## 1.    What is Trellix Locate?

Trellix Locate delivers real-time indoor location services and management by leveraging the Trellix smart space IoT platform. Designed to allow you to monitor activities by sensing the location of your assets, staff and patients. The data can be utilized to improve business/production workflows, safety and security.y.

## 2.    What components do I need to have a complete Trellix Locate system?

- Trellix Locate Asset Tags
- WaveLinx Integrated Sensor Fixtures (Fixture integrated occupancy sensor, ambient light sensor and Bluetooth) - **WAA** or
- WaveLinx Tile mount Sensor Kit- **WTA** or
- WaveLinx Tile mount Sensor Kit- **WTH** or
- WaveLinx Tile mount Sensor **WTH** with **WTH-PS** (Power Supply)
- Wireless Area Controller (Gateway)- **WAC-POE**
- Trellix Core (Enterprise, Virtual) - **TRX-TCENT2** or **TRX-TCVRT2**
- Trellix Lighting applications - **TRX-CONFIG** and **TRX-LGT250**
- WaveLinx Mobile App (Commissioning and user personal control)
- Trellix Locate Software Application License per tag - **TRX-LIC-RTLS-5YR** or **TRX-LIC-RTLS-1YR**

## 3.    Which vertical markets can Trellix Locate be used in?

Trellix Locate has applications for most verticals; the most common are Healthcare, Education, Offices, Hospitality, Senior Living Facilities, Industrial (Automotive, Manufacturing), Retail and Airports.

## 4.    What are the common use cases for Trellix Locate?

While the industries in which assets are often tracked vary, the concept behind them remain largely the same. Following are some common use cases:

- **Healthcare** – Increase equipment usage, infection prevention, improve staff allocation, patient flow, safety and security.
- **Manufacturing** – Understand assembly line logistics or track machines.
- **Education** – Locate staff, students and visitors for safety and security.
- **Office** – Optimize office/desk usage, understand employee movements, and verify attendance.
- **Hospitality** – Locate staff and guests for safety and security.

These use cases can also be practical in any given vertical. Aerospace, museums, airports, conferences — they all have numerous applications for location systems.

## 5.    Does Trellix Locate support Location services in outdoor or industrial environments?

No, Trellix Locate currently is focused on indoor environments and related applications. Trellix Locate enabled sensors are currently available only for indoor applications at 8-15 feet mounting height.

## 6.     Which wireless technologies are used?

The Trellix Locate tags use Bluetooth Low Energy technology to communicate with the sensors. The sensors communicate with the Wireless Area Controller or gateway using IEEE 802.15.4 standard radio for communications.

## 7.      Which luminaires are capable of supporting Trellix Locate?

Several luminaire model families offer integrated sensor connectivity for WaveLinx Connected Lighting today.

- **Ambient** – Encounter, Skyridge, Cruze, ArcLine, Accord, SWLED, GRLED, FRLED
- **Architectural** – Define, Index, Arc, Divide, Bridge, JayLum, RZL

Additional luminaires are continuously being reviewed and planned to support Trellix Locate.

## 8.     Are there any battery powered devices in the system?

Yes, the Trellix Locate tags are battery powered. Some tags have replaceable batteries. An asset tag battery life is affected by several factors, of which the most impactful is beaconing frequency. As the beaconing frequency is decreased the battery life will increase and vice versa. The battery life lasts from 1 to 6 years depending on the tag type and as stated the tag's beacon rate.

## 9.     Can you easily replace a WaveLinx sensor and avoid reprogramming?

Yes, if a device needs to be replaced, the original device can be removed, and a new replacement device can be added to the Wireless Area Controller (WAC). Within the WaveLinx Mobile App simply select the icon for the original device and click the "replace" option to select the new replacement device. It will automatically inherit all previous programming and grouping.

## 10.    Will WaveLinx or Trellix Locate interfere with the building's Wi-Fi system?

No, WaveLinx uses 802.15.4 communication protocol from the sensors to the WAC which utilizes different communications channels than a building's Wi-Fi. Trellix Locate utilizes BLE communication protocol from the tags to the sensors which also utilizes different communications channels than a building's Wi-Fi. Refer to the WaveLinx & Trellix Network and IT Planning Guide.

## 11.     Is Trellix secure?

Yes, Trellix is the first lighting control system to be cybersecurity listed to the UL2900-1 standard.

The Trellix platform uses AES 128bit encryption for communications from device to device. The Trellix system uses a seven-layer security model. The system also uses NIST recommended building security best practices and procedures where connected to the building network. For more detailed information on Trellix security see the Trellix security FAQ.

## 12.    What are the wireless specifications for Trellix Platform?

- WaveLinx uses the IEEE 802.15.4 standard radio to communicate to devices.
- Trellix Locate uses BLE to communicate from the tags to the sensors.

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### 13. Can Trellix Locate be installed as a RTLS only solutions?

Yes. Trellix Locate infrastructure can be deployed 3 ways:

1. RTLS Only: The sensors(WTH) are powered using the power supply(WTH-PS) and installed in the ceiling. The sensors communicate with the Wireless Area Controller(WAC) which in turn sends data to the Trellix Core to enable the software based functions.

2. RTLS and Lighting Control when the customers have upgraded there lighting already.

3. RTLS and Integrated Lighting control when customers purchase Cooper Lighting solution luminaries with integrated sensors.

### 14. Does Cooper Lighting collect any personal information based on location?

Cooper Lighting does not collect any PII (personally identifiable information) from Trellix Locate. However, attributes of assets and devices can be configured using descriptive information.

### 15. Is the firmware on the Asset Tags compatible with any of the Bluetooth Low Energy standards?
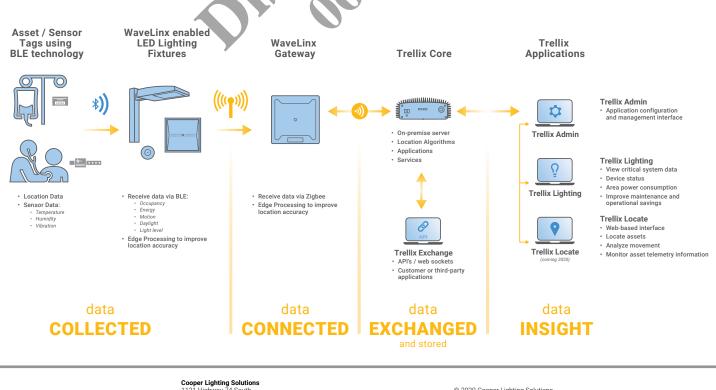
Yes, Eddystone.

### 16. Is there a mounting recommendation for Asset Tags?

Asset tags should be mounted away from any metal objects or enclosures, if possible. If not possible, tags should be mounted as far from metal objects as possible.

### 17. Do third-party asset tags work with Trellix Locate?

Trellix Locate works only with Trellix Locate tags. Cooper Lighting can work with its third-party tag providers to offer the tags with the feature set and form factors that meet your applications. Asset tags must also be provisioned in the system to operate on a certain site. This can be done in Trellix Admin, so you can manage tags as required once your system is operational.



**Asset / Sensor Tags using BLE technology**
- Location Data
- Sensor Data:
  - Temperature
  - Humidity
  - Vibration

**WaveLinx enabled LED Lighting Fixtures**
- Receive data via BLE:
  - Occupancy
  - Energy
  - Motion
  - Daylight
  - Light level
- Edge Processing to improve location accuracy

**WaveLinx Gateway**
- Receive data via Zigbee
- Edge Processing to improve location accuracy

**Trellix Core**
- On-premise server
- Location Algorithms
- Applications
- Services

**Trellix Exchange**
- API's / web sockets
- Customer or third-party applications

**Trellix Applications**

Trellix Admin
- Application configuration and management interface

**Trellix Lighting**
- View critical system data
- Device status
- Area power consumption
- Improve maintenance and operational savings

**Trellix Locate**
- Web-based interface
- Locate assets
- Analyze movement
- Monitor asset telemetry information

(coming 2020)

data **COLLECTED**    data **CONNECTED**    data **EXCHANGED** and stored    data **INSIGHT**