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Customer Release Notes

ExtremeLocation

Version 3.1
August 20, 2019

CONTENTS

INTRODUCION:

ExtremeLocation is the next generation Indoor Location tracking, Asset tracking and Engagement solution from Extreme Networks which leverages enterprise Wireless Local Area Networks(WLAN), BLE Beacons and Mobile applications for providing the services. ExtremeLocation offers zero-touch cloud hosted solution to meet the scale and performance requirements that big box locationing deployments demand. The solution offers the following key features.

- Presence
- Zone tracking
- Position tracking
- Analytics & reporting
- API for 3rd party integration
- Beacon Fleet Management
- Proximity Engagement
- BLE/Wifi based Asset tracking
- Industry based customisations
- Mobile Apps for deployment assistance
- Mobile Apps for Engagement and Bluedot

The product is licensed based on use cases -
1. AP Licenses - There are no individual licenses for different features Wifi based location features. When a ExtremeLocation license is assigned to all APs or sensors in ExtremeLocation for a given site, the relevant features are available automatically for that site. For example, if a site has 10 APs/sensors, then one would need to assign 10 licenses to enable location based services for that site.

2. App Visit Licenses – The App visit licenses are used for App based engagement using BLE beacons. The Short/Long visit licenses are consumed based on the number of visits from the App users in an ExtremeLocation enabled environment.

3. Asset Licenses – In the 3.1 release, Asset licenses are automatically enabled if the AP licenses have been applied to a site. This includes both Wifi & BLE based asset tracking.

This document provides updated information for ExtremeLocation v3.1.0

Extreme Networks recommends that you thoroughly review this document prior to using this product.

SOFTWARE SPECIFICATION:

Status	Version No.	Type	Release Date
Current Version	3.1.0	(Customer Release)	20th August, 2019
Previous Version	2.1.0	(Customer Release)	January 2019
Previous Version	1.2.0	(Customer Release)	May 2018
Previous Version	1.1.0	(Customer Release)	December 2017
Previous Version	1.0.1	(Customer Release)	September 2017
Previous Version	1.0.0	(Customer Release)	August 2017

SUPPORTED DEVICES

You must have at least one supported device to meet the requirements to use ExtremeLocation.

SUPPORTED WIRELESS ACCESS POINTS:

Product	Image
ExtremeWireless WiNG AP8533	Extreme Wireless Wing 5.9.6
ExtremeWireless WiNG AP8432	
ExtremeWireless WiNG AP7532	
ExtremeWireless WiNG AP7522	
ExtremeWireless WiNG AP7562	
ExtremeWireless WiNG AP7632	Extreme Wireless Wing 5.9.6
ExtremeWireless WiNG AP7662	
ExtremeWireless WiNG AP7612	
ExtremeWireless WiNG AP7602	
ExtremeWireless WiNG AP7622	

Product	Image
ExtremeWireless AP3912	ExtremeWireless 10.41.17 or later (No BLE Asset Tracking)
ExtremeWireless AP3915	
ExtremeWireless AP3916	
ExtremeWireless AP3917	
ExtremeWireless AP3935	
ExtremeWireless AP3965	
ExtremeWireless AP3805	
ExtremeWireless AP5xx	ExtremeWireless 7.x (No BLE Asset Tracking)

MOBILE APP SUPPORT

1. **Android** based **ExtremeLocation Wifi Toolbox** application can be downloaded from Google Play store. The App can be used for

   a. RTLS calibration for position tracking deployments

   b. Fine-tuning RSSI thresholds for zone based deployments.

   c. Validating Wifi Location Accuracy

Download - https://play.google.com/store/apps/details?id=com.extreme.wificalibration&hl=en

2. **iOS** based **ExtremeLocation Beacon** app can be downloaded from the iOS Appstore. The app can be used for

   a. Onboarding BLE Beacons

   b. Configuring BLE Beacons

   c. Firmware update for BLE beacons

Download - https://apps.apple.com/us/app/extremelocation-beacons/id1437358373

3. **Android** based **ExtremeLocation Engagement** app can be downloaded from the Google Playstore. The app can be used for

   a. Creating proximity based engagements based on simplified workflows

   b. Requires no understanding of ExtremeLocation system as a whole

Download - https://play.google.com/store/apps/details?id=com.extreme.eloc.campaignmanagement&hl=en

4. **Android** based **ExtremeLocation Demo** app can be downloaded from the Google Playstore. The app can be used for

a. Demos of the ExtremeLocation proximity based engagements

b. Recommendation would be to use the **Android** based **ExtremeLocation Bluedot** instead of this app going forward.

Download - https://play.google.com/store/apps/details?id=com.footmarks.demos.extremedemo

5. **Android** based **ExtremeLocation Bluedot** can be downloaded from the Google Playstore. The app can be used for

a. Demos of the ExtremeLocation proximity based engagements

b. This app will replace the Android ExtremeLocation Demo app in due course.

Download - https://play.google.com/store/apps/details?id=com.extremenetworks.eloc.userengagement

6. **iOS** Base **ExtremeLocation Demo (BETA)** app is available over Testflight (https://developer.apple.com/testflight/). This app cabe be used for

a. Demos of the ExtremeLocation proximity based engagements

Install the Testflight App from the iOS Appstore and then join the BETA using the following link - https://testflight.apple.com/join/JlpGY3B1

INSTALLATION AND CONFIGURATION NOTES:

Note:

Refer to ExtremeLocation Quick Start Guide at Extreme Support Central
https://www.extremenetworks.com/support/documentation/extremelocation/

NEW FEATURES, SOFTWARE CHANGES, AND ENHANCEMENTS

New Features in v3.1.0

Asset Tracking – The platform now supports the ability to onboard assets and use a BLE tag or a Wifi radio to track the asset by attaching the relevant tracking device to it. Even third party BLE tags(no management/telemetry in ExtremeLocation) can be used for this purpose.

Asset Alarms – Alarms are raised when the Assets leave a site/cateogy in which they are supposed to be contained or enter a category where they are not supposed to be. These alarms can also be sent to third party systems as notifcations in real time.

Configurable AP proximity for engagements – ExtremeLocation now supports ability to configure a virtual radius distance from AP which allows idle event engagements to be triggered when apps (with SDK) are in foreground withing the specified distance from the AP.

Industry selection – ExtremeLocaiton now supports industry selections which helps change the nomenclature of classified devices to use more industry specific strings. The strings are editable as well for more customization.

BlueDot apps – The new Android BlueDot app can be used as a replacement of the old Android Demo app. The new app is a whitelabeled app that can be used for showing the location of the device on a floor plan as well as to get proximity based notifications.

An iOS based BlueDot app will be available soon and these Release Notes will be updated once the app is available.

ExtremeCloud/Appliance integration – ExtremeLocation can now query the Hostnam/IP address of connected devices from ExtremeCloud and ExtremeCloud Appliance to show them on the ExtremeLocation UI.

New Features in v2.1.0

BLE Beacon support– ExtremeLocaiton supports onboarding, configuring and maintaining a BLE beacon fleet for proximity based engagements. Extreme APs with integrated BLE chipsets can also be used as

Proximity based engagements – ExtremeLocation can send out proximity based notifications in various formats (Text, Images, Videos etc.) to any mobile app with the ExtremeLocation iOS/Android SDKs integrated.

iOS/Android SDKs – SDKs to be integrated with apps which need to leverage ExtremeLocation Proximity engagement system

Engagement Rule engine – Highly customizable rule engine which can be used to define the conditions based on which the engagements are delivered to the SDKs.

Mobile Apps – Multiple mobile apps for beacon maintenance, Engagement engine configuration and Proximity based demos. Refer **Mobile App support**.

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New Features in v1.2.0

ADSP Migration – The system supports migration path for customers who deployed location based services using AirDefense Services Platform (ADSP). Customers can now seamlessly migrate site hierarchy, AP placement, floor designs and RTLS calibration data from ADSP to ExtremeLocation to take advantage of enhanced location analytics and scalability performance that it offers.

ExtremeWireless WiNG Integration – ExtremeLocation supports auto provisioning of sites based on the RF Domains configured in the WiNG Controller. Customers can use key based authentication between WiNG and ExtremeLocation as well as setup tenant account in WiNG, so all the APs are moved into appropriate tenant account when they report to ExtremeLocation in the cloud.

Enhanced Reporting and Analytics – The system provides scheduled reports as well as an ability to download the analytics data in CSV format. This enable customers a better integration of location data with other data using Business Intelligence tools. Also, a new report on Motion Path Analysis provides a powerful view for venue owners to identify popular paths and customer entry points in the venue for better optimization.

UI Improvements – The high level User Interface items have been moved from top to left, in order to bring consistent user experience in line with other Extreme product portfolio.

AP Status and Inventory – ExtremeLocation now shows the online and offline status of all the APs and sensors. A new item in the main menu is added to display the status and inventory of all APs. Users can export the AP inventory using a CSV format.

New Features in v1.1.0

UI Improvements - There are changes to adding a new floor plan into the system. User can now specify the boundary of the area where client devices are to be tracked. Also, when user zooms out or zooms in, clients on the floor map gets clustered dynamically.

Settings Overhaul - The “Settings” icon on the top-right hand corner of UI is moved to a new “Settings” tab. So, the configuration of device classification rules and location thresholds as well as subscriber settings are found in this tab now.

Crowding Analytics and Events - The system provides visibility on areas where there is a crowding. User can specify visitors to associate ratio for zones in the venue. When this ratio is more for any zone, system sends real-time crowding event through API for that zone. Customers can tie this event to work-force management system to deploy more associates. Also, the historical analytics can be used to understand which areas are prone to crowding and when!

Account Management – The system supports multiple user accounts per tenant, where a user account type can be either Admin or Guest. Only the user with Admin privileges can create new users. Guest users have read-only access or access is confined to a site.

Zone Calibration – The Android App now supports zone calibration. So, customers can use zone calibration to understand the right RSSI settings for fine-tuned zone thresholds that can be configured for each zone in the system, for accurate zonal analytics.

ExtremeWireless AP Support – All ExtremeWireless AP39xx series that runs 10.41.02 release are now supported in ExtremeLocation. These APs can simultaneously communicate with ADSP as well as ExtremeLocation to provide both WIPS and location based services.

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Features in v 1.0.1
UI Improvements – Improved user experience in viewing and filtering all client devices located by the system. In the Client View, the user can filter *Visitor, Asset, Associate* devices with a single click. **Employee Personal Devices** – The system detects and learns employee owned devices and then discard them from Client View and location analytics automatically. This brings more accurate location analytics by weeding out irrelevant devices. **Location Ageout** – Location ageout value is reduced from 60 minutes to 5 minutes to accurately show the devices being tracked by the system. With the new location ageout value of 5 minutes, devices are now removed from the floor plan within 5 minutes after they exit the venue. Earlier, devices were shown in the Client View for an hour even when these devices were no longer at the venue.
Features in v 1.0
Presence Detection: Presence Detection is the simplest form of location based service that gives the lowest proximity granularity, but it is very easy to deploy. It can be used to determine if a device is outside, near, inside, or has left the environment. This data can be used to determine information like how many new devices have been seen, how long someone stays, or how many people outside the environment actually come inside. This information can also be used to interact with a user, for example, by sending a message when they arrive or sending a message when they have not been seen in a long time. The following are main use cases for Presence service. • Welcome guests or visitors • Contextual marketing messages • Footfall and dwell-time trends • Peak & Off-Peak Hours • Top and bottom performing stores/venues

Features in v 1.0
Zone Tracking: Wi-Fi Zone Tracking is fairly easy to design and setup, but can also give a higher proximity granularity than Presence Detection. Wi-Fi Zone Tracking takes the RSSI information from an AP or a sensor and determines the associated zone of a client device based on how close it is to a specific sensor in the monitored environment. The granularity can be higher or lower depending on the sensor density and configuration of Zone RSSI threshold. It can be used to locate a device in part of the environment or throughout the environment. A device's specific location is not determined but is associated to the closest proximity sensor that hears it. When a device is seen by multiple APs/sensor, then the client device is located in the AP zone that sees the device at a higher signal strength. The following are main use cases for Zone tracking service. • Department-level visibility • Popular zones in the venue • Device density heat maps • Dwell time heat maps • Real-time & Historical • Movement of visitors from one zone to other
Position Tracking: Wi-Fi Position Tracking uses the RSSI information from several APs and Sensors to calculate a location for the client device in the monitored environment using triangulation technique. Wi-Fi Position Tracking is relatively the most complex service to design and setup among all LBS services, but it gives the most granularity for a specific device's location. It requires a special RTLS grade Wi-Fi network, where there is an AP per 2500 sq. ft. In addition, Positon tracking requires RTLS calibration survey to collect RF fingerprint data for the site, so that ExtremeLocation can deliver higher location accuracy. ExtremeLocation supports an Android App running on a most of the modern tablets and Smartphones to perform RTLS survey. The data from Wi-Fi Position Tracking can be used to determine information such as; where a device is specifically located or device density throughout the environment.

Features in v 1.0

Location Analytics:

Location analytics are important component of ExtremeLocation. These analytics are based on presence or location data for the clients in the environment. Some of the analytics are:

- Total, new, and repeat visitors
- Peak & Off-Peak Hours
- Passers-by, engaged and bounce visitors
- Top-5 venues based on total visitors or engagement time
- Bottom-5 venues based on total visitors or engagement time
- Total Visits and engagement per zone
- Unique visitors in each zone
- Top-5 and Bottom-5 zones by visits
- Device density and engagement heat-maps
- Top-5 and bottom-5 zones by engagement time
- Associate visits and associate engagement time per zone
- Associate to customer ratio for every zone

Location API:

ExtremeLocation supports an Application Programming Interface(API) for pushing location data and related events in real-time to a 3rd party subscriber that consumes location data. A location subscriber profile is used to setup and configure the subscriber in ExtremeLocation, so that it can establish the connection with the subscriber and push location information in real-time.

ExtremeLocation uses standard JSON format to send location data. The API has four available streams:

- Presence Events—sends events triggered based on device presence
- Region Events—sends events triggered based on device location
- Location Data—sends location coordinates for located devices

Map View – MapView is based on OpenStreet maps. MapView plots all the sites on the map where they are physically located so that administrator can quickly navigate to the floor plan or analytics for the desired site. In addition, MapView provides instant visibility on how today's footfall is trending in any site compared to that of yesterday. All the sites are color coded as green or red based on whether there is an uptick or downtick in the footfall compared to yesterday.

Device Classification – ExtremeLocation supports classification of Wi-Fi devices into visitors, associates and assets. By default, all Wi-Fi devices that are detected by the system are classified as visitor devices. But a device can be classified as Associate or Asset by the system automatically based on the user defined rules. These rules can be based on SSID to which the device is connected or based on the dwell time. For example, any device connected to an SSID called "Associate_Networks" can be classified as "Associate". Likewise, if a device is seen over 15 hours in a day can be considered as "Asset". The SSID and Dwell time can be configurable for Associate and Asset groups separately

KNOWN RESTRICTIONS AND LIMITATIONS:

Known Issues in 3.1

- Unable to download dashboard data in csv format when restricted characters like '/' are used in Industry nomenclature.
- Asset Position (Position tracking) with BLE Sensors does not work when APs are placed @ 28 Feet Height. In this case the sytem falls back to Zone based proximity
- System allows the same string to be used for two industry nomenclature
- Asset Alarm is cleared based on configured Alarm interval and not on the actual state of Asset.
- Asset movement from one site to another site is not detected as normal wifi visitor in the other site.
- When the asset license is enabled after applying Visit license or vice versa, the Beacon defaults in Categories will reset to default values.
- In Industry nomenclature, it is expected from user to provide labels in singular form and not plural because we make it plural as required.
- Verify button in XCA configuration in Docker image is not operational

SUPPORTED WEB BROWSERS

The following are list of supported web browsers.

- Firefox Version 51 and above
- Chrome Version 55 and above

GLOBAL SUPPORT:

By Phone: +1 800-998-2408 (toll-free in U.S. and Canada)

For the toll-free support number in your country:
www.extremenetworks.com/support/

By Email: support@extremenetworks.com

By Web: www.extremenetworks.com/support/

By Mail: Extreme Networks, Inc.
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For information regarding the latest software available, recent release note revisions, or if you require additional assistance, please visit the Extreme Networks Support website.