345
- CommonES for Oreo: 8.01.05.6410



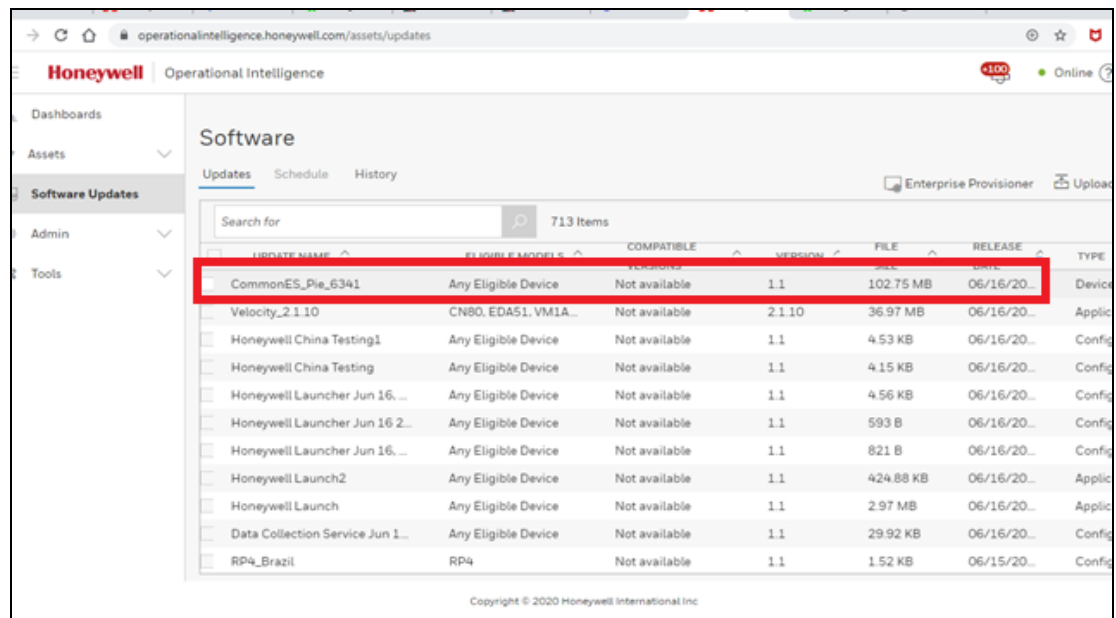
Beacon Transmitter Update Screen

Click on Browse Files and select files to upload.



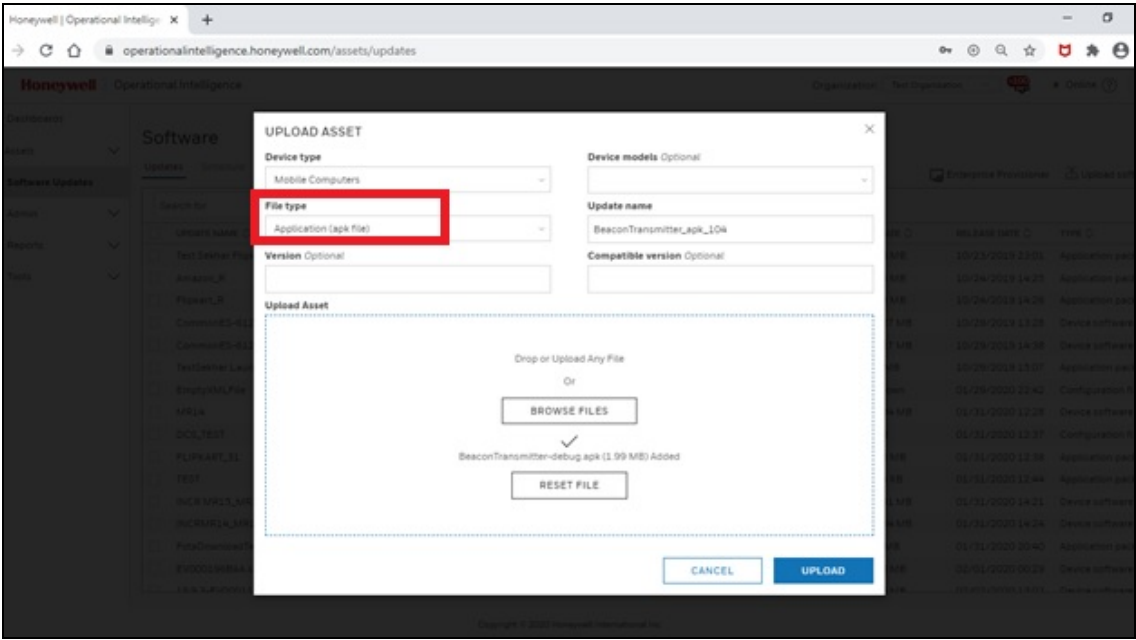
Upload Screen

CommonES file will be updated in the Updates tab.



Operational Intelligence Screen

Click on Upload Software to update Beacon Transmitter. Select File Type as Application (Apk file).

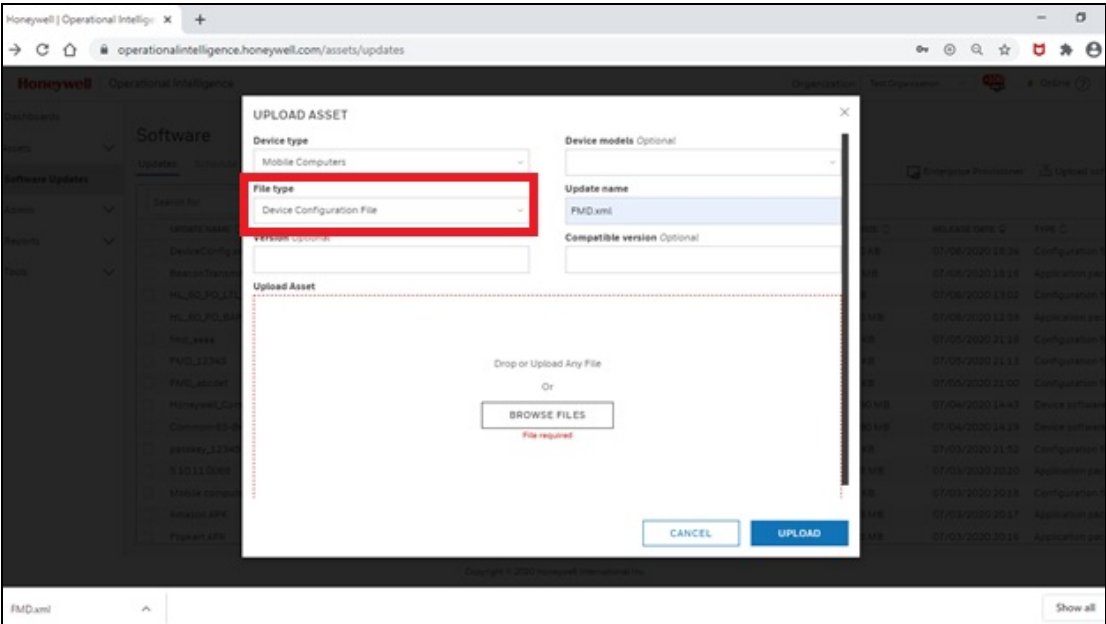


Beacon transmitter Update Screen

Upload FMD.xml to cloud.

Select File Type as Device Configuration file.

Note: FMD.xml can be exported from Enterprise Provisioner (EP). Refer to Export FMD.xml from Enterprise Provisioner.



Upload Screen

Export FMD.xml from Enterprise Provisioner

Go to Software Updates and click on Enterprise Provisioner at the top right corner of the screen as shown.



Operational Intelligence Screen

In Enterprise Provisioner, select Operational Intelligence Apps for the Device settings package.

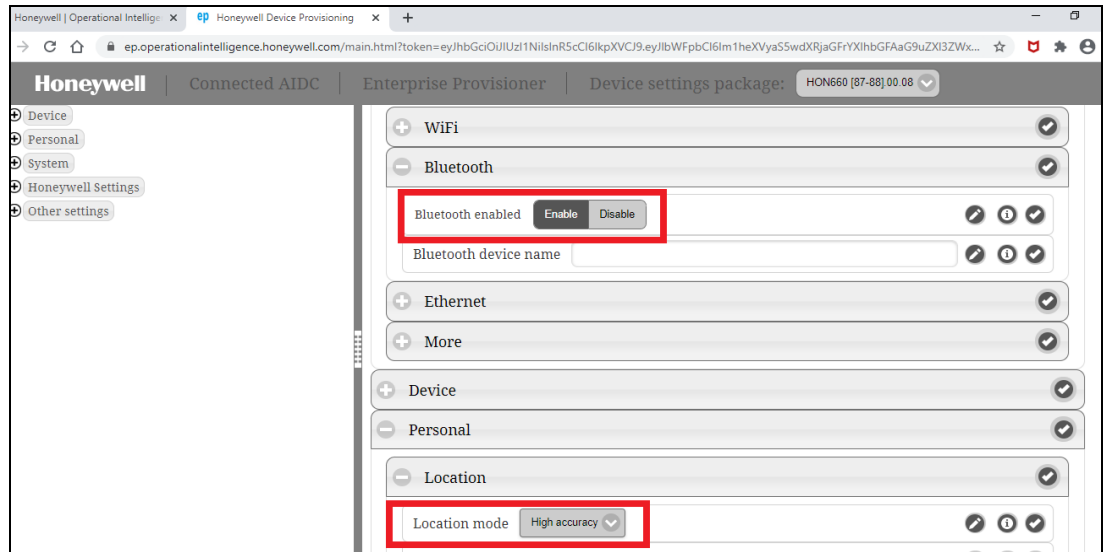


Enterprise Provisioner Screen

Export DeviceConfig.xml from Enterprise Provisioner

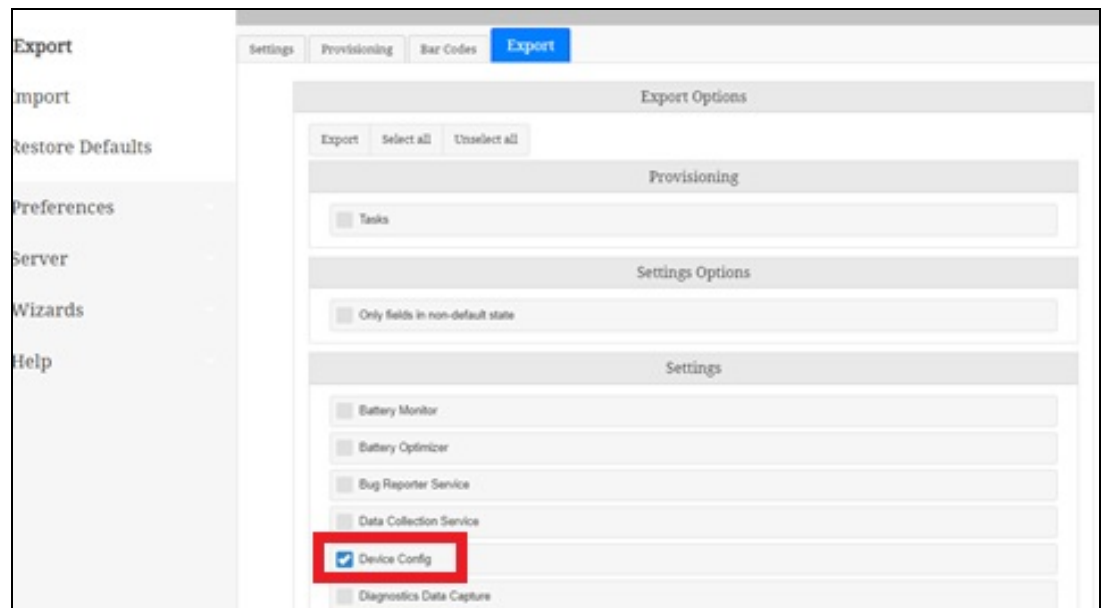
Select a MR bundle related to the OS and select DeviceConfig. Change the settings as below.

- Enable Bluetooth
- Set the location mode to High accuracy



Bluetooth and Location Settings

Go to Export Options, select DeviceConfig and click on Export. This exports the DeviceConfig.xml to your PC.

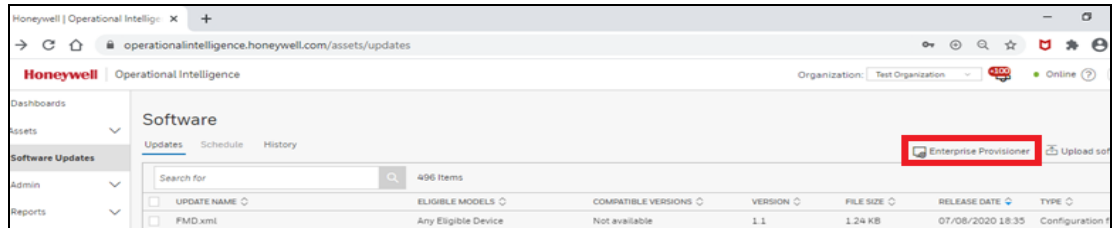


Export Options

Note: To upload Deviceconfig.xml to cloud, follow the same steps as [Upload FMD.xml to cloud](#).

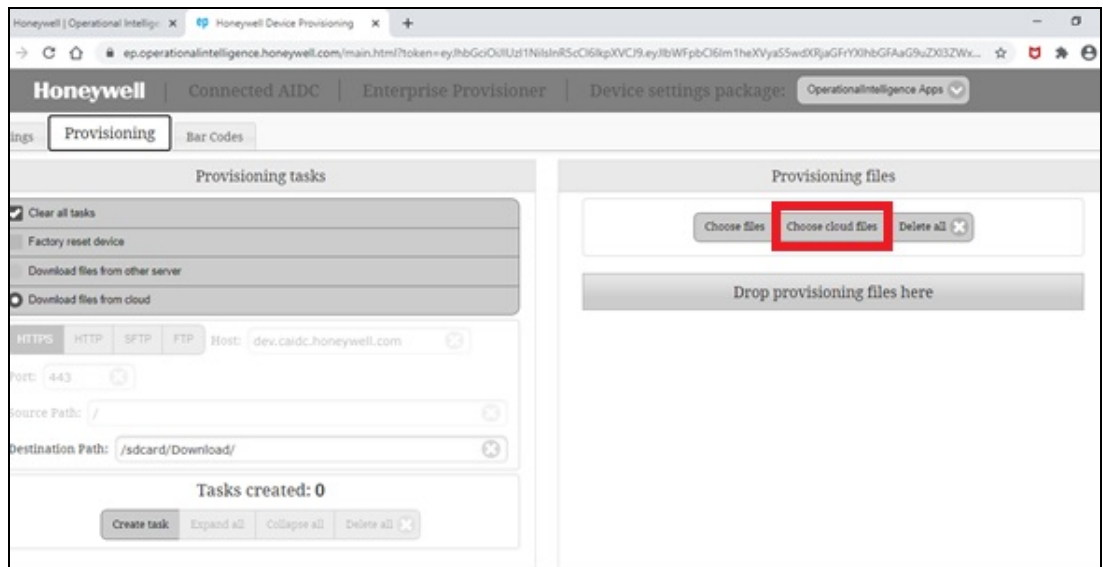
Create a bundle in Enterprise Provisioner

Go to Software Updates and click on Enterprise Provisioner at the top right corner of the screen as shown.



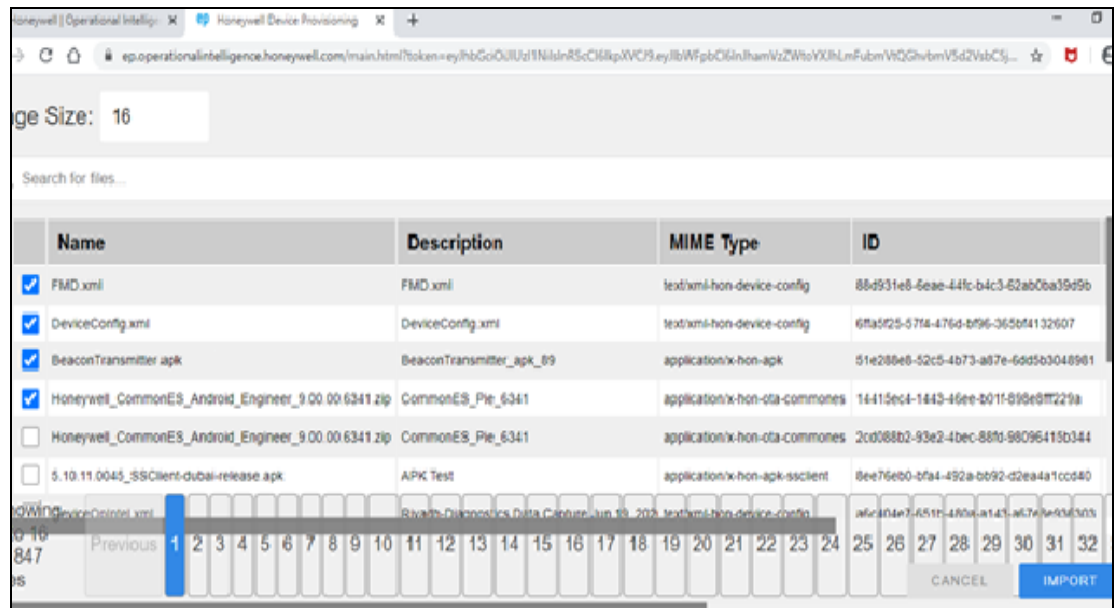
Operational Intelligence Screen

In Enterprise Provisioner, click on the Provisioning tab and select Choose cloud files.



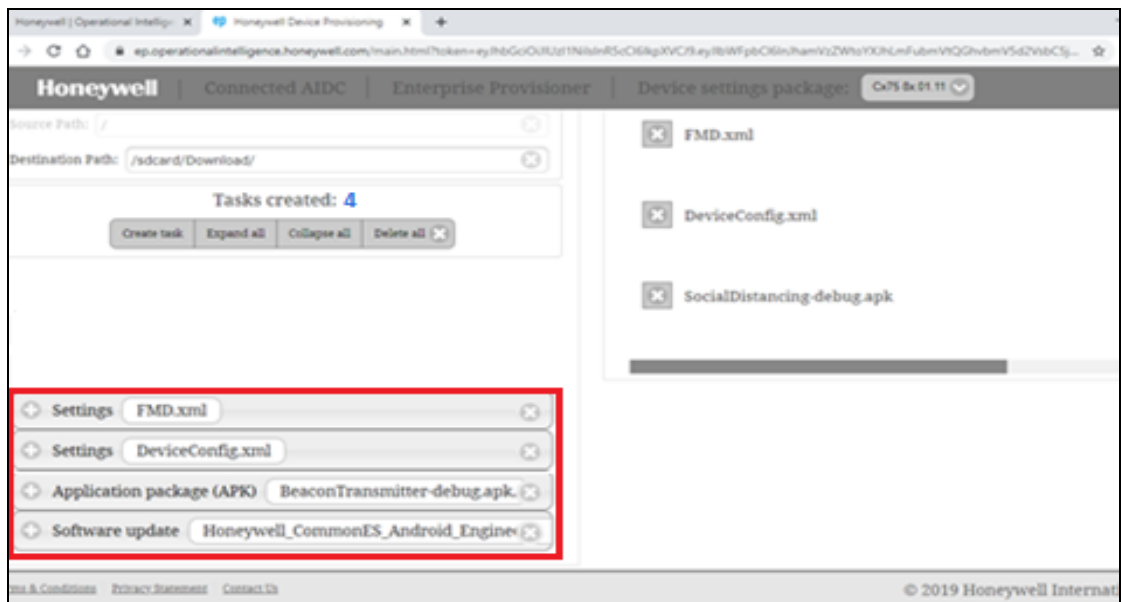
Provisioning Tab

Select FMD.xml, Beacontransmitter.apk, Deviceconfig.xml, and Honeywell_CommonES_Android_Engineer_<version>.zip file as shown below and click on IMPORT.



Import Screen

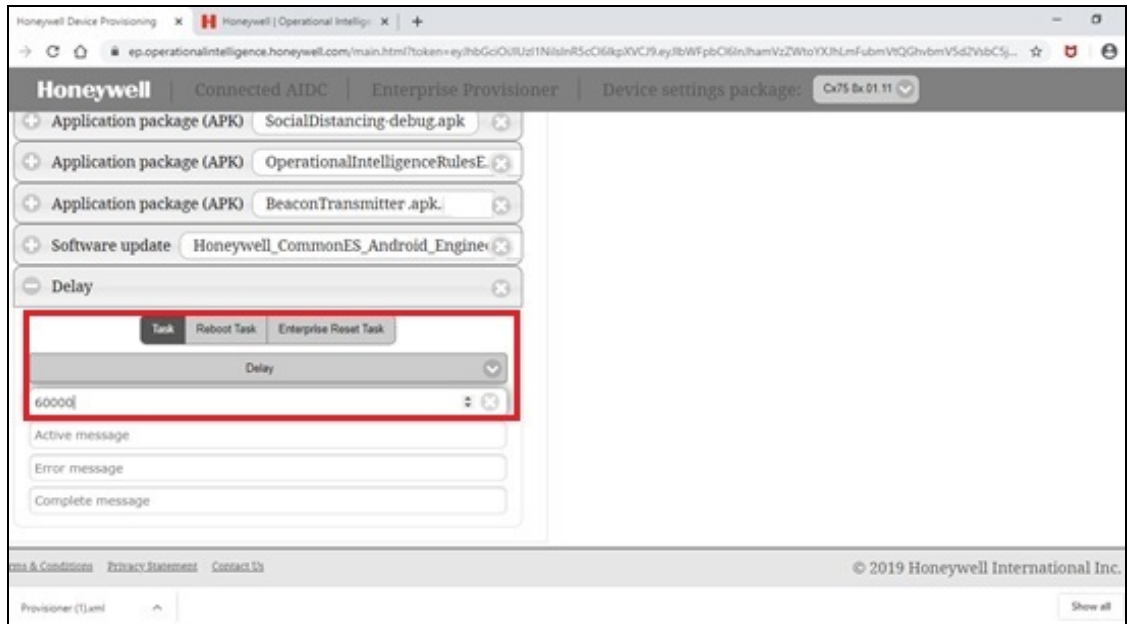
Once imported, four tasks are created in Enterprise Provisioner. Arrange the tasks in the sequence shown below.



Import Sequence

Create Task "Delay"

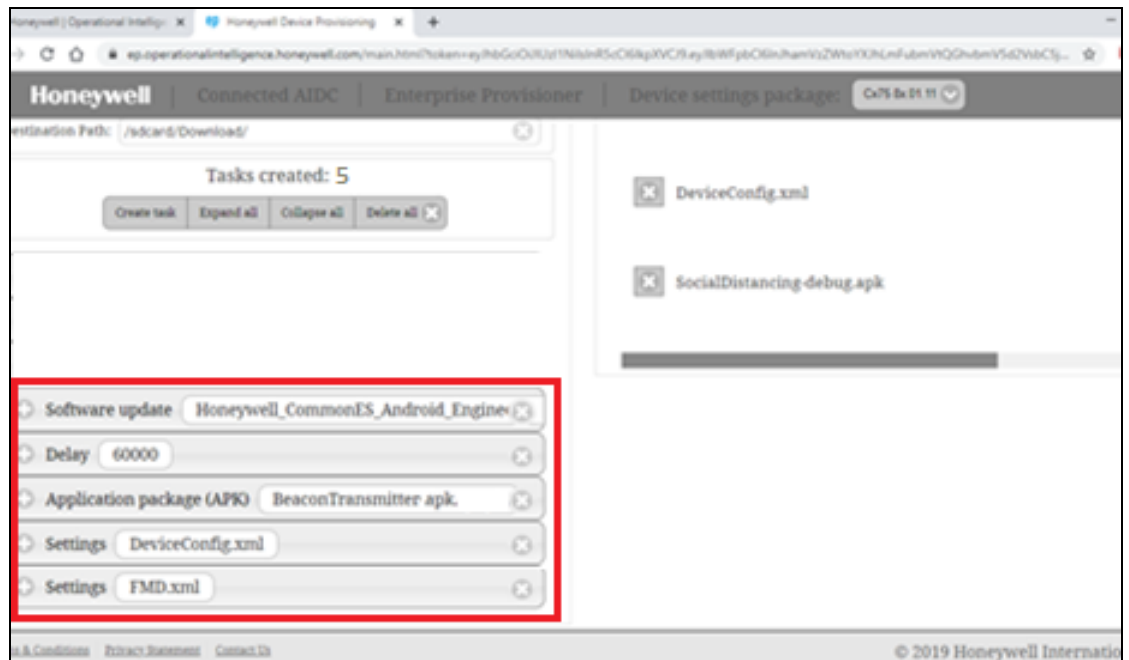
Click on the Task tab and enter 60000 ms (i.e., 60 seconds) for Delay.



Create Task

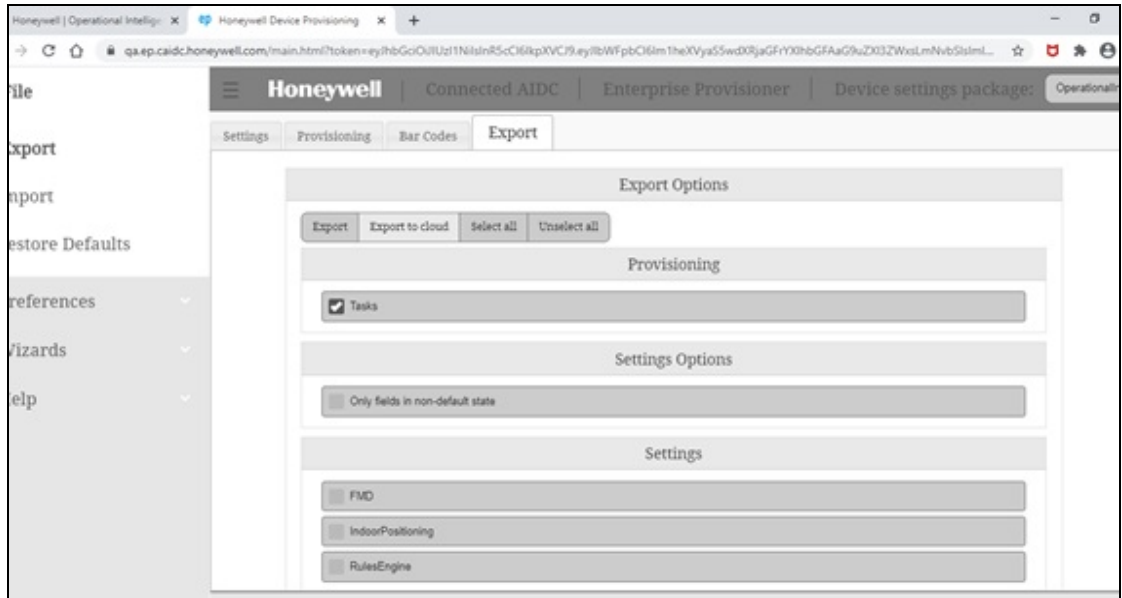
Rearrange the tasks as shown in the following image.

Note: For Android Oreo, the Delay task creation is not applicable. So, the Delay task is skipped for Android Oreo from the below sequence.



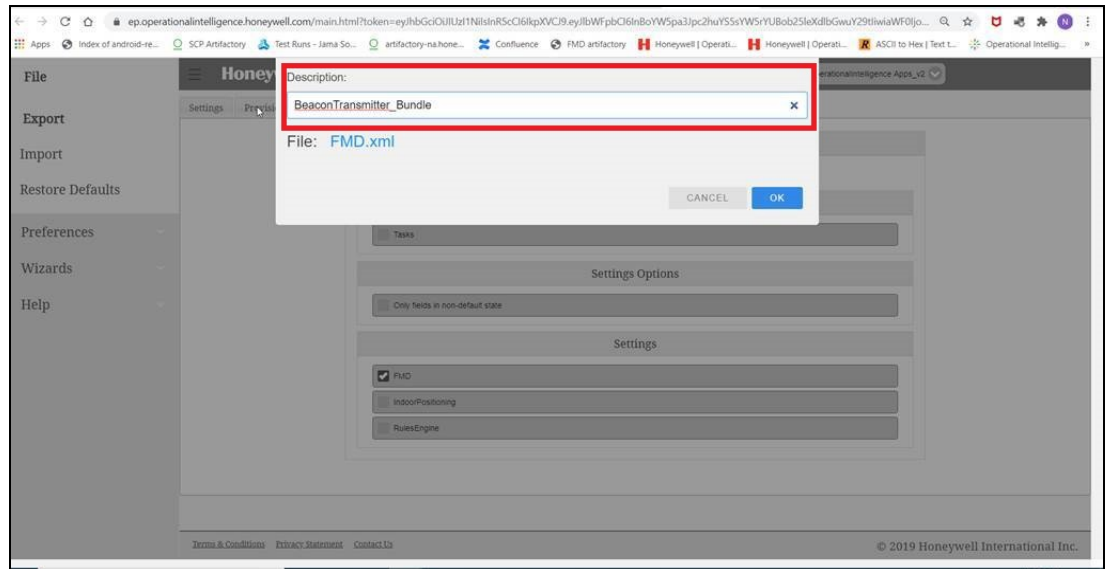
Rearrange Tasks

Navigate to Export options, select Tasks and click on Export.



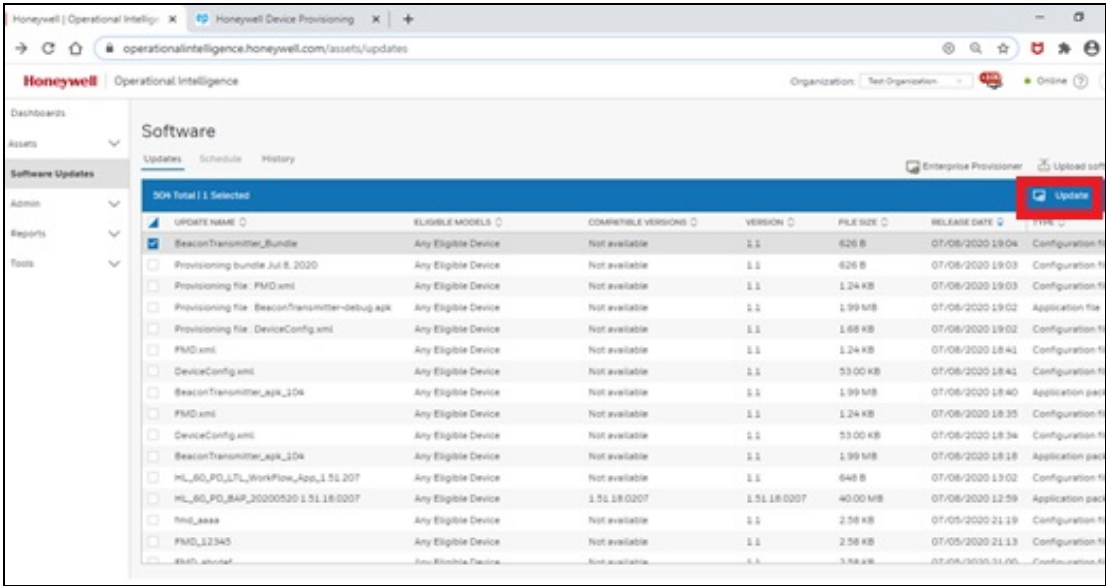
Export Bundle

Enter a desired name for the bundle and click OK to create the bundle.



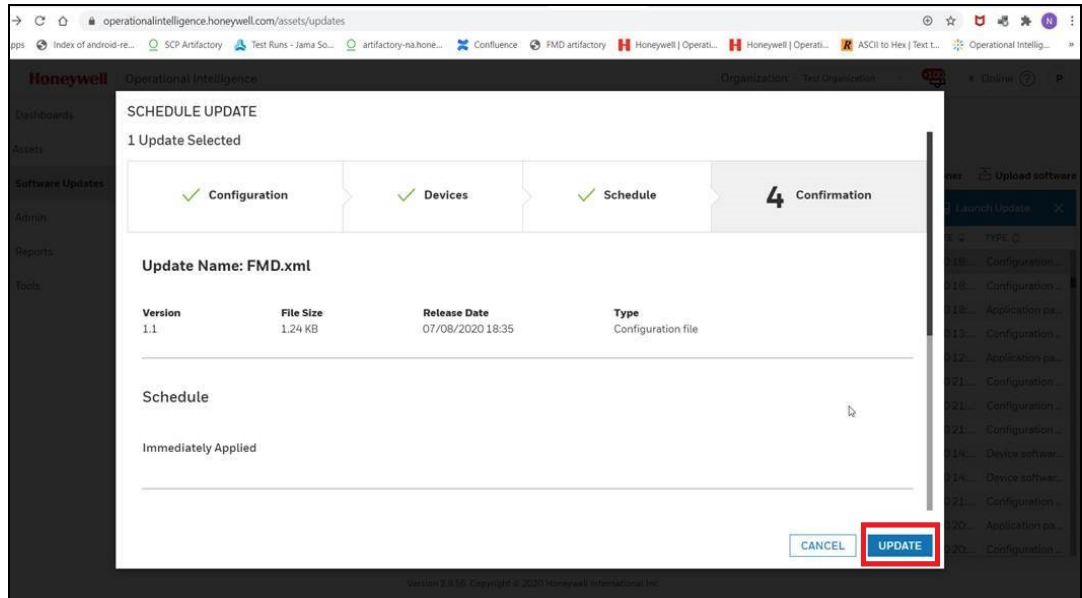
Name the Bundle

In Operational Intelligence, select the BeaconTransmitter_Bundle and click on the Update option in the toolbar.

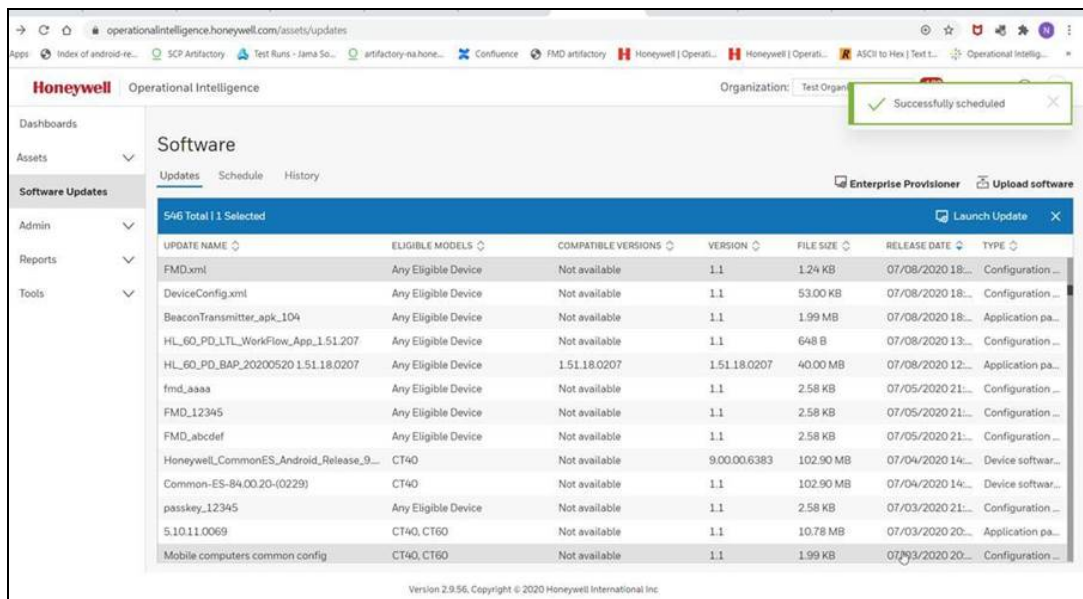


Update Bundle

Select the devices and click on Update to push the bundle to the devices.



Push Bundle to Device



Operational Intelligence Screen

Install Device Finder Application for Earlier OS Releases

To install the Device Finder application, update the BeaconDirection.apk and DeviceConfig.xml as described in the section "[Install Beacon Transmitter Service for Earlier OS Releases](#)" using the software update procedure and pushing the bundle through Operational Intelligence.

Note: Instead of BeaconTransmitter.apk use BeaconDirection.apk for the Device Finder application installation.

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