PTT Pro Location Area Service

Workcloud Communication

Customer Administrator Guide

ZEBRA

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Contents

About this Guide

This guide describes creating and configuring the Workcloud Communication Location Area Service (LAS).

NOTE: The screens and windows pictured in this guide are samples and can differ from actual screens.

Chapter Descriptions

Topics covered in this guide are as follows:

- About this Guide provides an explanation of document conventions and related documentation.
- Getting Started provides information about accessing and logging into Location Area Service (LAS).
- Location Area Service Configuration provides information about administering and configuring LAS.
- Location Area Service REST API provides information about updating information in LAS.

Notational Conventions

The following notational conventions make the content of this document easy to navigate.

- **Bold** text is used to highlight the following:
  - Dialog box, window, and screen names
  - Dropdown list and list box names
  - Checkbox and radio button names
  - Icons on a screen
  - Key names on a keypad
  - Button names on a screen
- Bullets (•) indicate:
  - Action items
  - List of alternatives
  - Lists of required steps that are not necessarily sequential
- Sequential lists (for example, those that describe step-by-step procedures) appear as numbered lists.

Related Documents

For the latest version of this guide and all guides, go to zebra.com/support

Service Information

If you have a problem with your equipment, contact Zebra Global Customer Support for your region. Contact information is available at: zebra.com/support.

When contacting support, please have the following information available:

- Serial number of the unit
- Model number or product name
- Software/firmware type and version number

Zebra responds to calls by email, telephone, or fax within the time limits set forth in support agreements.

If your problem cannot be solved by Zebra Customer Support, you may need to return your equipment for servicing and will be given specific directions. Zebra is not responsible for any damages incurred during shipment if the approved shipping container is not used. Shipping the units improperly can possibly void the warranty.

If you purchased your Zebra business product from a Zebra business partner, contact that business partner for support.

Revision History

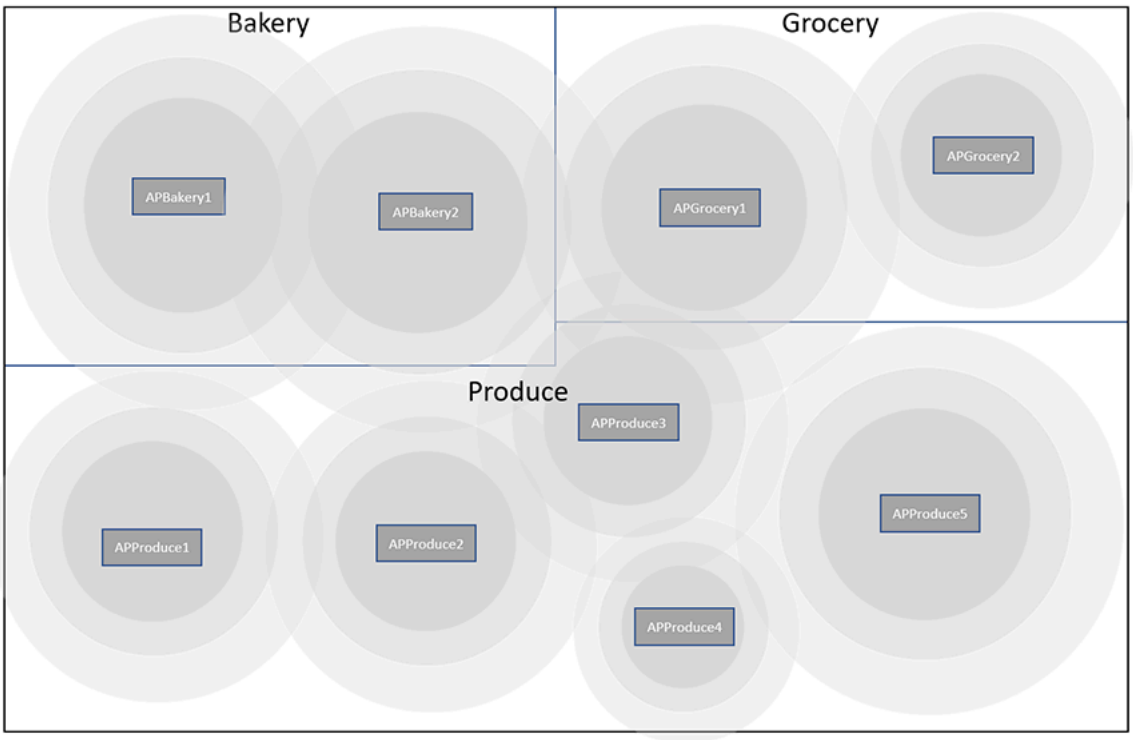
Change	Date	Description
MN-004028-01EN	August 2021	Not released.
MN-004028-02EN	September 2021	First version.
MN-004028-03EN	March 2023	Updated with steps to use LAS portal. Added information regarding `showlasinfo` parameter.
MN-004028-04EN	April 2024	Rebranded to Workcloud Communication.
MN-004028-05EN	June 2024	Updated to reflect UI changes.
MN-004028-06EN	August 2024	Updated for fetching the LAS Site ID programmatically as department name.
MN-004028-07EN	December 2024	Updates for the wfclasSiteID parameter.
MN-004028-08EN	March 2025	Added the Location tab Inside PTT Pro and the Retrieve the LAS User List using Intent.

Getting Started

This guide is intended for customer administrators configuring the Location Area Service (LAS).

LAS provides the capability to assign friendly names to wireless Access Points (APs). As a user moves throughout a facility, the APs continually report the user's location using the friendly name assigned to the AP. On a device, the location is listed under the contact's name.

Figure 1 Location Area Service for a Store



The LAS portal allows an administrator to view the access point information, including the BSSID, the friendly name, and the site name. An administrator can also use the LAS portal to import AP information, which is more convenient than using the API.

When LAS is configured correctly, the location information represents the user association to an Access Point. Depending on the user's connection to the access point, the association of a user to an AP might not be the nearest AP.

Configuration Overview

Configure the PTT Pro clients and then upload the AP information to the LAS server. Collect the information below to configure the clients and upload the AP information.

Table 1 Configuration Information

Prerequisites Data	Description
Swagger URL	Required to access the Swagger page. Zebra will provide the Swagger URL.
Portal URL	Required to access the portal and manage LAS data. Zebra will provide the portal URL.
URL for PTT Pro Configuration	Required to configure PTT Pro. The URL is specified in the `wfclasServerURL` JSON parameter. Zebra will provide the client URL.
Customer ID	Required to configure PTT Pro. Zebra will provide the customer ID.
API Key (token)	It required to configure PTT Pro and use the API. Zebra will provide the API key (token).

Location Area Service Configuration

Configure the PTT Pro clients with the JSON parameters. After you configure the clients, use the LAS portal to import a CSV file with the BSSID information of the access points. Optionally, you can configure the PTT Pro clients to show location data only when a Drop Detect event occurs.

Configure the PTT Pro Client

The PTT Pro client is configured using the JSON parameters described below. Refer to the PTT Pro for Android Configuration Guide for information about configuring PTT Pro with JSON parameters.

In addition to the JSON configuration, the PTT Pro client must meet the following requirements:

- PTT Pro version 3.2.10087 or later.
- Device location services must be enabled.

Table 2 JSON Parameters for LAS

Parameter	Description	Type	Default Value	Configurable Values
wfclasShowServerConfig	Displays the LAS server URL and API token in the PTT Pro client.	Boolean	N/A	true false
wfclasServerURL	URL to the LAS server.	String	N/A	Valid URL
wfclasServerToken	API token used by the PTT Pro client to authenticate with the LAS server	String	N/A	Unique alphanumeric string.
wfclasSiteID	This optional parameter enables the PTT Pro client to use the site ID from the PVM (Provisioning Manager) token; otherwise, the department ID of the logged-in user is used.	Integer	N/A	N/A
wfclasCustomerID	Customer ID is created by the LAS server when the customer account is created.	String	N/A	N/A

NOTE: The configuration of `wfclasSiteID` described in JSON Parameters for LAS is only applicable in a standalone PTT Pro environment. If a previous value is displayed, your administrator needs to set the parameter with an empty value.

Example LAS Configuration

```
{
"wfclasShowServerConfig":true,
"wfclasServerURL":https://prod1-essentials.pttpro.zebra.com:9443/apname/v1, "
wfclasServerToken":"insert_your_token", "
wfclasSiteID”:"insert_your_site", "
wfclasCustomerID":"insert_your_customer_id"
}
```

Sample PTT Pro Client Screenshots

The following screenshots display how location-related information appears in the PTT Pro client.

Figure 2 Contact Screen with LAS Location

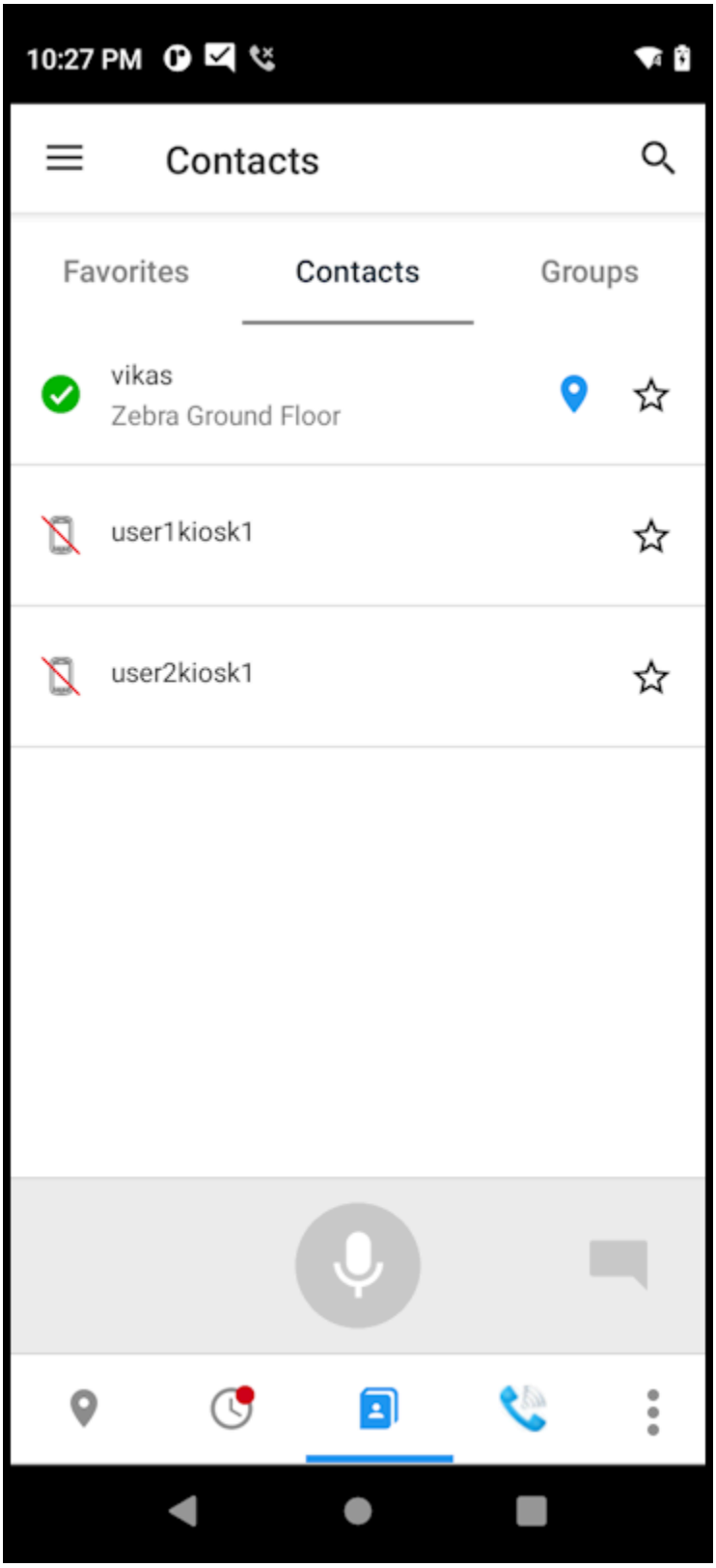


Figure 3 Contact Information with LAS Location

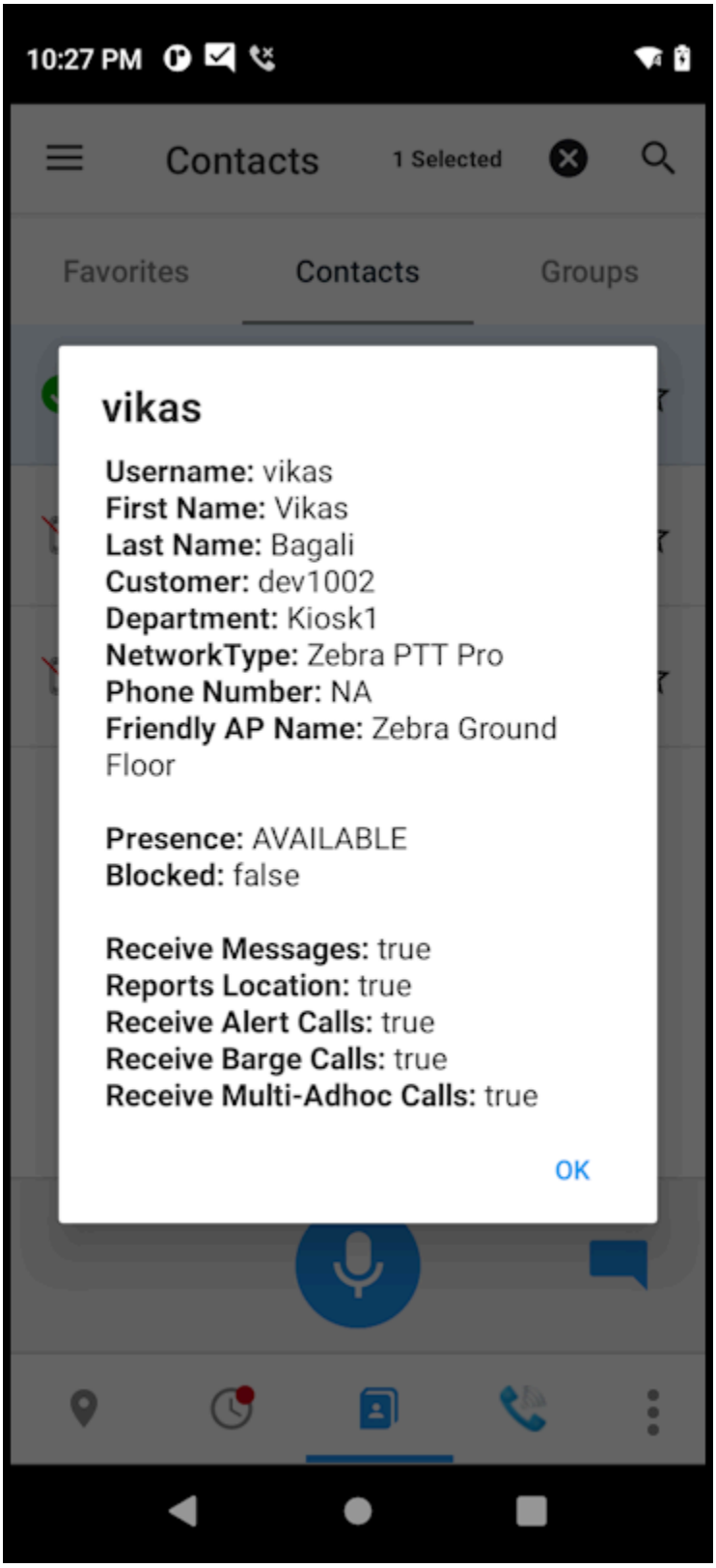


Figure 4 About Screen with Site ID as Site Name

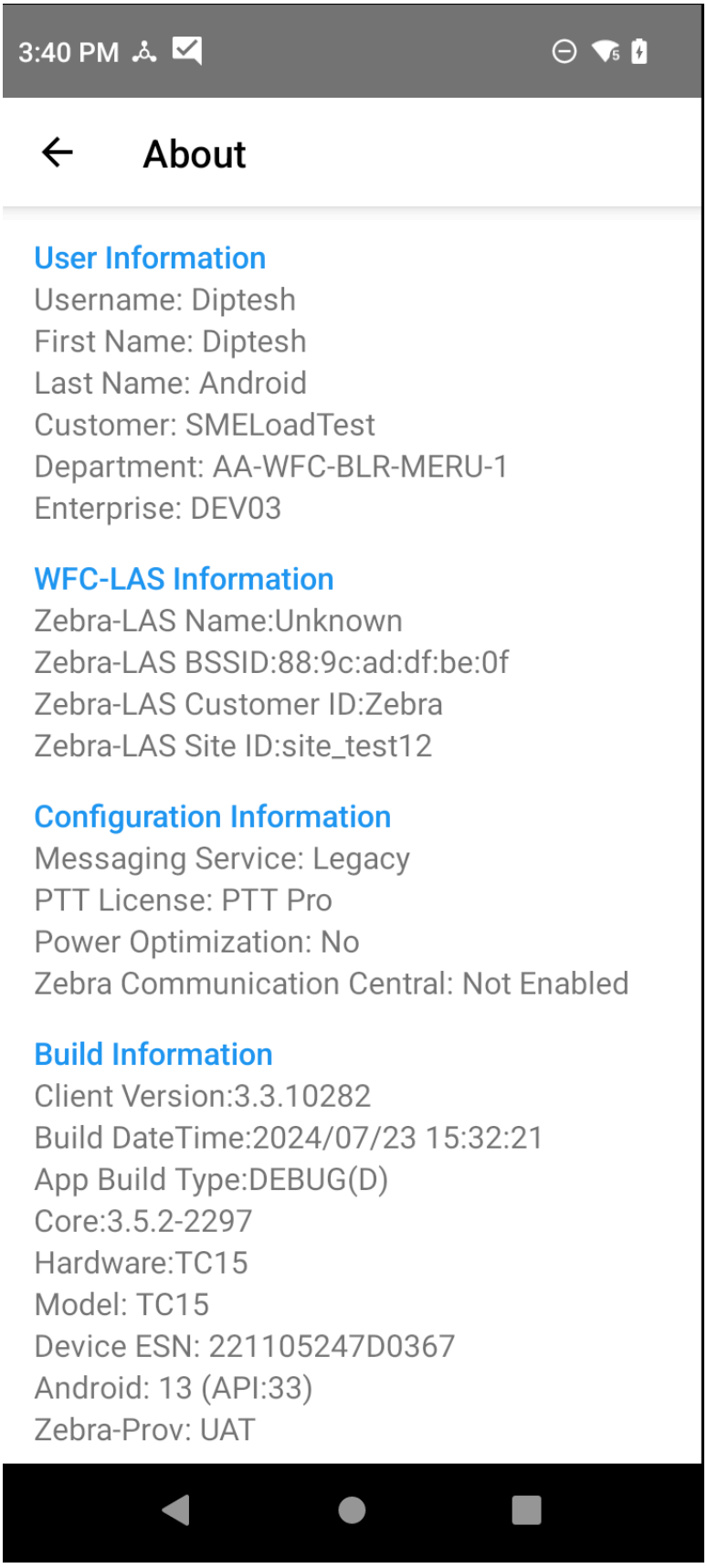
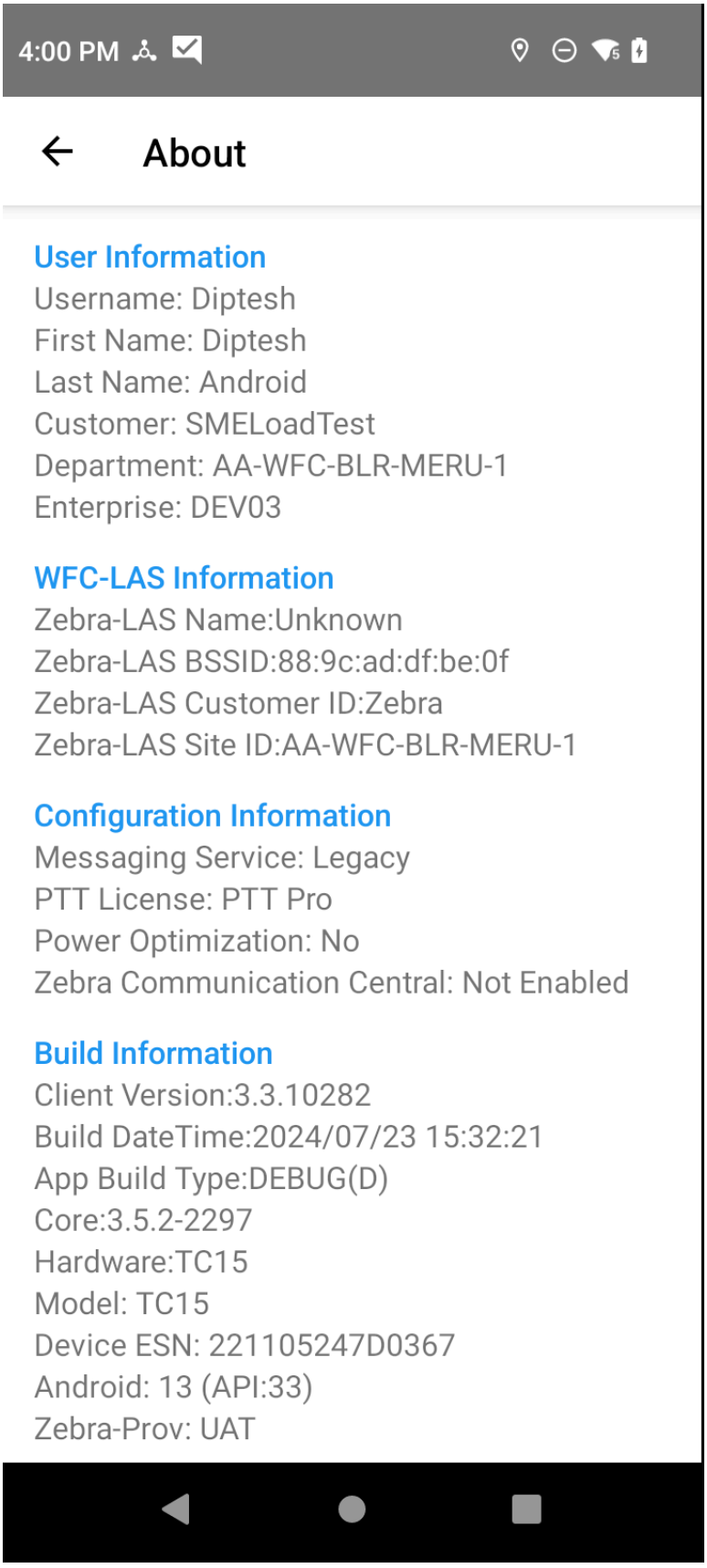


Figure 5 About Screen with Site ID as Department Name

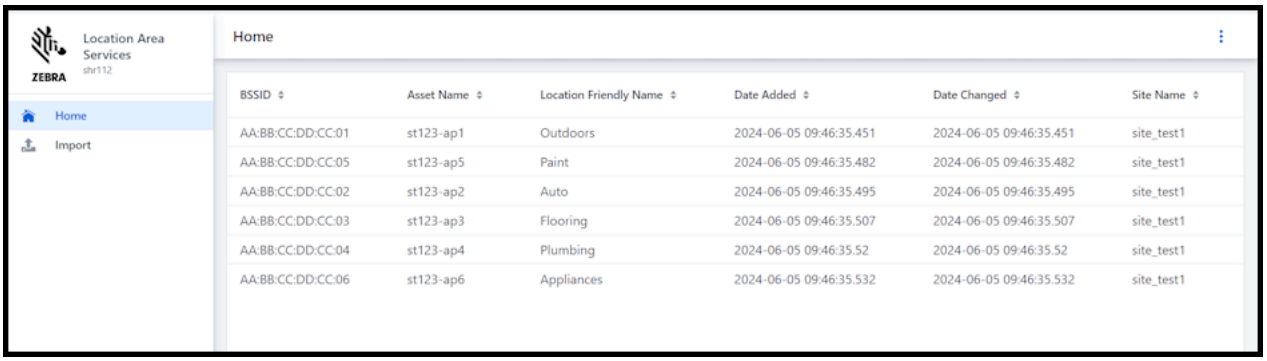


Configure the LAS Server

For setting up and modifying the LAS database, use the LAS portal and the LAS APIs. This section describes doing a bulk upload of AP information using the LAS Portal. This is the simplest method of loading and viewing LAS information.

Use the username and password to log into the LAS portal.

Figure 6 LAS Portal Home Screen



The LAS portal displays the information from the CSV file.

BSSID
MAC address of the access point.

Asset Name
Name or description of the access point. You can specify the information to display in the portal. For example, the model and version of the access point.

Location Friendly Name
The location name displayed in the PTT Pro client.

Date Added
The date when the record was added to the LAS server.

Date Changed
The date when the record was updated.

Site Name
The site name or identifier.

Using the Portal to Import LAS Data

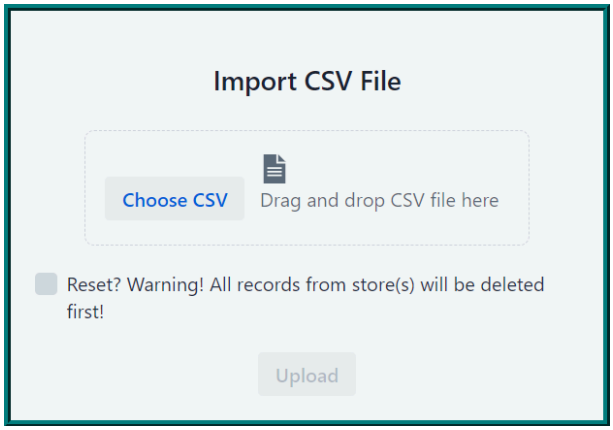
Use the LAS portal to import the CSV file with the LAS data. After you import the file, you can view the configuration in the portal and verify that the location appears in the PTT Pro client.

1. Create the CSV file to import into the LAS server.

   See CSV file for a description of the file format.

2. Log into the LAS portal.

3. Select **Import** to open the **Import CSV File** screen.



4. Select **Choose CSV** to upload a file from your computer.
5. (Optional) Select the **Reset?** checkbox to remove all LAS data before importing the new CSV file.
6. Select **Upload**.
7. Select **Home** to view the imported data.

LAS Import File Format

The import file is a CSV file that specifies the BSSID of the access points and the friendly name associated with each BSSID.

NOTE: The CSV file format must not be in UTF-8.

Table 3 CSV File Fields

Fields	Description
SiteName	Name of the site or store. The access points are defined for each store. **NOTE:** If a new upload of the CSV file does not specify the SiteName, the site is removed from the LAS server. **NOTE:** When LAS is used with the Profile Client, the LAS SiteName must match with the SiteID configured in the Profile Client.
BSSID	A 12-digit hexadecimal MAC address with the character pairs separated by colons.
AssetName	Name you can use to describe the access point. This information is displayed in the portal, not the PTT Pro client. It allows 64 alpha-numeric characters, spaces, and special characters.
LocationFriendlyName	The friendly name is displayed in PTT Pro. The name can include 32 alpha-numeric characters, spaces, and special characters.

Sample CSV File

SiteName	BSSID	AssetName	LocationFriendlyName
1202	00:00:00:00:00:01	Cisco	Grocery
1202	00:00:00:00:00:01	Cisco	Bakery
2032	00:00:00:CF:08:B2	Cisco	Shoes
2032	00:00:00:CF:08:F6	Cisco	Auto
2032	00:00:00:CF:09:33	Cisco	Pharmacy

Display Location Area Service Information for Drop Detect

LAS displays the location of a contact in different PTT Pro screens. An administrator can use the `showlasinfo` parameter to only show the location of a contact when a Drop Detect alert is sent.

Requires PTT Pro 3.3.10203 or later.

Table 4 showlasinfo Parameters

Parameter	Description	Type	Default Value	Configurable Values
showlasinfo	Set to zero (0) to display the LAS location for a contact when a Drop Detect alert is triggered. When set to one (1), the LAS location for a contact displays in the following areas: • Contacts • Contact Search • Favorites • Favorite Search • Contact Information in an Alert dialog • Drop Detect message If the `showlasinfo` parameter is not present in the device configuration, the LAS location is not displayed.	Integer	NA	• 0 - Show LAS location for Drop Detect. • 1 - Show LAS information in Contact screens.

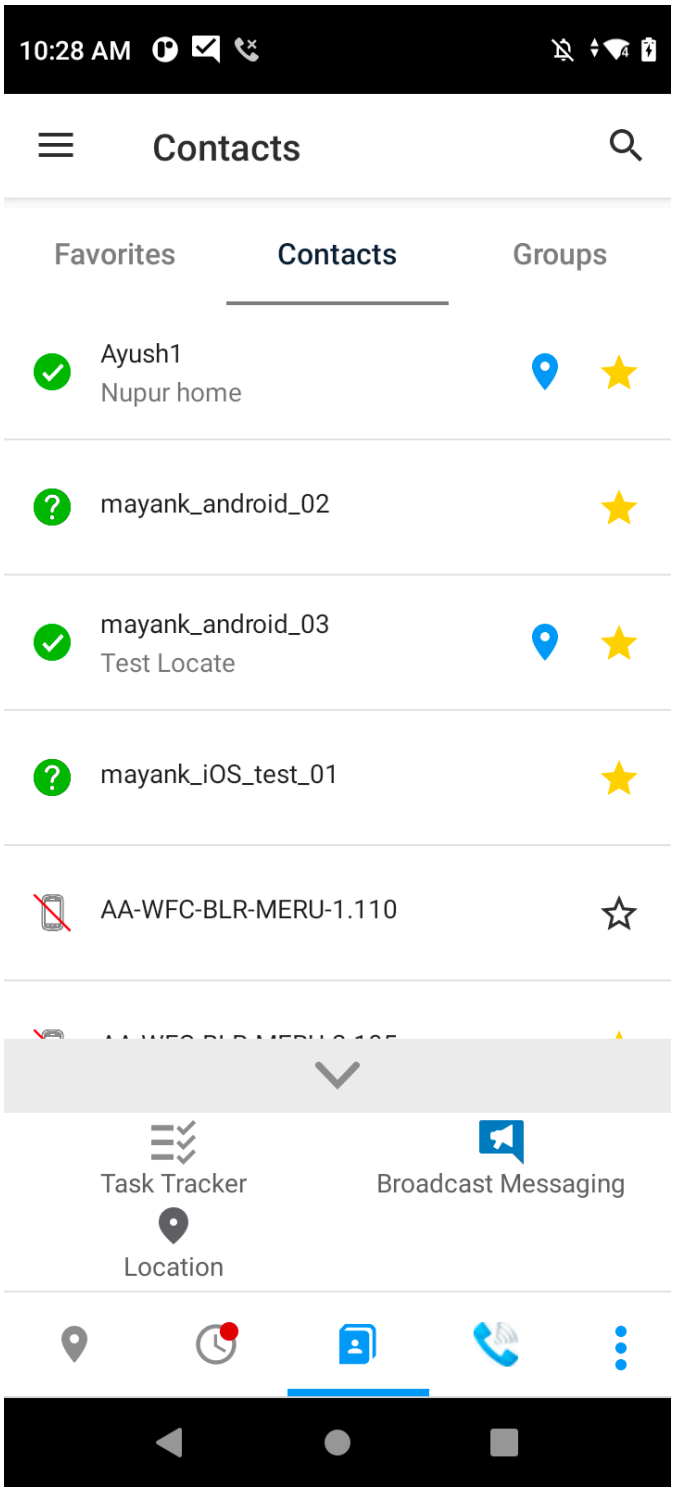
Location TAB Inside PTT Pro

The PTT Pro Client introduced a new feature to retrieve the list of users in a specific department within the store based on the LAS location.

The PTT Pro Client introduces a Location tab, similar to other tabs like Broadcast Messaging, which is enabled when LAS is configured. The location tab is not applicable for PTT Pro on wearables like WS50.

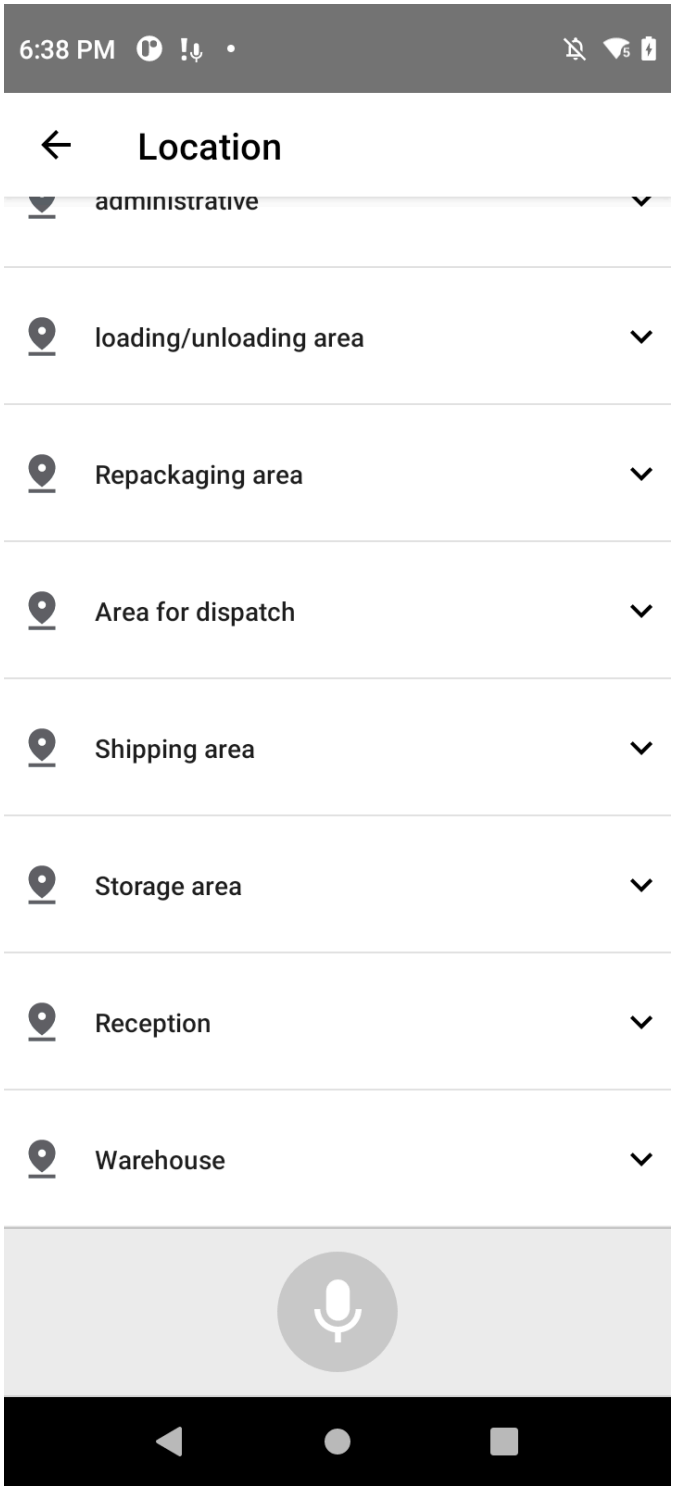
1. The PTT Pro Client introduces a Location tab, similar to other tabs such as Broadcast Messaging, which is enabled when LAS is configured and the new configuration, `showLASFriendlyListTab` is enabled at the PTT Pro Client end, as shown in the following screen:

Figure 7 Location Tab



2. Navigate to the **Location** tab, a list of areas (LAS Friendly Names) associated to that site is displayed, as shown following screen.

Figure 8 Location Tab Area List



3. Click any area to display the list of users in that area and click a particular contact to enable calling functionality.

Figure 9 Area and Enabling Contact Calling

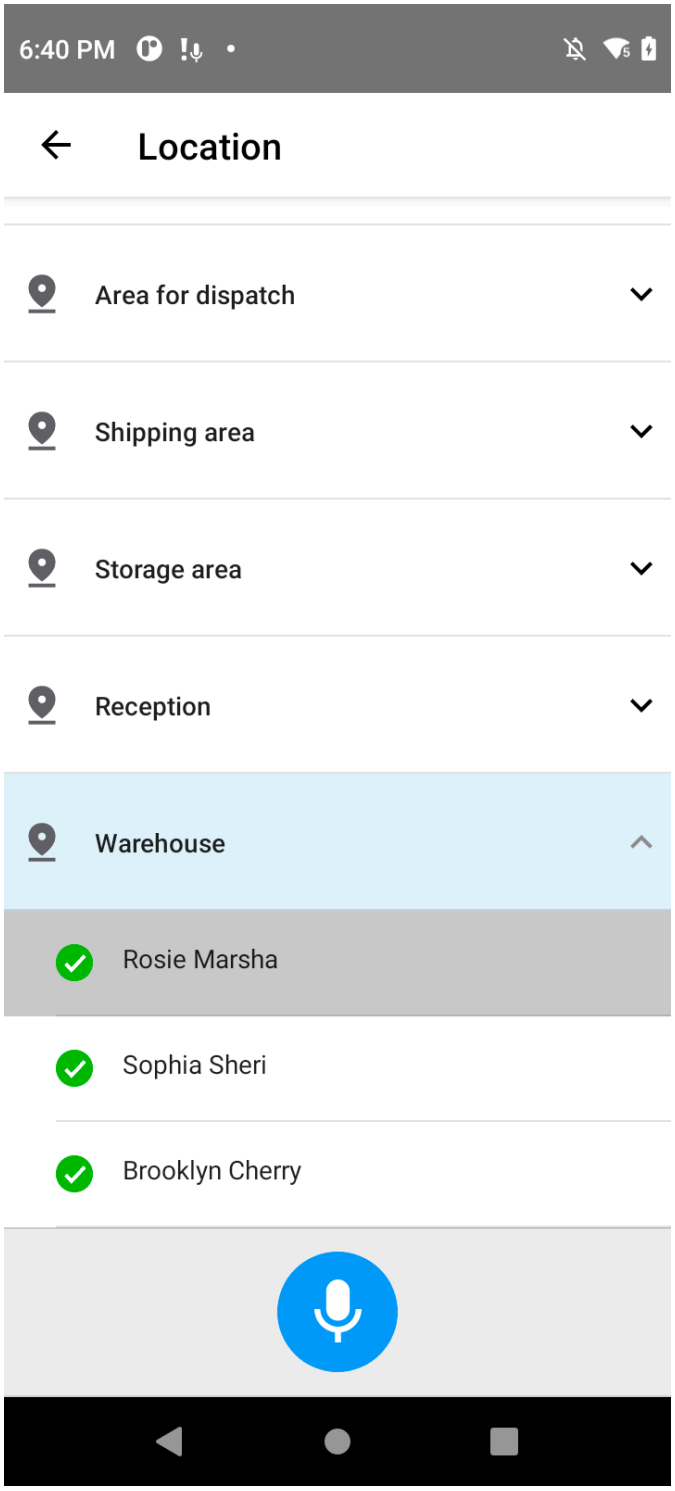


Table 5 JSON Parameters for LAS

Parameter	Description	Type	Default Value	Configurable Values
showLASFriendlyListTab	Configures to Enable/Disable the Location TAB.	Integer	0	0 1

NOTE:

- Users have the option to scroll through the list and make a call to any selected user.
- The call option are disabled if the logged-in user and the selected LAS user are the same.
- Initiating a call by long-pressing a particular contact is not applicable inside the LAS tab.
- If the default callee is configured, a call via Intent or the PTT press button is triggered to the LAS tab if it is open, no user is selected inside the LAS Tab, and the PTT Pro application is in the foreground.
- If the PTT Pro application is in the foreground and the LAS tab is open, a call via Intent or the PTT press button is triggered to the user selected in the LAS tab.
- The user is returned to the default PTT Pro tab after a successful call, whether the call is received or initiated via the LAS tab.
- Any value other than that mentioned above does not affect, and it is reset to the default value, 0.

From PTT Pro JSON File

The `showLASFriendlyListTab` configuration can also be enabled using the **WFCPTTProDefault.json** file. It is the same as configuring the existing PTT Pro Client-related configuration.

WFCPTTProDefault.json

```
{
  "showLASFriendlyListTab":0
}
```

Applying the configuration to Android 10 and below:

```
adb push WFCPTTProDefault.json /sdcard/
adb shell am broadcast -a com.symbol.wfc.pttpro.ACTION_DEFAULT_CONFIG --es
 "configpath" "/sdcard/WFCPTTProDefault.json"
```

Applying the configuration to Android 11 and above:

```
adb push WFCPTTProDefault.json /enterprise/device/settings/pttpro/
adb shell am broadcast -a com.symbol.wfc.pttpro.ACTION_DEFAULT_CONFIG --es
 "configpath" "/enterprise/device/settings/pttpro/WFCPTTProDefault.json"
```

Retrieve LAS User List Using Intent

Intent Definition

The PTT Pro Client sends an INTENT that provides the list of users in a specific area (LAS Friendly Name) within a particular site.

The PTT Pro Client can now locate users within the same site or department via intent.

The minimum required PTT Pro for Android version is 3.3.10312 and later.

Name	Definition
Action	`com.symbol.wfc.pttpro.ACTION_PTT_PRO_LOCATE_LAS_FRIENDLY_NAME`
Intent Type	broadcast
Extra 0	Returns the user's LAS Information.
Type	String
Name	friendlyName

Value	• If the extra name is friendlyName
	  • It is mandatory to provide a friendly name.
	  • The friendly name is case-sensitive.
	  • Use the name exactly as it is created on the LAS server.

NOTE:

- If the extra name is friendlyName and Users are configured with the specified friendlyName , the list of users belonging to that friendlyName will be shared.
- One must register the locate (com.symbol.wfc.pttpro.ACTION_PTT_PRO_LOCATE_LAS_FRIENDLY_NAME_STATUS) intent specified in the table below under the Register Intent section.

ADB Example:

```
adb shell am broadcast -a
 com.symbol.wfc.pttpro.ACTION_PTT_PRO_LOCATE_LAS_FRIENDLY_NAME --es
 friendlyName 'Reception'
```

Register Intent

The following information is about the Intent and the extra parameter that other applications need to register to get the result of the `ACTION_PTT_PRO_LOCATE_LAS_FRIENDLY_NAME` intent.

Name	Definition
Action	`com.symbol.wfc.pttpro.ACTION_PTT_PRO_LOCATE_LAS_FRIENDLY_NAME_STATUS`
Extra 0	Returns `friendly_name_status`
Type	Int

Name	Definition
Name	friendly_name_status
Value	• 0 indicates a failure and checks friendly_name_error_reason extra for more information. • 1 Indicates response for a list of users belonging to that friendly name.
Extra 1	Returns `locate_result`
Type	String
Name	friendly_name_result

Value	If `friendly_name_status` is 1: List of users belonging to that friendly name will be shared if `friendly_name_status` is returned as 1, as shown below
	This will return list of users belonging to that friendly name as an array of String.
	Example:
	`{`
	`[user1,user2,user3,user4,...]`
	`}`

Extra 2	Returns `friendly_name_error_reason`
Type	String
Name	friendly_name_error_reason
Value	If `friendly_name_status` is returned as 0, `friendly_name_error_reason` provides details about the failure. The reason can be one of the following: • Invalid friendly name • No users found under the specified friendly name. • Network is not available. • LAS is not configured. **NOTE:** The first two error messages are ended with the friendly name.
Extra 3	Returns `friendly_name`
Type	String
Name	friendly_name
Value	Returns the friendly LAS name passed as part of the `com.symbol.wfc.pttpro.ACTION_PTT_PRO_LOCATE_LAS_FRIENDLY_NAME` intent

Code Snippet

Send Broadcast

```
Intent intent = new Intent();
intent.setAction("com.symbol.wfc.pttpro.ACTION_PTT_
```

```
PRO_LOCATE_LAS_FRIENDLY_NAME");
   intent.putExtra("friendlyName","Reception");
   sendBroadcast(intent);
```

Register Intent

```
IntentFilter intent = new IntentFilter();
intent.addAction("com.symbol.wfc.pttpro.ACTION_PTT
_PRO_LOCATE_LAS_FRIENDLY_NAME_STATUS");
registerReceiver(mReceiver,intent);




public void onReceive(Context context, Intent intent) {
     String action= intent.getAction();
 if(action.equals("com.symbol.wfc.pttpro.ACTION_PTT_PRO_LOCATE
_LAS_FRIENDLY_NAME_STATUS")) {
            int status = intent.getIntExtra("friendly_name_status" , 0);
            String friendlyName = intent.getStringExtra("friendly_name");
             if (status == 0) {
             String error_reason =
 intent.getStringExtra("friendly_name_error_reason");
          Log.i(TAG, "friendlyName: "+friendlyName+"  error_reason : "+
 error_reason );
              }else if (status == 1){
String friendly_name_result =  intent.getStringExtra("friendly_name_result");
Log.i(TAG, "friendly_name_result : "+friendly_name_result +" friendlyName:
 "+friendly_name);
             }

     }
}
```

Location Area Service REST API

Use the LAS REST API to manage sites, APs, and users. The API can be accessed using tools such as curl, Postman, or the Swagger interface.

The LAS Swagger API provides three specifications:

Tenant
Used by the Zebra administrator to manage customers on the multi-tenant LAS server. This specification is visible but not available to customers.

API
Used by the customer to manage access points and AP users.

- Sites are locations that may be different stores, hospitals, or other entities that have different AP and AP user information. Sites are created when the APs are added.
- Access Points, or APs, are Wi-Fi devices that AP Users connect to and use for communication. The API allows adding, deleting, and displaying APs. APs are uniquely defined by BSSID and may also be identified through an asset name. APs are associated with a location-related name which can be displayed to users.
- AP Users are the users/devices that connect to the APs. The specification allows adding, deleting, and retrieving AP users.

Portal
Currently unused.

Authenticate for the API

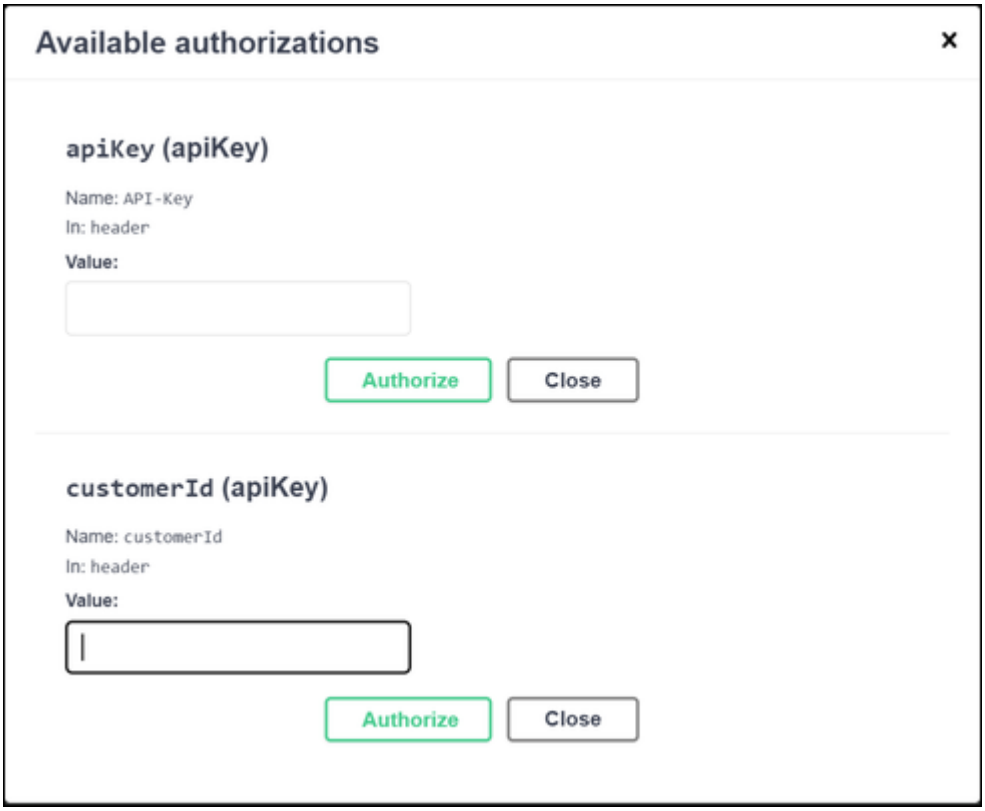
Use of the API requires the customer ID and API key for authentication. Using the Swagger page, you can enter the API key and Customer ID and use the APIs.

When using methods in the API, the following headers must be included:

- The API-Key header must be populated with the customer API Key. Zebra provides the API key.
- The Customer ID header must be populated with the customer ID. Zebra provides the customer ID.

When using Swagger, click the green **Authorize** button to open the **Available Authorizations** screen.

Figure 10 Swagger API Authentication Screen



Enter the API key in the **apiKey** field and the Customer ID in the **customerId** field.

Customer APIs

The Access Point Controller and the AP User Controller provide methods for managing LAS data. See Parameters for a description of the API parameters.

Access Point Controller

The Access Point controller provides methods to add, delete, and retrieve access points.

Get All Access Points
Retrieves a list of access points.

Create New Access Point Entry
Adds an access point to the LAS database.

Get Access Point by BSSID
Retrieves access point data for the specified BSSID.

Delete Access Point by BSSID
Removes the access point specified by the BSSID.

Export Access Point Entries
Exports access points to a CSV file with the same format as the import CSV file, with the addition of the Date Added and Date Modified columns.

Import Static Access Point Tables from CSV File
Uploads a CSV file of AP data. See CSV file for the format of the CSV file.

Get All Sites
Returns all sites.

AP User Controller

The AP User controller provides methods to associate PTT Pro users with access points, delete the associates, and retrieves access point user information.

Create New Access Point User
Creates or updates the association between a user, a site, and a BSSID.

Get All Users Info for the Access Point BSSID
Returns the user and AP information for all users associated with a specific BSSID and site ID.

Get All Users Info for the List of User IDs
Returns the user and AP information for the users identified by a list of User IDs and site ID.

Get User Info for the Access Point by User ID
Provides user and AP information for the user identified by user ID and site ID.

Delete User
Remove the user identified by the site ID and user ID from LAS.

Parameters

The Access Point controller and the AP User controller use the following parameters.

Table 6 API Swagger Specification Parameters

Parameters	Description
siteId	Name of the site. All the Access Points are defined for each site.
bssid	Physical address of the access point.
name	System defined name if any.
ap_created_name	Location Friendly name for the access point. PTT Pro client displays this name when the client is associated with access point. Usually, it is the department name in the store.
userId	User associated with access point.

Using Curl to Add an Access Point

The following example adds an AP using Curl.

```
curl -X POST "https://<LAS-URL>:9443/apname/v1/api/ ap"
    -H "accept: */*"
    -H "API-Key: key0"
    -H "customerId: 0"
    -H "Content-Type: application/json" -d "{ \"ap_created_name\":
        \"Plumbing\", \"bssid\": \"B8-8A-60-61-8E-E7\", \"name\":
        \"ap-name\", \"siteId\": \"store1\"}"
```