

# TRBOnet Enterprise/PLUS

## DIMETRA Express

# Deployment Guide

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# 1 Introduction

## 1.1 About This Document

The information in this guide is intended for administrators setting up evaluation and proof-of-concept deployments of DIMETRA Express Dispatch over IP solutions. The document describes the steps required to configure communication with a DIMETRA Express system.

For more comprehensive information on the Neocom TRBOnet family of radio network software tools, refer to the [Documentation section](#) of our web site.

## 1.2 About TRBOnet

TRBOnet is a suite of professional applications for DIMETRA 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.

## 1.3 Contacts

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EMEA	+44 203 608 0598	<a href="mailto:info@trbonet.com">info@trbonet.com</a> — general and commercial inquiries
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APAC	+61 28 607 8325	<a href="http://trbonet.com/kb/">http://trbonet.com/kb/</a> — online knowledge base

## 2 System Components and Terms

### 2.1 TRBOnet Software

The TRBOnet software consists of several modules, a combination of which enables you to build enterprise dispatch solutions of different levels of complexity and redundancy. The first step in implementing the best solution is determining the topology for the customer's system; then identifying the combination of modules to implement the best customer solution.

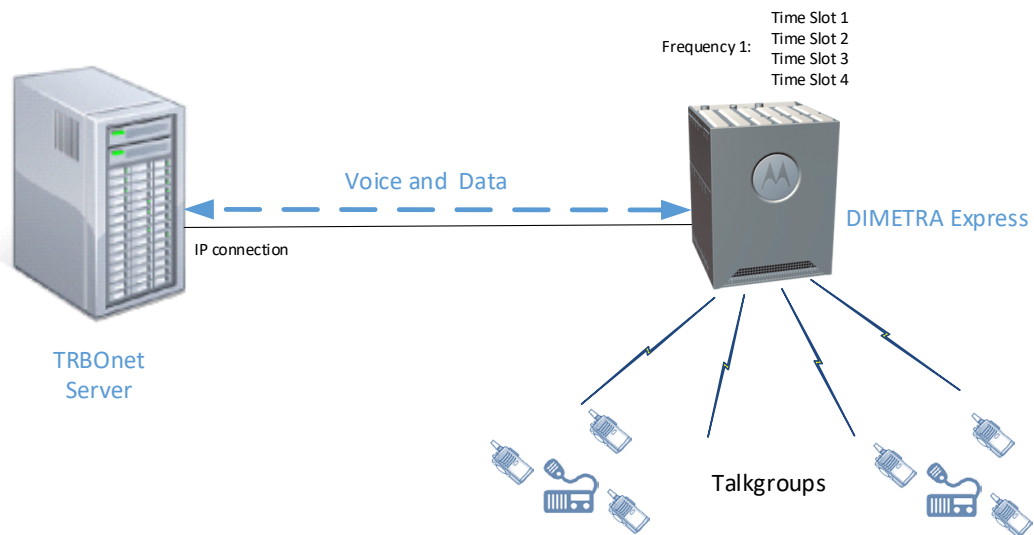
### 2.2 IP Connection (Wireline Connection)

TRBOnet Server can be connected to a two-way radio system via an IP connection creating a direct communications path for all voice and data information between them. The topologies can be in the form of a LAN, WAN, or VLAN and/or any combination thereof.

### 3 System Description

DIMETRA Express is a new flexible TETRA system. By integrating the switch and base radios in a one-box or modular system it's now quick and easy to set up, deploy, and manage your communications. You simplify everyday operations while reducing costs and complexity over the long term.

You can quickly integrate DIMETRA Express into your network, provision multiple subscribers, and complete installation easily using browser-based apps and tools. Once it's up and running, DIMETRA Express is easier to manage and operate through web-based network management and TRBOnet Enterprise/PLUS applications.



## 4 Configuring DIMETRA Express

This section describes how to configure DIMETRA Express equipment, such as a DIMETRA Express controller, radios etc., using browser-based tools.

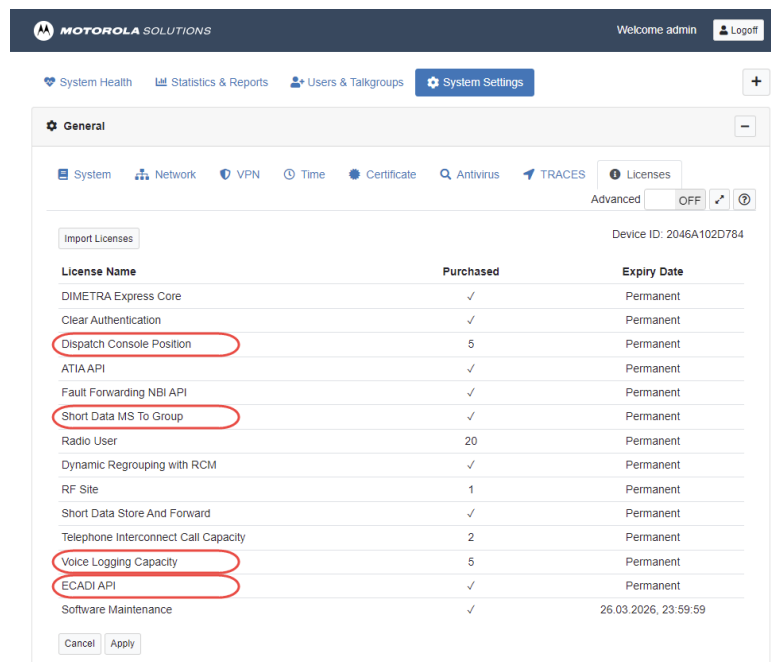
- Launch the Web browser.
- In the Address field, type the IP address of the DIMETRA Express controller.
- In the **DIMETRA Express** page, click **Network Manager**.
- Enter the credentials and click **Login**.

### 4.1 DIMETRA Express Controller

This section describes how to configure the DIMETRA Express controller by using the Web browser.

#### 4.1.1 DIMETRA Express Licenses

- Go to **System Settings > General > Licenses**.



The screenshot shows the Motorola Solutions web interface. The top navigation bar includes 'System Health', 'Statistics & Reports', 'Users & Talkgroups', and 'System Settings'. The 'System Settings' page is open, showing the 'General' section. Under 'Licenses', there is a table of licenses. The table has columns for 'License Name', 'Purchased', and 'Expiry Date'. The following licenses are circled in red in the original image:

License Name	Purchased	Expiry Date
DIMETRA Express Core	✓	Permanent
Clear Authentication	✓	Permanent
Dispatch Console Position	5	Permanent
ATIA API	✓	Permanent
Fault Forwarding NBI API	✓	Permanent
Short Data MS To Group	✓	Permanent
Radio User	20	Permanent
Dynamic Regrouping with RCM	✓	Permanent
RF Site	1	Permanent
Short Data Store And Forward	✓	Permanent
Telephone Interconnect Call Capacity	2	Permanent
Voice Logging Capacity	5	Permanent
ECADI API	✓	Permanent
Software Maintenance	✓	26.03.2026, 23:59:59

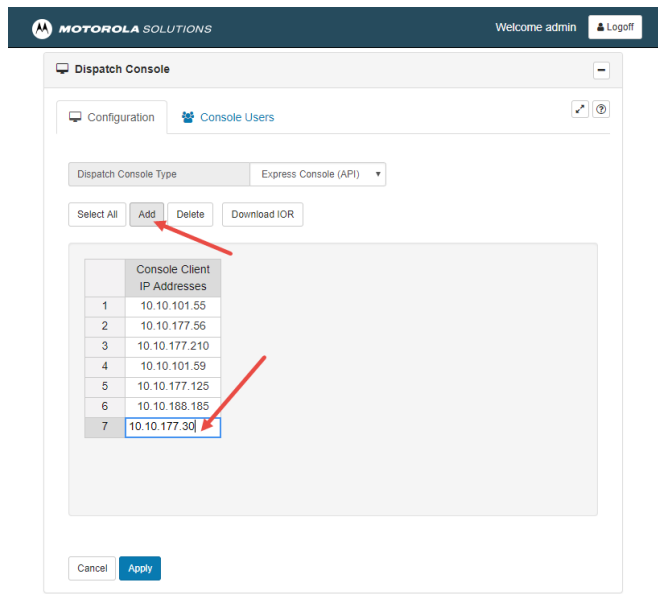
Make sure the required licenses have been enabled:

- **Dispatch Console Position**  
This is the number of simultaneous connections between TRBOnet Server and DIMETRA Express controller. Make sure you have at least one item enabled.
- **Short Data MS To Group**  
If this item is enabled, you can send data messages to radio groups.

- **Voice Logging Capacity**  
This is the maximum number of voice channels being simultaneously logged.
- **ECADI API**  
Make sure this item is enabled to support Group Affiliation, Radio Check, Radio Inhibit/Uninhibit, and some other features.

### 4.1.2 Dispatch Console Configuration

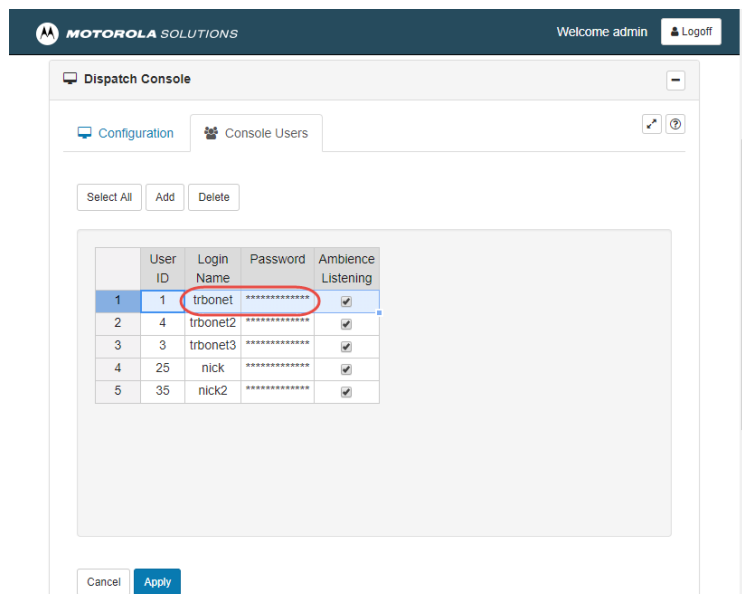
- Go to **System Settings > Dispatch Console > Configuration**.



- Enter the IP address of the computer hosting TRBOnet Server.

### Console Users

- Go to **System Settings > Dispatch Console > Console Users**.

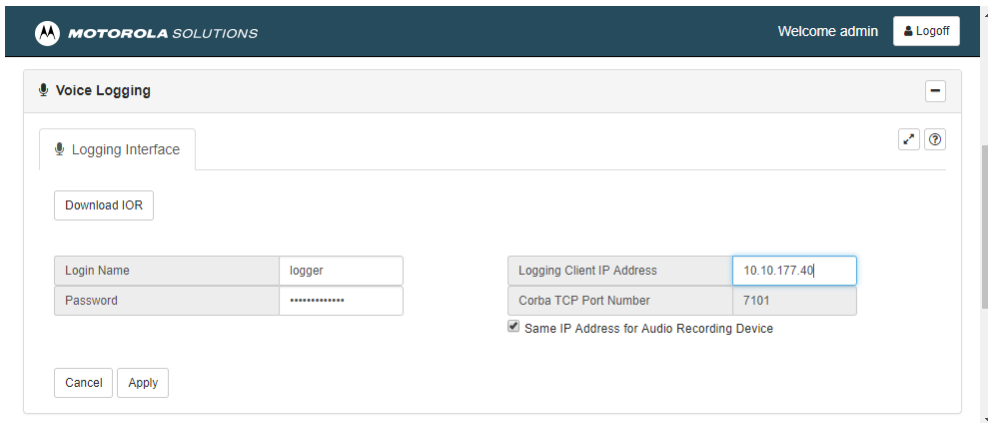




- Add an account to the list of the console users. Specify **Login Name** and **Password** for the console user account. These Login Name and Password will then be used when configuring the Console User in TRBOnet Server (see section [5.1.1.4, Console User](#)).

### 4.1.3 Voice Logging Configuration

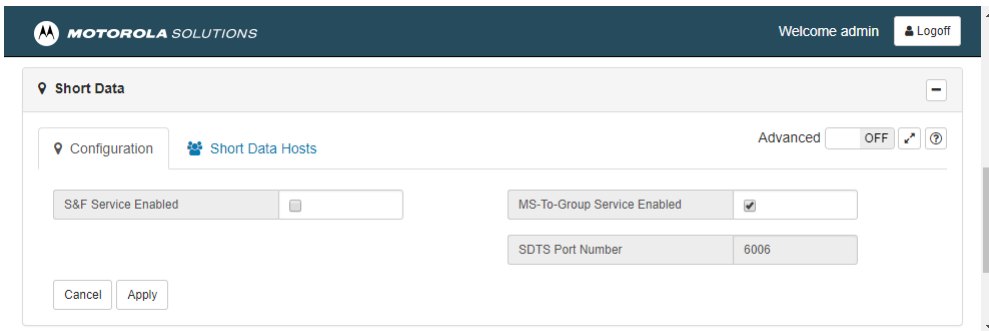
- Go to **System Settings > Voice Logging**



- Enter **Login Name** and **Password**. These Login Name and Password will then be used when configuring the Logging Interface in TRBOnet Server (see section [5.1.1.3, Logging Interface](#)).
- **Logging Client IP Address**  
Enter the IP address of the Logging Client Application. Note that this must be a different IP address from the main IP address of the computer hosting TRBOnet Server. For this, you might need to configure an additional network interface.
- **Corba TCP Port Number**  
This is the TCP port number used for communication with the Logging Client application. This port number is not editable. This value must be used as **Controller Port** in TRBOnet Server (see section [5.1.1, Connecting DIMETRA Express](#)).

### 4.1.4 Short Data Configuration

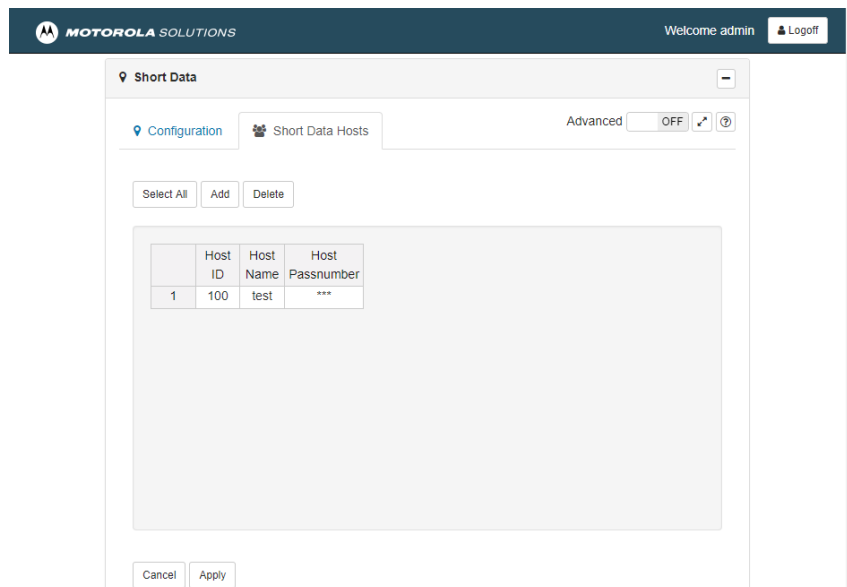
- Go to **System Settings > Short Data > Configuration**.



- **MS-To-Group Service Enabled**  
Make sure this option is enabled.
- **SDTS Port Number**  
This is the port number used by the Short Data Hosts to access the Short Data Transport Service. This port number is not editable. This value must be used as **Controller Port** in TRBOnet Server's Data Services (see section [5.1.1.2, Data Services](#)).

#### Short Data Hosts

- Go to **System Settings > Short Data > Short Data Hosts**.

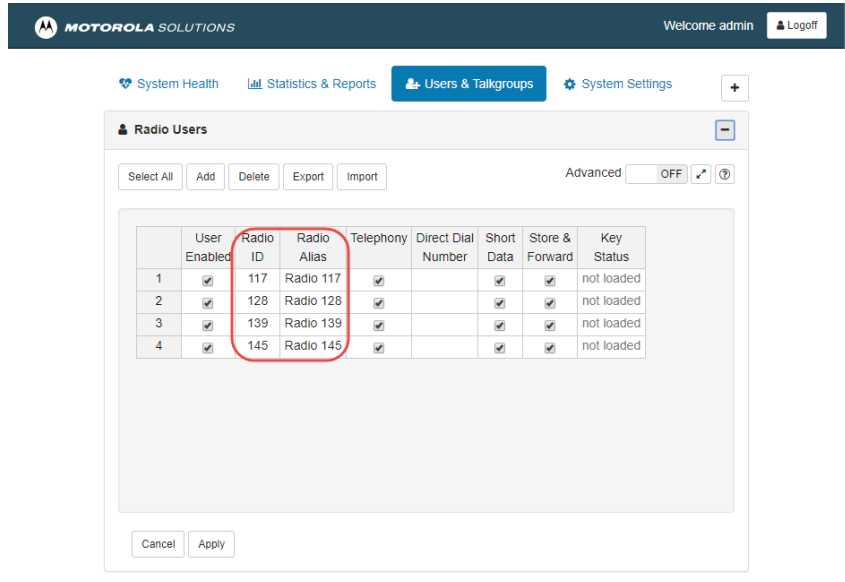


- Add a Short Data Host by specifying its **Host ID**, **Host Name**, and **Host Passnumber**.

## 4.1.5 Users and Talkgroups

### Radio Users

- Go to **Users and Talkgroups > Radio Users**.



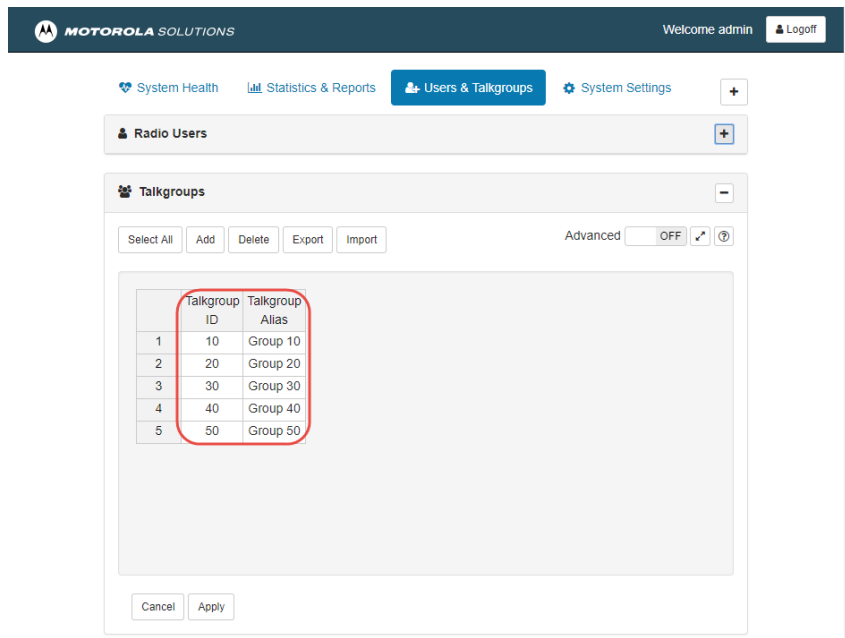
The screenshot shows the Motorola Solutions web interface. The top navigation bar includes 'System Health', 'Statistics & Reports', 'Users & Talkgroups', and 'System Settings'. The 'Radio Users' section is active, displaying a table with the following data:

	User Enabled	Radio ID	Radio Alias	Telephony	Direct Dial Number	Short Data	Store & Forward	Key Status
1	<input checked="" type="checkbox"/>	117	Radio 117	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	not loaded
2	<input checked="" type="checkbox"/>	128	Radio 128	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	not loaded
3	<input checked="" type="checkbox"/>	139	Radio 139	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	not loaded
4	<input checked="" type="checkbox"/>	145	Radio 145	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	not loaded

- Add required radios by specifying their **Radio ID** and **Radio Alias**.

### Talkgroups

- Go to **Users and Talkgroups > Talkgroups**.



The screenshot shows the Motorola Solutions web interface. The top navigation bar includes 'System Health', 'Statistics & Reports', 'Users & Talkgroups', and 'System Settings'. The 'Talkgroups' section is active, displaying a table with the following data:

	Talkgroup ID	Talkgroup Alias
1	10	Group 10
2	20	Group 20
3	30	Group 30
4	40	Group 40
5	50	Group 50

- Add required talkgroups by specifying their **Talkgroup ID** and **Talkgroup Alias**. These talkgroups will then be added as Audio Paths in TRBOnet Server (see section [5.1.1.5, Audio Paths](#)).

## 5 Configuring TRBOnet Software

This section describes how to configure TRBOnet software to work with your DIMETRA Express system.

### 5.1 Configuring TRBOnet Server

To start TRBOnet Server, click its shortcut on the desktop, or click **Start > All Programs > Neocom Software > TRBOnet Server x.x**

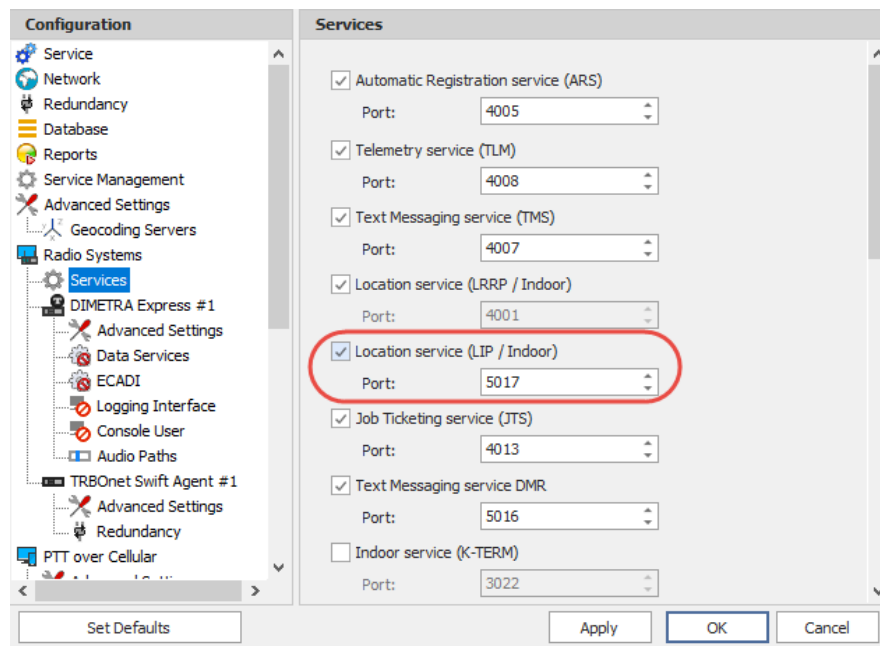
For how to configure TRBOnet Server’s Database, Service, Network parameters, etc., refer to *TRBOnet Enterprise User Manual*.

#### 5.1.1 LIP Location Service

This section describes how to configure LIP Location service in TRBOnet Server.

**Note:** It is strongly recommended to use LIP triggers. LIP allows Indoor and Outdoor location information to be retrieved from Dimetra Express subscribers. Configuring Online/Offline trigger in Dimetra Express subscriber codeplug will allow dispatches to monitor radio status (Radio Online/Radio offline).

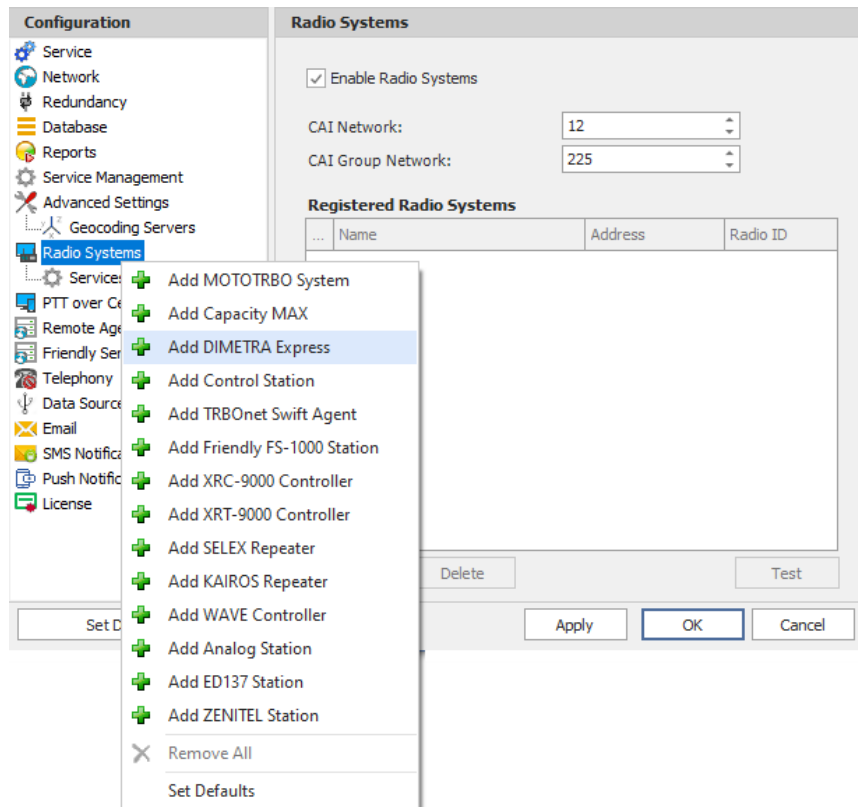
- In the **Configuration** pane, under **Radio Systems**, select **Services**:
- In the **Services** pane, make sure the **Location service (LIP / Indoor)** option is selected:



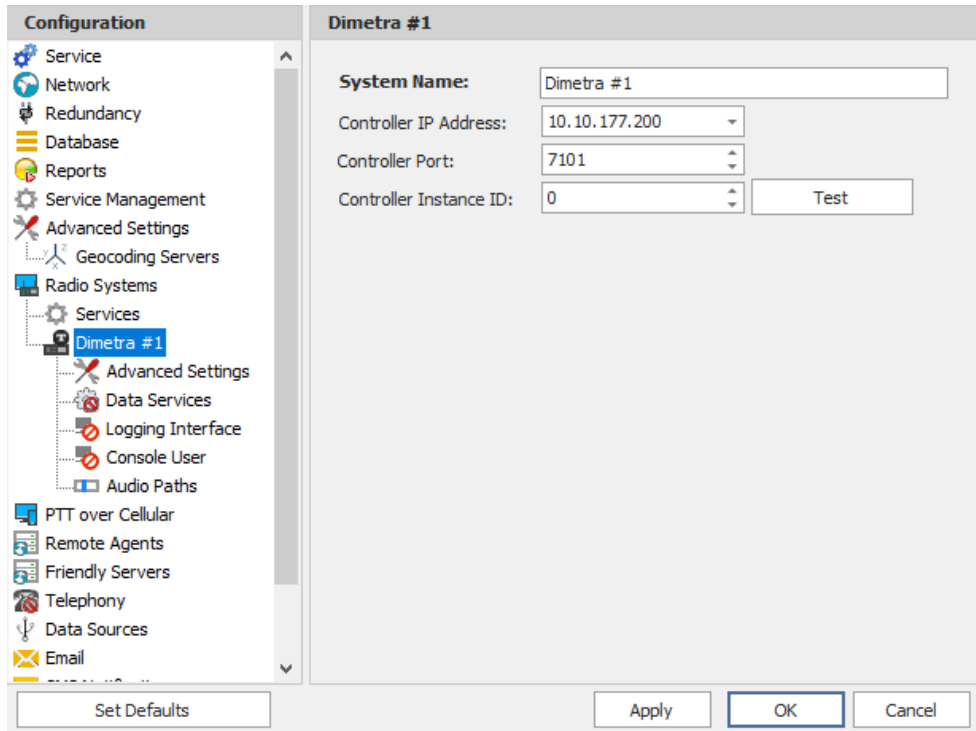
## 5.1.2 Connecting DIMETRA Express

This section describes how to configure TRBOnet Server for communication with the DIMETRA Express controller.

- In the **Radio Systems** pane, click **Add**.  
Or, in the **Configuration** pane, right-click **Radio Systems**.
- In the drop-down menu, click **Add DIMETRA Express**.



In the right pane, specify the connection parameters. To ensure your connection parameters match the actual configuration of your DIMETRA Express controller, you may need to use the Web browser to determine the values (see section 4, [Configuring DIMETRA Express](#)). Contact your radio network administrator, if you do not have this information.

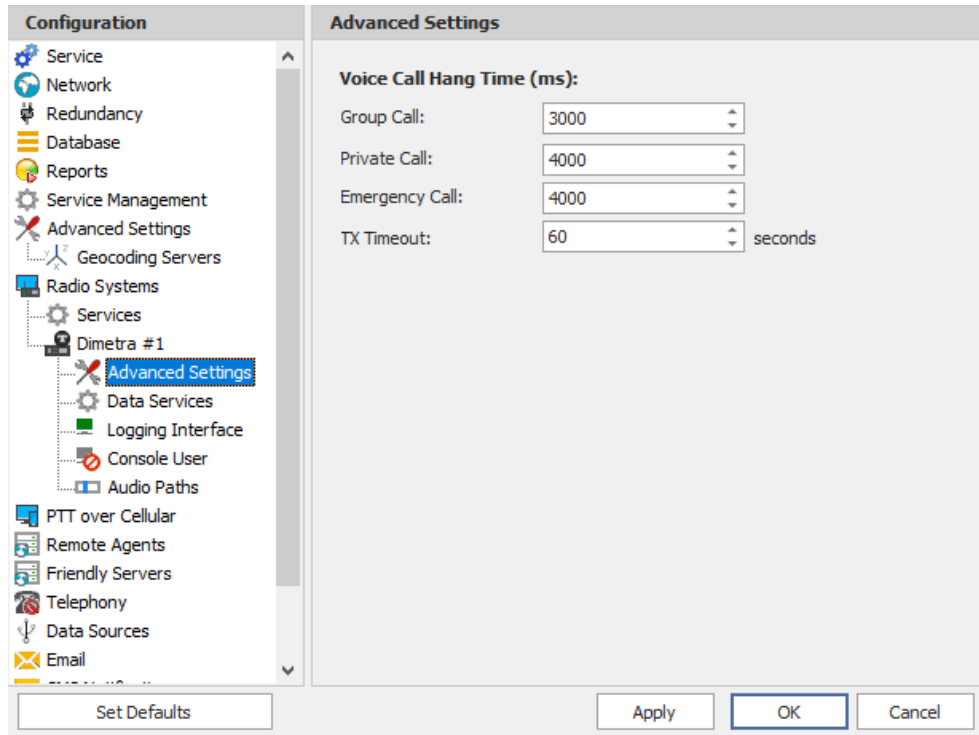


- **System Name**  
Enter a name for the DIMETRA system. This name will be displayed in the Dispatch Console.
- **Controller IP Address**  
Enter the IP address of the DIMETRA Express controller.
- **Controller port**  
Enter the DIMETRA Express controller port number. Make sure this port number is the same as that specified for DIMETRA Express controller's Voice Logging (for example, **7101**; see section [4.1.3, Voice Logging](#)).
- **Test**  
Click this button to check the connection to your DIMETRA Express controller. If the test is successful, you'll see the information about the controller, such as the firmware version and protocol version.

Click **Apply** after entering all the required values. A confirmation dialog will appear, prompting you to save the configuration and restart the TRBOnet Server service. You can also restart the service manually.

### 5.1.2.1 Advanced Settings

- In the **Configuration** pane, under the corresponding DIMETRA Express controller, select **Advanced settings**.



- In the **Advanced Settings** pane, specify the following advanced settings:  
**Voice Call Hang Time (ms):**

- **Group Call**

This value sets the duration the repeater reserves the channel after the end of a group call transmission. During this time, only members of the group that the channel is reserved for can transmit.

- **Private Call**

This value sets the duration a radio keeps the private call setup after a user releases the PTT button. This is to avoid setting up the call again each time a user presses the PTT button to transmit. During this time, other radios can still transmit since the channel is essentially idle.

- **Emergency Call**

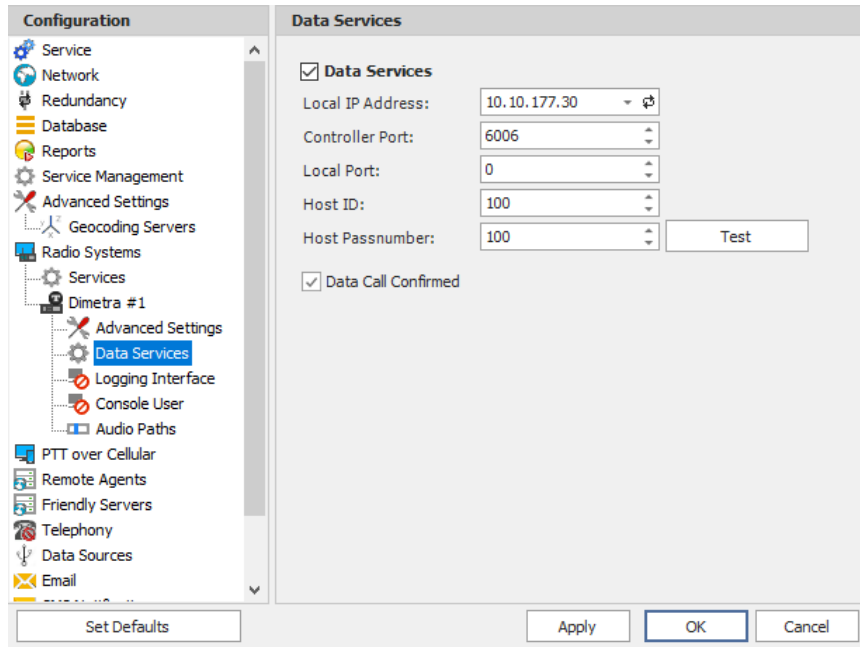
This value sets the duration the repeater reserves the channel after the end of an emergency call transmission. During this time, only members of the Group that the channel is reserved for can transmit.

- **TX Timeout**

Enter the time, in seconds, to be used as a voice session limit. When the dispatcher starts any voice session in the Dispatch Console, transmission will be interrupted after this TX Timeout expires.

### 5.1.2.2 Data Services

- In the **Configuration** pane, under the corresponding DIMETRA Express controller, select **Data Services**.



- In the **Data Services** pane, select the **Data Services** check box.
  - **Local IP Address**  
From the drop-down list, select the local network interface to be used for Data Services.
  - **Controller port**  
Enter the controller's port number to be used for Data Services. Make sure this port number is the same as that specified for DIMETRA Express controller's Short Data (for example, **6006**; see section [4.1.4, Short Data](#)).
  - **Local Port**  
Enter the port number that will be used for connections to Data Services. The value 0 (default) means that a random port will be used.
  - **Host ID**  
Enter the Data Services Host ID.
  - **Host Passnumber**  
Enter the Data Services Passnumber.

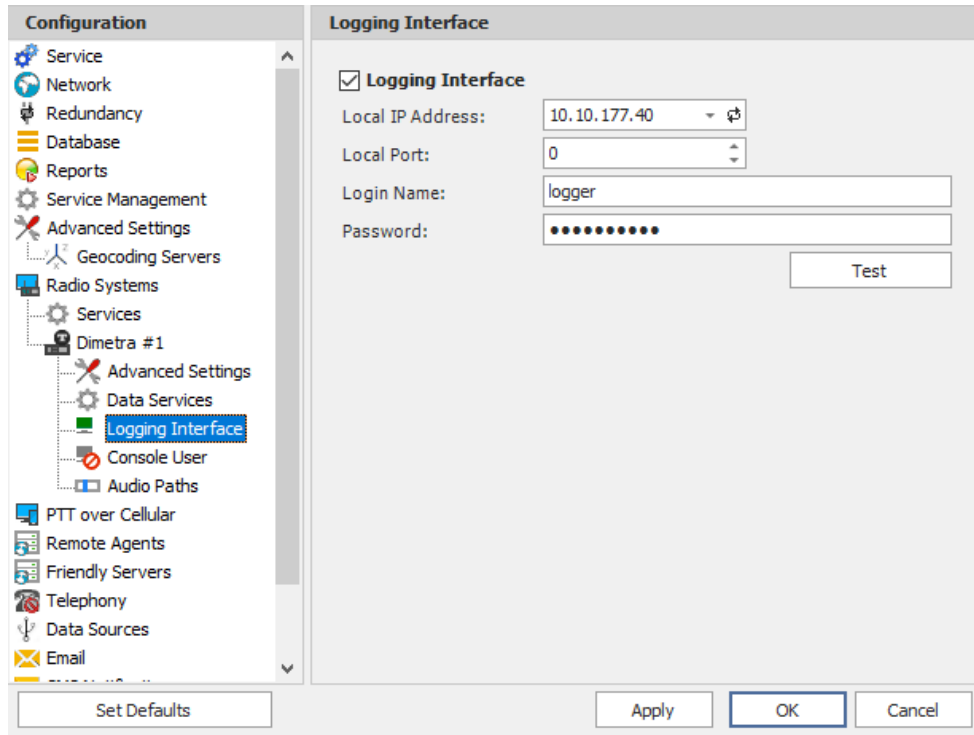
Note: The Host ID and Passnumber are defined in DIMETRA Express controller's Short Data Hosts page (see section [4.1.4, Short Data](#)).

- **Data Call Confirmed**  
Select this option to enable individual packets in data calls (ARS, GPS, and Text Message) to be confirmed.



### 5.1.2.3 Logging Interface

- In the **Configuration** pane, under the corresponding DIMETRA Express controller, select **Logging Interface**.

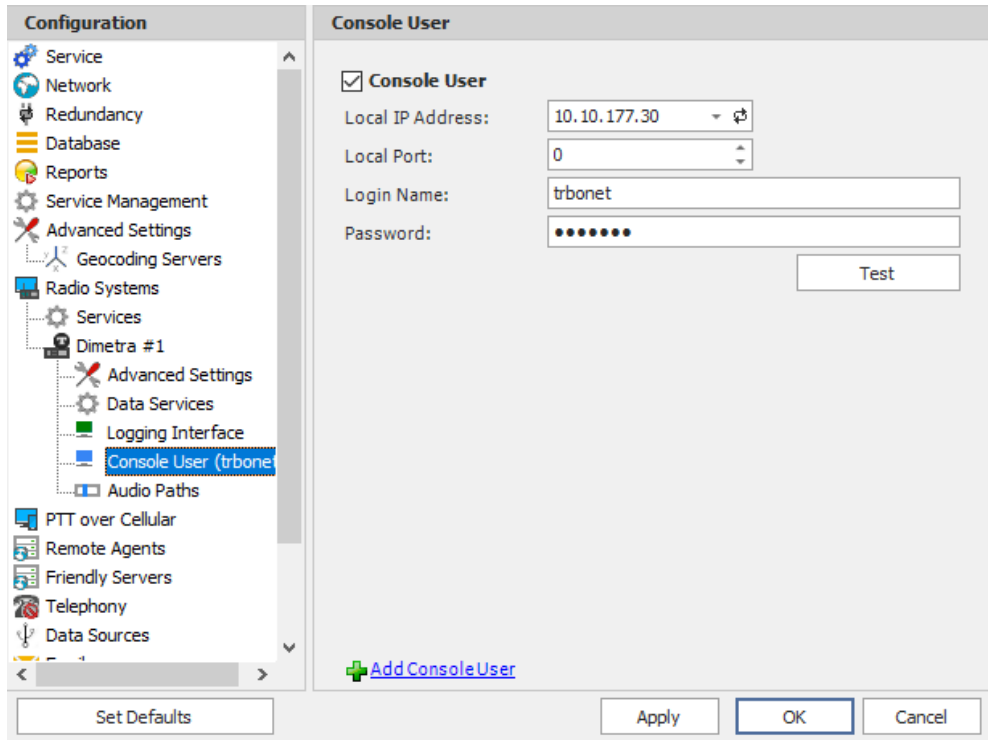


- In the **Logging Interface** pane, select the **Logging Interface** check box.
  - **Local IP Address**  
From the drop-down list, select the local network interface to be used for the Logging Interface. Note that this must be a different IP address from the main IP address of the computer hosting TRBOnet Server. For this, you might need to configure an additional network interface.
  - **Local Port**  
Enter the port number that will be used for connections to Logging Interface. The value 0 (default) means that a random port will be used.
  - **Login Name**  
Enter the Login Name for Logging Interface.
  - **Password**  
Enter the password for Logging Interface.

Note: The Login Name and Password are defined in DIMETRA Express controller's Voice Logging page (see section [4.1.3, Voice Logging](#)).

### 5.1.2.4 Console User

- In the **Configuration** pane, under the corresponding DIMETRA Express controller, select **Console User**.



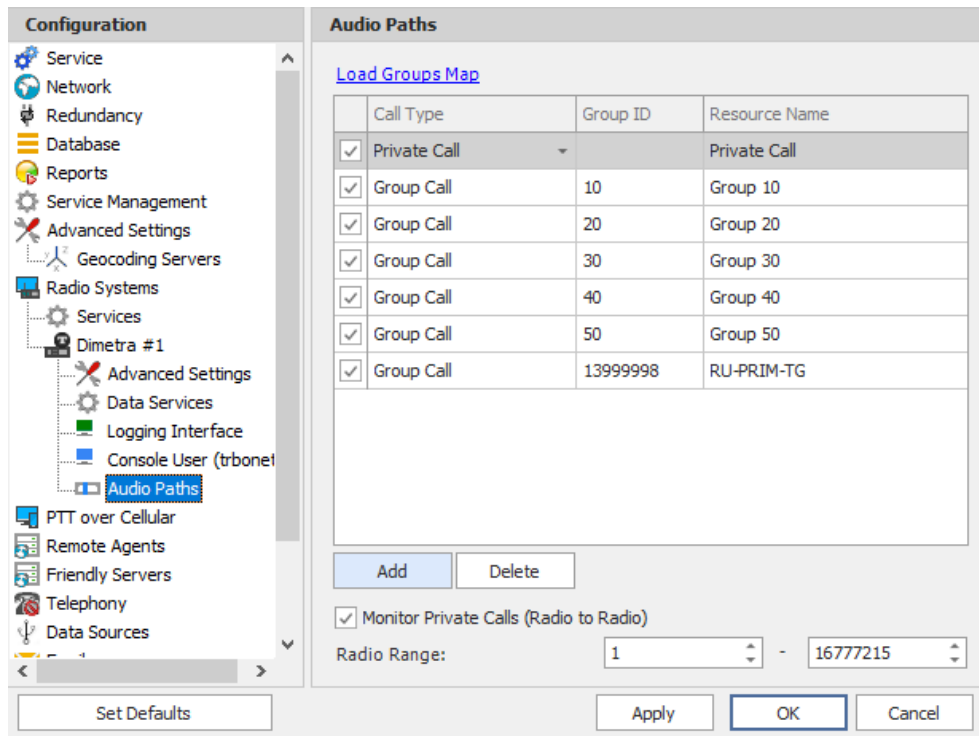
- In the **Console User** pane, select the **Console User** check box.
  - **Local IP Address**  
From the drop-down list, select the local network interface to be used for Console User.
  - **Local Port**  
Enter the port number that will be used for Console User. The value 0 (default) means that a random port will be used.
  - **Login Name**  
Enter the login name for Console User.
  - **Password**  
Enter the password for Console User.

Note: The Login Name and Password are defined in DIMETRA Express controller's Dispatch Console/Console Users page (see section [4.1.2, Dispatch Console](#)).

### 5.1.2.5 Audio Paths

The Audio Paths are talk paths of the system to make and receive Voice Calls; in general, they are talk groups. TRBOnet Server requires that all audio paths of a DIMETRA Express system be registered in its configuration. If an audio path is not registered, the TRBOnet operator will not be able to receive and transmit to the corresponding talk group.

- In the **Configuration** pane, under the DIMETRA Express controller, select **Audio Paths**.



- In the **Audio Paths** pane, specify the following Audio Path-related settings:

- Click the **Load Groups Map** link.

As a result, the corresponding talkgroups will be loaded from the connected DIMETRA Express controller.

Note: The talkgroups must be previously defined in DIMETRA Express controller's Talkgroups (see section [4.1.5, Users and Talkgroups](#), **Users and Talkgroups > Talkgroups**).

- **Monitor Private Calls**

Select this check box and specify the range of radios which radio-to-radio calls will be monitored.

Click **Apply** after entering all the required values. A confirmation dialog will appear, prompting you to save the configuration and restart the TRBOnet Server service. You can also restart the service manually.

## 5.2 Configuring TRBOnet Dispatch Console

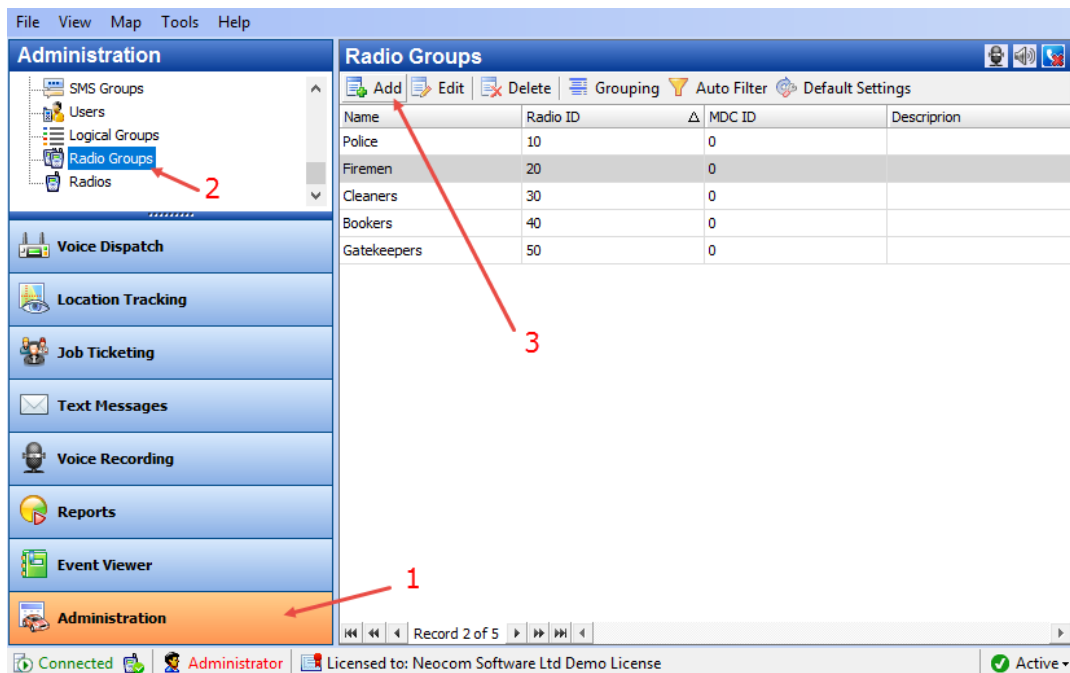
To start TRBOnet Server, click its shortcut on the desktop, or click **Start > All Programs > Neocom Software > TRBOnet Dispatch x.x**

A dialog box will appear prompting you to enter the TRBOnet Server IP address, User Name, and Password. The default Administrator credentials are **admin** for the login and **admin** for the password.

For more detailed information on how to use TRBOnet Dispatch Console, refer to *TRBOnet Enterprise User Manual*.

### 5.2.1 Registering Radio Groups

Go to **Administration (1)**, **Radio Group (2)** to add/edit/delete Radio Groups in the system.

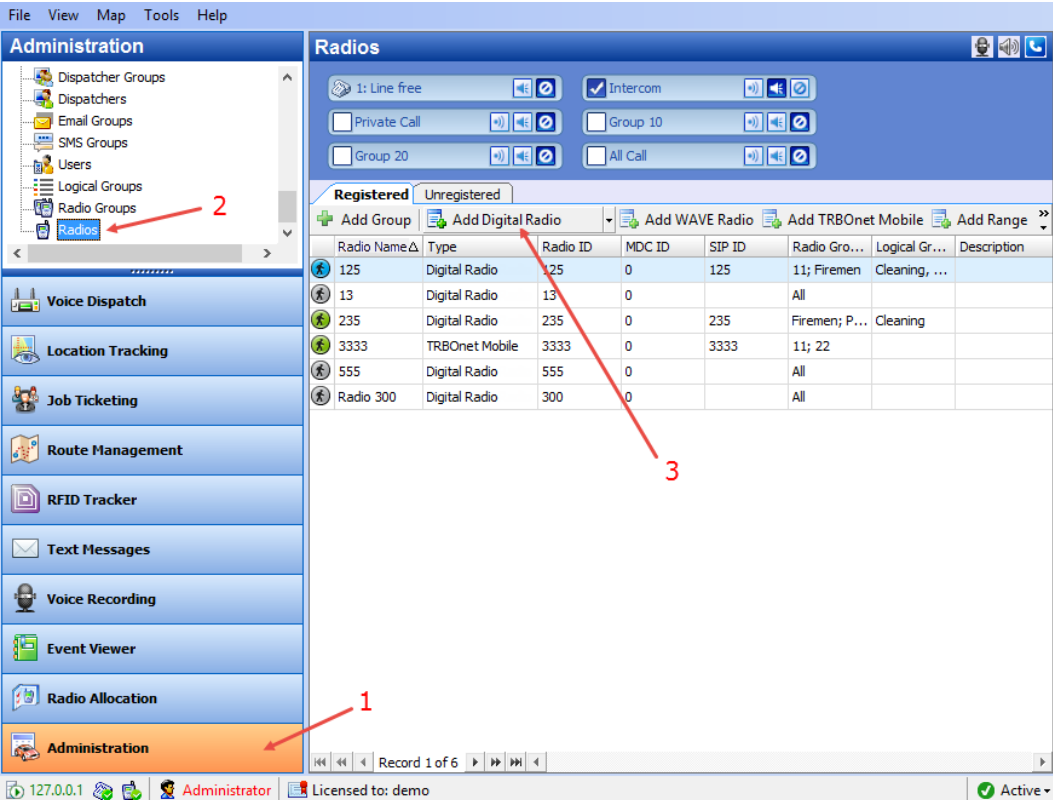


- Click **Add (3)** to add a radio group to the system:
- In the dialog box that appears, specify **Name** and **Group ID (Radio ID)** of the group you are adding.

Note: Make sure that the radio group(s) created in the Dispatch Console are present in the DIMETRA Express controller's talkgroups (see section [4.1.5, Users and Talkgroups](#)). In addition, make sure these radio groups have been added to TRBOnet Server as Audio Paths (see section [5.1.1.5, Audio Paths](#)).

### 5.2.2 Registering Radios

Go to **Administration** (1), **Radios** (2) to add/edit/delete Radios in the system.



- Click **Add Digital Radio** (3) to add a new radio.
- In the dialog box that appears, specify **Radio Name**, **Radio ID**, and **Radio Groups**, to which the radio belongs.

## 6 Redundant Configuration Schemes

This section describes multiple redundancy schemes that can be applied when deploying a DIMETRA Express system.

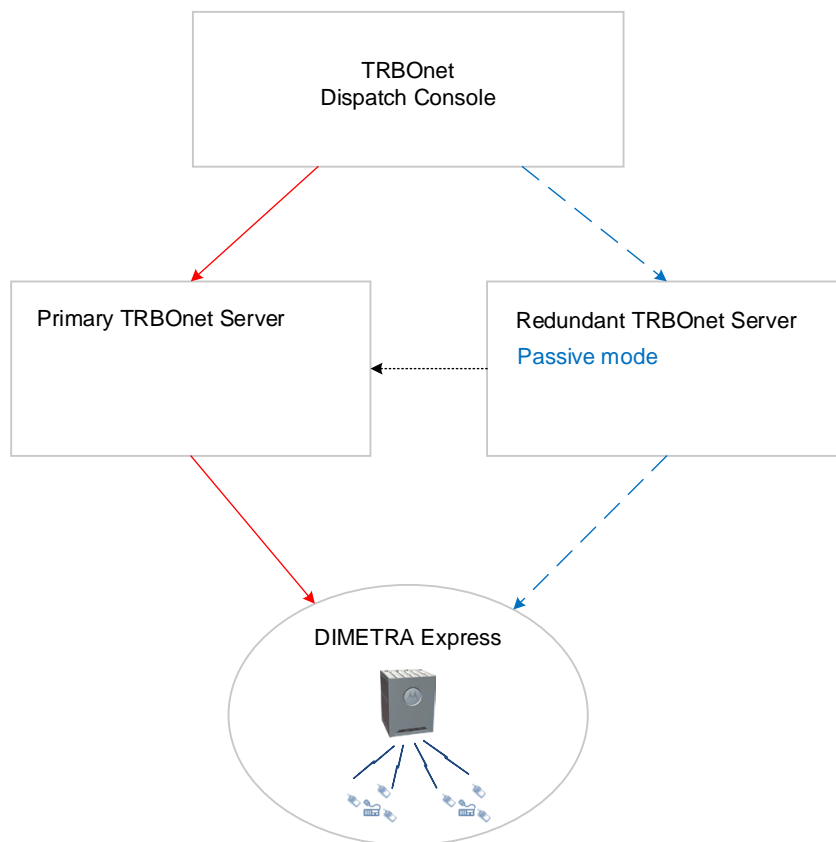
Note: A DIMETRA Express controller allows only a single app connection at a time. Thus, it is strictly forbidden to simultaneously connect more than one Agent/Server running in the Active mode to the same DIMETRA Express controller.

For more details on how to configure the redundant TRBOnet Server/ Agent, see *TRBOnet Enterprise/PLUS Redundant Server User Guide*.

### 6.1 Redundant TRBOnet Server in Passive Mode

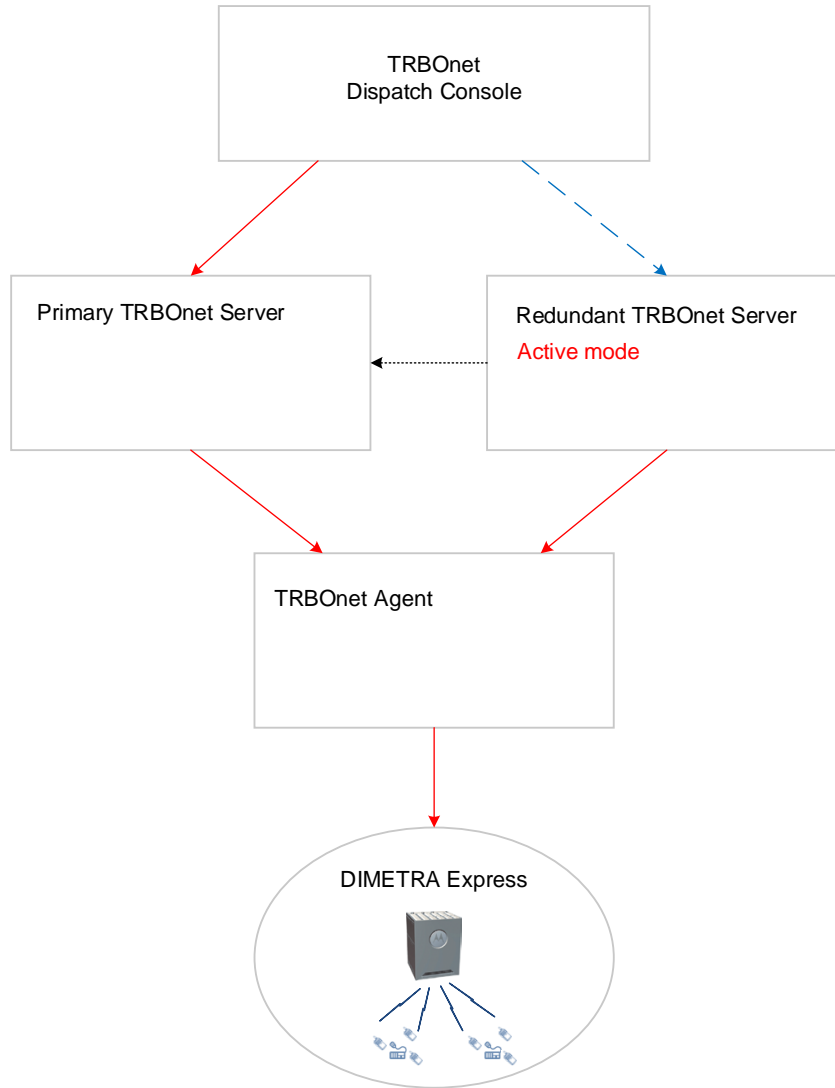
The scheme below represents one Redundant Server running in the Passive mode.

Note that in the scheme, a red solid line means a connection to the primary server. A blue dash line means a connection to the redundant server that will be established once the primary server fails. A black dotted line means a heartbeat connection between the redundant and primary servers (agents).



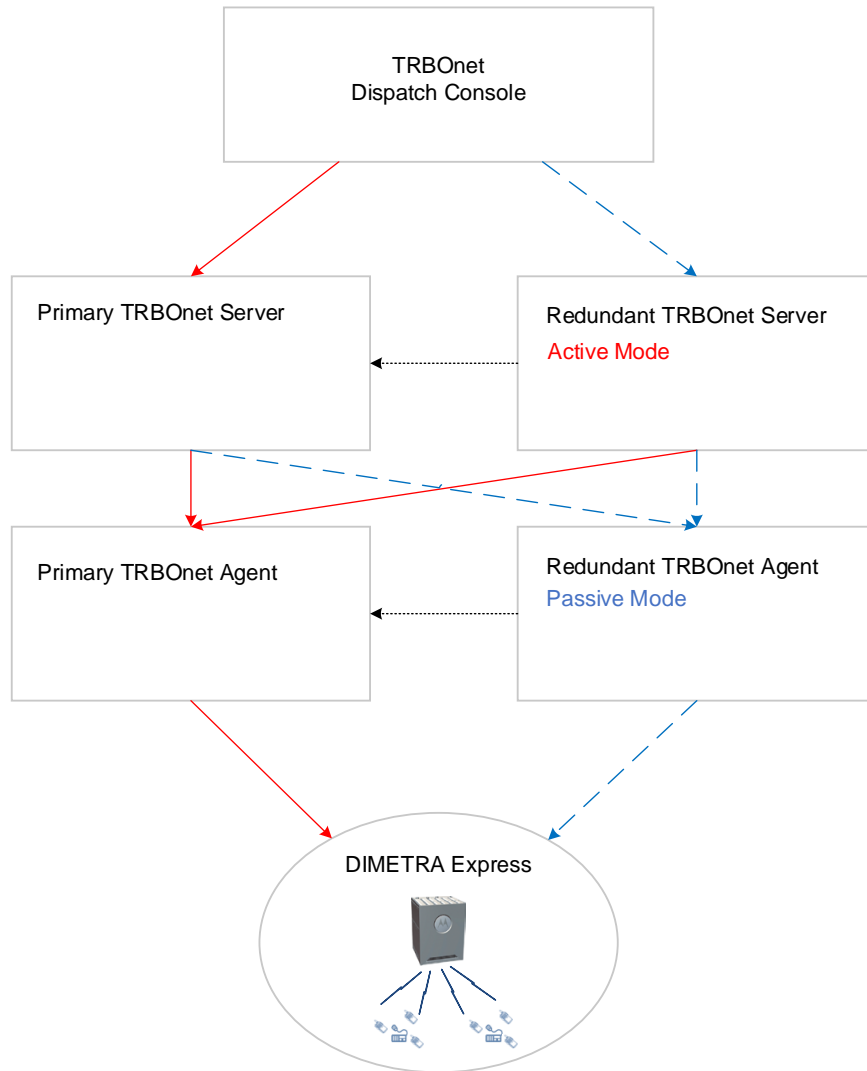
## 6.2 Redundant TRBOnet Server in Active Mode

The scheme below represents how the Redundant Server is used when running in the Active mode and being connected to DIMETRA Express via TRBOnet Agent.



### 6.3 Redundant TRBOnet Server in Active Mode and Redundant TRBOnet Agent in Passive Mode

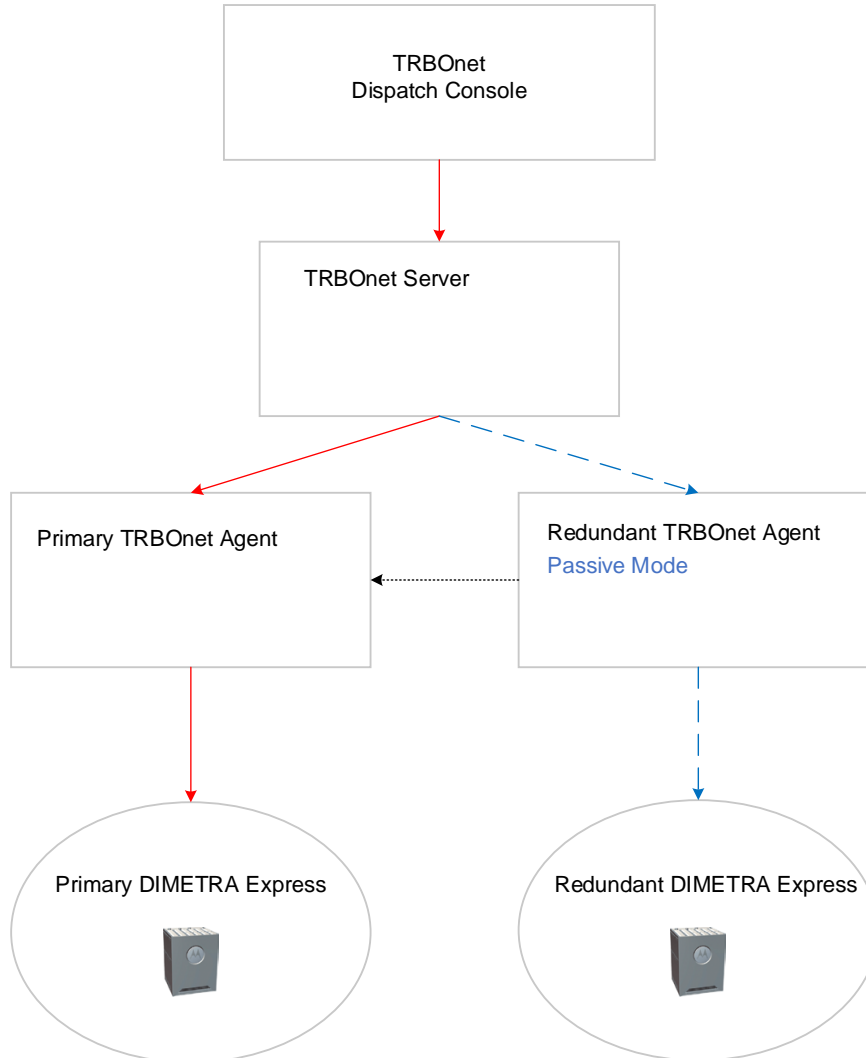
The scheme below shows how the Redundant Server is used when running in the Active mode and being connected to DIMETRA Express via Primary and Redundant Agents.





## 6.4 Redundant DIMETRA Express

The scheme below shows how a redundant DIMETRA Express controller is connected to TRBOnet.



Note: Make sure that after you have copied the configuration of the Primary Agent to the Redundant Agent, you change the **Controller IP Address** to that of the Redundant DIMETRA Express controller.