

TRBOnet Map Server User Guide

Version 1.5

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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 the steps to configure and use TRBOnet Map Server.

1.2 About TRBOnet Map Server

TRBOnet Map Server is a software application that allows you to configure and run local Geocoding and Map Cache services, which can be used to improve the performance of the TRBOnet Enterprise/PLUS software when working with maps.

By using a local Geocoding service, TRBOnet Enterprise/PLUS will reduce the time taken to generate reports that contain address information, because the local Geocoding server returns addresses at a rate 100 times as fast compared to online Geocoding servers (roughly, 1 msec vs 100 msec).

When a local Map Cache service is used, TRBOnet Enterprise/PLUS will request map tiles via the local Map Tile server that in turn will download the map tiles only once. Thus, by using the local Map Cache service, TRBOnet Enterprise/PLUS gains the following advantages:

- Faster map download
- Minimized Internet traffic
- Reduced number of downloaded map tiles when using commercial map services
- Granted access to the maps when there is no Internet connection (all dispatchers will have access to the maps via a local Map Tile server)
- Single source update of the maps

1.3 Contacts

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

2 Hardware and Software Requirements

Component	Requirement
CPU	x64 processor with a clock speed of at least 2 GHz
Memory	4 GB and more according to the increase in database size
HDD	10 MB for installation files + 200 GB for data storage
Supported OS	Windows 7/8.x/10, Windows Server 2008/2012/2016
Software	.NET Framework 4.6.2 or later, MS SQL Server Express 2008 Edition or higher
Internet connection	Required for address-to-coordinates conversions, map tile downloads and updates

3 Installation and Operation

3.1 Installing and Applying License

- Install TRBOnet Map Server to the desired folder on the PC.
- Apply the license file.

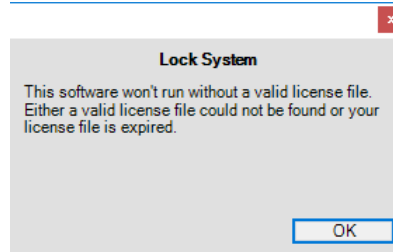
Go to the TRBOnet Map Server installation folder (default path is C:\Program Files (x86)\Neocom Software\TRBOnet Map Server) and paste the license file to that folder.

Note: The administrator privileges may be required depending on your system configuration.

PC > Local Disk (C:) > Program Files (x86) > Neocom Software > TRBOnet Map Server >		
Name	Date modified	Type
Settings	01-Jun-17 13:29	File folder
Map_Server_2017_06_01.license	01-Jun-17 13:37	LICENSE File
Map_Server_2017_06_01_INFO.txt	01-Jun-17 13:37	Text Document
Npgsql.dll	30-May-16 07:00	Application extens...
NS.Common.dll	21-May-17 14:25	Application extens...
NS.Map.Common.dll	21-May-17 14:25	Application extens...
NS.Map.Database.dll	21-May-17 14:26	Application extens...
NS.Map.Wpf.dll	21-May-17 14:26	Application extens...
NS.MapServer.exe	21-May-17 14:27	Application
NS.MapServer.Objects.dll	21-May-17 14:25	Application extens...
NS.MapServer.Service.exe	21-May-17 14:26	Application
NS.MapServer.Service.exe.config	20-Sep-16 12:42	XML Configuratio...
NS.MapServer.Service.InstallLog	01-Jun-17 13:46	INSTALLLOG File
NS.MapServer.Service.InstallState	01-Jun-17 13:46	INSTALLSTATE File
NS.MapServer.TestClientApp.exe	21-May-17 14:26	Application
NS.MapServer.TestClientApp.exe.config	01-Nov-16 14:21	XML Configuratio...
NS.MapServer.WCFClient.dll	21-May-17 14:26	Application extens...
NS.MapServer.WCFService.dll	21-May-17 14:26	Application extens...
protobuf-net.dll	16-Jun-16 18:38	Application extens...
System.Data.SqlServerCe.dll	05-Jan-11 22:36	Application extens...
System.Windows.Interactivity.dll	18-Feb-13 19:30	Application extens...

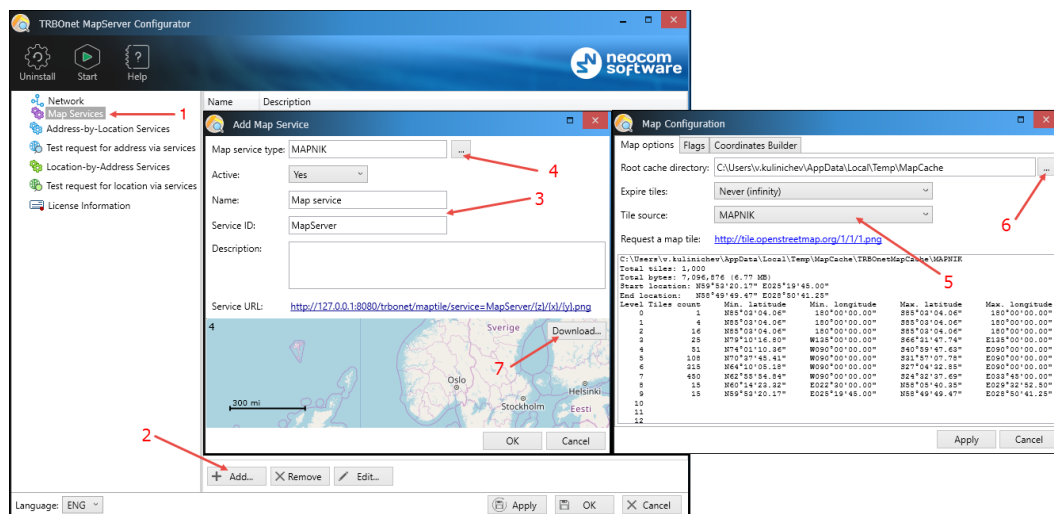
Note: If you don't have a license, contact info@trbonet.com. Provide the HWID of the PC where TRBOnet Map Server is installed, if requested by the sales manager.

If you haven't applied the license file, when you launch TRBOnet Map Server for the first time, the following message will appear:



3.2 Adding Map Services

- Run **TRBOnet MapServer Configurator**.
- In the left pane, select **Map Services** (1).
- In the right pane, click the **Add** button (2).



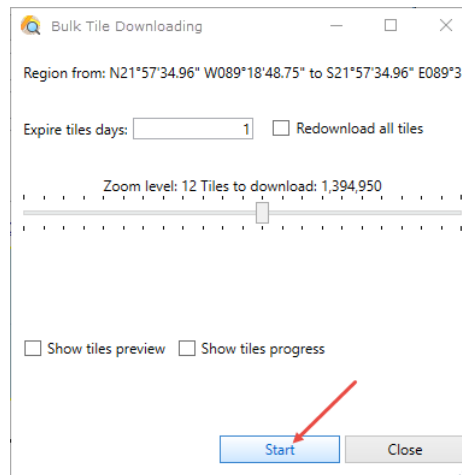
In the 'Add Map Service' dialog box:

- Specify **Name** and **Service ID** (3).
- **Map service type**
Click the **Browse** button (4).

In the 'Map Configuration' dialog box:

- **Tile source** (5)
From the drop-down list, select the desired source.
- Browse to the desired **Root cash directory** (6).
- Click **Apply**.
- Click **Download** (7).

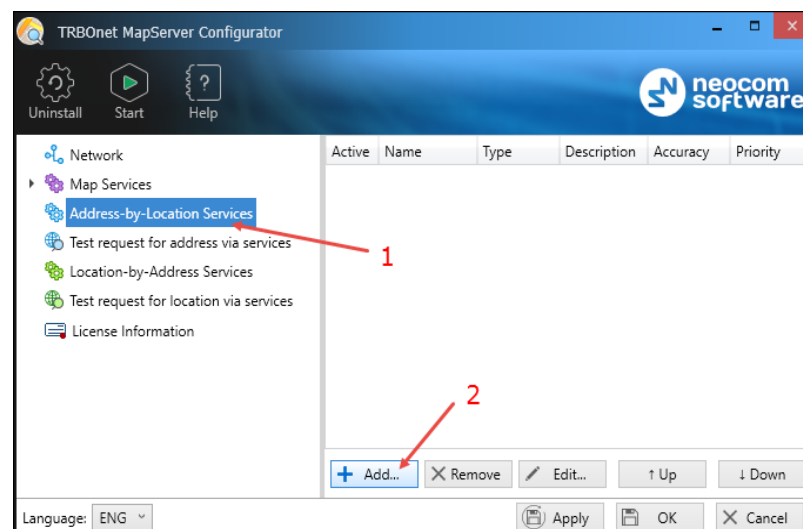
In the 'Bulk Tile Downloading' dialog box:



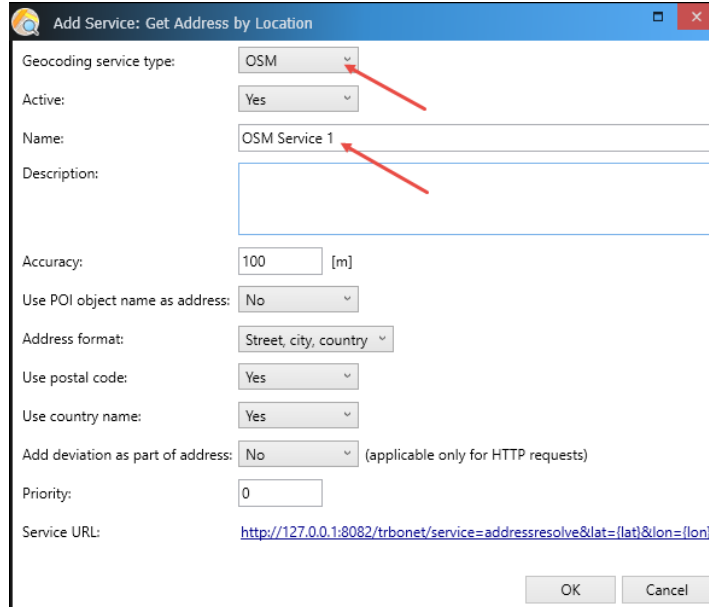
- Navigate to the desired area and select the zoom level.
- Click **Start** and wait while the maps are loading.

3.3 Adding Address-by-Location Services

- In the left pane, select **Address-by-Location Services** (1).
- In the right pane, click **Add** (2).



In the 'Add Service: Get Address by Location' dialog box:

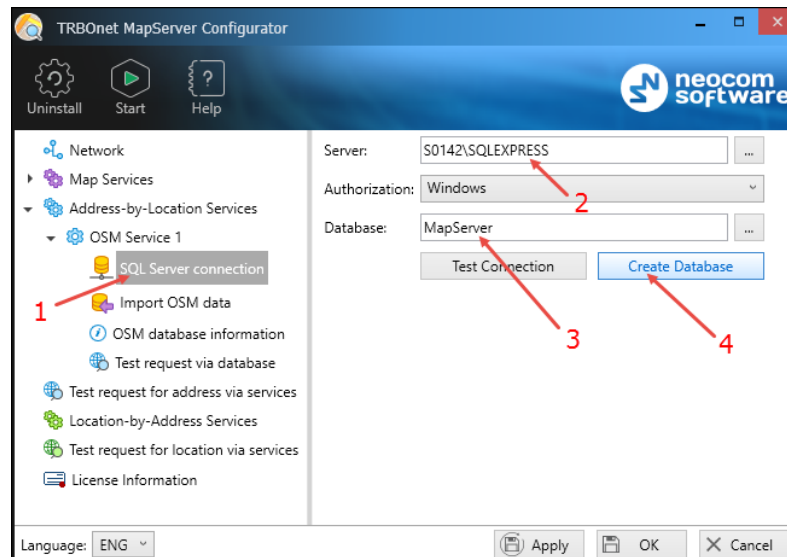


- Specify **Name** and **Geocoding service type** (OSM or GNAF).

Note: The OSM services can be used for almost the entire world. For Australia, it is recommended to use the GNAF services. Below, we'll consider an example of the OSM type service.

3.3.1 Creating SQL Database

- In the left pane, select **Address-by-Location Services > Service Name > SQL Server connection (1)**.



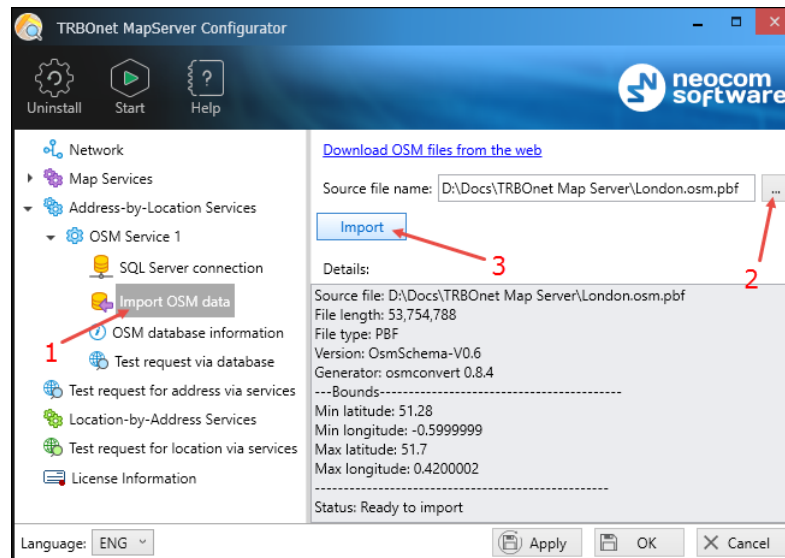
In the right pane, specify the following settings:

- Server**
Specify SQL Server name (2)

- **Database**
Enter a name of the database (3).
- Click **Create Database** (4).

3.3.2 Importing Data

- In the left pane, select **Address-by-Location Services > Service Name > Import OSM data** (1).



- Click the **Browse** button (2) and navigate to the desired OSM or PBF file.

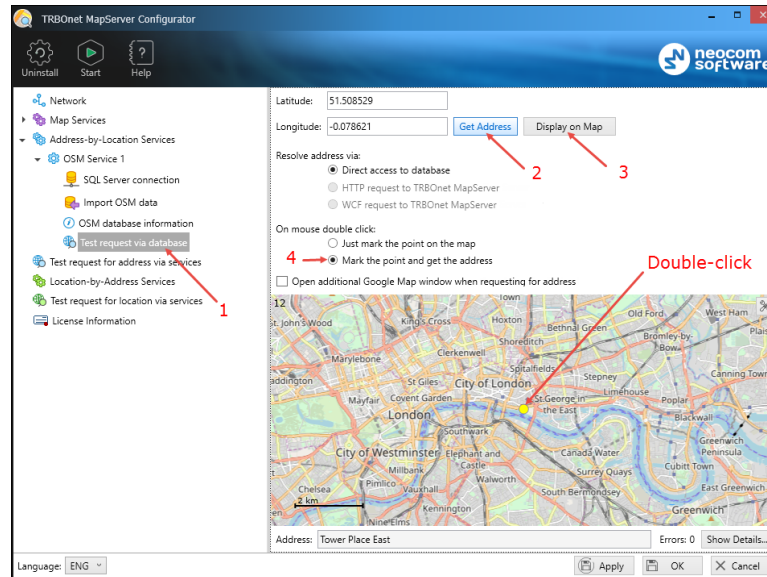
Note: You can also download required files from the Web.
Click the corresponding link in the upper part.

- Click the **Import** (3) button and wait for the import process to complete.

3.3.3 Test Request via Database

This is a test request for address performed by accessing the given database.

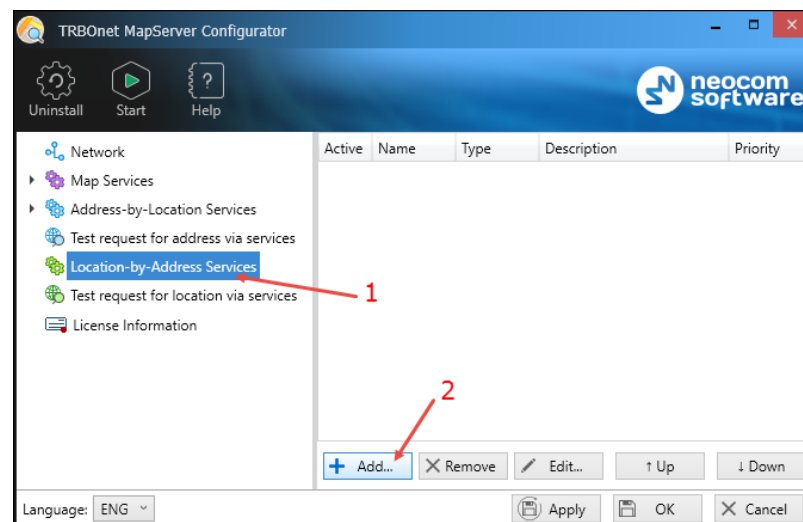
- In the left pane, select **Address-by-Location Services > Service Name > Test request via database** (1).



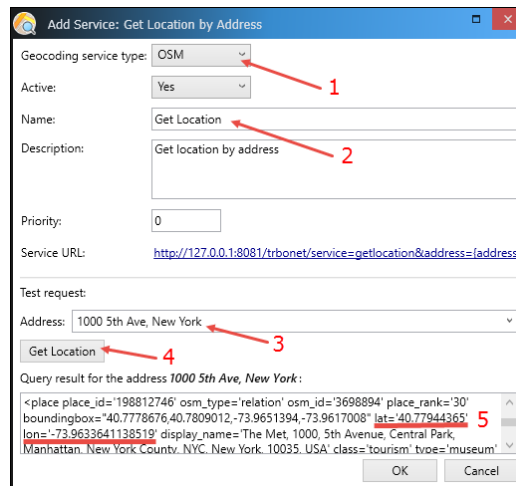
- Enter the **Latitude** and **Longitude** of a location and click **Get Address** (2). Click **Display on Map** (3) to see the desired location in the center of the Map pane.
- Or:
- Choose the **Mark the point and get the address** option (4) and double-click on the map.

3.4 Adding Location-by-Address Services

- In the left pane, select **Location-by-Address Services** (1).
- In the right pane, click **Add** (2).



In the 'Add Service: Get Location by Address' dialog box:



Dialog box: Add Service: Get Location by Address

Geocoding service type: OSM (1)

Active: Yes

Name: Get Location (2)

Description: Get location by address

Priority: 0

Service URL: <http://127.0.0.1:8081/trbonet/service=getlocation&address={address}>

Test request:

Address: 1000 5th Ave, New York (3)

Get Location (4)

Query result for the address 1000 5th Ave, New York:

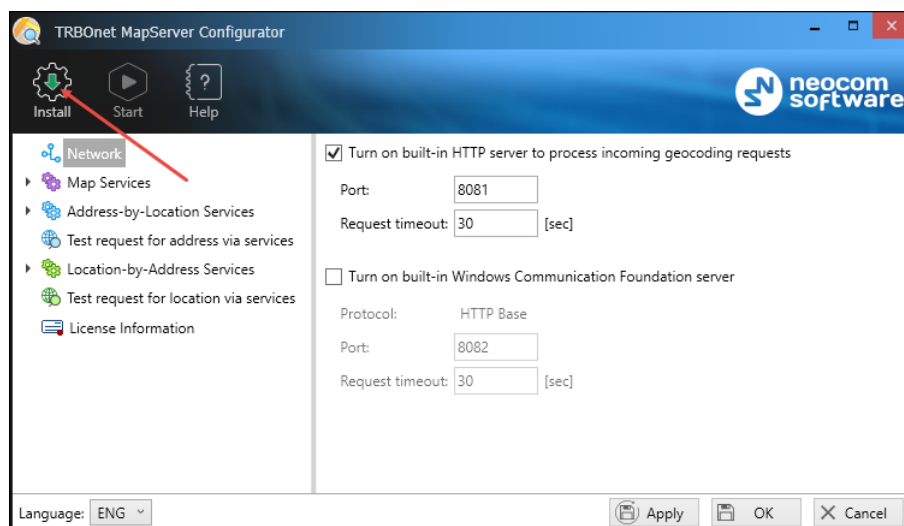
```
<place place_id='198812746' osm_type='relation' osm_id='3698894' place_rank='30'
boundingbox='40.7778676,40.7809012,-73.9651394,-73.9617008' lat='40.77944365'
lon='-73.9633641138519' display_name='The Met, 1000, 5th Avenue, Central Park,
Manhattan, New York County, NYC, New York, 10035, USA' class='tourism' type='museum' />
```

OK Cancel

- Specify **Name** (2) and **Geocoding service type** (1) (OSM, Google, or Custom).
- To perform a test request via the selected service, enter the **Address** (3), click **Get Location** (4) and see the result below (5).

3.5 Installing and Starting TRBOnet MapServer Service

- Click the **Install** button on the toolbar.



TRBOnet MapServer Configurator

Install Start Help

Network

Map Services

Address-by-Location Services

Test request for address via services

Location-by-Address Services

Test request for location via services

License Information

☒ Turn on built-in HTTP server to process incoming geocoding requests

Port: 8081

Request timeout: 30 [sec]

☐ Turn on built-in Windows Communication Foundation server

Protocol: HTTP Base

Port: 8082

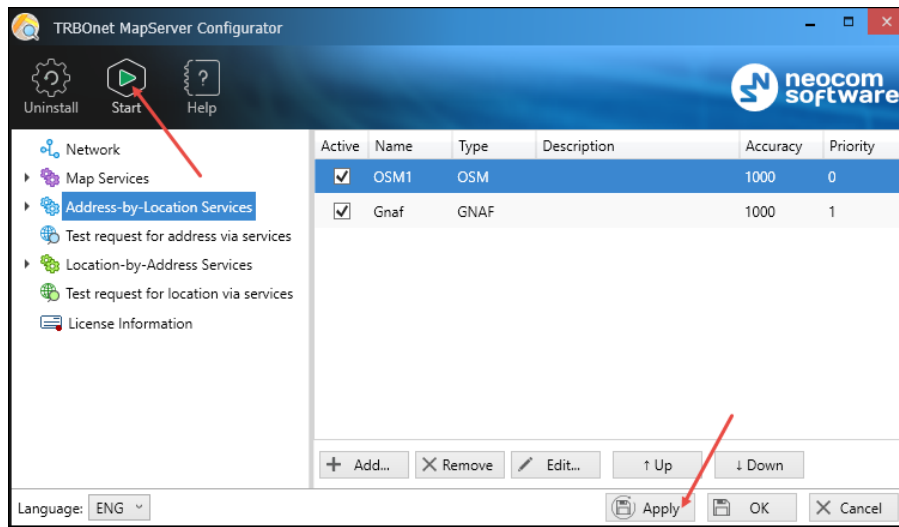
Request timeout: 30 [sec]

Language: ENG

Apply OK Cancel

To start the service:

- On the toolbar, click the **Start** button.

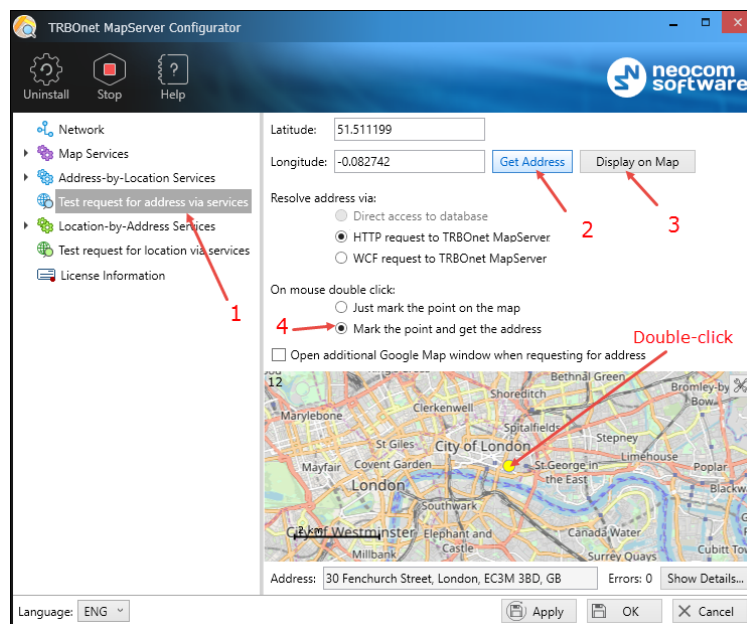


Note: Once you have modified any settings in TRBOnet MapServer Configurator, click the **Apply** button and confirm restarting the services.

3.5.1 Test Request for Address via Service

This is a test request for address performed by successively accessing databases of all running Address-by-Location services.

- In the left pane, select **Test request for address via services** (1).



- Enter the **Latitude** and **Longitude** of a location and click **Get Address** (2). Click **Display on Map** (3) to see the desired location in the center of the Map pane.

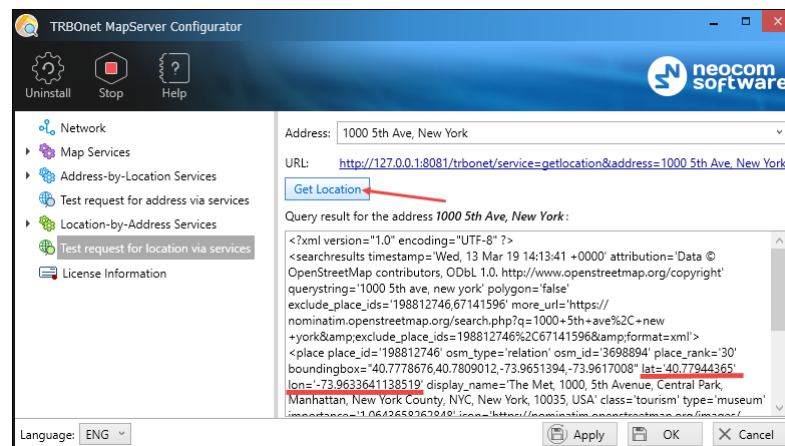
Or:

- Choose the **Mark the point and get the address** option (4) and double-click on the map.

3.5.2 Test Request for Location via Service

This is a test request for location performed by successively accessing all running Location-by-Address services.

- In the left pane, select **Test request for location via services**.
- In the right pane, enter the **Address** and click **Get Location**.
See the result below.



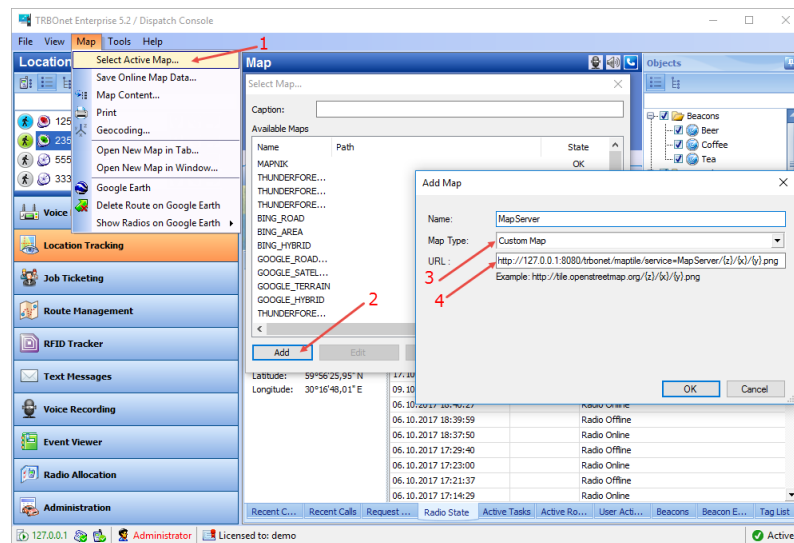
4 TRBOnet Dispatch Console

This section describes how to add Map and Geocoding services to TRBOnet Dispatch Console.

- Run TRBOnet Dispatch Console.

4.1 Adding Custom Map

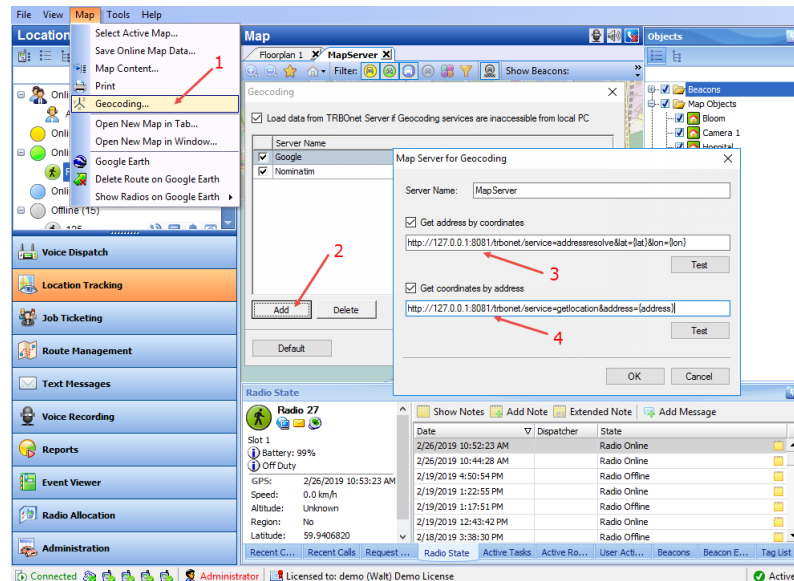
- On the **Maps** menu, click **Select Active Map** (1).



- In the 'Select Map' dialog box, click **Add** (2).
- In the 'Add Map' dialog box:
 - From the **Map Type** drop-down list, select **Custom Map** (3).
 - In the **URL** text box, enter the URL taken from TRBOnet MapServer Configurator (**Map services > Service > Service URL**) (4).

4.2 Adding Geocoding Services

- On the **Maps** menu, click **Geocoding** (1).



- In the 'Geocoding' dialog box, click **Add** (2).
- In the 'Map Server for Geocoding' dialog box:
 - Make sure the **Get address by coordinates** option is selected and, in the text box below, enter the URL taken from TRBOnet MapServer Configurator (**Address-by-Location Services >Service> Service URL**) (3).
 - Make sure the **Get coordinates by address** option is selected and, in the text box below, enter the URL taken from TRBOnet MapServer Configurator (**Location-by-Address Services >Service> Service URL**) (4).