

INSTALLING THE FMS 5.3.x SOFTWARE

INSTALLING FMS SOFTWARE AND POSTGRESQL® DATABASE

Prerequisites

- ✓ FMS software can be run on Windows® 10 Professional Edition or above, Windows® 8 Professional Edition or above, Windows® 7 Professional Edition or above, Windows® Server 2008 with R2 package, or Windows® Server 2012 with R2 package operating systems.
- ✓ You must have Administrator rights to install PostgreSQL® and FMS 5 software. Once installed, the software can be used by users of lower security privilege.
- ✓ FMS Software and PostgreSQL® software communicate using the TCP/IP networking protocol. The computer(s) in your system must be equipped and configured to participate in a TCP/IP network.
- ✓ License keys for FMS 5 should have been provided. These are printed on the cover page that came with the FMS software package and these keys will be needed during installation.
- ✓ The FMS 5 installer can automatically configure PostgreSQL® for use with FMS. To allow for this automated configuration, PostgreSQL® server should be installed properly *before* FMS 5.3.x is installed.
- ✓ In the following instructions the name of the database will be FMS01, the Client User will be named “client”, the Monitor User will be named “monitor”.
- ✓ To enable operation of your FMS Software, enter the License Key that you received in printed form with your software. A “USB Key” security device was also included with your FMS Software. The “USB Key” driver and the physical USB Key device must be installed before FMS 5 will operate (See [“USB Key Driver Installation”](#), below).
- ✓ Windows® Firewall and any other external firewalls that might interfere with TCP/IP communications, must be configured to allow communication between the FMS Monitor application, FMS Client and database applications (See [“Firewall Considerations”](#), below).
- ✓ In order to read or print the documentation included on the FMS 5.3.x installation CDs, Adobe® Reader® must be installed on the computer. A version of Adobe Reader has been included on the CD. Click the **Get Adobe Reader** link near the bottom of the autoplay menu to install it.
- ✓ Ensure that 24-hour time format is selected (**Control Panel | Regional and Language Options | Regional Options | Customize... | Time | Time format - HH:mm:ss**). This is usually the default setting except in the USA where 12-hour clock format is preferred.
- ✓ To generate reports, even to PDF files, a default printer must be installed and selected. If no printer is installed on the host computer, you can use the “Microsoft XPS Document Writer”, available from the Microsoft® website.
- ✓ Most computers come with the requisite operating system components pre-installed but on some computers it may be necessary to install these in addition to the above steps. FMS 5.3.x relies on redistributable x86 VS2008, x86 VS2010(version 10) and x86 VS2013(version 12). If Guard Service fails to start, check to see if all redistributables are installed. The redistributables are included in the CD as **vc redistrib_x86_VS2008.exe**, **vc redistrib_x86_VS2013.exe** and **vc redistrib_x86_VS2010.exe** under CD menu **Visual Studio Redistributables**.



Instructions

Firewall Considerations

In the default configuration, FMS Client and FMS Monitor communicate using the “Broadcast Port” of 4001 (UDP) and the “Request Port” 4002 (TCP/IP). Even when the client and Monitor are configured to run on the same computer, it may be necessary to reconfigure Windows Firewall before the Client and Monitor can communicate.

Firewalls may need to be configured to allow communication between FMS software and the Database Server. By default, PostgreSQL® communicates on port 5432.

If your devices are completely isolated from the Internet or other outside networks, it may be acceptable to turn off Windows® Firewall completely to allow free communication between FMS Software, the database server and remote devices.

For Windows® 7 operating system the following is an example of how to configure Windows® Firewall for a simple system where FMS Monitor, FMS Client, and PostgreSQL® Server are all running on the same computer:

1. Open **Control Panel – System and Security - Windows Firewall**. Select **Advanced settings** in the left window. The Windows Firewall with Advanced Security page will open. Select **Inbound Rules** in the left window.
2. Open the FMS “Broadcast Port” at 4001, UDP:
 - a. In the right window select **New Rule**. Select **Port**. Click **Next**.
 - b. Select **UDP**, enter 4001 in **Specific local ports**. Click **Next** accepting defaults until **Name** is requested.
 - c. Name it “FMS Broadcast”. Click **Finish**.
3. Open the FMS “Request Port” at 4002, TCP:
 - a. In the right window select **New Rule**. Select **Port**. Click **Next**.
 - b. Select **TCP**, enter 4002 in **Specific local ports**. Click **Next** accepting defaults until **Name** is requested
 - c. Name it “FMS Request”. Click **Finish**.
4. Open the PostgreSQL Communication port at 5432, TCP:
 - a. In the right window select **New Rule**. Select **Port**. Click **Next**.
 - b. Select **TCP**, enter 5432 in **Specific local ports**. Click **Next** accepting defaults until **Name** is requested
 - c. Name it “PostgreSQL”. Click **Finish**.

Anti-virus Considerations

If anti-virus software is running on your computer, it is highly recommended you disable the anti-virus software during the FMS installation. Anti-virus software can prevent FMS from creating and configuring the necessary SQL tables.

USB Key Driver Installation

1. Insert the “FMS Software” CD into your CD drive and allow the autoplay menu to open (if the menu does not automatically open, browse to the CD and double-click **autorun.exe**).
2. With the hardware key removed from the USB port, select **USB Key Driver Installation** from the autoplay menu of the FMS Software CD. Select the defaults for the installation.
3. After the driver is installed completely, install the USB Key into the USB port.

PostgreSQL® Installation

1. Insert the “FMS Software” CD into your CD drive and allow the autoplay menu to open (if the menu does not automatically open, browse to the CD and double-click **autorun.exe**).
2. Select **PostgreSQL Database Installation** from the menu to install the database and the PGAdmin database administration tool.
3. Work through the setup wizard accepting the default options.
4. When asked to enter the database password, enter in any password. Avoid the “%” character which will produce conflicting FMS behavior. Sometimes your domain will have minimum password specifications that the PostgreSQL password needs to meet. The default password is “fms”. Once the FMS 5.3.x software installation is complete, you may go back and change the PostgreSQL password using PGAdmin and FMS 5.3.x node configuration. If a different password is entered, ensure that you re-enter the same password during the FMS software installation when the option is presented.
5. There is no requirement for StackBuilder so the option to launch StackBuilder should be deselected.

FMS 5.3.x Software Installation

1. Ensure that 24-hour time format is selected on your computer (**Control Panel | Regional and Language Options | Regional Options | Customize... | Time | Time format - HH:mm:ss**). Note the upper case “HH” in the format string.
2. Insert the “FMS Software” CD into your CD drive and allow the autoplay menu to open (if the menu does not automatically open, browse to the CD and double-click **autorun.exe**).
3. Select **FMS Software Installation** from the menu.
4. Review the FMS 5 License Agreement and verify that you accept the terms of the agreement to continue. Also view the “Readme” for any updated notes regarding the software or installation.
5. Enter the Customer information as required.
6. FMS 5.3.x has two different user interface “looks”. **Pharmaceutical** mode has a docked user interface. The user has restricted choices over what information is displayed. **Standard** mode has a user configurable multi-document interface. For more details about the differences between these operating modes, contact your TSI Distributor or Sales Representative.
7. On the Installation Setup screen, select the drive where you want the software to be installed, and enter the License Key that came with your software package. **Enter the license key carefully, exactly as it is printed on the FMS documentation.**

There are three ways to proceed from this point. Follow the instructions below that match your installation requirements.

Option 1: Full installation of FMS Monitor and Client *with* automatic Database configuration

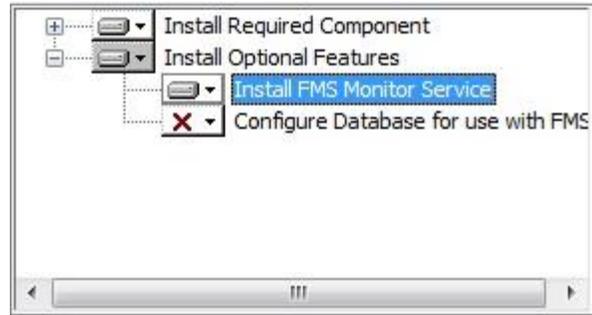
1. Select the **Complete** install option and click **Next**.
2. Read the informational pane regarding Database Servers and click **Next**.
3. Select the Database Server type appropriate to your system.
4. For the Database Password, the default is “fms”. If you had set up the Database with a different password, enter in that password. To accept the default click **Next**; otherwise, enter the correct password in the box before clicking **Next**.
5. Click **Install**. The FMS 5.3.x Software will be installed.
6. Once the installation is complete, click **Finish**. You will be asked if you want to restart your computer. Select **Yes** and allow the computer to restart before proceeding.

Option 2: Install FMS Monitor and Client *without* automatic Database configuration

1. Select the **Custom** install option and click **Next**.
2. Click on the option **Configure Database for use with FMS software**, and select the option **This feature will not be available**.

Note: The red "X" icon appears next to the deselected feature (see screen).

3. Click **Next**.
4. Click **Install**. The FMS 5.3.x Software will be installed.
5. Once the installation is complete, click **Finish**. You will be asked if you want to restart your computer. Select **Yes** and allow the computer to restart before proceeding.

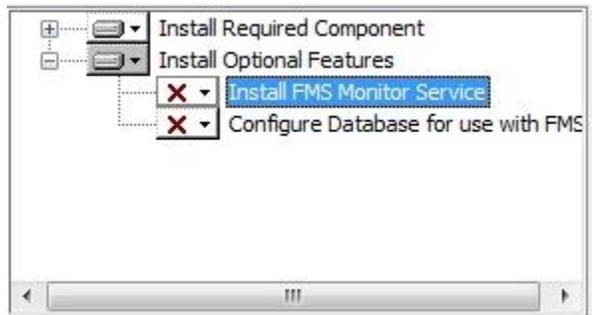


Option 3: Install FMS Client application only

1. Select the **Custom** install option and click **Next**.
2. Click on the feature **Install FMS Monitor Service**, and select the option **This feature will not be available**.
3. Click on the feature **Configure Database for use with FMS software**, and select the option **This feature will not be available**.

Note: The red "X" icon appears next to the deselected features (see screen).

4. Click **Next**.
5. Click **Install**. The FMS 5.3.x Software will be installed.
6. Once the installation is complete, click **Finish**. You will be asked if you want to restart your computer. Select **Yes** and allow the computer to restart before proceeding.
7. If FMS Client is installed on a different computer from the Monitor database server and the Monitor database server is PostgreSQL, it may be necessary to modify the PostgreSQL configuration on the database host computer to permit connections from the FMS Client computer. An additional entry will need to be made in the file `pg_hba.conf` in the folder `C:\Program Files\PostgreSQL\9.3.5\data`.



Eg

IPv4 local connections:

```
Host all all 127.0.0.1/32 md5
Host all all 10.1.25.65/32 md5
```

This example shows the addition of permission to connect from the computer 10.1.25.65

Optional FMS Demo Node Installation

The FMS Demo Node Installation automatically configures some simulated monitoring devices and sample points. It is useful when setting up a system for demonstration, evaluation, or training. To install, run "FMS Demo Node Installation" from the FMS Software CD autoplay menu.

NOTE

The FMS Demo Node installation is only useful if the complete install of Monitor and Client has been performed; it is not useful for a client-only installation.

Manually Entering FMS 5.3.x Software License Key

NOTE

If the License Key was not entered or was entered incorrectly during the software installation, it is possible to reenter the key manually using these instructions:

Start the FMS Client application by double-clicking the **Client** shortcut on the computer desktop.

1. A window will pop-up stating, "No License Key Entered. Please Enter a valid key and restart client." Click **OK**.
2. Enter a "Client Name" of your choosing. This will be used to identify this specific client within the monitoring system.
3. Enter your license key in the "License Key" field.
4. Click **OK**.
5. Select **Yes** when asked to close the Client application.
6. Restart the client application.
7. Instructions for entering the license key into the Node configuration varies between "Standard" and "Pharmaceutical" configurations:

Standard:	Pharmaceutical:
<ul style="list-style-type: none">• Select File, New . Window Type Configure (Next, Finish).• Select Monitor Settings from the Configuration pane at the left.• Enter the License Key in the field.• Click OK in the lower left, click Yes to confirm the action.• Restart the computer from the Windows® Start menu.	<ul style="list-style-type: none">• Select Node → Configure from the top menu.• Select Monitor Settings from the Configuration pane at the left.• Enter the License Key in the field.• Click OK in the lower left, click Yes to confirm the action.• Restart the computer from the Windows® Start menu.

NOTE

Once the computer restarts, the Client and Monitor applications should be ready for further configuration.

Operating System Components and Run-Time Files

If FMS software fails to start, it is possible that the requisite operating system components are not installed on the computer. It may be necessary to install these. Run the installer **vcredist_x86_VS2008.exe / vcredist_x86_VS2013.exe / vcredist_x86_VS2010.exe** which is available on the install disk. This will ensure essential run-time files and operating system components are available to FMS. Restart the computer and the Client and Monitor applications should now run.

FMS 5.3.x Upgrade Instructions

This section contains instructions to upgrade an existing FMS 5 installation to FMS 5.3.x.

1. Close **Client** (if opened) and stop the guard service.
2. Make a backup of **C:/FMS5**.
3. From control panel, uninstall all instances of FMS starting with the latest software update. After each uninstallation it is recommended to restart the computer.
 - a. For example, if FMS 5.0.6 is installed with SU110, SU112, and SU118 the following needs to be done to uninstall FMS.
 - b. Uninstall SU118 (restart computer)
 - c. Uninstall SU112 (restart computer)
 - d. Uninstall SU110 (restart computer)
 - e. Uninstall FMS 5.0.6 (restart computer)
4. After all components of FMS have been uninstalled, delete all folders in C:/ that pertain to FMS5. This includes **C:/FMS5** and any backups the software updates had, except for the backup created in step 2.

NOTE

DO NOT delete the backup folder that was created in step 2.

5. Install FMS 5.3.x. **DO NOT** run the database configuration if you are not upgrading your database. The database configuration is provided only for PostgreSQL 9.x.
6. Once FMS 5.3.x is installed and computer is restarted, stop guard service and copy over the following folders/files from the backup folder created in step 2.
 - a. Folders:
 - i. Actions
 - ii. Archive
 - iii. Data
 - iv. Node
 - v. Reports
 - vi. Users
 - b. Files:
 - i. /Bin/Guard.ini - if a custom Guard.ini file is used.
 - ii. Any custom file in /Bitmaps
 - iii. /Config/ClientOptions.xml (Client license key will need to be re-entered)
 - iv. /Config/NodeLocal.xml (Monitor license key will need to be re-entered)
 - v. /Config/NodePassword.xml (only if upgrading from FMS 5.2.x and later)
 - vi. Any custom driver files in /Config
 - vii. Any custom drivers in /Drivers
 - viii. Any custom driver form files in /Forms
 - ix. Any custom map images or map xml files in /Maps
 - x. Any custom sounds in /Sound
 - xi. Any FMS 5.2.x graph configuration files. If the graph configuration file is for versions prior to FMS 5.1.0, they will need to be re-created.
 - xii. Any custom translations in /Translations. Note: a lot of text was changed in FMS 5.3.x, if a custom translation is being used, there will be several texts that will not be translated. If this is the case, contact TSI.
 - xiii. If **any** nodes are set as required nodes (even only one), modify the following line in config/clientoptions.xml. **Note:** This should be checked for every Client.

- 1) **Multi-Node:** <RequiredMonitors NodesList="node1 node2 node3"/>
 - 2) Replace each *space* in-between the node name with a comma, so that the resulting example in (1) will now look like:
 - 3) <RequiredMonitors NodesList="node1,node2,node3"/>
 - a) Notice the space was also removed after node3
 - 4) **Single Node:** <RequiredMonitors NodesList="node1"/>
 - 5) **After:** <RequiredMonitors NodesList="node1"/>
- xiv. Any report that contained log tables (Audit, Event, Alarm) will need to be reconfigured.
- xv. If previous installation was using PostgreSQL for the database, the psql_fms01.sql script will need to be run.

Open a command prompt and navigate to the Postgres Bin directory (e.g., **C:\Program Files (x86)\PostgreSQL\9.3\bin**) and type in the following command:

```
psql.exe -U postgres < "path-to-psql_fms01.sql"
```

```
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.

C:\Users\jason.oien>cd "c:\Program Files (x86)\PostgreSQL\9.3\bin"
c:\Program Files (x86)\PostgreSQL\9.3\bin>psql.exe -U postgres < "C:\FMS5\psql_fms01.sql"
```

7. Start Guard service.
8. Start **Client**.

Incompatible Items

1. Any layout files will need to be re-created if upgrading pre-FMS5.2.x.
2. Any graph configuration files prior to FMS 5.1.0 will need to be re-created. Note: FMS 5.1.0 graph configuration files will work with FMS 5.3.x.
3. All previous Alarm Groups are incompatible with FMS 5.3.0. Alarm Groups will need to be reconfigured for FMS 5.3.0.
4. Phoenix Units and Sample Points will need to be updated if upgrading pre-FMS5.2.x.
5. All report configurations should be checked. If the report contained a graph, the graph settings will need to be updated.
6. FMS Security was overhauled in FMS 5.2.x resulting in previous security files being incompatible. Security will need to be re-created if upgrading pre-FMS 5.2.x. Minor security changes were made in FMS 5.3.x, security configuration settings should be reviewed after installation.
7. Starting in FMS 5.2.0, license keys are specific to minor versions. This means an FMS 5.2.0 license key will only work with FMS 5.2.x, it will not work with previous versions (5.1.x and prior) or later versions (5.3.x and above).
 - a. If using ClientOptions.xml from a previous installation, a dialog box will appear to update the Client license key upon FMS 5.3.x Clients initial launch. Alternatively, the Client's license key can be updated at **Client Options → Identification → License Key**.
 - b. If using NodeLocal.xml from a previous installation, Monitor's license key will need to be updated. Monitor's license key can be updated at **Configure → Monitor Settings → License Key**. Enter the new license key, save and restart Monitor. Once Monitor restarts, either restart Guard Service or restart the computer to apply Monitor's new license key.
 - c. If using Buddy, remember to update Buddy's files as well.
8. While not required, it is a good practice to check all settings in Client Options, Configurations, and Reports after upgrading to FMS 5.3.x.

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