



EASYREACH SOLUTIONS PVT LTD

# BLE based Moving Asset Tracking

System Understanding and Deployment Requirements

V1.1





## Introduction

The system is designed to track moving assets such as Forklifts inside a production plant. The system is comprised of three parts

1. BLE Tags
2. BLE Scanners
3. The software platform

## BLE Tag Understanding & Deployment

BLE Tags are installed on the top of the forklift – usually on the car roof. Installing inside the car or below car should be avoided. This is to ensure that no external impediment is created in the way of the radio signal. One can use simple two-way tape to stick tag on the roof. The tag also comes with an arrangement of hook, which can be used to tie the tag safely on the forklift. Also, ensure that tag is not dangling, and it is firmly fit on the forklift.



*Figure 1: BLE Tag*

## BLE Scanner Understanding & Deployment

BLE Scanners are installed on locations of interest such as material loading area, material unloading area, entry / exit gates etc. Please note, these areas are registered on





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portal. BLE scanners should be installed approximately 10 to 12 feet from ground, either on the pillars or on the wall. It is important to ensure that the direct impedance to the radio should be avoided. The BLE scanners come with in build 4G, thus it is important that that 4G network visibility is available inside the premise. BLE scanners are powered on using 5V power adapter provided in the package. AC supply need to be available to plug in the power adapter nearby.



*Figure 2: BLE Scanner*



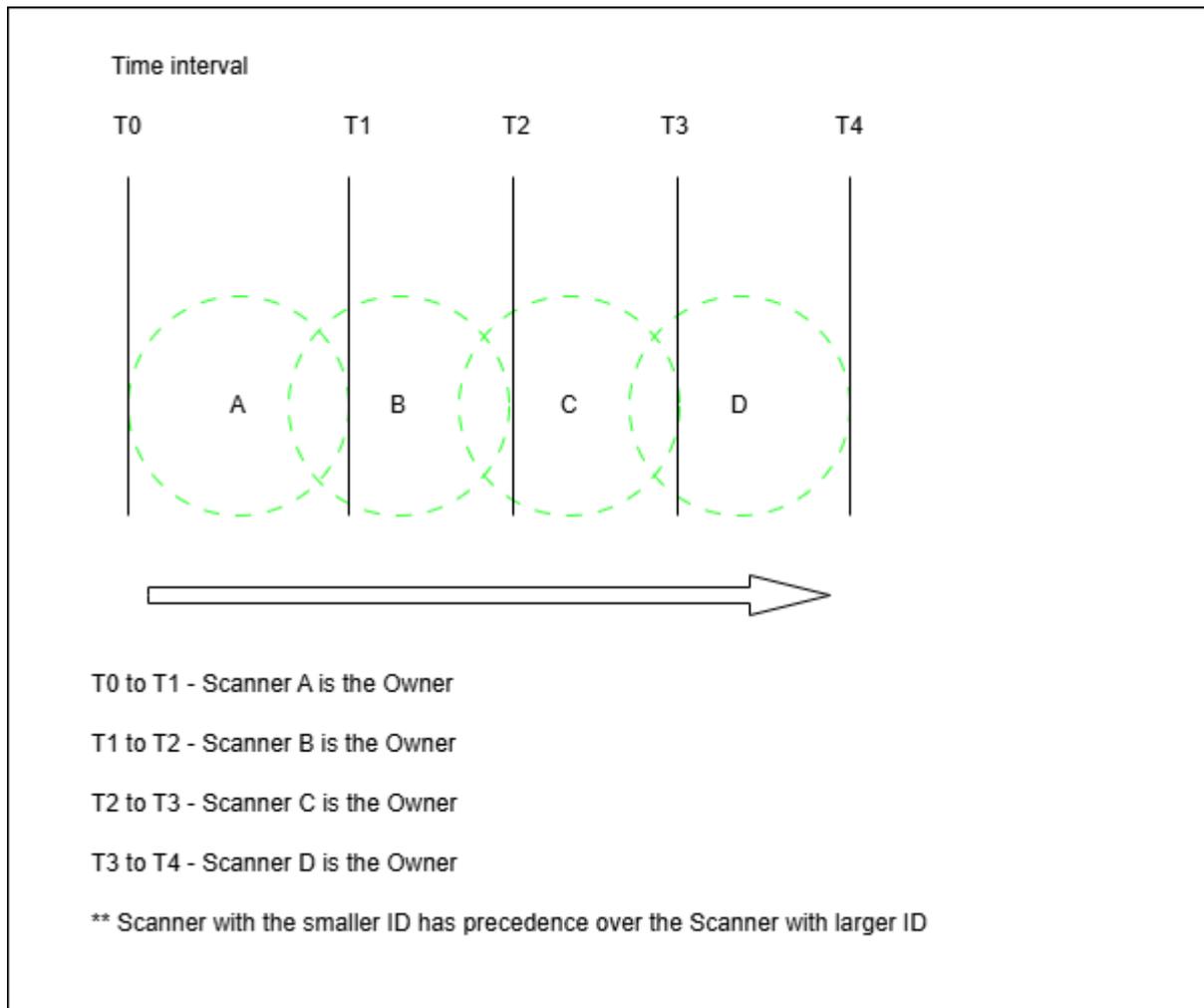


## Deployment Architecture



## Scanner Priority





## Software Platform

The software platform is hosted on cloud.

1. Configure Locations
2. Configure Asset
3. Create BLE Scanners and associate them with the location
  - a. Note mac address provided on the back sticker
4. Create BLE Devices and associate them with the asset
  - a. Note mac address provided on the back sticker
5. Observe reports
  - a. Time spent by Forklift at each location
  - b. Time taken by Forklift to move from one location to another
  - c. Missing asset





- Dashboard
- Location Dashboard
- User
- Location
- Assets List
- Assets
- Rule
- Apply Rule
- BLE**
- Report

Add new BLE

Scanner Device

Name  Mac Address

Location  Area

BLE List

NAME	MAC	SCANNER/DEVICE	TYPE	DATE	Action
Devie	123456	BLE	BLE	11/02/2025	<input type="checkbox"/> <input type="checkbox"/>
Devie Name	BC5729123EB361	BLE	BLE	11/02/2025	<input type="checkbox"/> <input type="checkbox"/>
Devie Name	CS572913EB99	BLE	BLE	11/02/2025	<input type="checkbox"/> <input type="checkbox"/>
Devie Name	VS572913EB99	GPS	GPS	11/02/2025	<input type="checkbox"/> <input type="checkbox"/>
Test	12:26:25	GPS	GPS	11/02/2025	<input type="checkbox"/> <input type="checkbox"/>
Devie Name	VS572913EB99	GPS	GPS	12/02/2025	<input type="checkbox"/> <input type="checkbox"/>
Mouse	19:15:16	GPS	GPS	13/02/2025	<input type="checkbox"/> <input type="checkbox"/>
Mobile	63:65:45	BLE	BLE	13/02/2025	<input type="checkbox"/> <input type="checkbox"/>
Desktop	54689	BLE-Scanner	BLE-Scanner	13/02/2025	<input type="checkbox"/> <input type="checkbox"/>
Charger	1245678	BLE-Scanner	BLE-Scanner	14/02/2025	<input type="checkbox"/> <input type="checkbox"/>

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Figure 3: Create BLE - Scanner and Device

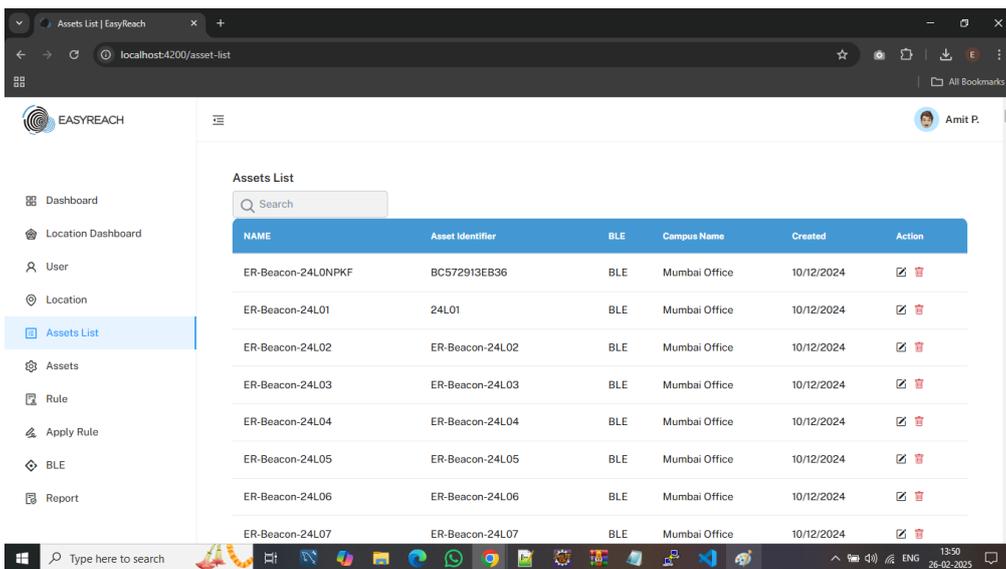


Figure 4: Asset List





The screenshot shows a web browser window with the URL localhost:4200/asset-list. The application interface includes a sidebar with navigation options: Dashboard, Location Dashboard, User, Location, Assets List (highlighted), Assets, Rule, Apply Rule, BLE, and Report. The main content area displays an 'Assets List' table with columns for Device Name, Asset Identifier, Campus, and Action. An 'Update BLE' modal is open, containing the following fields:

- Device Name: ER-Beacon-24L01
- Asset Identifier: 24L01
- Campus: Pune Office

Buttons for 'Cancel' and 'Update' are located at the bottom right of the modal. The table below the modal shows the following data:

Device Name	Asset Identifier	BLE	Campus	Date	Action
ER-Beacon-24L05	ER-Beacon-24L05	BLE	Mumbai Office	10/12/2024	[Edit] [Delete]
ER-Beacon-24L06	ER-Beacon-24L06	BLE	Mumbai Office	10/12/2024	[Edit] [Delete]
ER-Beacon-24L07	ER-Beacon-24L07	BLE	Mumbai Office	10/12/2024	[Edit] [Delete]

Figure 5: Asset Mapping

