



## Ruckus Wireless

# Smart Positioning Technology (SPoT)

## Quick Setup Guide

This *Quick Setup Guide* will guide you through the set up of SPoT Point and SPoT Presence using the SPoT Administrative Portal.

For more detailed information on SPoT refer to the SPoT User Guide, available from the Ruckus Wireless Support website: <https://support.ruckuswireless.com/documents>

**NOTE:** SPoT requires a minimum of ZoneFlex firmware version 9.8 or RuckOS 3.0 and above to operate.

### BEFORE YOU BEGIN

Before deploying Ruckus Wireless products, please check for the latest software and the release documentation.

- User Guides and Release Notes are available at <http://support.ruckuswireless.com/documents>.
- Software Upgrades are available at <http://support.ruckuswireless.com/software>.
- Open Source information is available at <http://opensource.ruckuswireless.com>.
- Software License and Limited Warranty are available at <http://support.ruckuswireless.com/warranty>.

### MAP

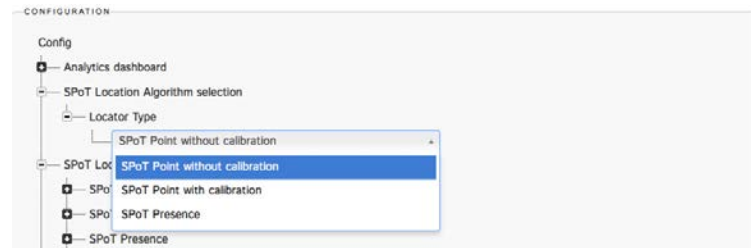
- 1) Upon receiving Confirmation email from Ruckus for SPoT Licenses, Click on the provided link to access the SPoT Admin Portal for account sign up.
  - a) Fill in details requested for
  - b) Click on Register to Complete the process
  - c) Feel free to create additional admin accounts if you'd like someone else to operate the SPoT service for you, e.g. a VAR/Partner. This can be done by creating a new user account and giving the user admin rights.
- 2) Create a Venue:
  - a) Fill in the required information
  - b) Click on Save
- 3) To create a map of your venue compatible with SPoT, use the Create Your own Map (CYOM) feature. Please review the SPoT user guide or follow the Create Your own Map

Video which will assist you.

Once the map has been completed your venue server will be provisioned within 24hours

**NOTE:** SPoT Point without Calibration and SPoT Presence do not require for calibration points to be plotted in the CYOM map.

- 4) To Toggle between SPoT Point with Calibration, SPoT Point Without Calibration and SPoT Presence go to **Config**, Click on SPoT Locator Algorithm Selection, Click on Locator Type and Select between the 3 options



### ENABLE

- 1) Log into the SPoT Admin Portal after you receive notification that the map has been processed and uploaded to SPoT portal.

The following is a description of the Tabs on the Main Page of the SPoT Admin Portal.

- 2) **Details** – Shows venue Details and can be edited by administrators
- 3) **Config** – Shows Configuration details to enable SPoT on ZD
- 4) **Access Point** – Allows for inputting and editing the AP Mac address. It will also show Status lights of AP to Location Server connection (Red = Not connected, Green = Connected)
- 5) **Radio Map** - Where Map and calibration data is managed
- 6) Click on **Config** to obtain the ZD configuration details
- 7) Go to **Access Points** to fill in the AP MAC address.
- 8) For a new SPoT deployment you will need to configure the Zone Director or RuckOS.

### To Configure Zone Director:

- a) Go to "configure" and select "Access Points" from left tab.
- b) Click "edit" on the system-default in "Access Point Groups" configuration (wait a couple of seconds for the system-default entry to appear).
- c) You will see "enable LBS" option. Configure with the cloud LBS parameters that you obtain from the SPoT Admin Portal -> Config page.

d) **Verify** that you have configured SPoT service by going to “monitor” tab on top and then clicking on “location services” on the left column (last option). It should show as “Connected” in the AP to ZD Status and the AP to LS status:

Venue Name	Server FQDN or IP Address	Port	ID-LS Status	AP Group	AP MAC Address	AP-LS Status
reg-dev	reg-dev.venue.ruckus.com	8883	Connected	System Default	3c:5d:93:0f:09:00	Connected
			Connected		3c:5d:93:0f:0a:80	Connected
			Connected		3c:5d:93:0f:0a:70	Connected
			Connected		3c:5d:93:15:15:20	Connected
			Connected		3c:5d:93:15:14:70	Connected
			Connected		3c:5d:93:0f:0b:10	Connected
			Connected		3c:5d:93:0f:0a:90	Connected
			Connected		3c:5d:93:0f:07:80	Connected
			Connected		3c:5d:93:0f:0a:70	Connected
			Connected		3c:5d:93:0a:27:00	Connected
			Connected		3c:5d:93:15:65:a0	Connected
			Connected		3c:5d:93:15:4e:40	Connected
			Connected		84:93:2a:01:90:20	Connected
			Connected		8c:0c:90:0a:02:40	Connected

### To Configure RuckOS

- On the controller web interface, go to Configuration > Services & Profiles > Services > Location Services.
- Click Create New. The Create New LBS Server form appears.
- Configure with the cloud LBS parameters that you obtain from the SPoT Admin Portal -> Config page. And Click OK to Save Changes

d) Next, configure the controller to use the LBS server. There are 2 methods

#### i. Set an entire AP zone to use an LBS server

- When you create or edit an AP zone, you can enable the LBS service for the entire zone by selecting the Enable LBS Service check box, and then selecting an LBS server to use.

#### ii. Set an AP group to override the LBS settings of a zone

If you want APs that belong to an AP group to use a different LBS server, you can override the LBS settings at the AP group level. Follow these steps.

- Go to Configuration > AP Zones. In the AP Zone List, click the zone name to which the AP group you want to configure belongs.
- On the sidebar, click AP Group. Click Create New to create a new AP group, or click the AP group name to edit it.
- In the form that appears, scroll down to the Advanced Options section. Click the plus (+) sign to display all options. In Location Based Service, select the Override zone config check box.
- Configure the LBS settings as required.
  - To disable the LBS service for this AP group, clear the Enable LBS service check box.
  - To use a different LBS server for this AP group, select the Enable LBS service check box, and then select the LBS server that you want to use from the drop-down list.
- Configure the other AP group settings as required. Click OK.

You have completed setting an AP group to override the LBS settings of its zone.

**TIP:** For more information on Zone Director or RuckOS Configuration, refer to their respective QSG available on the Ruckus Support Site.

- Plug in the APs to the controller via a switch. It doesn't matter if you plugged in the APs earlier. The APs will pick up IP from a DHCP server – this is their default configuration.

- a) The APs will auto-discover the controller, auto-upgrade their own firmware if needed, then pick up configuration from controller and then advertise the WLAN (SSID).
- 10) Check back onto the **Access Points** page in the SPoT Admin Portal to see if the Status lights have changed from **Red** to **Green**. A **Green** status icon indicates that the AP is communicating with the SPoT server. A **Red** light indicates that a connectivity, configuration or network issue is preventing the AP from successful communication with the SPoT server.
- 11) If the Status lights are **Green** you may begin calibration. Otherwise, contact Customer Support for assistance

## CALIBRATION

**NOTE:** For SPoT Point without Calibration and SPoT Presence, Calibration need not be done in the venue. You may Access SPoT Analytics.

The Calibration configuration for ZD is as follows

- 1) Prep before the calibration event:
  - a) Download the latest SPoT mobile app from the Apple App store or Google Play Store. Configure the app on the mobile devices you want to use for calibration. Make sure you have configured the right settings for the SPoT app. E.g. on the iOS device, make sure you have the phone's MAC address copied to the SPoT settings. Similar configuration is required on the Android device. Multiple mobile devices can be used simultaneously to calibrate on the same band

**TIP:** The SPoT User Guide will have more detailed information on using Smart Phones for Calibration

- b) Configure all the APs in the AP-Group that you are going to calibrate to be on a single channel on 2.4GHz and a single channel on 5GHz (turn off all other channels).
- 2) Create a 2.4GHz specific SSID for calibration purpose only. E.g. SPoT\_Calib24
  - 3) Create a 5GHz specific SSID for calibration purpose only. E.g. SPoT\_Calib5
  - 4) Associate to the 2.4 GHz SSID and calibrate the venue
  - 5) Associate to the 5GHz SSID and calibrate the venue.
  - 6) After calibrating a few points, check the App to verify calibration data if you are using iOS. If you are using and Android device, use the SPoT Admin Portal to verify the calibration data. Go to **RadioMaps** => Files => Venue\_calibration.yml. That will give you the mean of the RSSI collected per AP per Calibration Point (CP). Here's an example of a healthy calibration (A few APs and there are many decimal points)

- name: CP1

x: 78.0  
 y: 151.0  
 calibration:  
 ap1-1:  
 mean: -81.41952305828428  
 ap1-3:  
 mean: -75.17906888511108  
 ap1-5:  
 mean: -95.59242765411177

**TIP:** Calibration time:1hr / 10K sq.ft./user. Multiple people can calibrate at the same time

- 7) Once done, do the following:
  - a) Remove the calibration-specific SSIDs from controller configuration.
  - b) Put the AP channels into a 3-channel configuration mode. E.g. for 2.4GHz, you can select 1, 6 & 11 channel configuration. Select 3-channel configuration for 5GHz as well. Note that ChannelFly can remain enabled as Ruckus system will auto-select the right channel from that list of 3 channels to service clients.

Now you have completed the SPoT calibration. You may access SPoT Analytics from the main page of the SPoT Admin Portal

If analytic data is not available on the Analytics dashboard, check that the AP status lights are **green** in **Access Points** Tab. If they are **green** make necessary changes to SPoT locator parameters via the **Config** tab interface (detailed information on the locator parameters are available in the SPoT user Guide). Check the Analytics dashboard. If analytics data still cannot be seen contact Customer Support for further assistance

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