



SafeDispatch 5

Installation and Configuration Guide

SafeMobile offers a world of wireless applications that help organizations better manage their mobile assets, fleet and personnel. For more information, see www.safemobile.com.

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1 Introduction

SafeDispatch 5 is a set of modules primarily designed for monitoring distribution from your facility with GPS based location information and environmental data provided by your radio systems.

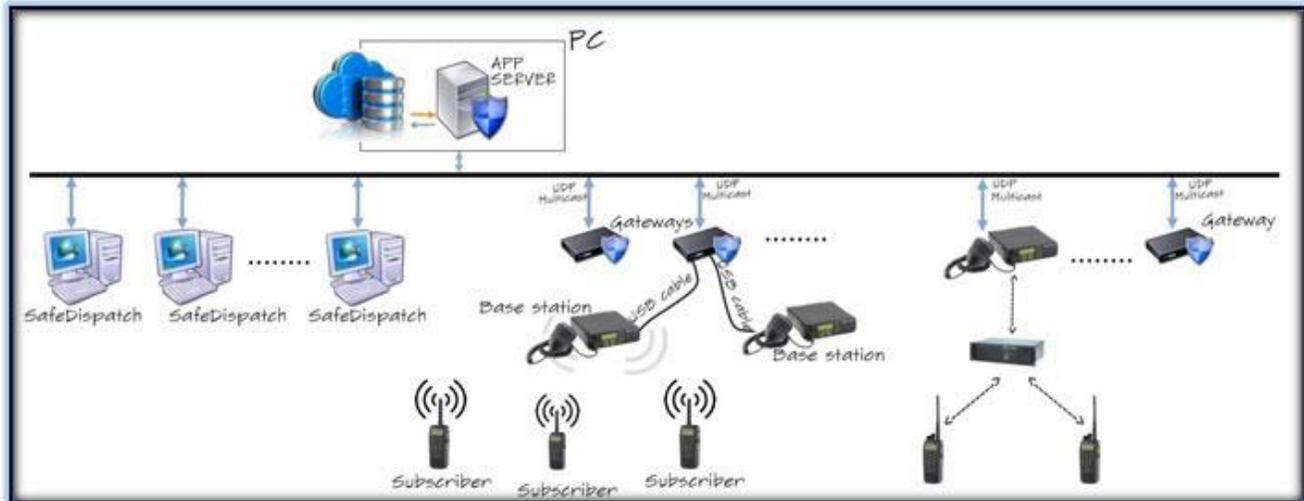
SafeDispatch 5 comprises the following modules:

- **Application Server:** The central application that connects all the other modules to the database allowing you to manage dispatchers, subscriber radios and store data
- **MOTOTRBO Gateway:** The application that connects the system with the MotoTRBO radio systems.
- **SafeDispatch:** The Dispatcher application that provides the dispatcher with real-time and history access to the system data.
- PostgreSQL database: A PostgreSQL database where all the system information is stored.
- Two auxiliary applications: Administrative module and SoftwareUpdater.

This document describes how to install SafeDispatch 5 and how to configure the modules in order to use SafeDispatch 5.

1.1 How the system works

A typical SafeDispatch deployment consists of: one Application server, multiple Gateways and multiple dispatcher PCs.



SafeDispatch connects to the subscriber radios using the MOTOTRBO[®] Gateway through the Control Station radio(s) via USB cables to your computer.

The communication between the SafeDispatch and Application Server is carried out via TCP/IP protocol. The communication between the MOTOTRBO[®] Radio Server and the user's radio stations is carried out via UDP/IP protocol.

2 System Requirements

Before you install SafeDispatch 5, verify that you comply with the system requirements:

Physical requirements

- **Control Station Radio(s).** Depending on your radio system size, you might need more than one control station. They are provided by your Channel Partner and are connected with a custom USB cable to your PC.
- **USB Control Station Cable.** It is custom made and does NOT come with your Control Station Radio(s). The cable can be provided to you by either your Channel Partner or by SafeMobile upon request.
- **USB Registration Dongle.** One Dongle is included with the Software Package purchase. You need one dongle per system.
- The maximum number of MOTOTRBO® base stations is 16.

Software requirements

- Windows 7 on 32/64bit or Windows 8. Make sure that you turn off the Account Controls and disable the Firewall. However, if you need the Firewall to remain active, please contact your SafeMobile Sales Person, reference the SafeForum online or communicate with SafeMobile Technical Support to establish the appropriate workaround.
- The antivirus is disabled
- The user used for windows login has administrator rights

PC Hardware requirements

- Processor: Intel Core i5 processor or higher
- Installed memory (RAM): 4GB
- Hard Disk Free Space: 20GB
- Internet connection (for updates and Google maps | Open Street Map)
- LAN Connection: The PC must be in the same LAN with the radio systems
- USB ports: 2 USB ports (one for MOTOTRBO® stations and one for the Registration dongle)

System requirements for SafeDispatch console

- Processor: Intel Core i5 processor or higher
- Installed memory (RAM): 4GB
- Hard Drive: 1 GB free space
- Internet connection (for updates and Google maps | Open Streets Map)
- LAN Connection: the PC must be in the same LAN with the radio systems
- Windows 7 32/64bit, Windows 8.1
- Microsoft.NET Framework 4
- Administrator rights for the user used for Windows login.

System Requirements for Application Server and Gateway

- Processor: Intel Core i5 processor or higher
- Installed memory (RAM): 4GB
- Hard Drive: There must be at least 50 GB of the hard drive space available for the installation of the SafeDispatch system and voice recording. Calls are recorded with a bit rate of 128 Kbps.
- Audio files are stored in the "recordings" subfolder, where Application Server was installed.
- At least 3 USB: min. 2 for MOTOTRBO® station and one for the Registration dongle.
- LAN Connection: the PC must be in the same LAN with the radio systems
- Windows 7 32/64bit, Windows 8.1
- Microsoft.NET Framework 4
- Firewall and antivirus program disabled
- Administrator rights for the user used for Windows login.
- Control Station Radio(s) and USB Control Station Cable
- USB Registration Dongle
- MotoTRBO CPS

Note: These are general system requirements for installation of SafeDispatch application. They might change due to configuration and complexity of the radio system and its workload.

System Requirements for MOTOTRBO Hardware

Regions	Mobile Radio	Firmware Version	Portable Radio	Firmware Version	Repeater	Firmware Version
APAC	XiR M82xx series XiR M86xx series XiR M6660 series	R01.12.01 or higher R02.30.00 or higher	XiR P3688, SL 1M XiR P6600, XiR P8200, XiR P8600, SL1K XiR E8600	R01.12.01 or higher R02.30.00 or higher	XiR R8200	R02.30.00 or higher
EMEA	DM 3000 series DM 4000 and SL series DM 2000 series	R01.12.01 or higher R02.30.00 or higher	DP 3000 series DP 4000 and SL series	R01.12.01 or higher R02.30.00 or higher	DR 3000 MTR 3000	R02.30.00 or higher
LACR	DGM 6100+/6100, DGM 4100+/4100	R01.12.01 or higher R02.30.00 or higher	DEP450 SL500 DEP500 DGP4000 & DGP6000	R01.12.01 or higher R02.30.00 or higher	DGR 6175 MTR 3000	R02.30.00 or higher

	DGM 8000 series DEM 500 series		DGP8000 & DGP5000 SL8550 DGP8050 Elite DGP8550EX			
NA	XPR2500 series XPR4000 series XPR5000 series and SL series	R01.12.01 or higher R02.30.00 or higher	XPR6000 series XPR7000 series and SL series	R01.12.01 or higher R02.30.00 or higher	XPR 8300 MTR 3000	R02.30.00 or higher

The following table lists the ports used by SafeDispatch 5:

Transport Protocol	Source	Destination	Comments
SafeDispatch Application			
TCP	5432	5432	Database
TCP	5680	5680	Registration to application server
UDP	17233	17233	Commands Communication
UDP	17234	17234	Voice Communication
TCP	5678	5678	Recordings Communication
UDP	15679	15679	Recordings Tunnel
Application Server + Gateway			
TCP	5432	5432	Database
TCP	5680	5680	Registration to application server
UDP	17233	17233	Commands Communication
UDP	17234	17234	Voice Communication
TCP	5678	5678	Recordings Communication
UDP	15679	15679	Recordings Tunnel
TCP	X	8002	Connection to control station
UDP	4001 4005 4007 4008	4001 4005 4007 4008	For control station configuration only (4001-Location, 4005-Registration Service, 4007-Messaging Service, 4008-Telemetry Service)
UDP	50000	50000	For repeater configuration only

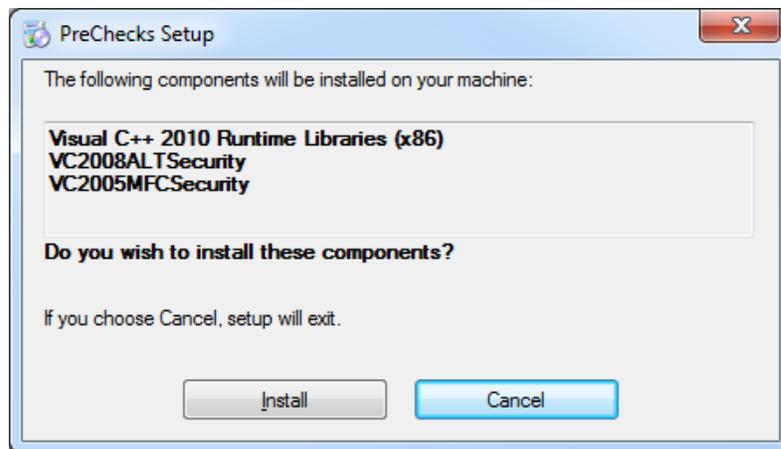
3 Installing SafeDispatch 5

In order to install and configure SafeDispatch 5 you need to go through the following steps:

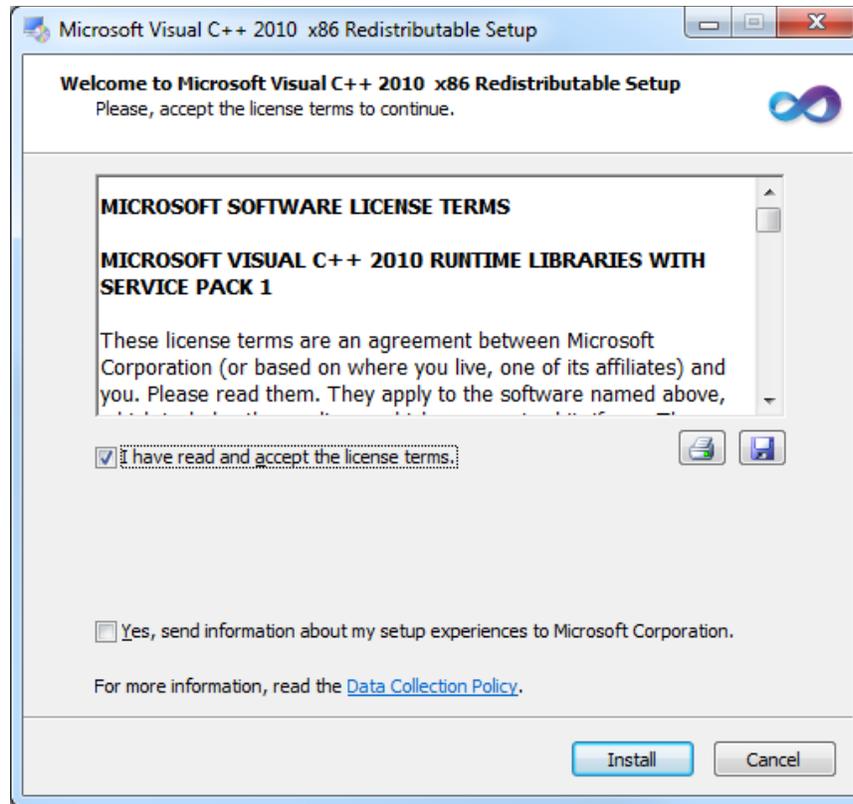
1. Install the prerequisite software.
2. Install SafeDispatch.
3. Install MotoTRBO Customer Programming Software (MotoTRBO CPS).

3.1 Install the prerequisite software

1. Insert the SafeDispatch v.5 Kit CD into the PC and open the folder to view the files.
2. Open the **PreChecks** folder and double-click on the **Setup.exe** file and click **Install**.



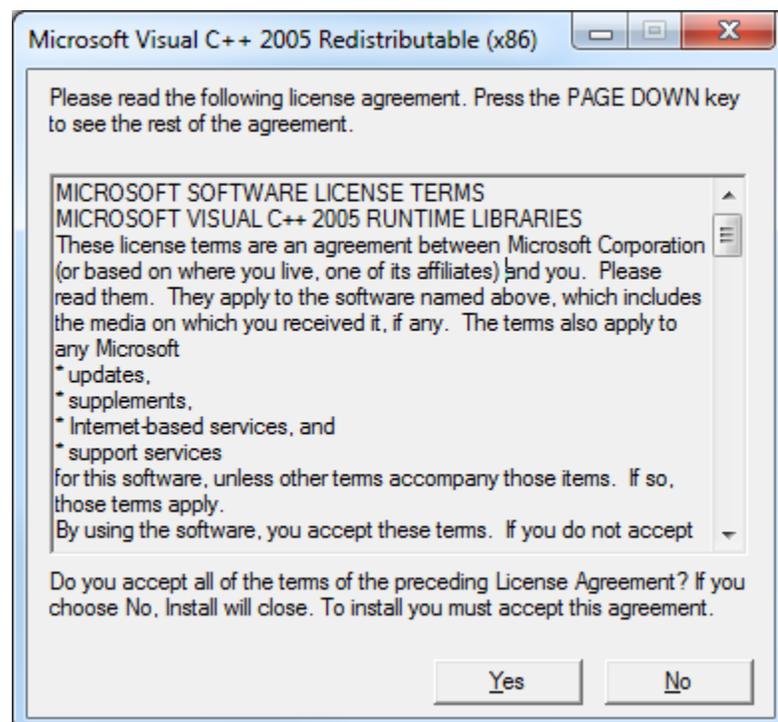
3. Agree to the license terms and click **Install** in order to install Microsoft Visual C++ 2010 Redistributable Package.



Wait until Microsoft Visual Studio is installed then click **Finish**.

4. Select **Repair** to repair Microsoft Visual C++ 2008 Redistributable to its original state and click **Next**. Once the setup is complete click **Finish**.

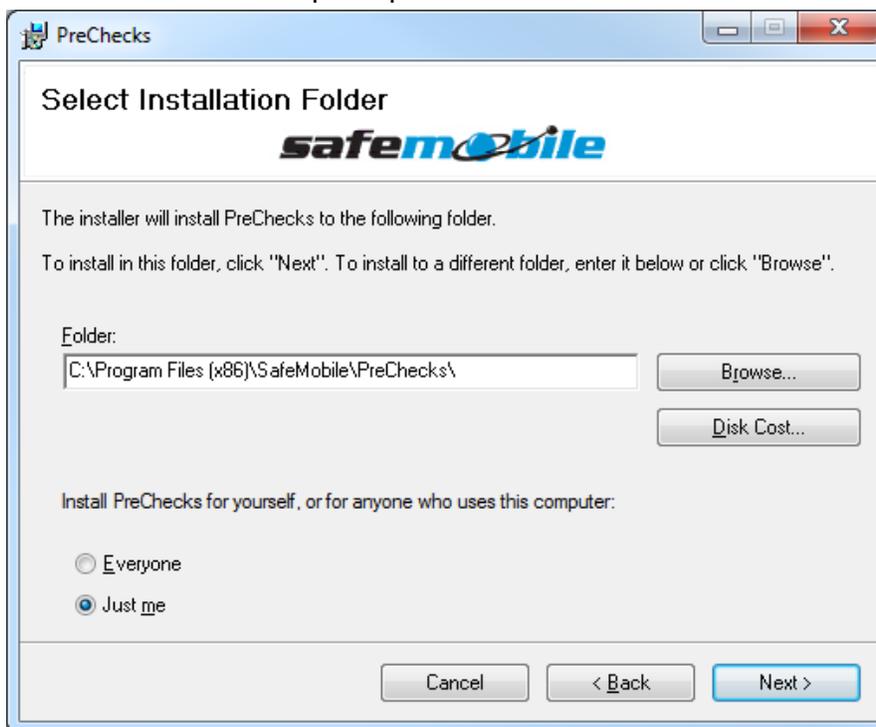
The installation of Microsoft Visual C++ 2005 Redistributable package displays.



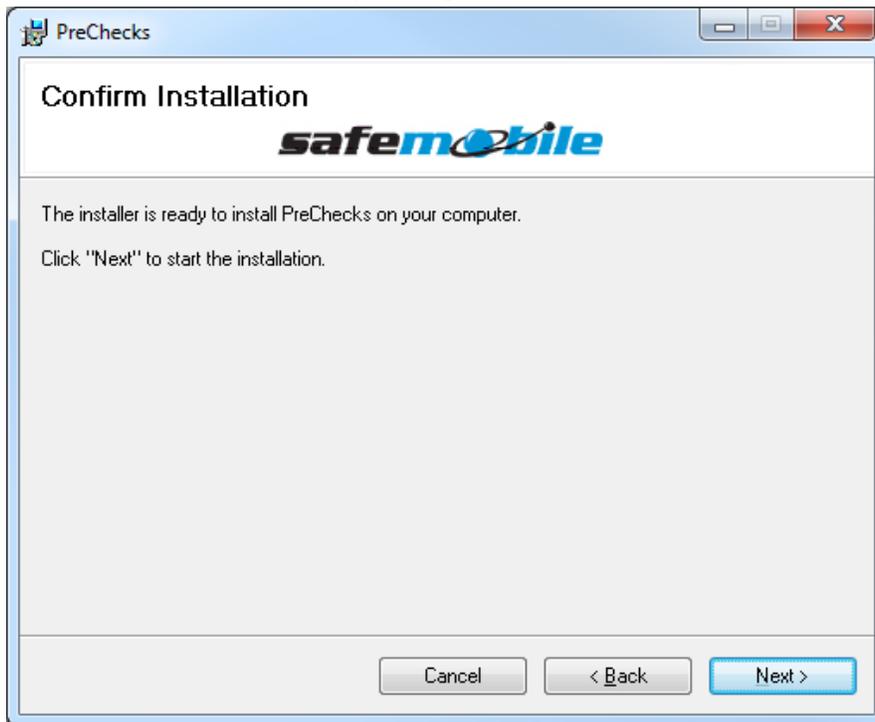
- Click **Yes** to agree the license terms. Once the Microsoft Visual C++ 2005 Redistributable package installed, the PreChecks Setup Wizard will display.



- Click **Next**.
- Select the folder where to install the prerequisite software.

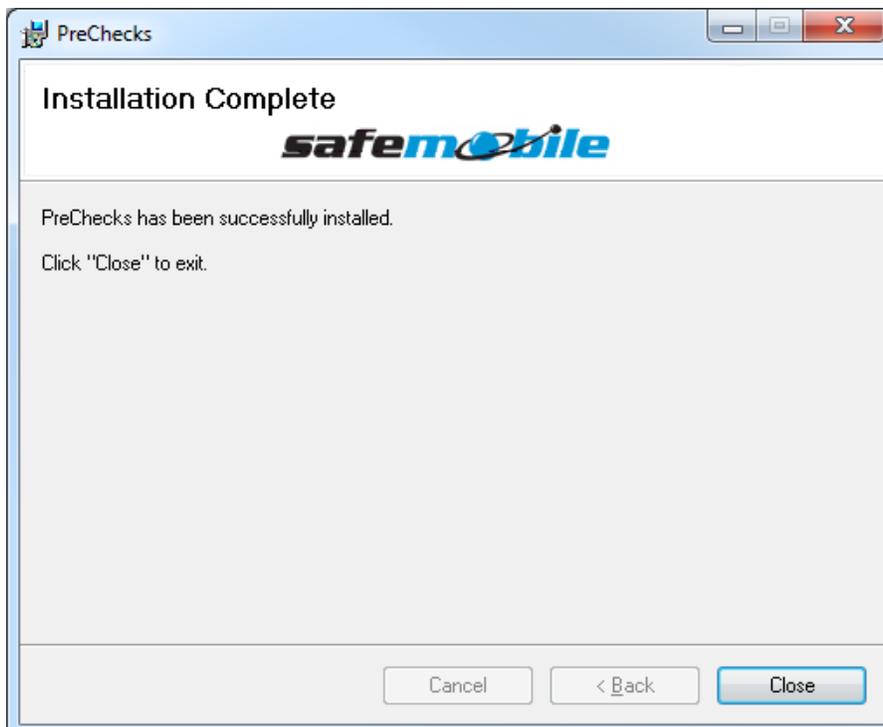


8. Click **Next** twice The Installation is ready to begin.



9. Click **Next**.

Once the installation is completed, click **Close**.



3.2 Install SafeDispatch

1. Insert the SafeDispatch v.5 Kit CD into the PC and open the folder to view the files.
2. Open the **SafeDispatch Setup** folder and double-click on the **SafemobileSetup.exe** file.
3. **Accept** the license terms. A page displays requesting you to set up the login credentials.
4. In the Database section set the **Admin Password** used to log in to the Administrative module and the **User Password** to log in to the SafeDispatch. Default password for both logins is "password".



The **Advanced settings** link allows you to:

- Set up the system in order to remote connect to SafeDispatch.
- Install application server for Android applications (for SafeDispatch Mobile users).



5. Select the folder where to install the software then click **Install**.

Once the installation is completed, click **Close** to exit the wizard.

The following icons are displayed on your desktop:

- Administrative Module
- Application Server
- MOTOTRBO Gateway
- SafeDispatch 5
- Software Updater
- SafeMobile Remote Support

3.3 Install MotoTRBO CPS

Contact your Motorola dealer to get MOTOTRBO CPS and make sure that you properly install it on your PC.

4 Configuring SafeDispatch 5

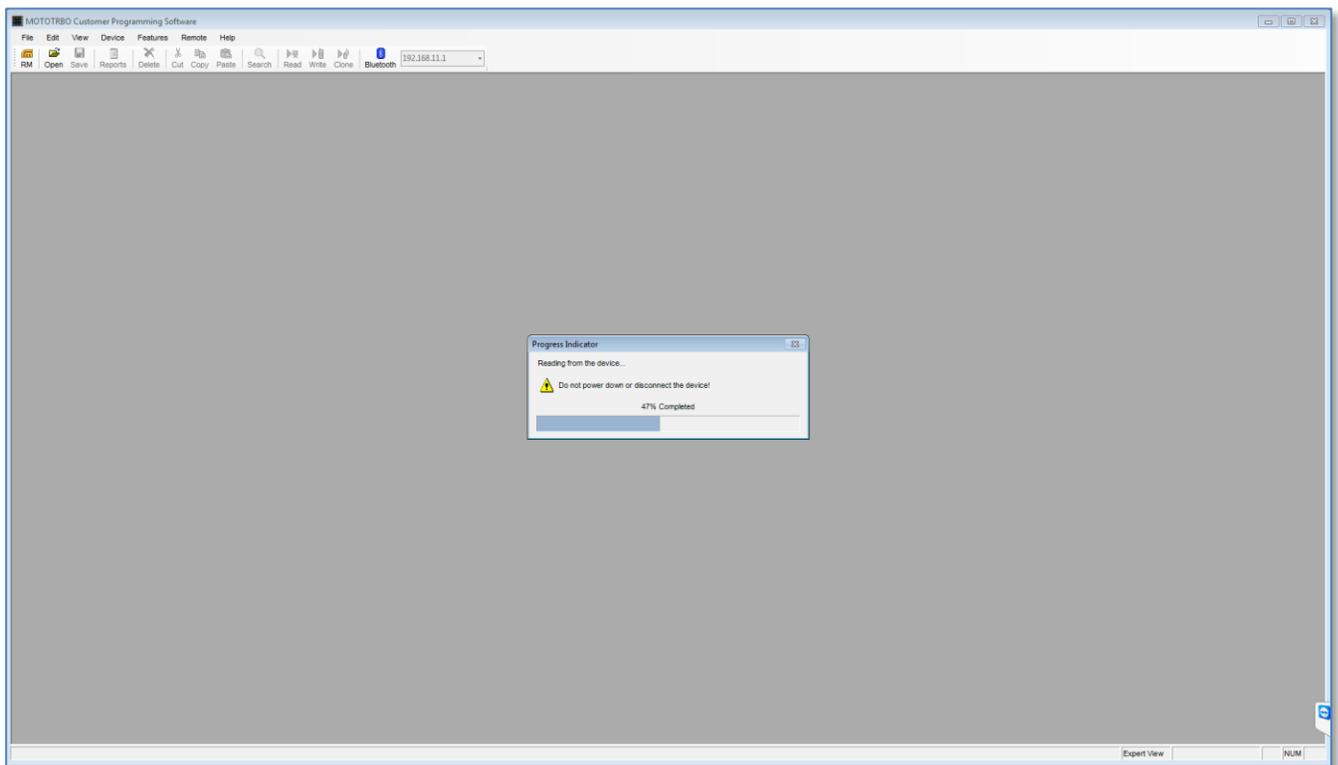
Once installed, the system is preconfigured to help you getting started with SafeDispatch.

Before configuring the system you need to:

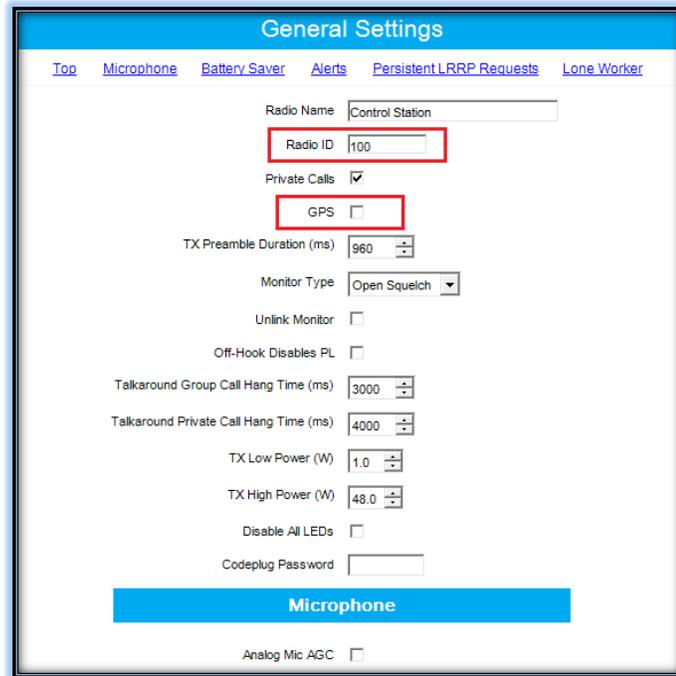
1. Connect the USB Registration dongle into any available USB port on the PC where the Application Server Program will be running.
2. Launch the Application Server Program by double-clicking the icon on your desktop. It will run in the background

4.1 Configure the MOTOTRBO® Control Station

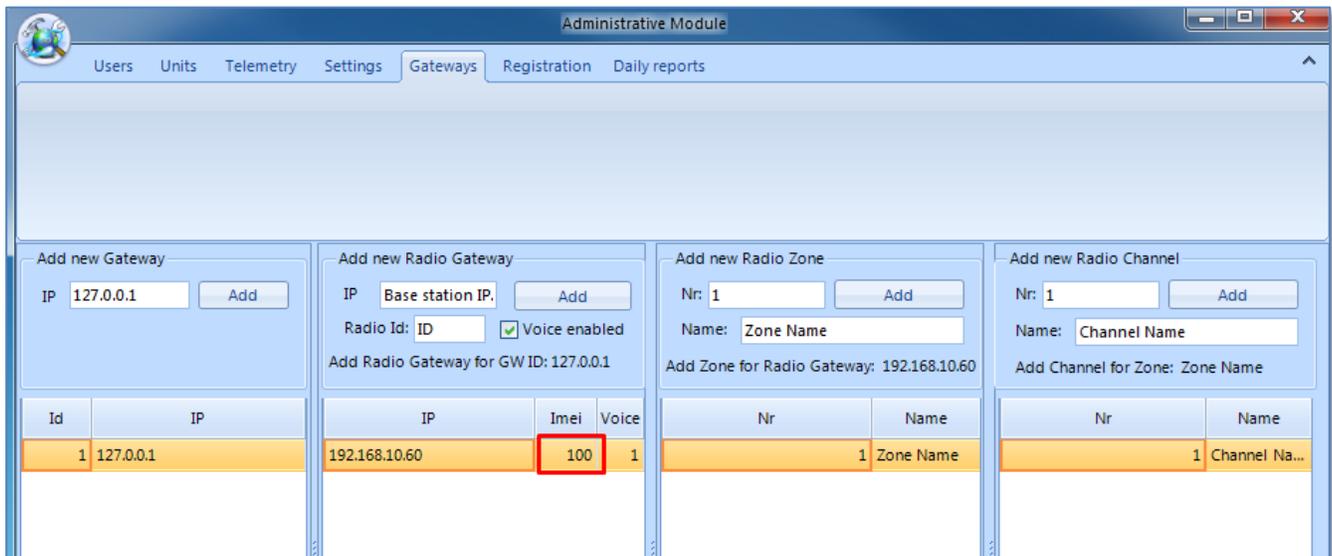
1. Open the MOTOTRBO CPS and set the **View** option to **Expert** mode.
2. Connect the base station to the PC where the MOTOTRBO CPS is installed.
3. Click the **Read** button. The reading of your radio base station configuration will start.



4. On the right menu, click **General Settings** and set the **Radio ID**. Make sure that the **GPS** checkbox is not selected. Select the **Private Calls** checkbox to allow a radio subscriber to receive and respond to private calls.



- Open the Administrative Module by double-clicking the application icon on the desktop and entering the Admin password you set up at SafeDispatch installation then clicking the **Login** button. Click the **Gateways** tab, add a new gateway entering the IP of the computer where the gateway is running then add the Radio ID:



- Go back to the MOTOTRBO CPS and on the right menu click **Network**.
- Set the **Radio IP** address and select the **Forward to PC** checkbox. All text messages the target radio receives will be passed to the connected PC

NOTE: If you have multiple control stations connected to the PC, each station should be configured with a different **Radio IP** address.

- Go to the Administrative Module, click the **Gateways** tab and add the Radio IP address(s) you set in the MOTOTRBO CPS.

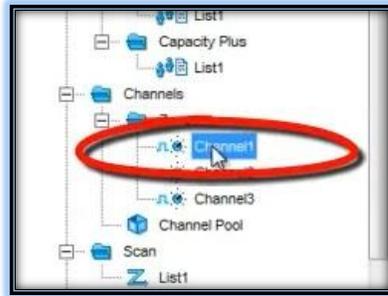
Id	IP
1	127.0.0.1

IP	Imei	Voice
192.168.10.60	100	1

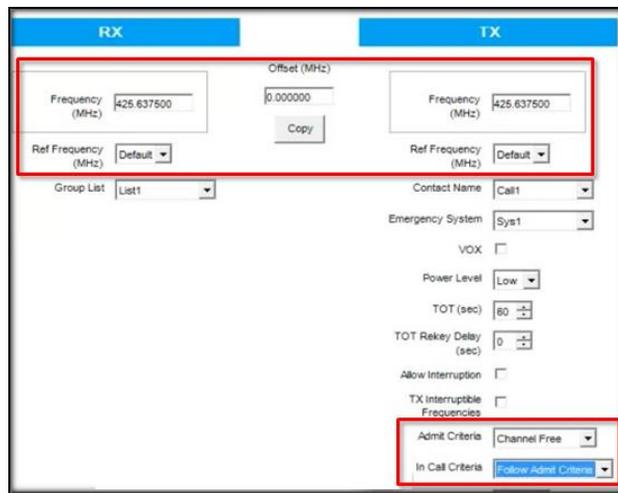
Nr	Name
1	Zone Name

Nr	Name
1	Channel Na...

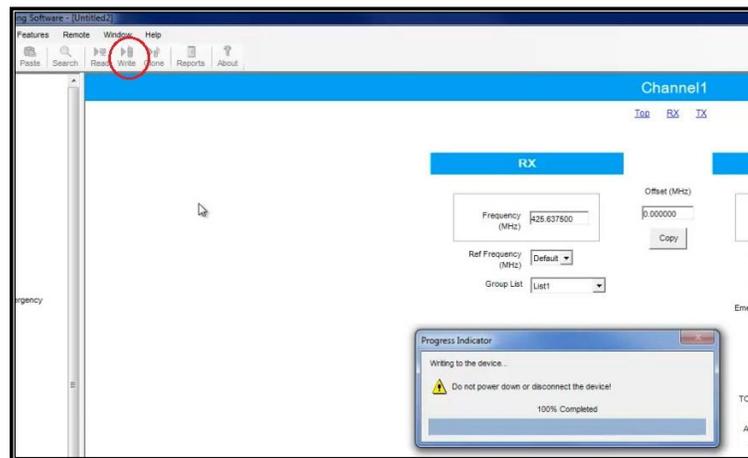
- Go back to the MOTOTRBO CPS and on the right menu click **Channels**, then select **Channel 1**.



10. Set the same frequency for both RX (receive) and TX (transmit).
11. From the **Admit Criteria** drop-down list select **Channel Free**. The radio station will check for an idle channel prior to allowing a transmission.
12. From the **In Call Criteria** drop-down list select **Polite Admit Criteria**. The radio station will follow the polite Admit Criteria rules while in a call.



13. On the Actions menu click the **Write** icon. Wait until writing to the device is completed.

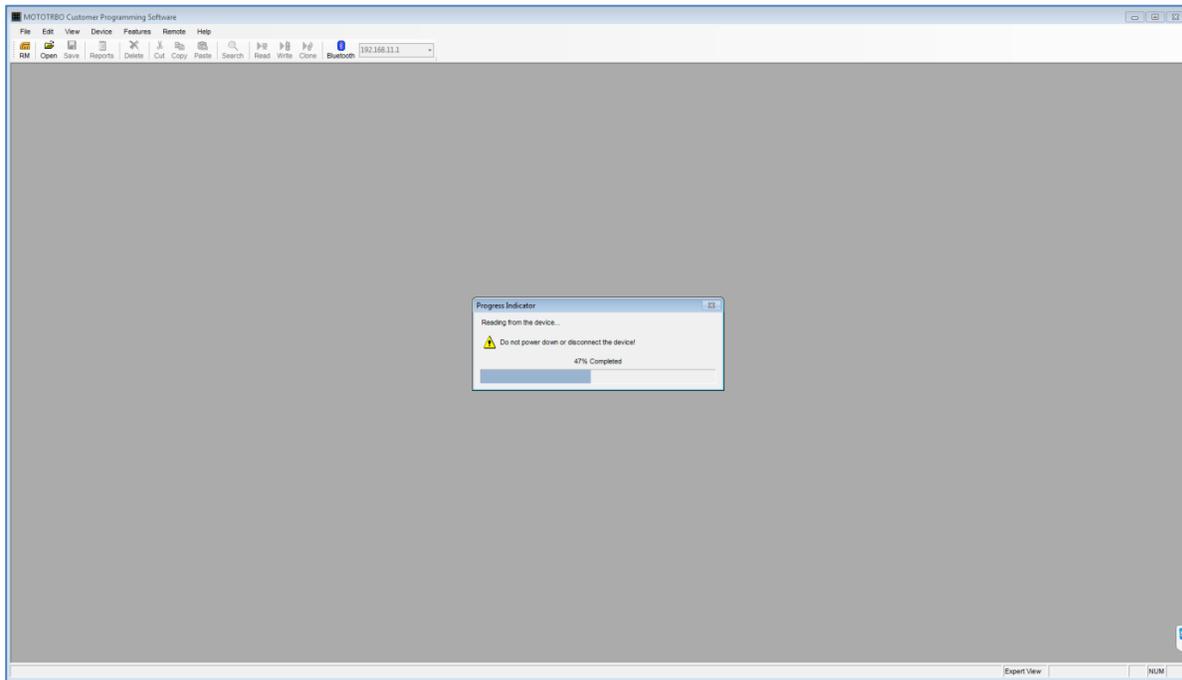


Congratulations! You have successfully configured the MOTOTRBO® Control Station. Now you can disconnect the base station from the PC.

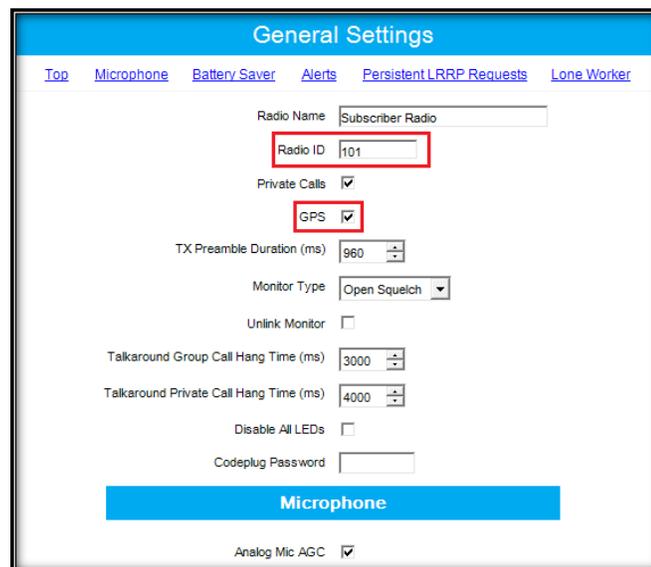
4.2 Configure Subscriber Station(s)

Repeat these steps for each radio station you need to configure:

1. Open the MOTOTRBO CPS and set the **View** option to **Expert** mode.
2. Connect the subscriber station to the PC where the MOTOTRBO CPS is installed.
3. Click the **Read** button. The reading of the subscriber's station configuration will start.



4. On the right menu, click **General Settings** and set the **Radio ID**. Select the **GPS** checkbox to enable tracking the subscriber location, if the radio supports this functionality. Select the **Private Calls** checkbox to allow a radio subscriber to receive and respond to private calls.



General Settings

[Top](#) [Microphone](#) [Battery Saver](#) [Alerts](#) [Persistent LRRP Requests](#) [Lone Worker](#)

Radio Name: Subscriber Radio

Radio ID: 101

Private Calls:

GPS:

TX Preamble Duration (ms): 960

Monitor Type: Open Squelch

Unlink Monitor:

Talkaround Group Call Hang Time (ms): 3000

Talkaround Private Call Hang Time (ms): 4000

Disable All LEDs:

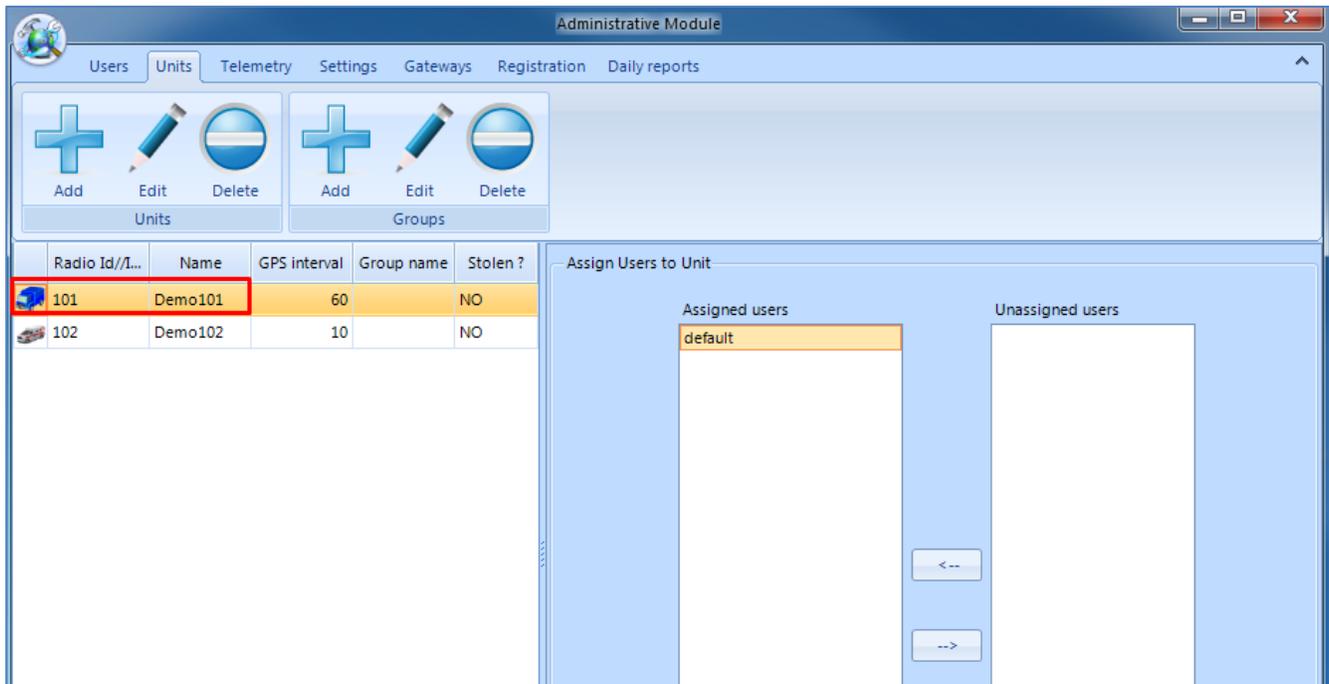
Codeplug Password:

Microphone

Analog Mic AGC:

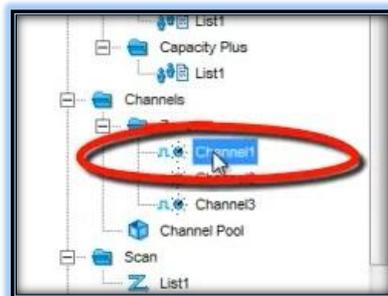
NOTE: All subscriber radio stations must have a unique Radio ID.

- Open the Administrative Module by double-clicking the application icon on the desktop and entering the Admin password you set up at SafeDispatch installation then clicking the **Login** button. Click the **Units** tab and add the **Radio ID**:



- Go back to the MOTOTRBO CPS and on the right menu click **Network**.
- In the **ARS Radio ID** field enter the same value as the ID of the **Base station**. Make sure that the **Forward to PC** checkbox is unselected.

8. Go back to the MOTOTRBO CPS and on the right menu click **Channels**, then select **Channel 1**.



9. From the **ARS** drop down list select **On System Charge** in order for the subscriber’s radio station to transmit presence notification to the MOTOTRBO Gateway Application.

Channel1

[Top](#) [RX](#) [TX](#)

Voice Announcement File: None

Dual Capacity Direct Mode:

Timing Leader Preference: Eligible

Scan/Room List: None

Auto Scan:

Color Code: 1

Repeater/Time Slot: 1

Phone System: None

ARS: On System Change

Enhanced GPS:

Window Size: 8

Privacy:

Privacy Alias: Privacy Key1

RAS Alias: None

10. Set the same frequency for both RX (receive) and TX (transmit).
11. From the **Admit Criteria** drop-down list select **Channel Free**. The radio station will check for an idle channel prior to allowing a transmission.
12. From the **In Call Criteria** drop-down list select **Follow Admit Criteria**. The radio station will follow the follow Admit Criteria rules while in a call.

Channel1

[Top](#) [RX](#) [TX](#)

RX

Frequency (MHz): 403.025000

Offset (MHz): 0.000000

Ref Frequency (MHz): Default

Group List: List1

Emergency Alarm Indication:

Emergency Alarm Ack:

Emergency Call Indication:

TX

Frequency (MHz): 403.025000

Ref Frequency (MHz): Default

Contact Name: Call1

Emergency System: None

VOX:

Power Level: High

TOT (sec): 60

TOT Rekey Delay (sec): 0

Allow Interruption:

TX Interruptible Frequencies:

Admit Criteria: Channel Free

In Call Criteria: Always

RSSI Threshold (dBm): -124

13. From the **GPS Revert** drop-down list, select **Selected**. The GPS updates will be transmitted on the current channel.
14. On the Actions menu click the **Write** icon. Wait until writing to the device is completed.

Congratulations! You have successfully configured the subscriber's radio station.

5 Running the system

In order to check that you have properly installed and configured SafeDispatch 5:

1. Make sure that the Application Server is running in the background, its icon displays in the System tray.
2. Connect the base station to the PC using the USB Control Station Cable and make sure that the radio station is out on the field to gather GPS information and transmit it to the base station.
3. Transmit voice data between the radio stations.
4. Make sure that Motorola CPS is closed.
5. Open the MOTOTRBO Gateway.
6. Open SafeDispatch by double-clicking the icon from your desktop, enter the **User password** you set at installation and click **Login**.
7. Select Unit 101 and click the **Display** button then wait for 5 minutes until GPS data displays on the Map. Please note that only the first time you need to wait in order for the Motorola radio to gather GPS data.

Tip: If after 5 minutes no GPS data will display on the Map:

- Verify that you have turned off the Account Controls (UAC) and disabled the Firewall and antivirus. If you turn off/disable them now, make sure to restart the MOTOTRBO Gateway.
- Recheck the system configuration or call SafeMobile Support at **(847) 818-1649**.

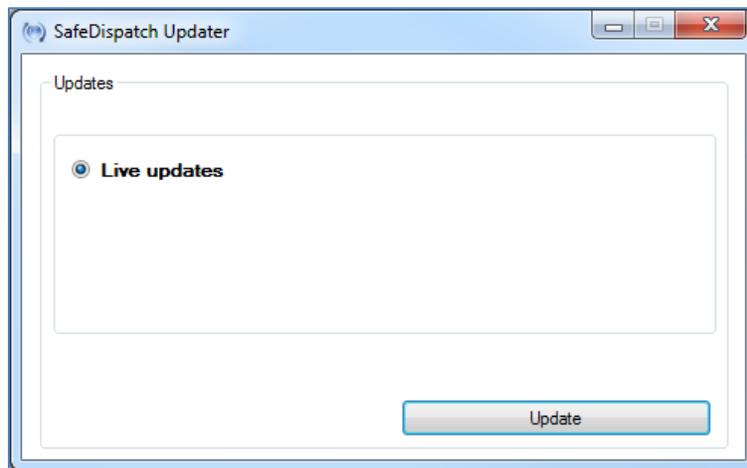
6 Updating SafeDispatch 5

SafeMobile is committed to continually improving its products. We believe that our first responsibility is to our customers. Thus, the SafeMobile team continuously upgrades the software to help you overcome issues you might encounter.

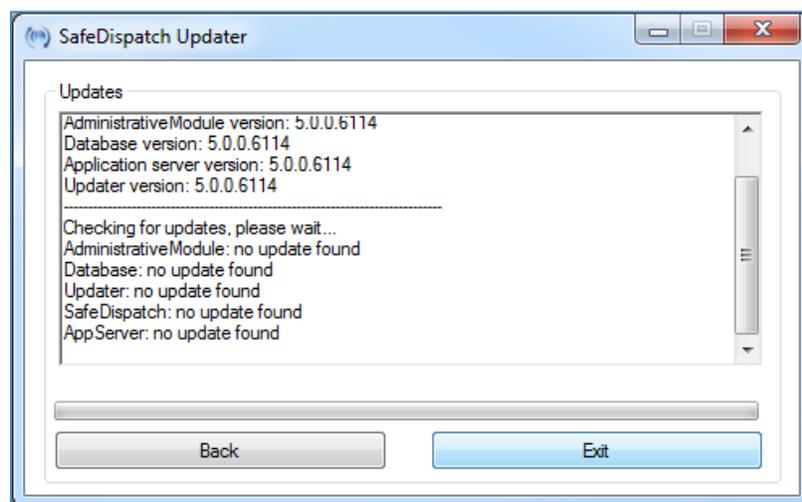
We may use your personal information to provide you with important information about SafeDispatch 5, including critical updates and notifications.

In order to apply the latest SafeDispatch 5 updates:

1. Double-click the SoftwareUpdater icon on your desktop.
2. Click the **Update** button.



3. Wait until checking for updates and updating all SafeDispatch 5 modules then click **Exit**.



7 Uninstalling SafeDispatch 5

Uninstallation of the SafeDispatch 5 application must be performed by the SafeMobile authorized personnel. Otherwise, SafeMobile will not be held responsible for damages caused by improper uninstallation.