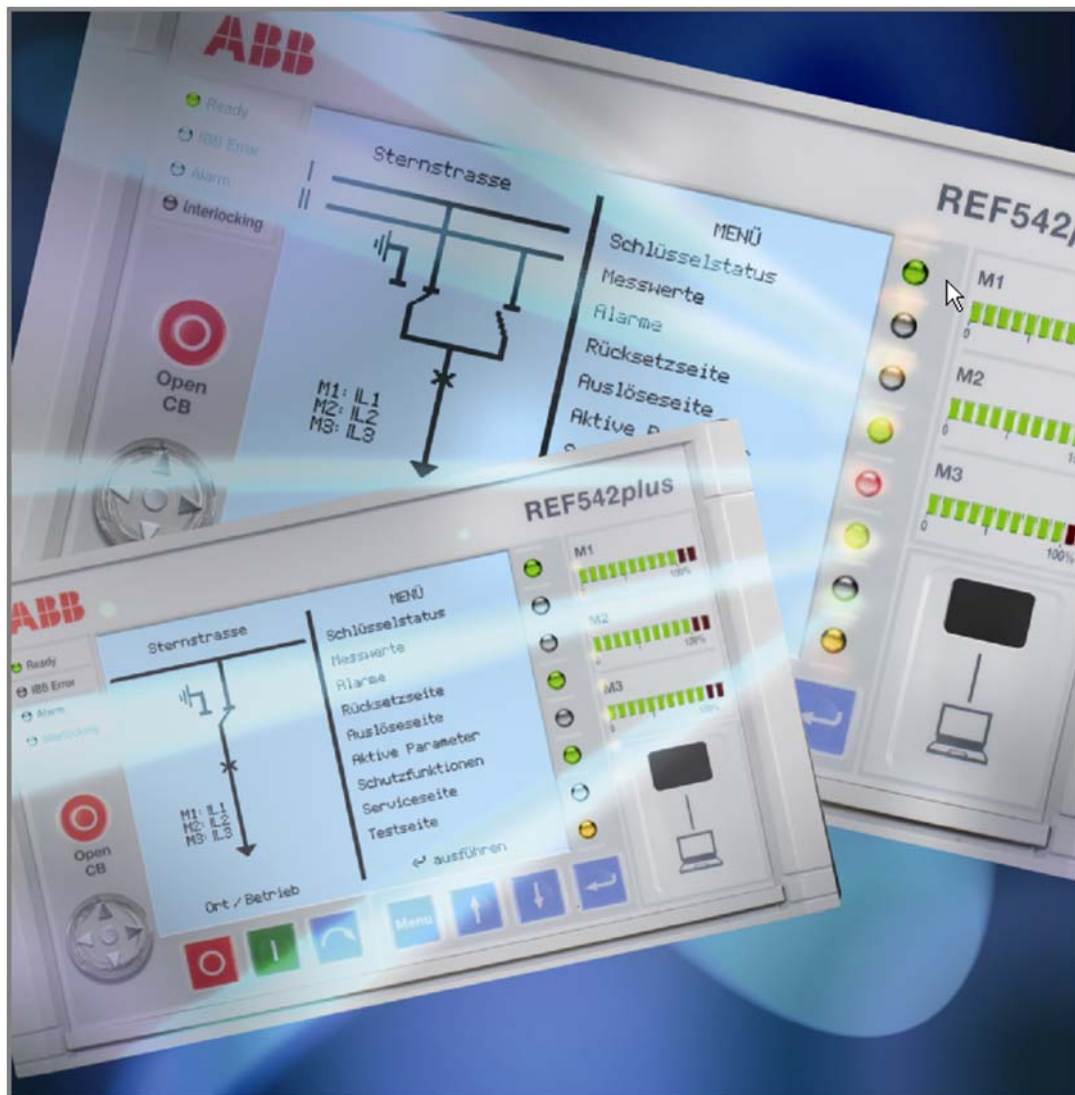


REF 542plus

Lifecycle Service Tool

Operator's manual



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1. Introduction

1.1. This manual

This manual provides thorough information on the feeder terminal relay REF 542plus and its applications. It is mainly a technical description of the relay which is related to the Lifecycle Service Tools.

1.2. Use of symbols

This publication includes the following icons that point out safety-related conditions or other important information:



The warning icon indicates the presence of a hazard which could result in personal injury.



The information icon alerts the reader to relevant facts and conditions.

It should be understood that operation of damaged equipment could, under certain operational conditions, result in degraded process performance leading to information or property loss. Therefore, comply fully with all notices.

1.3. Intended audience

This manual is intended for engineers to support configuration and engineering of systems and/or applications.

1.4. Product documentation

Name of the Manual	Document ID
Real Time Clock Synchronization, IRIG-B Input Time Master	1MRS755870
Product Guide	1MRS756269
Configuration Manual	1MRS755871
iButton Programmer User Manual	1MRS755863
Manual Part 3, Installation and Commission	1 VTA100004
Manual Part 4, Communication	1VTA100005
Motor Protection with ATEX Certification, Manual	1MRS755862
SCL Tool Configuration Manual	1MRS756342
Protection Manual	1MRS755860
Technical Reference Manual	1MRS755859
Technical Reference Modbus RTU	1MRS755868
Web Manual, Installation	1MRS755865
Web Manual, Operation	1MRS755864

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Name of the Manual	Document ID
IEC 61850 Protocol Implementation extra Information for Testing (PIXIT)	1MRS756360
IEC 61850 Conformance Statement	1MRS756361
IEC61850 Tissues conformance statement	1MRS756362

1.5.

Document revisions

Version	IED revision number	Date	History
1MRS756725	Release 2.6, version V4F06x	28.11.2008	

1.6.

Applicability

This manual is applicable to the REF 542plus release 2.6, software version V4F06x.

2. Safety information



Dangerous voltages can occur on the connectors, even though the auxiliary voltage has been disconnected.

Non-observance can result in death, personal injury or substantial property damage.

Only a competent electrician is allowed to carry out the electrical installation.

National and local electrical safety regulations must always be followed.

The frame of the device has to be carefully .



The device contains components which are sensitive to electrostatic discharge. Unnecessary touching of electronic components must therefore be avoided.

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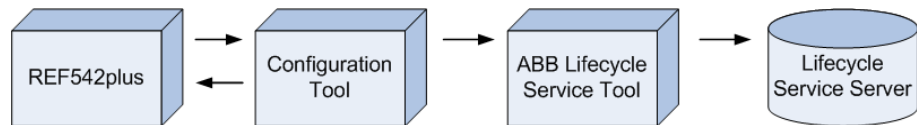
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3. Global Lifecycle Service

The feeder terminal REF 542plus supports the automatic collection of ABB product information sent to a centralized ABB database called ServIS. The terminal has the ability to keep track of information concerning ABB products and systems in applications with different installations. The aim is to provide a global lifecycle service of all ABB products.

3.1. ABB lifecycle service for REF 542plus

The information of the REF 542plus hardware and software components as well as the customer site address are collected together in an XML-formatted composition file by a “lifecycle service driver” running on the unit itself. The corresponding configuration tool takes this file and sends it to a software component named ABB Lifecycle Service Tool installed during the setup of the configuration tool. ABB Lifecycle Service Tool has the task to establish an Internet connection with ServIS DB (through the Lifecycle Service Server) and send the file to it.



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Fig. 3.1.-1 Data flow for the Lifecycle Service

3.2. Lifecycle Service component

Lifecycle Service Tool works alongside with configuration tool and is responsible for bringing data from the substation to the ABB service server without user interaction.

Lifecycle Service Tool runs in the background for incoming data from the REF 542plus configuration tool. Upon reception, data is locally stored on the local hard disk and subsequently, as soon as the ABB lifecycle service server becomes available, it is uploaded to the ABB central server.

The Lifecycle Service Tool software is not responsible for direct communication with the IED since it leans on the specific communication functionalities built in the configuration tool.

The main features of Lifecycle Service Tool are the following:

- It collects data received from the IED and configuration tool.
- It stores IED data as a file in the interim.
- It transfers data to the database automatically.

Lifecycle Service Tool has a built-in updating mechanism which updates the tool automatically without user interaction. The mechanism includes security handling by using the HTTPS protocol.

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Lifecycle Service Tool is automatically launched when the application is restarted.

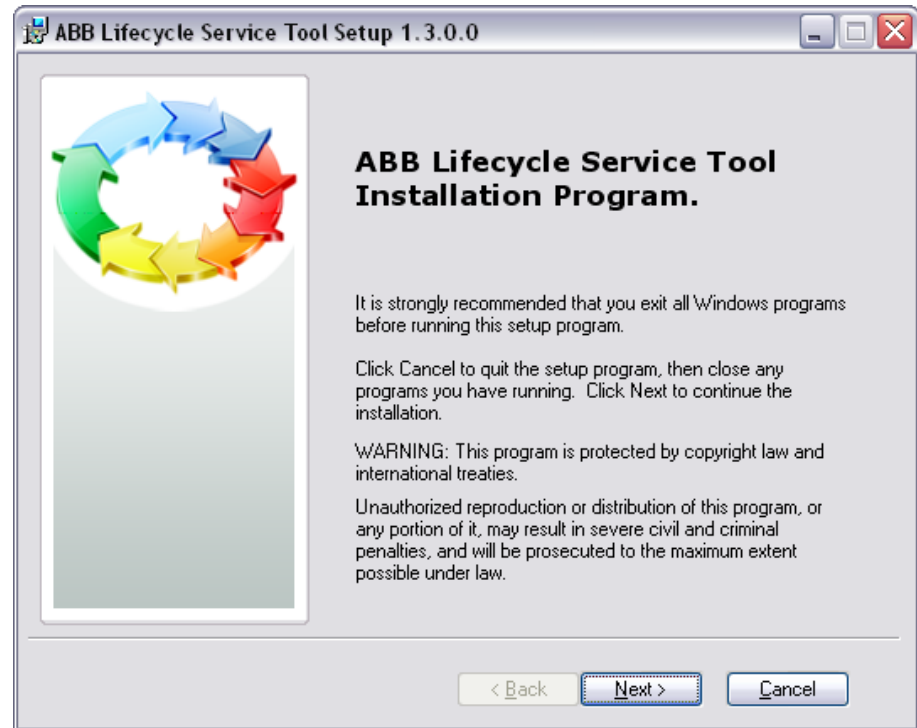
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4. Installation

Configuration tool manual provides a full description of the configuration tool installation phase.

The program setup process of the configuration tool is integrated with a step regarding the installation of the Lifecycle Service Tool component.

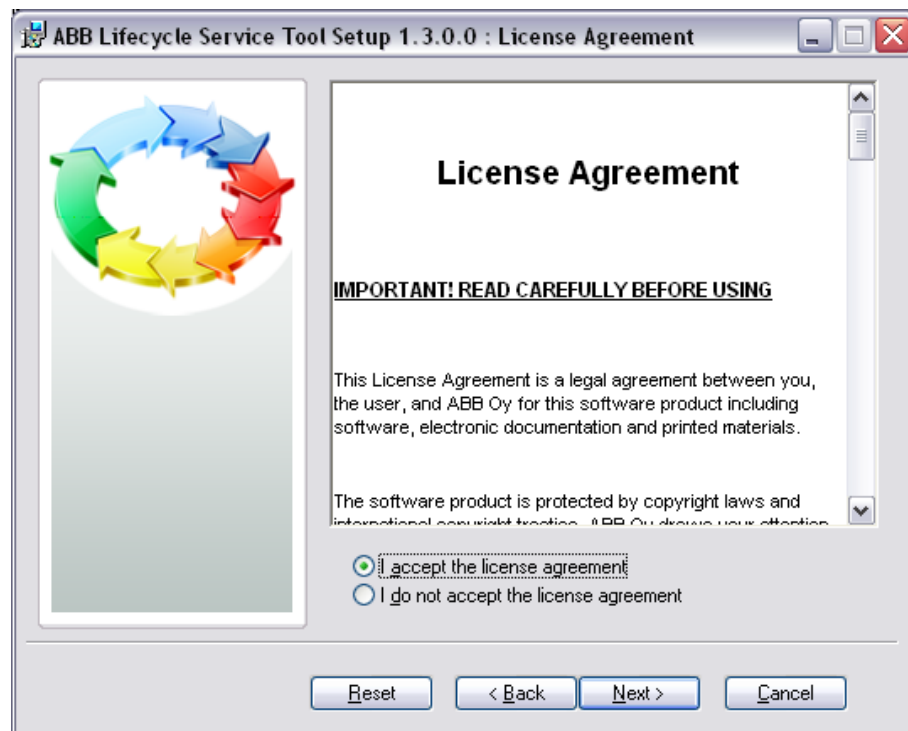
- Double-click the setup.exe program file on the disk to start the installation software. The installation proceeds with a request of license agreement.



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Fig. 4-1 Setup of ABB Lifecycle Service Tool

The installation proceeds with the request of license agreement.



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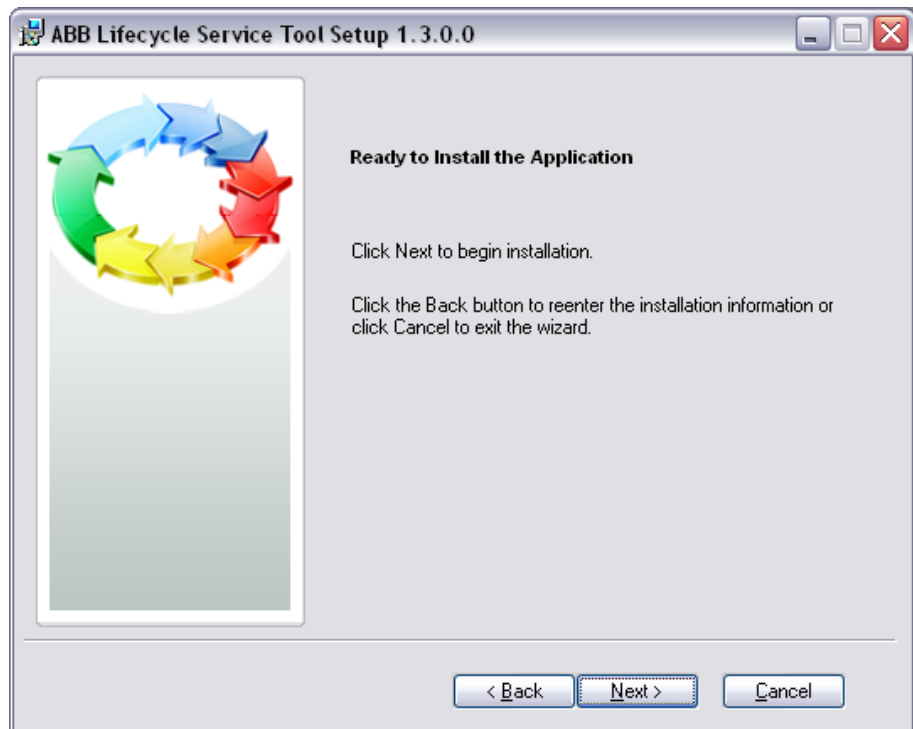
Fig. 4.-2 License agreement

Accept the license agreement and click **NEXT**. The setup is ready and begins the installation.



To cancel the installation of Lifecycle Service Tool, click **Cancel**. The setup of the configuration tool is not affected in any case.

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Fig. 4.-3 Last step of the Lifecycle Service Tool setup

After the completion of the entire setup process the Lifecycle Service Tool icon is shown in the system tray area.

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5. Uninstalling

5.1. Uninstalling the Configuration Tool

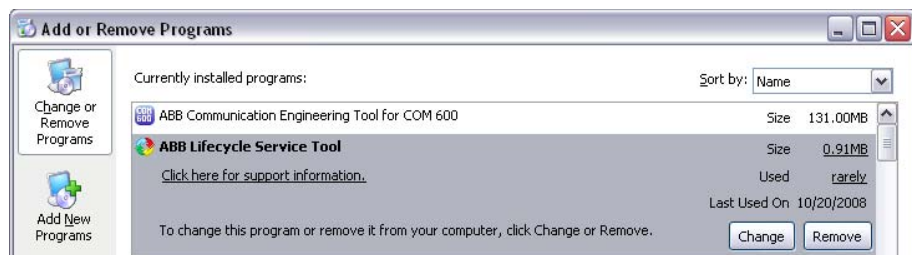
To remove the REF 542plus Configuration Tool, follow the corresponding procedure in the related manual.

5.2. Uninstalling the Lifecycle Service Tool

The installed tool is compatible with the MSI (Microsoft Installer) technology. Thus it is always possible to repair or remove the tool from the machine.

Remove the Lifecycle Service Tool component as follows:

- Go to the Start menu and choose settings.
- Go to the Control Panel and select Add/Remove Programs.
- Mark the ABB Lifecycle Service Tool and click **Remove**.
- Follow the instructions on the screen that appears.

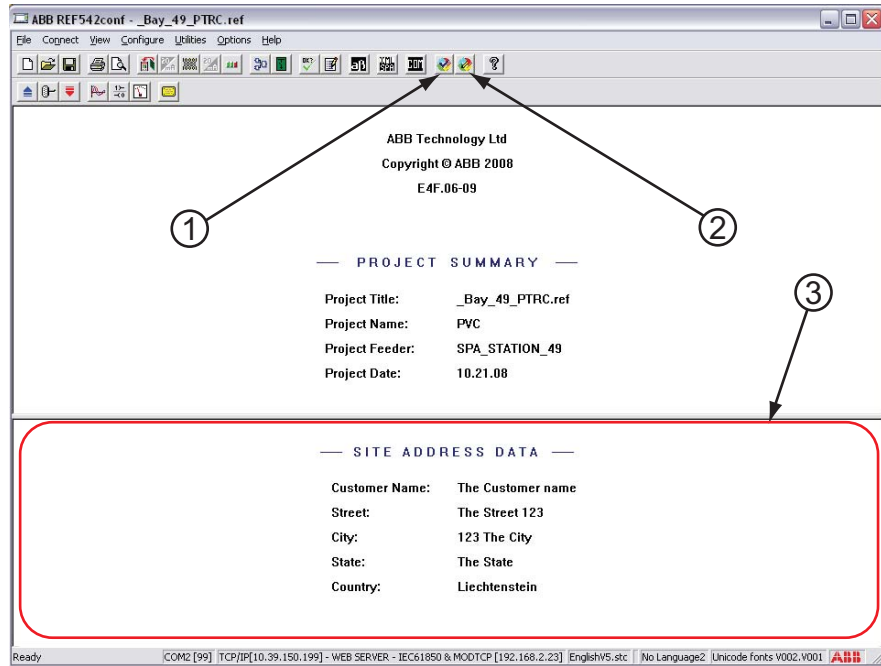


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Fig. 5.2.-1 Uninstalling Lifecycle Service Tool

6. User interface

6.1. Configuration Tool User Interface commands



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Fig. 6.1.-1 Main frame window

1. Get composition data from the IED and send to Lifecycle Service Tool.
2. Open the Site Address information dialog.
3. Site Address information section.

A space dedicated to site address data is included in the main area of the window. It is filled with information of the site address read from the feeder terminal unit or updated by the user through a dialog during the commissioning.



The information typed in the Site Address Data dialog box is sent to the lifecycle service database. Therefore, be aware that wrong or missing information is also transferred to the database. This can cause problems during, for example, service.

The toolbar has two buttons for the functions.



Fig. 6.1.-2 Toolbar buttons for Lifecycle Service Tool functionalities

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The first is used to manually force the entire procedure of data collection from the IED and its transfer to the Lifecycle Service Tool component, while the second is intended to open the dialog box for updating of the site address data.

6.2. Lifecycle Service Tool user interface commands

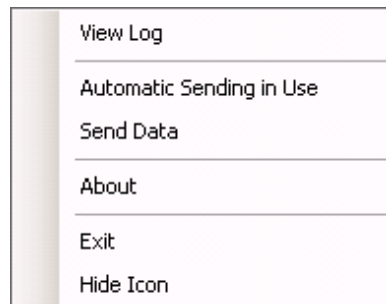
After the setup process the following icon is displayed in Windows' system tray area and a tool tip text is shown when you move the mouse over the icon.



A080380

Fig. 6.2.-1 Icon displayed for Lifecycle Service Tool component

Right-click the icon to open the lifecycle service tool menu.



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Fig. 6.2.-2 Lifecycle Service Tool menu

The actions of each menu item are listed below:

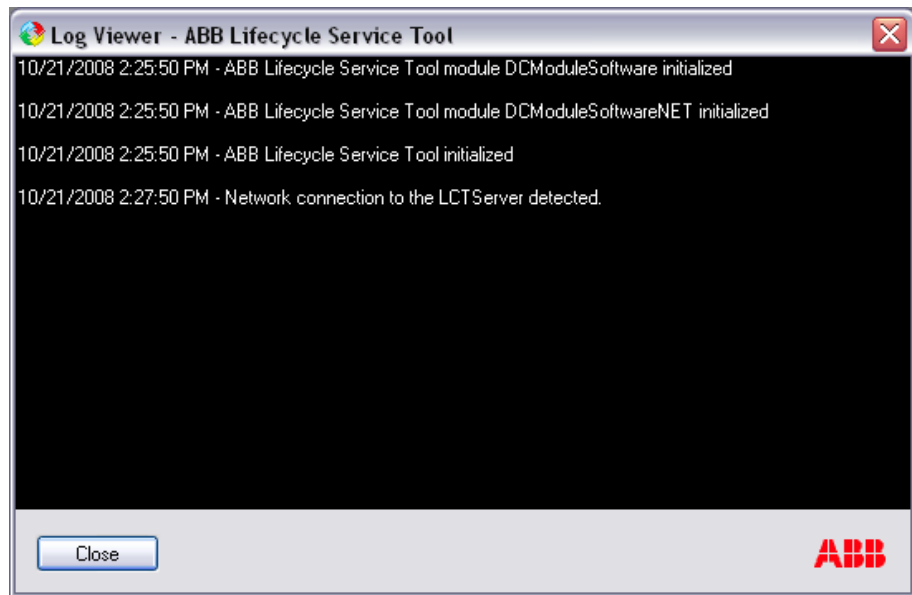
- View Log – Opens a window showing the actual (today) log file of the Lifecycle Service Tool.
- Automatic Sending in Use – The user can set the automatic data sending to the Lifecycle Service Server on or off. If the automatic sending is on, the system sends the data without asking for the user's permission. If the automatic sending is off, the system asks for a permission to send the data.
- Send Data – Sends the collected data to the Lifecycle Service Server.
- About – Opens the About dialog. The dialog displays information about the program.
- Exit – Stops the execution of the program.
- Hide Icon – Hides the icon from Windows' system tray.

6.3. View log

The Lifecycle Service Tool produces a log file each day. The log viewer in the following figure shows the log file of the current (today's) Lifecycle Service Tool session. The log contains some information of actions that the tool has done and possible error messages.

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Fig. 6.3.-1 Lifecycle Service Tool log viewer

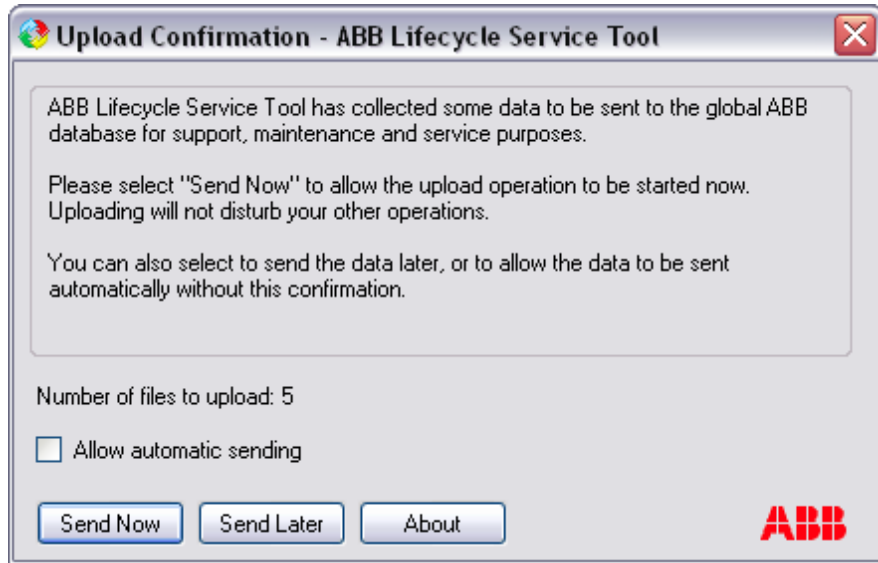
6.4.

Confirmation dialog for sending data

When data is ready to be sent to the Lifecycle Service Server the user can select sending it now or later at the bottom of the related dialog.

- By clicking **Send Now** the collected data is sent to the Lifecycle Service Server immediately. This permission is valid for the next hour.
- By clicking **Send Later** the collected data is not sent to the Lifecycle Service Server, but stays in the local data buffer. The user is asked again at an interval of one hour.

The dialog also contains an “Allow automatic sending” check box. By checking that box the user is not asked again if they want to send data to the lifecycle service server, but the data is sent immediately when the system recognizes the network.

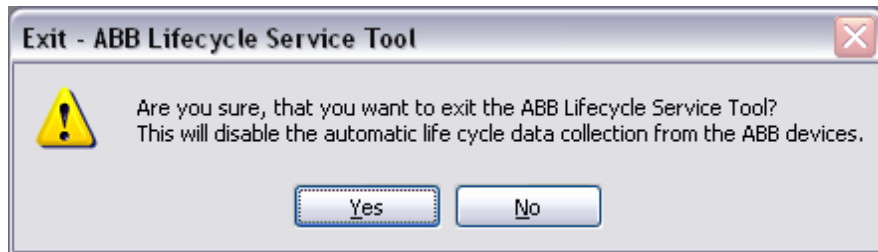


A080386

Fig. 6.4.-1 Sending data to the Lifecycle Service remote server

6.5. Confirmation dialog for stopping Lifecycle Service Tool

The confirmation dialog is shown when the user has clicked Exit in the Lifecycle Service Tool menu and is about to stop the execution of the tool. When the tool is restarted, Lifecycle Service Tool starts again.



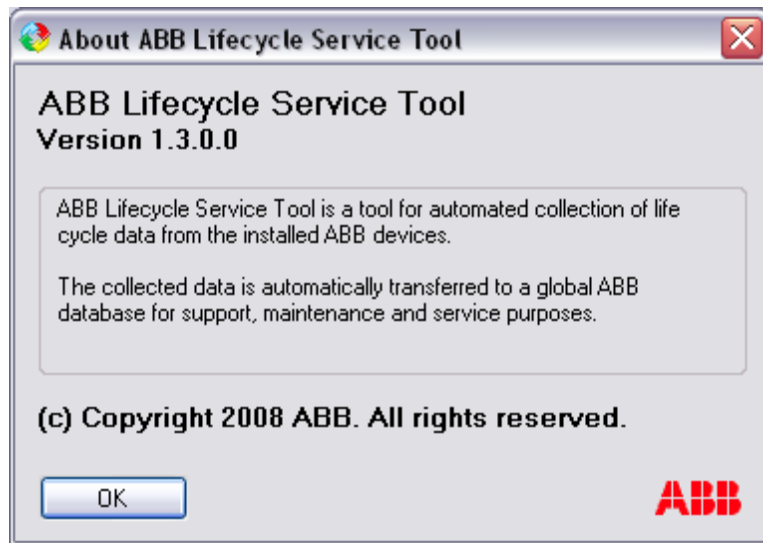
A080388

Fig. 6.5.-1 Exiting the Lifecycle Service Tool

6.6. About dialog

The following dialog is shown when the user has clicked **About** in the Lifecycle Service Tool menu.

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A080390

Fig. 6.6.-1 About dialog box for Lifecycle Service Tool

6.7.

Data collection from the IED

There are several cases when the configuration tool can read composition data from the feeder terminal unit.

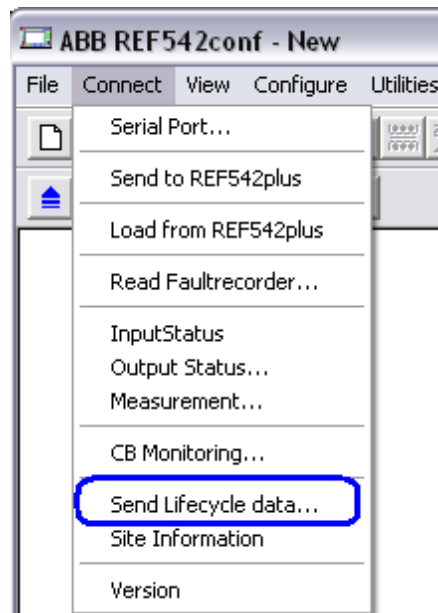
In the Semi-automatic mode you can apply the configuration tool as interface to the feeder terminal unit to have the composition data transferred automatically, for example:

- Version checking
- Uploading a .ref configuration file
- Downloading a .ref configuration file

Manual mode

To collect data manually, click the related toolbar button or the menu item as shown in the following figure.

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Fig. 6.7.-1 Menu item for collecting data manually

- Site address update

When information related to the site address is updated, the composition data also changes. This file is automatically retrieved from the configuration tool and sent to the Lifecycle Service Tool.

6.8. Site address data update

The configuration tool can display customer site information stored in the IED unit. The following figure shows the dialog box used to visualize data and update them.

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Site Address Data

Please validate the following Site Address data.

Customer name	The Customer name
Street	The Street
House number	123
Zip	123
City	The City
State	The State
Country	Liechtenstein

OK Cancel

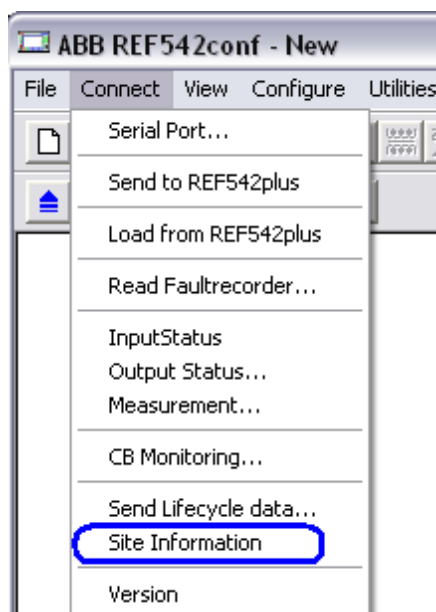
A080394

Fig. 6.8.-1 Updating site address data



The information typed in the Site Address Data dialog box is sent to the Lifecycle Service database. Therefore, be aware that wrong or missing information is also transferred to the database. This can cause problems during, for example, service.

To open the Site Information dialog box, click the icon on the toolbar or the following menu item in the Connect menu.



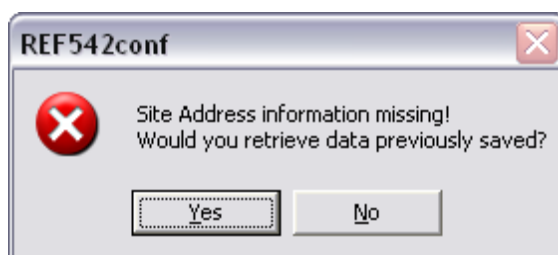
A080396

Fig. 6.8.-2 Menu item for site information



The customer name value is a mandatory value to be inserted.

Every time the user clicks **OK** in the Site Address dialog box, the values are saved in an internal application file. If the Site Address dialog box is open and the customer name is empty or all other values are not available, it is possible to fill in all the fields of the Site Address dialog box with values stored previously. The following message box is prompted to the user for this feature.



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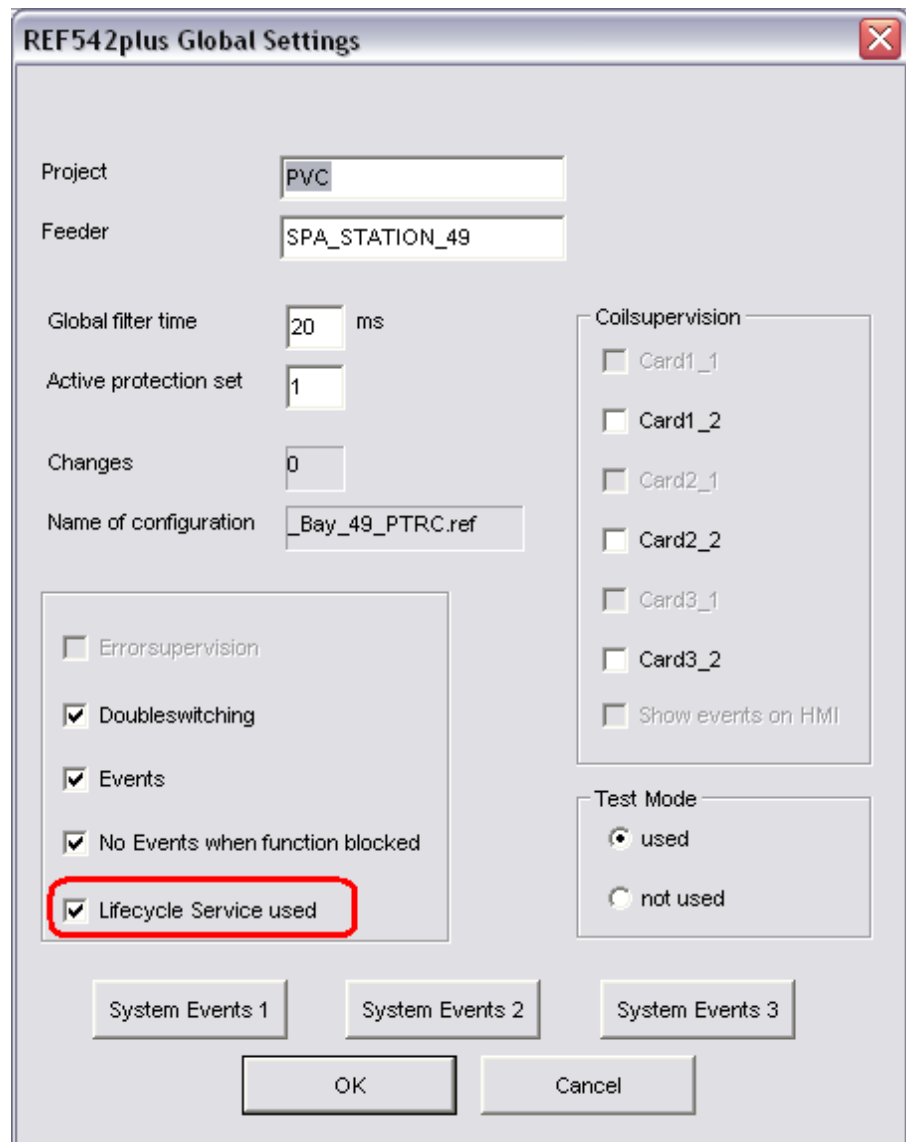
Fig. 6.8.-3 Missing site address information

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7. Lifecycle service settings

7.1. Enabling/disabling Lifecycle Service

The configuration tool offers a way to disable the Lifecycle Service activities in the feeder terminal unit. Open the dialog box of the menu item Configure/Global Settings ... and uncheck Lifecycle Service used. When downloaded with the related application, switch off the warning message Compos. has Changed. Pls Connect To Tool in the status bar of the HMI.



A080400

Fig. 7.1.-1 Flag to disable the Lifecycle service

To enable the lifecycle service in the IED again, check the checkbox and download the related application.

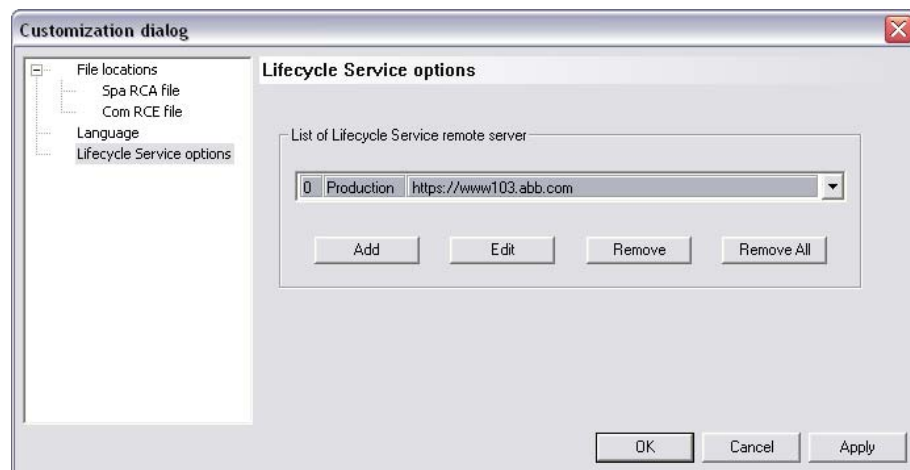


As default the configuration tool is opened with the flag checked.

7.2. Lifecycle Service remote server for test

Normally the ABB Lifecycle Service Tool sends data to an official production remote server. It can be necessary to perform some tests on the lifecycle framework. To avoid sending “dummy” data to the production database it is possible to configure a test remote server by setting its host address in the configuration file of the Lifecycle Service Tool. The configuration tool offers a utility to do this server customization easily by means of the dialog that can be found under the Option/Customize menu.

The following figure shows the dialog box used to Add, Edit or Remove a test remote server from the list. It is possible to remove all the remote test servers previously inserted.



A080402

Fig. 7.2.-1 Lifecycle Service option



The top server address is the official remote server for production and cannot be edited nor removed.



Do not apply any change to the Lifecycle Service Tool remote server setting unless you are familiar with the Lifecycle Service framework. Otherwise it can result in malfunction or loss of lifecycle data.



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