TRBONET Dispatch Systems

neocom software

AUTHORIZED APPLICATION PROVIDER DIMETRA™ MOTOROLA SOLUTIONS

AUTHORIZED APPLICATION PROVIDER MOTOTRBO™ MOTOROLA SOLUTIONS

TRBOnet Enterprise | PLUS

Geofencing

User Guide

Version 6.5

Last revised on 15 June 2026

USA Office
Neocom Software
150 South Pine Island Rd., Suite 300
Plantation, FL 33324, USA

Sales
EMEA: +44 203 608 0598
Americas: +1 872 222 8726
APAC: +61 28 607 8325

www.trbonet.com
info@trbonet.com

© Neocom Software Corporation

Contents

1 Introduction 3
1.1 About This Guide 3
1.2 About TRBOnet 3
1.3 Contacts 3
2 Overview 4
3 Operation 5
3.1 Drawing Regions 5
3.1.1 Drawing a Polygonal Region 5
3.1.2 Drawing a Circular Region 7
3.1.3 Drawing a Route 8
3.2 Defining Geofencing Rules 10
3.2.1 Map Region Rule 11
3.2.2 Other Rules 15
3.3 Activating Geofencing Rules 17

1 Introduction

1.1 About This Guide

This document is intended for administrators setting up evaluation and proof-of-concept deployments of MOTOTRBO Dispatch over IP solutions. The document describes how to configure and use the Geofencing feature.

1.2 About TRBOnet

TRBOnet is a suite of professional applications for MOTOTRBO digital two-way radio networks. TRBOnet manages voice and data communication paths across network endpoints. It provides a unified graphical dispatcher workbench interface for the entire range of workforce fleet management tasks.

For more information about TRBOnet products, refer to our website.

1.3 Contacts

Region	Phone	Email & Support
EMEA	+44 203 608 0598	info@trbonet.com — general and commercial inquiries support@trbonet.com — technical support https://trbonet.com/kb/ — online knowledge base
Americas	+1 872 222 8726	
APAC	+61 28 607 8325	

2 Overview

The Geofencing feature in the TRBOnet Location Tracking module is designed for implementing various motion and location-based subscriber management rules. In the outdoor GPS-based scenario, the two types of source events for triggering response actions are:

- **Enter/exit a region**
  The next consecutive GPS fix from a subscriber beyond a user-defined perimeter. Or, a subscriber remains in or out of a user-defined perimeter beyond a pre-set time period.
- **Speed above/below a threshold**
  A subscriber accelerates, slows down or remains stationary over a user-defined limit.

A geofencing rule definition in TRBOnet can combine both location and motion data received from a radio to target the managed subscribers as broadly or narrowly as required.

3 Operation

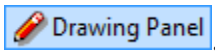
This section describes how to draw map regions and specify region-based geofencing rules.

3.1 Drawing Regions

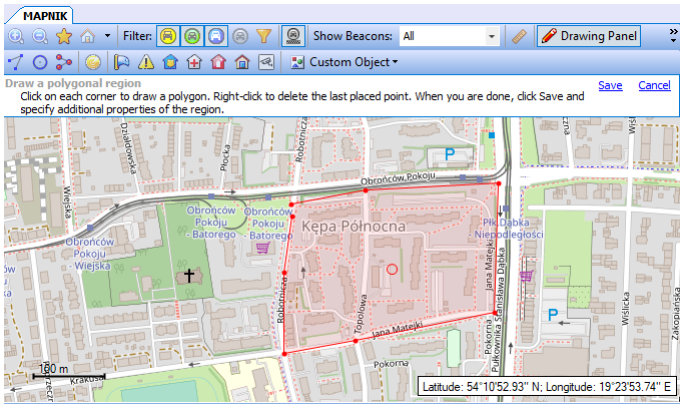
In TRBOnet Dispatch Console, you can draw polygonal regions, circular regions, and routes.

3.1.1 Drawing a Polygonal Region

3.1.1.1 Draw a polygonal region manually

- Make sure the **Location Tracking** tab is selected in the left pane.
- In the right pane, on the Map toolbar, click 

.
- On the Drawing toolbar, click  and choose **Draw on map**.
- Left-click points on the map to create the polygonal region.



- Once finished, click the **Save** link.

  In the **Object on Map** dialog box that opens, specify the following parameters:

  General tab

  - **Name**
    Specify a name for the map region.
  - **ID**
    Enter the ID of the map region.
  - **Description**
    Enter a description for the map region.

  Region tab

  - **Color**
    Select a color to display the region on the map.

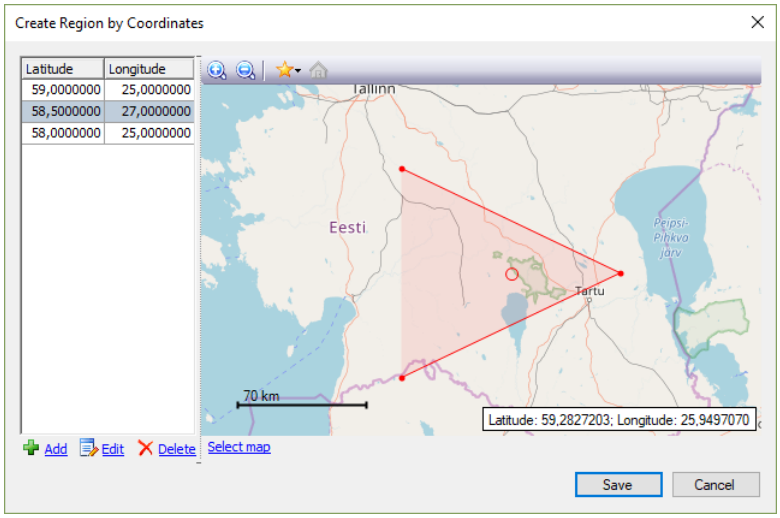
- **Fill region area**
  Select this check box to fill in the region area on the map.
- **Transparency**
  Specify the transparency level (in percent) for the fill color.

Logical Groups tab

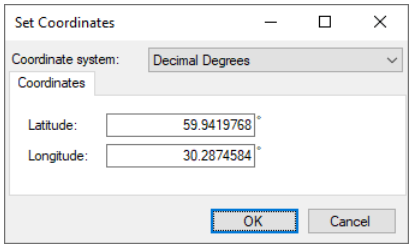
- Select the Logical Groups that will be associated with the map region.

3.1.1.2 Draw a polygonal region by coordinates

- Click  and choose **Use coordinates**.



- Click the **Add** link to add a point.

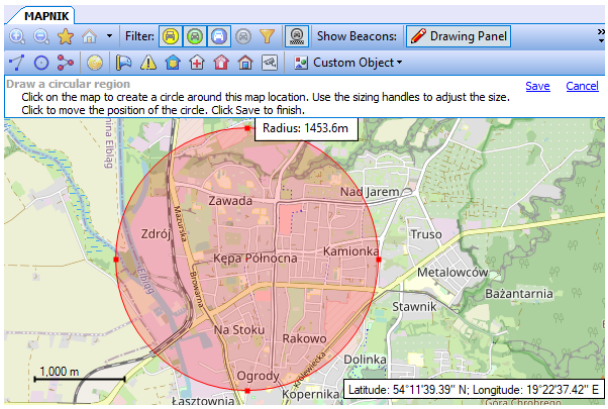


  - **Coordinate system**
    From the drop-down list, select the convenient format (for example, Decimal Degrees) for the coordinates.
  - **Latitude/Longitude**
    Enter the coordinates of the point.
  - Click **OK** to add the point.
- Click the **Edit** link to edit the selected point.
- Click the **Delete** link to delete the selected point.
- Once finished editing the region's points, click the **Save** button.

3.1.2 Drawing a Circular Region

3.1.2.1 Draw a circular region manually

- Click  and choose **Draw on map**.



- Click on the map to place the center of the region. Drag the sizing handles to adjust the radius of the region. To change the center position of the region, click another place on the map.
- Once finished, click the **Save** link.

  In the **Object on Map** dialog box that opens, specify the following parameters:

  General tab

  - **Name**
    Specify a name for the map region.
  - **ID**
    Enter the ID of the map region.
  - **Description**
    Enter a description for the map region.

  Region tab

  - **Color**
    Select a color to display the region on the map.
  - **Fill area**
    Select this check box to fill in the region area on the map.
  - **Transparency**
    Specify the transparency level (in percent) for the fill color.

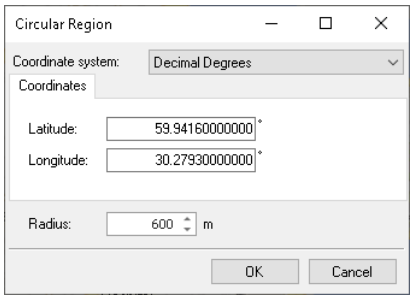
  Logical Groups tab

  - Select the Logical Groups that will be associated with the map region.

3.1.2.2 Draw a circular region by coordinates

- Click  and choose **Use coordinates**.

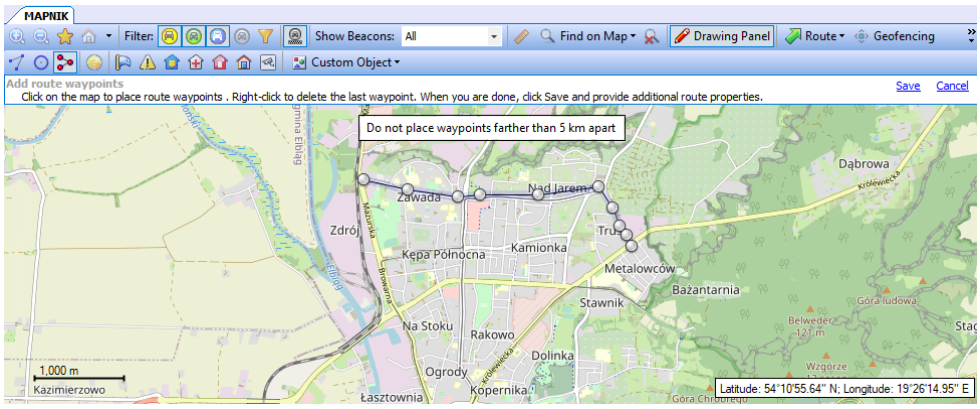
  In the **Circular Region** dialog box, specify the following parameters:



  - **Coordinate system**
    From the drop-down list, select the convenient format (for example, Decimal Degrees) for the coordinates.
  - **Latitude/Longitude**
    Enter the coordinates of the circle's center.
  - **Radius**
    Enter the radius of the circle.

3.1.3 Drawing a Route

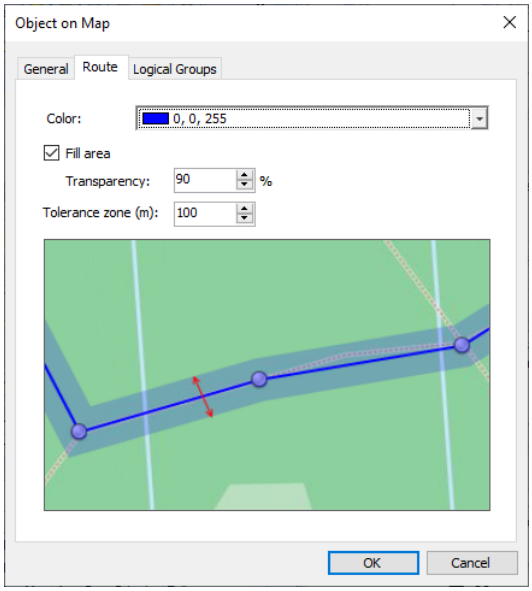
- Click  and then set route points one after another by clicking on the map.



- Once you have finished drawing a route, click the **Save** link.

  In the **Object on Map** dialog box, specify a name and description for the route.

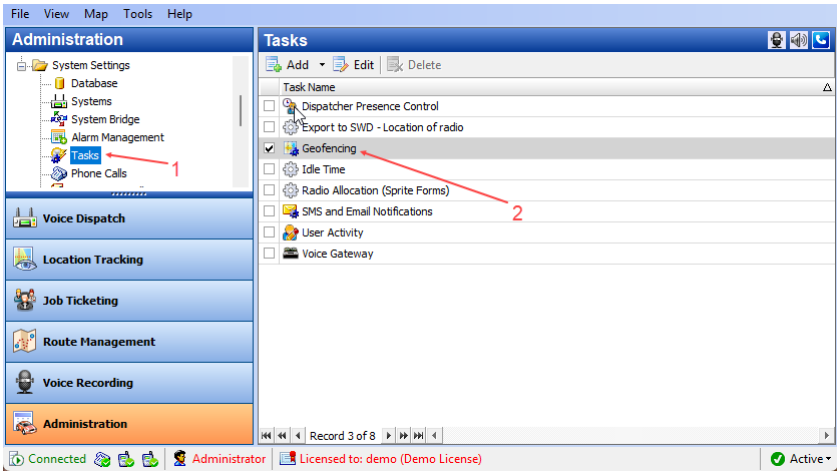
  - Click the **Route** tab.



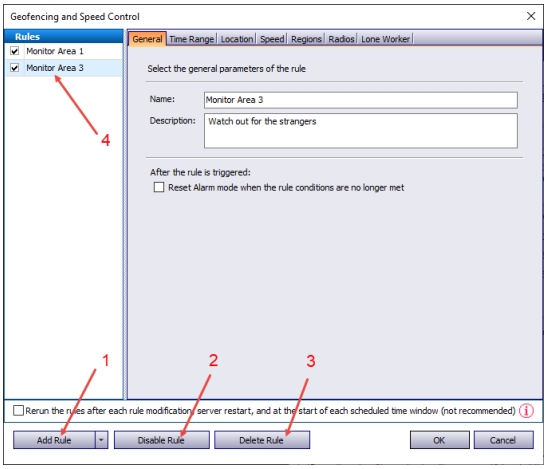
- **Color**
  Select the color in which to display the route on the map.
- **Fill area**
  Select this check box to display a transparent edge around the route line. The edge width is specified by the value of the **Tolerance zone** parameter.
  - **Transparency**
    Specify the transparency, in percent, for the line edge.
- **Tolerance zone**
  Specify the corridor width (in meters or feet, depending on what is chosen in **Tools > Options > Advanced / Measurement system**). If a radio passes out of this tolerance zone, the dispatcher will receive an alarm signal.

3.2 Defining Geofencing Rules

- Click **Administration > System Settings > Tasks** (1) and double-click **Geofencing** (2) in the **Tasks** pane.



The administrator can **add**/**disable**/**delete** the rules for Geofencing as well as edit the currently selected rules:



- Click the **Add Rule** button (1) and select the appropriate rule from the drop-down list (Map Region, Beacons, Radios) to add a rule to the current Geofencing configuration. A new rule will be displayed in the list of rules (4).
- Click the **Disable rule** button (2) to disable the selected rule.
- Click the **Delete rule** button (3) to delete the selected rule.
- **Rerun the rules after each rule modification, ...**
  If you select this option (though it is not recommended), the rule will be rerun each time the rule is modified, or the server is restarted, or when the scheduled time window starts.

3.2.1 Map Region Rule

This section describes settings that can be applied for a Map Region rule.

General tab

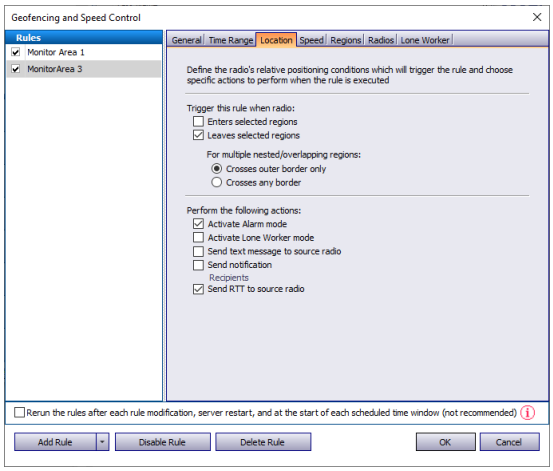
- **Name**
  Specify the rule name.
- **Description**
  Add a description of the rule.
- **After the rule is triggered**
  - **Reset Alarm mode when the rule conditions are no longer met**
    Select this option to reset Alarm mode after the rule is triggered.

Time Range tab

On this tab, you can select which time periods the rule will be monitored.

- **All Time**
  Choose this option to monitor the rule all the time.
- **Selected Time**
  Choose this option and specify the days of week and the time of day the rule will be monitored.
  - Click the **Add** link.
    - **Day of Week**
      From the list, select the day of week on which to monitor the rule.
    - **Start**
      Specify the time of day at which to start monitoring the rule.
    - **End**
      Specify the time of day at which to stop monitoring the rule.

Location tab



Trigger this rule when radio:

- **Enters selected regions**
  Select this option so that the rule will be triggered as soon as a subscriber enters the selected region.
- **Leaves selected regions**
  Select this option so that the rule will be triggered as soon as a subscriber leaves the selected region.

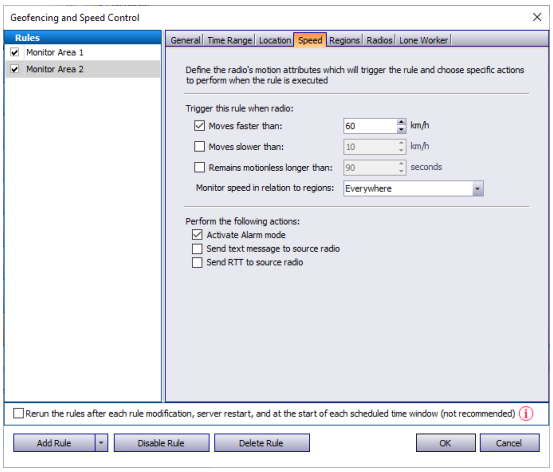
  For multiple nested/overlapping regions

  Choose one of the options specifying for multiple regions whether to consider only outer border of the group of regions, or any border of a region within the group.

Perform the following actions:
Here you specify which actions to execute when the rule is triggered.

- **Activate Alarm mode**
  Select this option to activate an Alarm mode in the Dispatch Console.
- **Activate Lone Worker mode**
  Select this option to automatically turn on or off the Lone Worker mode for the radio if it enters or leaves the selected region.
- **Send text message to source radio**
  Select this option to automatically send a text message to the radio when it enters or leaves the selected region.
- **Send notification**
  Select this option to send a notification to others when the radio enters or leaves the selected region. Click the **Recipients** link and specify the recipients to send the notification to.
- **Send RTT to source radio**
  Select this option to automatically send a Request To Talk to the radio when it enters or leaves the selected region.

Speed tab



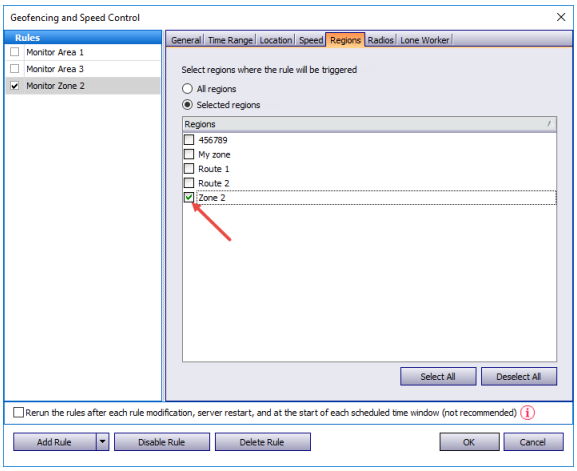
Trigger this rule when radio:

- **Moves faster than**
  Select this option and specify the maximum allowed speed for the vehicles. The rule will be triggered when the vehicle with the radio exceeds this speed limit.
- **Moves slower than**
  Select this option and specify the minimum allowed speed for the vehicles. The rule will be triggered when the vehicle with the radio falls below the specified speed.
- **Remains motionless longer than**
  Select this option and specify the time period, in seconds, during which the vehicle is allowed to remain motionless. The rule will be triggered when the vehicle with the radio remains motionless for longer than this specified time period.
- **Monitor speed in relation to regions**
  From the drop-down list, select where to monitor the speed of the vehicles: inside or outside the selected regions, or independently of the regions.

Perform the following actions:
Here you specify which actions to execute when the rule is triggered.

- **Activate Alarm mode**
  Select this option to activate an Alarm mode in the Dispatch Console.
- **Send text message to source radio**
  Select this option to automatically send a text message to the radio when it enters or leaves the selected region.
- **Send RTT to source radio**
  Select this option to automatically send a Request To Talk to the radio when it enters or leaves the selected region.

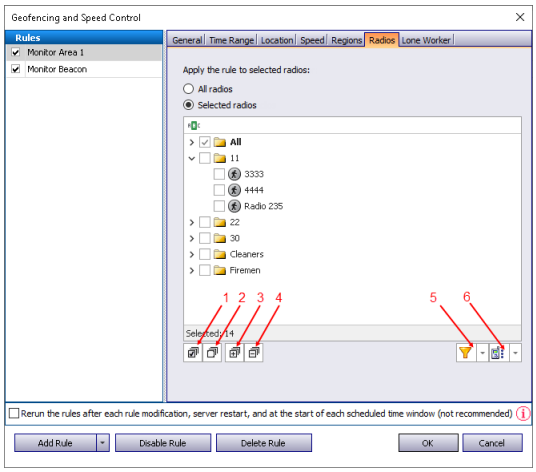
Regions tab



- **All regions**
  Choose this option to apply this rule for all regions.

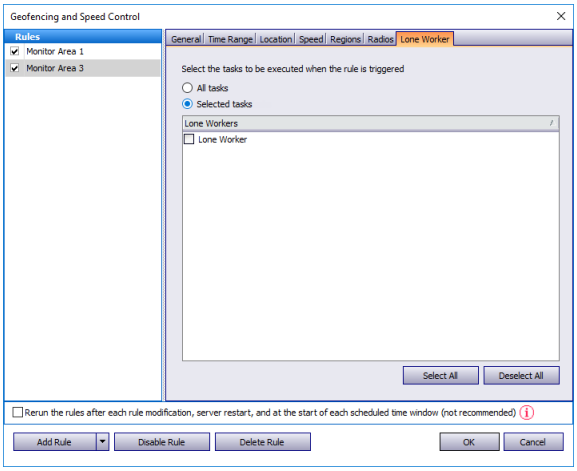
- **Selected regions**
  Choose this option to apply the rule for one or several regions.
- **Select all**
  Click this button to select all regions in the list.
- **Deselect all**
  Click this button to deselect all regions in the list.

Radios tab



- **All radios**
  Choose this option to apply this rule for all radios.
- **Selected radios**
  Choose this option to apply the rule for one or several radios.
- **Select all** (1)
  Click this button to select all radios in the list.
- **Deselect all** (2)
  Click this button to deselect all radios in the list.
- **Collapse all** (3)
  Click this button to collapse the view of radios in the list.
- **Expand all** (4)
  Click this button to expand the view of radios in the list.
-  (5)
  Click this button, and from the drop-down menu, select filters for the radios to be displayed in the list (Online (Indoor, GPS Fixed, No GPS), Offline).
-  (6)
  Click this button, and from the drop-down menu, select which list to display: Radio List, Radio Groups, or Logical Groups.

Lone Worker tab



- **All Tasks**
  Choose this option to execute all Lone Worker tasks configured by the administrator when the rule has been triggered.
- **Selected tasks**
  Choose this option, and in the list below, select the Lone Worker tasks to be executed when the rule has been triggered.

3.2.2 Other Rules

This section describes settings that can be applied for Geofencing rules of the types other than Map Region. These settings are represented in the table below:

Rule Type	Tab Name	Parameters Description
Settings common for all rule types	**General**	**Name** – specify the rule name. **Description** – add the rule description.
	Time Range	**All Time** Choose this option to monitor the rule all the time. **Selected Time** Choose this option and specify the days of week and the time of day the rule will be monitored. ▪ Click the **Add** link. • **Day of Week** From the list, select the day of week on which to monitor the rule. • **Start** Specify the time of day at which to start monitoring the rule. • **End** Specify the time of day at which to stop monitoring the rule.

Rule Type	Tab Name	Parameters Description
	Radios	**All radios** – choose to apply this rule for all radios; **Selected radios** – choose to apply the rule for one or several radios;
Beacons Allows configuring rules when a radio enters or leaves the beacon coverage zone	**General**	**Rule Type:** **Beacon entry** – select to enable the rule when a radio enters the beacon coverage zone. **Beacon exit** - select to enable the rule when a radio leaves the beacon coverage zone. **Activate Alarm mode when the rule is triggered** - select this option to activate Alarm mode in the Dispatch Console if Beacons rule has been triggered. **Reset Alarm mode if the rule is not triggered** – select to reset Alarm mode in the Dispatch Console automatically if the rule condition was not triggered (for example, when **Beacon entry** is selected and the radio enters the monitored coverage zone and then leaves the zone, the alarm mode in the Dispatch Console will be reset automatically). **Send RTT to radio when the rule is triggered** – select this option to automatically send a Request To Talk to the radio if the rule has been triggered. **Send text message to radio when the rule is triggered** – select this option to automatically send a text message to the radio if the rule has been triggered. **Activate Lone Worker when the rule is triggered** – select this option to allow automatically activating a Lone Worker policy for a radio in case of entering or leaving beacon coverage zone.
	Time Range	See above.
	Radios	See above.
	Beacons	**All Beacons** – choose to apply this rule for all beacons; **Selected beacons** – choose to apply the rule for one or several beacons.
	Lone Worker	**All Tasks** – choose to apply all tasks configured by the administrator when the rule has been triggered; **Selected tasks** – choose this option, and in the list below, select the Lone Worker tasks to be executed when the rule has been triggered.

Rule Type	Tab Name	Parameters Description
Radios Allows using radio(s) as map region(s) and monitoring when another radio enters or leaves the vicinity of the radio's zone	**General**	**Rule Type:** **Geofence entry** – select to enable the rule when a radio enters the vicinity zone associated with another radio. **Geofence exit** - select to enable the rule when a radio leaves the vicinity zone associated with another radio. **Activate Alarm mode when the rule is triggered** - select to activate Alarm mode in the Dispatch Console if Radios rule has been triggered. **Reset Alarm mode if the rule is not triggered** – select to reset Alarm mode in the Dispatch Console automatically if the rule condition was not triggered (for example, when **Geofence entry** is selected and radio enters the monitored vicinity zone and then instantly leaves the zone, alarm mode in the Dispatch Console will be reset automatically). **Send text message to radio when the rule is triggered** – select to inform radio subscriber if the rule has been triggered. **Send RTT to radio when the rule is triggered** – select to inform radio subscriber if the rule has been triggered. **Minimum distance between radios** – specify the distance, in meters or feet, depending on what is chosen in **Tools > Options > Advanced / Measurement system**. When a distance is less than the selected value, the rule will be triggered according to the settings above. **Color of region** – select the color for the radio's vicinity zone.
	Time Range	See above.
	Proximity Zones	Select the radios that will used as the regions the rule is applied for.
	Radios	See above.
	Map Regions	**Rule works only in regions** Select this option and then choose either **All regions** or **Selected regions**.

3.3 Activating Geofencing Rules

- To activate the **Geofencing** task, in the **Tasks** pane, select the check box next to the task name.