Track Forever Enterprise Server

Control Center Application

User Manual Draft

Version 4.0.5

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INVINCIBLE TECHNOLOGIES (SMC-PVT) LTD

Invincible People, Invincible Technologies & Invincible Solutions
We develop solutions that reach beyond physical boundaries using state of the art internet, intranet, GSM, GIS, GPS and related technologies.

Contents

1. Introduction

Track Forever ™ is an enterprise grade GSM/GPRS based GPS asset (vehicle / container) tracking software solution that help corporations of all scales to track their immovable or moveable assets (rails, truck, car, bikes, bicycles etc) in an automated and efficient way. By using this software user can administrate, monitor, communicate, regulate and control fleet. Most of the tasks are automated and require less human interaction.
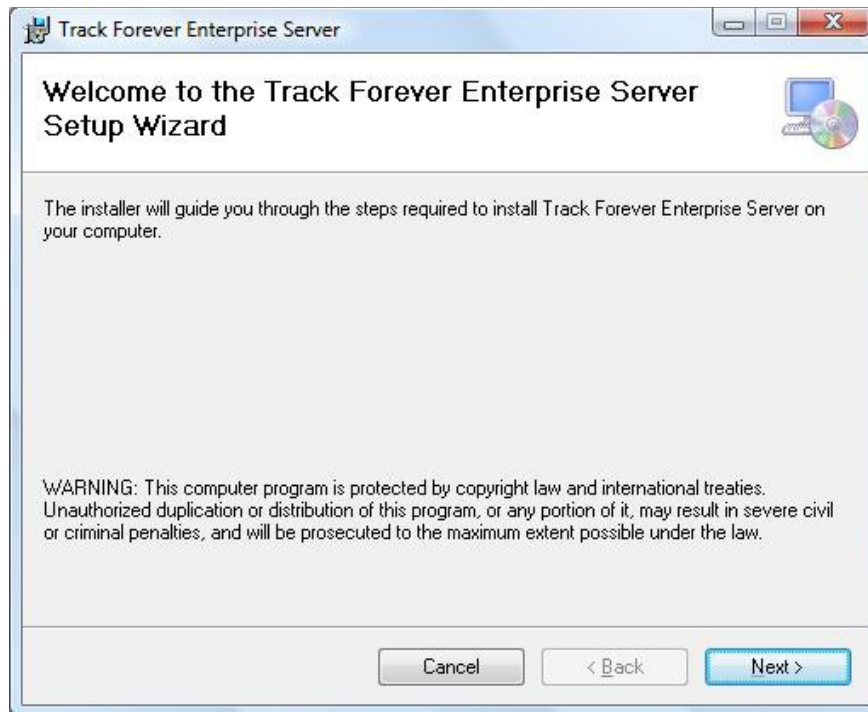
2. Track Forever Enterprise Server

This is control center software application and is the core subsystem of Track Forever Enterprise Software Suite. This software package "Track Forever Enterprise Server" is responsible for all the communication and processing of the data. Control center users connect via "Track Forever Enterprise Client" to perform their respective tasks.

3. Installing Software

Track Forever Enterprise Server setup wizard is simple and easy featuring a standard Microsoft Windows setup interface for 32bit and 64bit machines. User only needs to complete a few steps.

1) Double click on the setup.exe (or similar file name) file on the CD-ROM. This will launch the Setup Wizard.

2) Click Next on the Window Screen.

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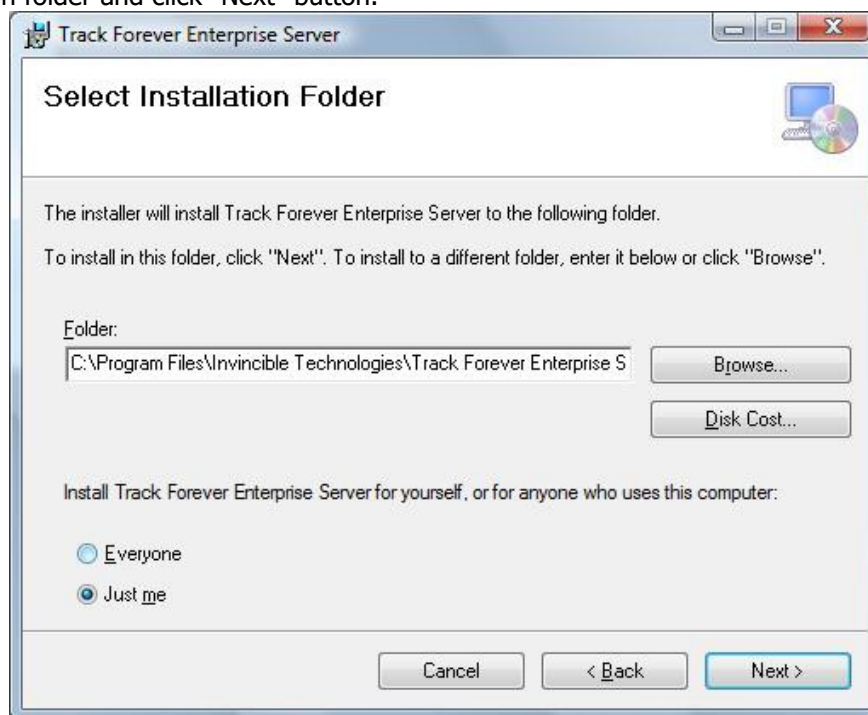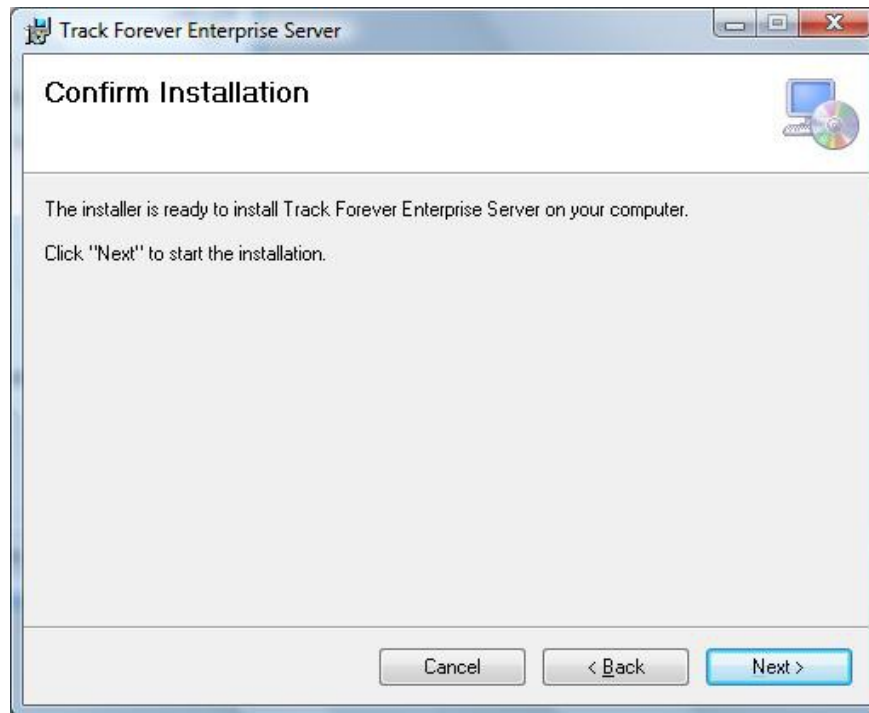
3) Read the License Agreement carefully and select "I Agree" and click "Next" to proceed further or click "Cancel" button to cancel the installation wizard.

4) Select installation folder and click "Next" button.

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5) Confirm installation by clicking on the "Next" button.

6) Track Forever Enterprise Server will now install the program files. If there were no problems during installation, user will see the installation complete screen.

7) Install associated databases in MS-SQL 2012 or later with downloaded database script.

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8) Configure database settings with username, passwords and server details in "Track Forever Enterprise Server" settings form.

4. Uninstalling Software

1) You may uninstall software via "Add/Remove Programs" in control panel.

5. Minimum Requirements

The software and hardware prerequisites for installing Track Forever on a Windows system are as follows:

1) Windows Server 2003/08/12, Microsoft XP, Vista, or Windows 7/8/10;
2) MSSQL 2012 or Later
3) Xeon Standard Server Machine with 1.8GHz;
4) Minimum 4GB RAM recommended;
5) Up to 1 GB empty hard disk space;
6) 1024x768 resolution (higher resolution recommended), with 16bit or better color depth.

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6. Running "Track Forever Enterprise Server"

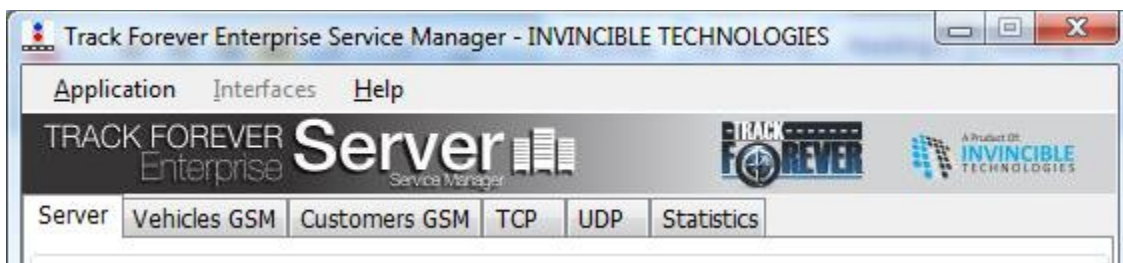After successful installation, user may start application by clicking "Track Forever Enterprise Server" icon placed on desktop or by clicking "start->all programs->invincible technologies->track forever enterprise server" menu item. This will load "Track Forever Enterprise Service Manager" form as shown below in fig. 6.1. This form let user start, stop and also perform various other server specific functions.

Note *that this software package installs as windows service "Track Forever Enterprise Server".*

(6.1)

1) "Track Forever Enterprise Service Manager" has an application menu that can be activated by pressing "Alt" button as shown below in fig. 6.2.

(6.2)

2) In order to access "Application" menu, press "Alt+A" button on the "Track Forever Enterprise Service Manager" application form. This will open "Application" menu as shown in fig. 6.3. below:
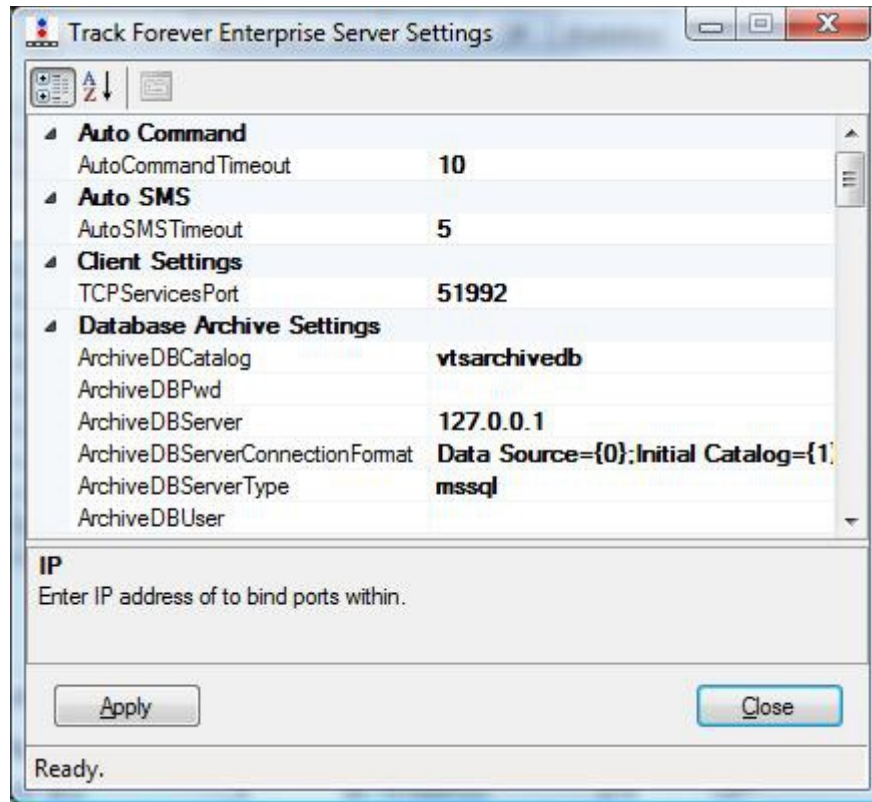

(6.3)

3) User may start, stop and configure "Track Forever Enterprise Server" via application menu as shown in fig. 6.3.

4) User may also start, stop or restart "Track Forever Enterprise Server" via "Administrative Tools-> Services" in "Control Panel".

7. Settings

In order to configure "Track Forever Enterprise Server"

1) Press "Alt+A" to activate application menu and then select "Settings" menu item. "Track Forever Enterprise Server Settings" form will be displayed as shown below.

(7.1)

2) Enter Server IP, Archive, Core and History database settings correctly.
3) In order to send email event notifications, enter email server settings.
4) Press "Apply" button to save changes.
5) Restart the "Track Forever Enterprise Server" to take changes effect.
6) If everything goes well, server status will display as in fig. 7.2.

(7.2)

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8. Getting Started

Setting up "Track Forever Enterprise Server" can be a bit tricky but with proper software resources and configuring information it's a straight forward process. In this tutorial we'll discuss "Track Forever Enterprise Server" in terms of its dependencies and service level that can be achieved with proper configuration.

8.1. Dependencies

User must have following software resources installed:

1. Windows Server 2003/08/12
2. IIS 7 or later and ASP .NET
3. MSSQL 2012 or Later
4. Database Setup via Provided DB Script files
5. Internet Access and Static IP Address
6. Email Server Settings for Email Alerts (Optional)
7. GSM Modem for Text Alerts (Optional)
8. HTTP SMS API for Branded Text Alerts (Optional)
9. Geo-Coding/Decoding APIs (Optional)

"Track Forever Enterprise Server" is a distributed software application; it has cross process cross machine communication capabilities over TCP and HTTP. It installs as windows service, integrates with IIS, Email Server, Local/Remote GSM Modems, HTTP SMS APIs and Geo-Coding/Decoding APIs for third party support.
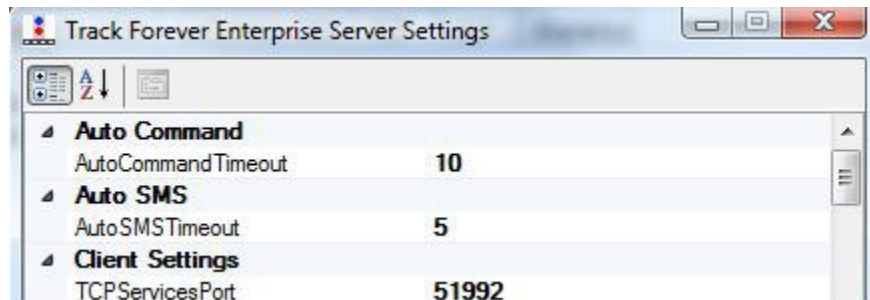
8.2. Service Level

"Track Forever Enterprise Server" can maintain following service level:

1. In house vehicle tracking and fleet management capability
2. Web based access to fleet for customer or concerned people
3. Multiple tracking devices (modems) communication capability
4. SMS and Email alerts transmission of important events

8.3. Configuration

"Track Forever Enterprise Server" configuration is divided into different sections as explained below:

(8.3)

8.3.1. Auto Command (AutoCommandTimeout)

This section (fig. 8.3) defines the rate (in seconds) at which server timeout the recently sent text message (command to vehicle) response from GSM modem connected via serial port (obsolete, use Track Forever Modem).

8.3.2. Auto SMS (AutoSMSTimeout)

This section (fig. 8.3) defines the rate (in seconds) at which server timeouts the recently sent text message (sms to customer) response from GSM modem connected to the serial port (obsolete, use Track Forever Modem).
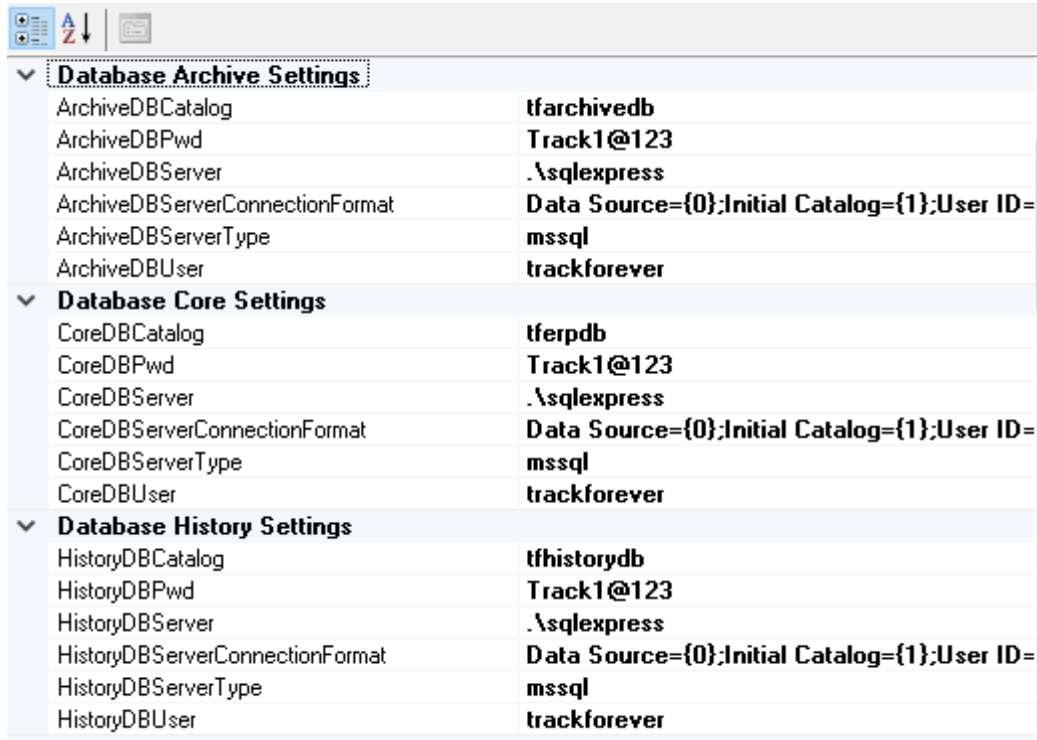
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8.3.3. Client Settings (TCPServicesPort)

This section (fig. 8.3) defines the TCP port setting where "Track Forever Enterprise Client" connects.

8.3.4. Database Settings

This section defines the settings for the connectivity to the SQL Server. By default "Track Forever" data store is divided into 3 databases as per their nature of growth and utility. These are the tferpdb, tfhistorydb and tfarchivedb. tferpdb database hosts the schema that is essential to run business process and does not grow rapidly as compared to tfhistorydb and tfarchivedb. This allows user to distribute data among different databases for easy backup and storage management.

To setup core, history and archival databases refer to fig. 8.4.

(8.4)

Note: Server may be configured with default username (trackforever) and password (Track1@123), however, it is strongly recommended that above credentials (username and password) should be replaced. Ask your SQL Server administrator to configure application with newly generated database logins (users) and passwords.

8.3.4.1. Database Core Settings

In this section user needs to provide following

1. CoreDBServer (IP,domain,machine name, SQL Server Instance)
2. CoreDBUser (Username to access core database)
3. CoreDBPwd (Password for the user)

8.3.4.2. Database History Settings

In this section user needs to provide following

1. HistoryDBServer (IP,domain,machine name, SQL Server Instance)
2. HistoryDBUser (Username to access core database)

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3. HistoryDBPwd (Password for the user)

8.3.4.3. Database Archive Settings
In this section user needs to provide following
1. ArchiveDBServer (IP,domain,machine name, SQL Server Instance)
2. ArchiveDBUser (Username to access core database)
3. ArchiveDBPwd (Password for the user)

8.3.5. Email Settings
In order to send email alerts, user must setup email server settings.

Refer to the following fig. 8.5

Email Settings	
BccEmail	
EmailPort	25
EmailPWD	
EmailServer	
EmailUserID	
FromEmail	
FromTitle	

(8.5)

User need to provide following details:

1. EmailServer (Authenticating email server IP or domain)
2. EmailPort (Email server port, default value is 25)
3. EmailUserID (Authenticating user email address)
4. EmailPWD (Authenticating user password)
5. FromEmail (User email address from which email will be sent, like *do-not-reply@xyz.com*)
6. FromTitle (User email title like *ABC Corp.)*
7. BccEmail (**optional:** email address to which every transmitted email will be copied)

8.3.6. General Settings

This section defines the parameters that are important to setup "Track Forever Enterprise Server" behavior.
Refer to the following fig. 8.6

General Settings	
AlarmInterval	20000
AutoSMSAlarms	True
AutoStart	True
CompanyName	
CompanyURL	
EventSychronizingTime	15
IP	127.0.0.1
LoadLocationsLocally	True
MonitorTCP	True
NearestLocationRangeInDegrees	0.05
ShowActivity	True
TCPConnectionTimeOut	0
TCPFlusher	60
UseDistanceRangeToFindLocation	False
VirtualAlarms	True

(8.6)

User will need to provide at least following details:

1. IP (Internet Static IP address)
2. CompanyName (like *ABC Corp.*)
3. CompanyURL (like *xyz.com*)
4. LoadLocationLocally (by default set to *true*, for larger fleet or load need to set to *false*)

8.3.7. Misc. NR and Security Settings

This section defines parameters that allow user to integrate server with third party geo-decoding service provider, domain controller for security and NR settings to indentify not reporting units in timely manner.

Refer to the following fig. 8.7

Misc	
EmergencyAlertCell	
MapQuestKey	
NR Settings	
EnableNRMonitoring	True
NRCandidateHours	2
NRHours	6
Security	
EnableSecurity	False
ServerDomain	

(8.7)

8.3.8. SMS Settings & TCP Port Settings

This section defines settings that are important to configure server to communicate via SMS and TCP.
Refer to the following fig. 8.8

▲ SMS Settings	
EnableHandshake	True
GsmFilter	
HPQueuePollTime	5
LPQueuePollTime	5
SerialTolerance	2
SmsTimeOutInSeconds	15
SMSTransmissionWaitTime	7
UseBuffer	False
▲ Tracking Device Port Settings	
BufferLimit	512
TCPEndPoints	6530,6531,6532,6533,6534,6535,65
TCPGateways	Generic,FMXXXX,EnforaMT,PF03,PF
UDPEndPoints	6530,6531,51990,51991
UDPGateways	Generic,Calamp,Generic,Generic

(8.8)

By default user do not need to make any modifications into this section. However, user may change TCP/UDP port settings as per their requirements.

8.3.8.1. TCPEndPoints, TCPGateways

TCPEndPoints defines the TCP ports through which server will communicate with devices. Every end point has an associated device defined in TCPGateways. For example, TCPEndPoint **6530** has an associated **Generic** device parser as shown in fig.8.8. Similarly, **6531** has an associated **Teltonika** parser. Please check latest server installation settings and configure your devices appropriately.

8.3.8.2. UDPEndPoints, UDPGateways

UDPEndPoints defines the UDP ports through which server will communicate with devices. Every end point has an associated parser defined in UDPGateways.

8.4. Configuration File Settings

Set "CommunicatorPing" in configuration file (.config) to true for "Track Forever App Communicator" application. By default this value is set to false.

"Track Forever App Communicator" should also be configured with "CommunicatorPing" for auto-ping connection assurance and recovery in executable (.config) file.
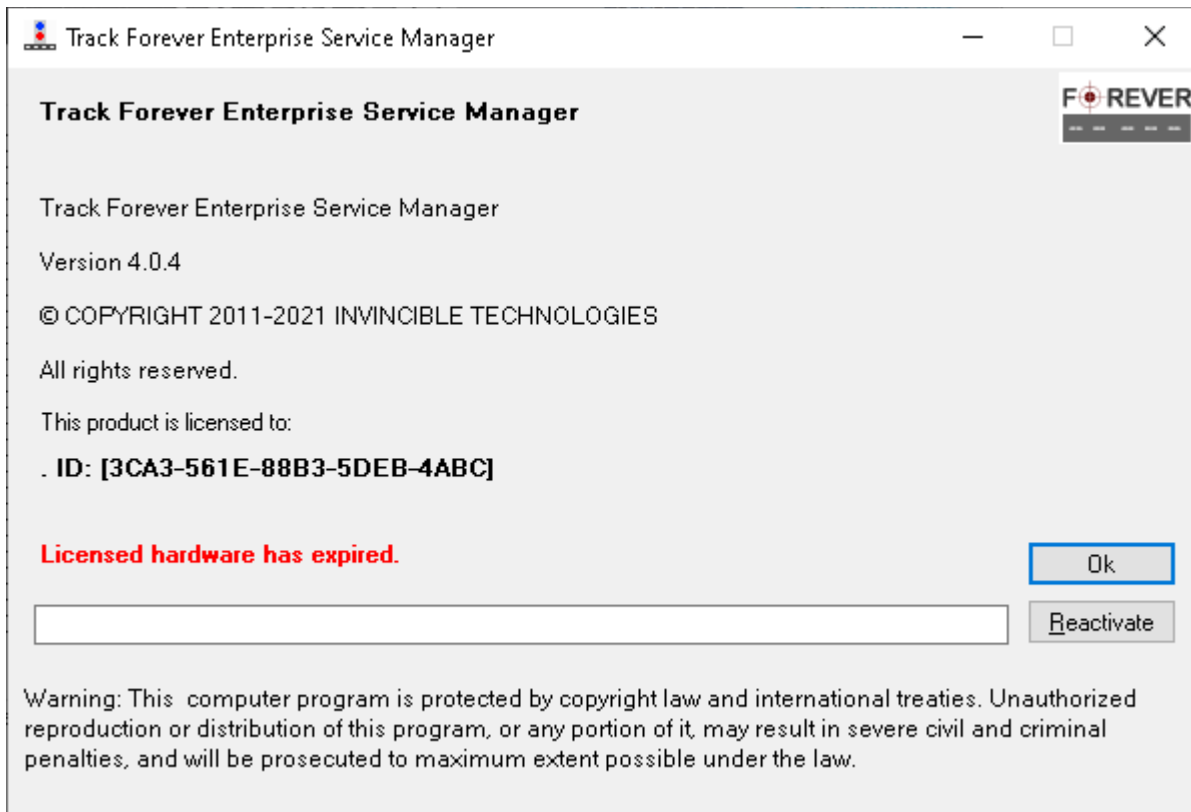
8.5. License Settings

License information is available in "Help->About Service Manager" form. Press "Alt + H" and select "About Service Manager" menu item. This will display "About Service Manager" form as displayed in figure 8.10.

(8.9)

8.5. About Service Manager

Following display "About Service Manager" form. Note hardware license id to get a new license. Make sure you start service using "Application → Start Service" menu item as displayed in figure 6.3, otherwise license id will not be displayed.

(8.10)

Place newly received file in "C:\Program Files\Invincible Technologies\Track Forever Enterprise Server" folder. Delete any existing license files.

On successful license application "Hardware Ok" message will be displayed.

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