ADSP Proximity Outbound API

How-To Guide

Contents

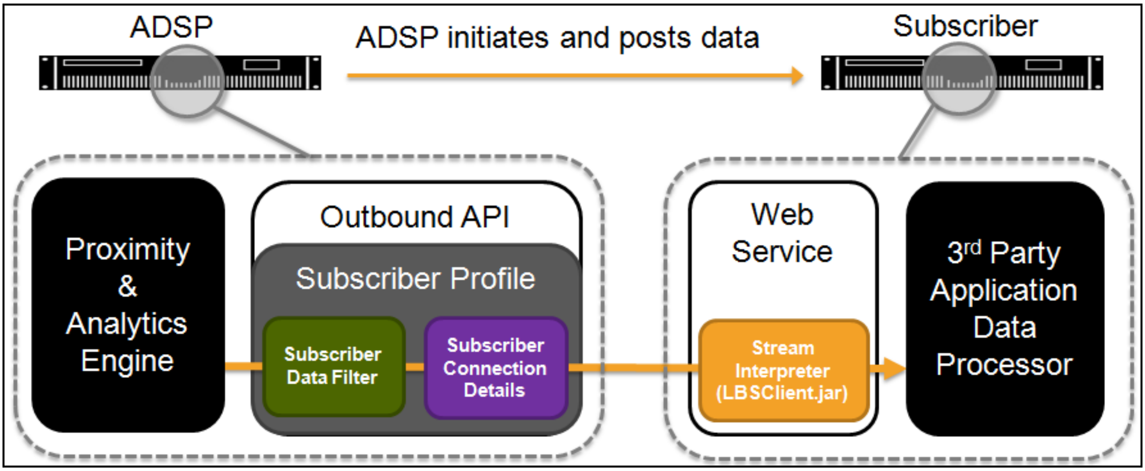
1 Introduction

Starting in AirDefense Services Platform (ADSP) version 9.0.3 there is a new profile type called the **Location Subscriber Profile** that is used to configure new features in the Proximity and Analytics API. It defines settings for an outbound connection to a third party application in order to send presence and location data. Before ADSP 9.0.3, the API only accepted inbound connections initiated by a third party application. Security concerns and other factors make setting up and creating inbound connections to ADSP difficult for third party applications hosted outside an organizations controlled environment.

2 Outbound API Overview

The new outbound API architecture is different from the inbound architecture in how connections are initiated and in how data is sent to the third party application. Before ADSP 9.0.3, the only option for a third party application to get data from the Proximity and Analytics API was for it to initiate a connection to ADSP. In most cases, ADSP is deployed in a highly protected segment of a customer’s network, which makes creating inbound connections from outside sources difficult and time consuming.

2.1 Connection Process


ADSP
ADSP initiates and posts data
Subscriber
Proximity & Analytics Engine
Outbound API
Subscriber Profile
Subscriber Data Filter
Subscriber Connection Details
Web Service
Stream Interpreter (LBSClient.jar)
3rd Party Application Data Processor

As the Proximity & Analytics engine outputs new data, it is sent to the outbound API handler. The outbound API handler will check the filters setup in the Location Subscriber Profiles to determine if there are any subscribers that are supposed to receive this information. Once data is sent to a subscriber, it is received by the web service and a stream interpreter formats the stream for the 3rd party application data processor.

✓ ***NOTE*** The outbound connection only has one way communication, so ADSP sends all data with streams. The subscriber cannot send requests back to ADSP.

2.2 Available Data Streams

The outbound Proximity and Analytics 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
- **RSSI Data**—sends raw RSSI information for client devices.

2.3 Data Filtering

Unlike the inbound connection, the outbound connection data is pre-filtered before it is sent to a subscriber. The data filters are defined by the Location Subscriber Profile and the data can be further filtered on the subscriber side. This gives more granular control on the ADSP side of what Proximity and Analytics data is sent to a 3rd Party.

3 Configuration

✓ ***NOTE*** A Proximity and Analytics license is required for these features to be available.

Configuration of the outbound Proximity and Analytics connection is done with the Location Subscriber Profiles. These profiles only define connection details and filtering options for data being sent out to a subscriber and do not affect the overall Proximity and Analytics configuration.

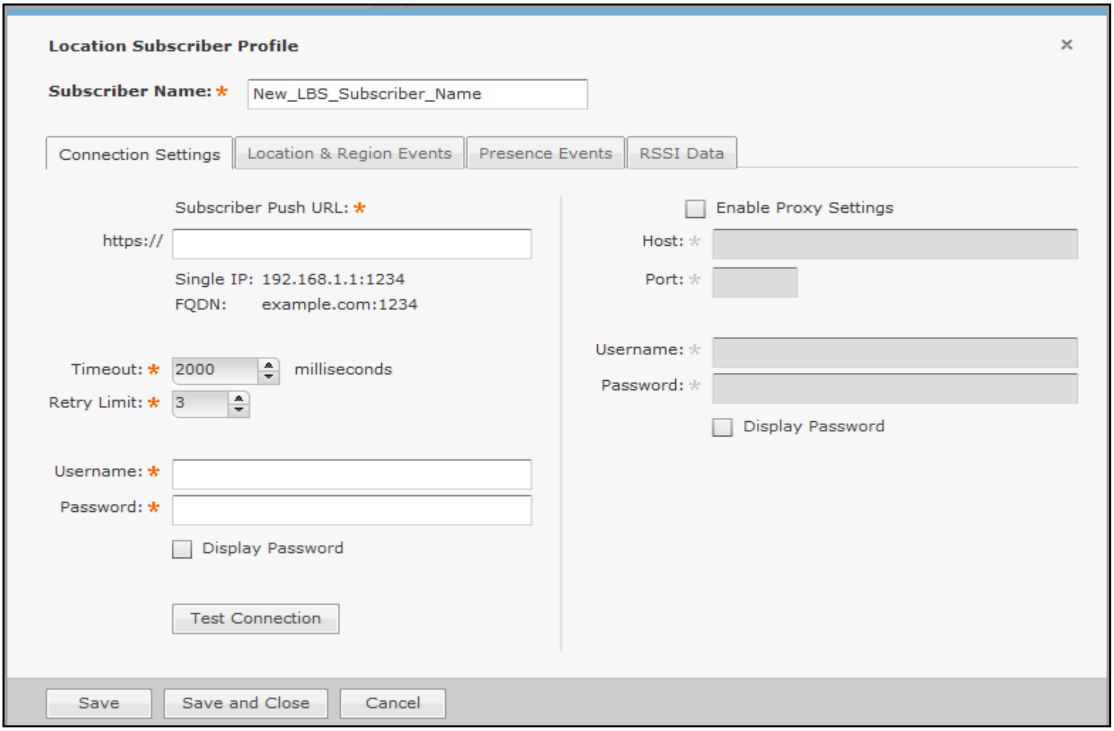
✓ ***NOTE*** Location Subscriber Profiles do not affect the overall configuration of Proximity and Analytics features.

3.1 Location Subscriber Profile

The Location Subscriber Profiles can be found at:

Configuration > **Operational Management** > **Location Subscriber Profiles**

You can create a new profile by clicking the **New Template** button. Give the new profile a descriptive name, as shown in the following example:



Location Subscriber Profile

Subscriber Name: * New_LBS_Subscriber_Name

Subscriber Push URL: *
https://
Single IP: 192.168.1.1:1234
FQDN: example.com:1234

Timeout: * 2000 milliseconds
Retry Limit: * 3

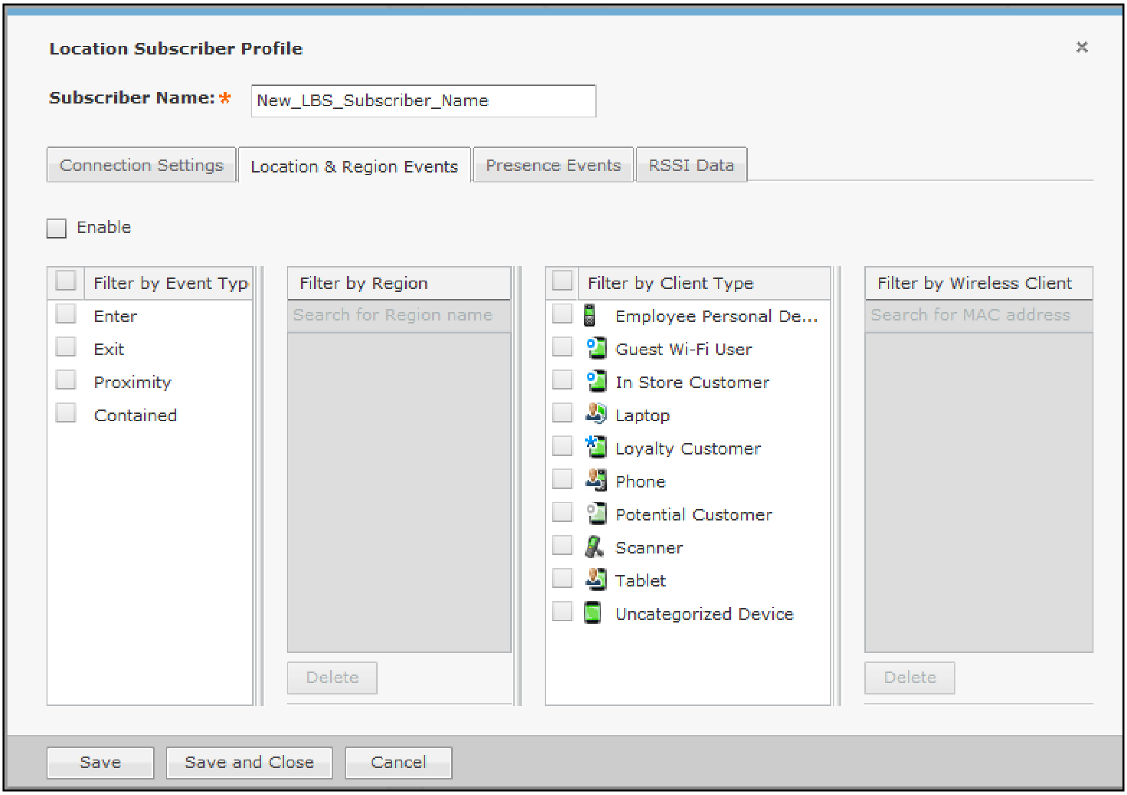
Username: *
Password: *
□ Display Password

□ Enable Proxy Settings
Host: *
Port: *
Username: *
Password: *
□ Display Password

3.1.1 *Connection Settings*

- **Subscriber Push URL**—this is the URL to the subscriber web service that ADSP will conenct to. It must include the port number that the web service is running on.
- **Timeout**—determines how long should ADSP wait for a response from the subscriber web service.
- **Retry Limit**—specifies how many times shall ADSP try connecting to the subscriber web service if it is not responding.
- **Username**—the username that the subscriber adminstrator has provided for ADSP to authenticate to their subscriber web service.
- **Password**—the password that the subscriber administrator has provided for ADSP to authenticate to theier subscriber web service.
- **Test Connection—**once the connection details are set, this can be used to verify that ADSP is able to connect to the web service.

- **Proxy Settings**—these settings can be enabled and configured if ADSP is behind a web proxy.



Location Subscriber Profile ×

Subscriber Name: * New_LBS_Subscriber_Name

Connection Settings | Location & Region Events | Presence Events | RSSI Data

□ Enable

□ Filter by Event Typ
□ Enter
□ Exit
□ Proximity
□ Contained

Filter by Region
Search for Region name
Delete

□ Filter by Client Type
□ Employee Personal De...
□ Guest Wi-Fi User
□ In Store Customer
□ Laptop
□ Loyalty Customer
□ Phone
□ Potential Customer
□ Scanner
□ Tablet
□ Uncategorized Device

Filter by Wireless Client
Search for MAC address
Delete

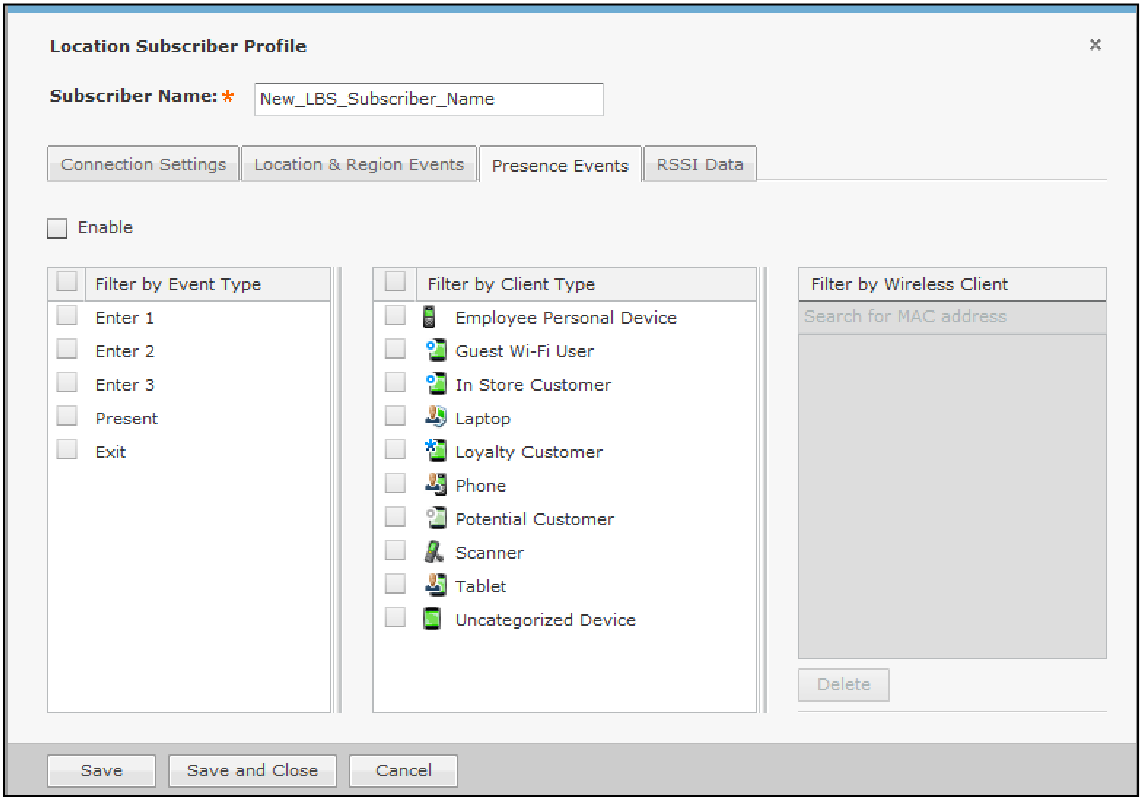
Save | Save and Close | Cancel

3.1.2 Location and Region Events

The Location & Region Events settings are used to define how the location data and region events being sent to this subscriber should be filtered.

- **Enable**—enables the Location Data and Region Events streams.
- **Filter by Event Type**—selects the event types you want sent to the subscriber. Both enabling all and disabling all assume send all events.
- **Filter by Region**—enter region names in the list that you want to send Region Events for. Leaving empty means send all region events. As you enter a term, the dropdown will be filled with region names configured in the system that match.
- **Filter by Client Type**—selects the client types you want events and location data sent for to the subscriber. Both enabling all and disabling all assume send all data.

- **Filter by Wireless Client**—enter MAC addresses for specific clients you want to send location and region events for to the subscriber. No other clients' data will be sent.



Location Subscriber Profile

Subscriber Name: * New_LBS_Subscriber_Name

□ Enable

□	Filter by Event Type
□	Enter 1
□	Enter 2
□	Enter 3
□	Present
□	Exit

□	Filter by Client Type
□	Employee Personal Device
□	Guest Wi-Fi User
□	In Store Customer
□	Laptop
□	Loyalty Customer
□	Phone
□	Potential Customer
□	Scanner
□	Tablet
□	Uncategorized Device

Filter by Wireless Client

Search for MAC address

3.1.3 Presence Events

The Presence Events settings are used to define how the presence events being sent to this subscriber should be filtered.

Enable—enables the Presence Event stream

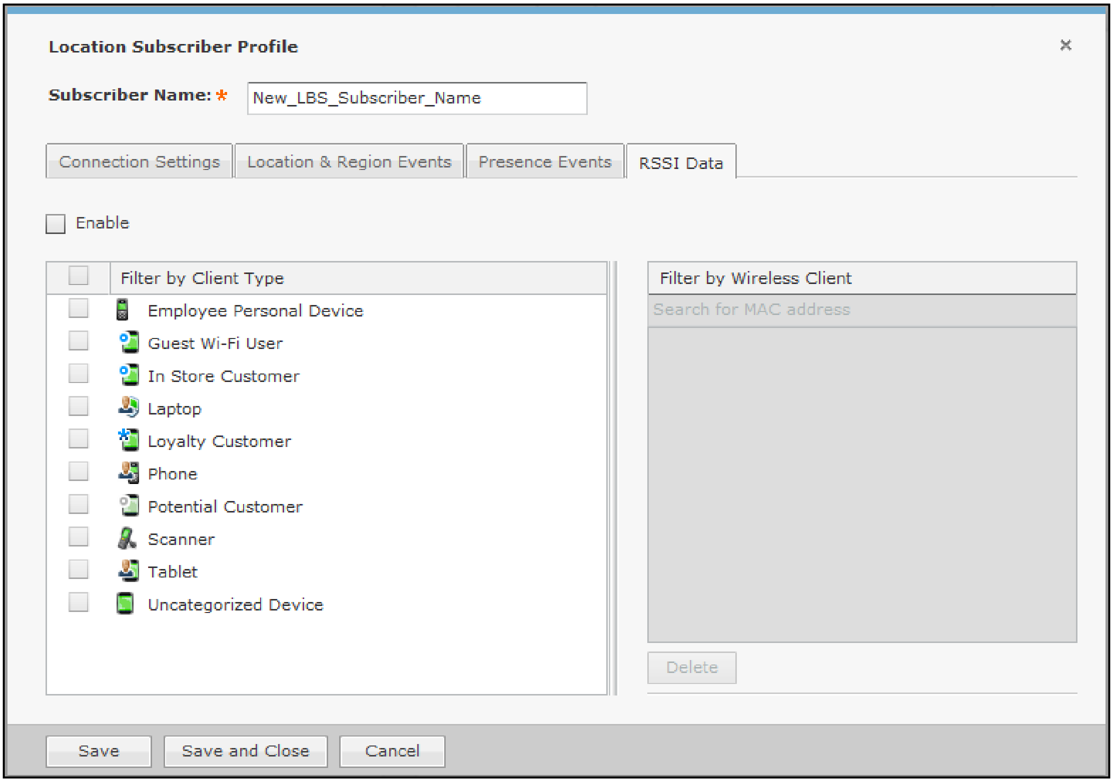
Filter by Event Type—selects the event types you want sent to the subscriber. Both enabling all and disabling all assume send all events.

Filter by Client Type—selects the client types you want presence events sent for to the subscriber. Both enabling all and disabling all assume send all data.

Filter by Wireless Client—specifies MAC addresses for specific clients you want to send presence events for to the subscriber. No other clients' data will be sent.

3.1.4 RSSI Data

The RSSI Data settings are used to define how the RSSI data being sent to this subscriber should be filtered.



Location Subscriber Profile

Subscriber Name: * New_LBS_Subscriber_Name

□ Enable

Enable—enables the RSSI Data stream

Filter by Client Type—selects the client types you want RSSI data sent for to the subscriber. Both enabling all and disabling all assume send all data.

Filter by Wireless Client—specifies MAC addresses for specific clients you want to send RSSI data for to the subscriber. No other clients' data will be sent.

3.2 Subscriber Web Service

In order for ADSP to connect to a 3rd party application, it must implement a web service that ADSP is capable of connecting to. The application must also either use the provided stream interpreter or another one developed by the 3rd party.

3.2.1 Location Based Service SDK Download

ADSP 9.0.2 and later includes a Software Development Kit (SDK) that can be downloaded from the appliance. There are two ways to get to the SDK download called LBSClient.zip:

- From the **Login** screen, go to **Download Toolkit** in the top right corner and select LBSClient.zip
- From the **Menu**, select **Download Toolkit** and select LBSClient.zip

3.2.2 Location Based Service SDK Items

The SDK contains three items:

- **docs**—a directory containing the a document describing the API and the javadoc information describing the methods
- **samples**—a directory containing sample applications and currently has two. The "subscriber" application demonstrates how to implement the web service for the outbound connection. It holds both a complied Java application and the source code. There is also a "ticker" application that demonstrates the inbound connection.
- **LBSClient-<ADSP version>.jar**—the Java client that is used to interpret the data streams from ADSP. It is also used for the inbound connection to ADSP.

✓ ***NOTE*** The included SDK contains a stream interpreter written in Java that a developer can use or they can develop their own stream interpreter.

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