Reliance
Industrial SCADA/HMI system

Reliance 4

MOBILE CLIENT

GEOVAP

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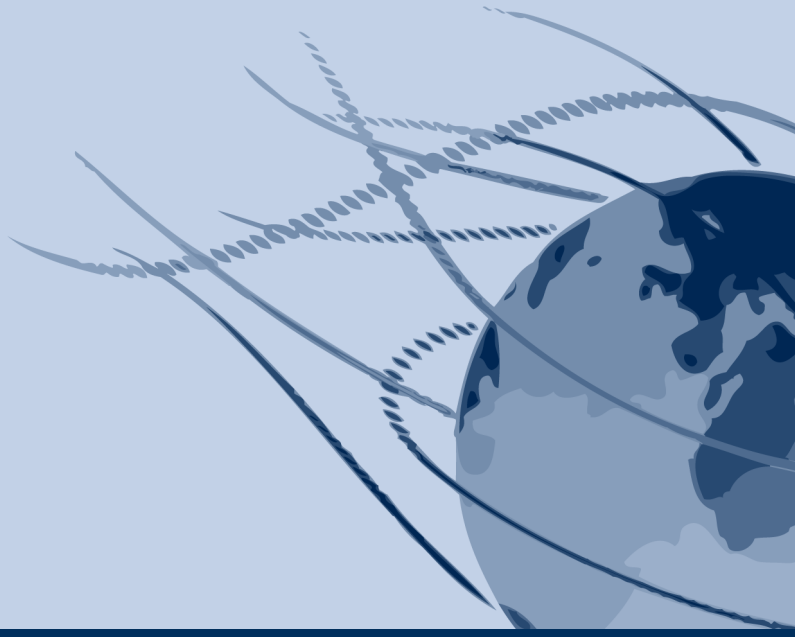

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1 Introduction

Web client (*Reliance Web Client*) and a client for **mobile devices** (*Reliance Mobile Client*) are commonly referred to as **thin clients**. *Thin clients* are designed for a comfortable access to a visualization from remote locations. *Thin clients* connect to *data servers* and provide similar visualization features as *runtime software*. This document describes the *Mobile client*.

What is Reliance Mobile Client?

Mobile Client installation

Mobile Client start

1.1 What is Reliance Mobile Client?

Reliance *Mobile Client* is the software designed for running a visualization on a remote device connected to the network (Internet). Remote users are able to view real time data, to control visualized process, to view and acknowledge alarms/event and to view trends and reports. **Reliance** *Mobile Client* uses one of the **Reliance** data servers (*Reliance Server* or *Reliance Control Server*) as the data source. Communication between the mobile client and the data server is based on web services and on the SOAP protocol. Communication messages of the SOAP protocol are encrypted and compressed.

Mobile Client is based on the Microsoft *.NET Compact Framework 2.0* platform. This platform is designed to work on OS Windows CE based systems (Windows CE, Windows Mobile, Packet PC, etc.). Mobile Client is CPU independent and therefore it can run on most CPUs present in modern mobile devices (ARM, MIPS, SH4, x86, etc.).

1.2 Mobile Client installation

The *.NET Compact Framework 2.0 SP2* runtime environment has to be installed on the target device before installation process of *Mobile Client* can start. If this runtime environment is not present on your device, it has to be installed additionally.

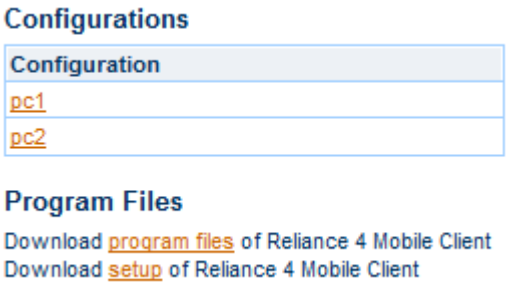
Note: The *.NET Compact Framework 2.0 SP2* runtime environment installer is a part of *Reliance 4 Add-On Pack*, or it can be downloaded from the official *Microsoft* pages.

Data server – Main page

Mobile Client can be downloaded and installed from data server's web pages. **Reliance** data servers (*Reliance Server* and *Reliance Control Server*) contain built-in web server to provide web pages. For more information about *data servers* refer to a specialized document *Data Servers*.

Note: Web page required to start *Mobile Client* is available only after visualization project has been exported for remote users. Export for remote users can be done from the *Reliance Design* development environment (Enterprise edition) via > *Project* > *Export for remote users.* For more information on *Export for remote users wizard* see the *Development environment* help.

To display the list of configurations available for *Mobile Client*, select the link *Reliance Mobile Client* in the *Thin Clients* section of the data server main page.



Configurations and program files

Each configuration corresponds to the *Computer* defined in the visualization project. Click selected link to download an archive containing project files. Manual download is usually not required, project files are in most cases downloaded and updated via *Mobile Client Updater* described below.

Mobile Client can be installed manually (program files are extracted from an archive) or automatically via Mobile Client installer.

Mobile Client installer

Manual program files extraction

1.2.1 Mobile Client installer

Mobile Client can be easily installed via standardized installer in CAB format ("Microsoft Windows native compressed archive format"). Click **Download** link in the *Mobile Client installer* paragraph to download the installer.

Mobile Client is by default installed to the `<Program Files>\Reliance_4_Mobile_Client` folder. After installation is finished, *Mobile Client* can be started from the **Start** menu. An entry is added to the system registry to assist program removal via *"Remove programs"*.

1.2.2 Manual program files extraction

First download the archive containing program files from data server web page by clicking on the **Download** link in the *Mobile Client program files* paragraph. Use appropriate program to extract program files from the zip archive to target directory on the mobile device. Start *Mobile Client* with the `R_MobileClient.exe` file.

No entry is added to the system registry if *Mobile Client* is installed manually. To uninstall mobile client simply delete the directory.

1.3 Mobile Client start

Mobile Client can be started either via *Start Menu* > *Programs* > *Reliance 4 Mobile Client* link or directly by executing the `R_MobileClient.exe` file from the program directory.

Splash screen displayed while Mobile Client is starting shows progress in project loading. If project is not available on the target device (first start) an *Updater* utility is automatically started. The *Updater* utility can be used to download the latest version of the project and program files.

Automatic update via Updater

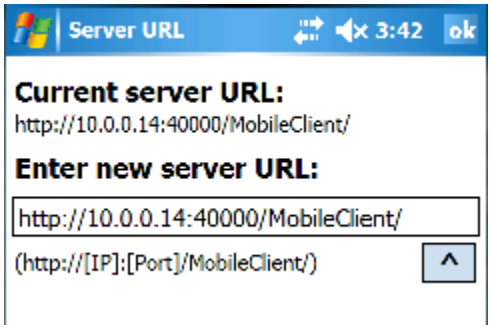
In some cases, you can be asked to enter the access code.

Entering access code

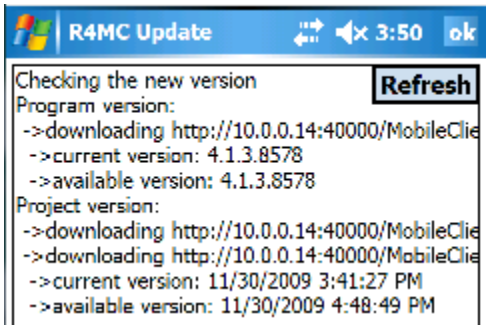
1.3.1 Automatic update "Updater"

Part of the *Mobile Client* installation is the *Updater* utility. Utility can be used to update program and/or project files. Utility is usually automatically started from Mobile Client, or it can be started manually from the program directory (the R_Updater.exe file).

If Updater is started for the first time, URL address of the data server has to be entered. URL address is in the following format: `http://[IP]:[Port]/MobileClient` where [IP] is the data server's IP address and [Port] is the data server's TCP port. Complete URL could be for example `http://194.228.224.73:40000/MobileClient/`.



Enter data server URL address



List of available updates

After connection to the data server is successfully established, updater performs detection of available updates (program and project).

Update

Force check for updates.

Proxy

Displays dialog to define proxy server.

Server

Displays dialog to define data server address.

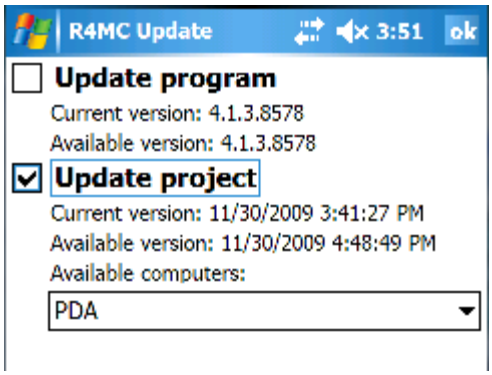
Next

Next step of the wizard.

Close

Close the Updater utility.

If later version of program or project is available, the download can be performed in the next step.



Select updates for download

Following steps are performed if you choose "Update now":

1. Optional backup of installed files.
2. Download of program files (optional).
3. Download of project files (optional).
4. Mobile Client is closed.

5. Update of program files.
6. Update of project files.
7. Start of Mobile Client (optional).

1.3.2 Entering access code

You can be asked to enter the access code on the Mobile Client start. If this is the case the Enter access code dialog window is displayed. Program will start after correct access code is entered.

Enter access code

2 Mobile Client description

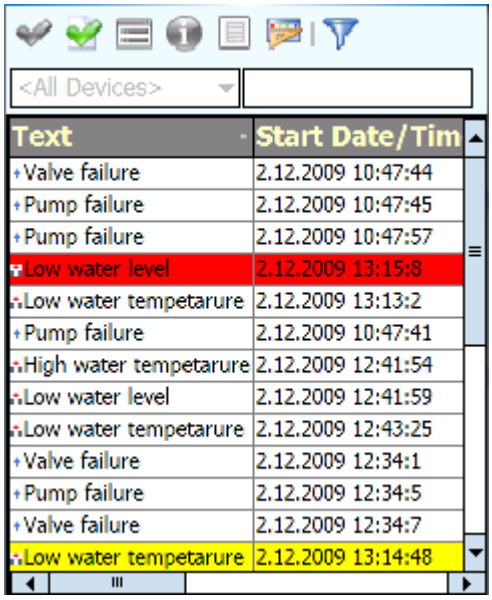
Mobile Client user interface

Virtual keyboard

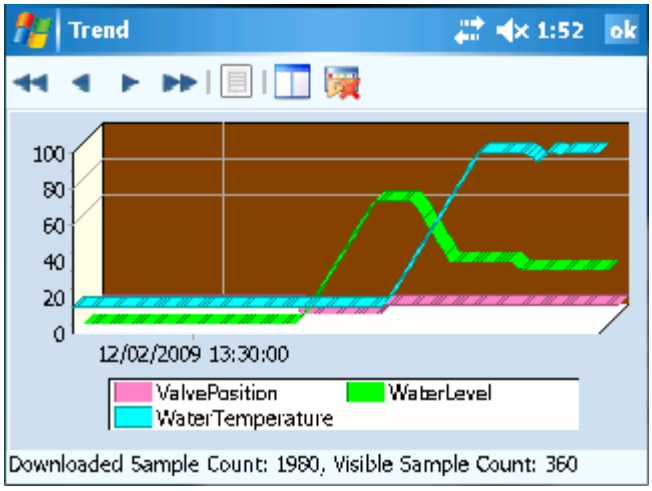
Options

Following chapters are similar to those of Web Client, refer to the Web Client help.

- User logon/logoff
- Editing tag values
- Alarm/Event viewers
- Trend viewers
- System information
- Information dialogs
- Text data viewer



Current Alarm/Event Viewer



Trend Viewer

2.1 Mobile Client user interface

Splash screen displayed while Mobile Client is starting shows progress in project loading.

Loading of a project

The Mobile Client main window is displayed after project is loaded.

Main window

Title bar

Toolbar

Main menu

Following chapters are similar to those of Web Client, refer to the Web Client help.

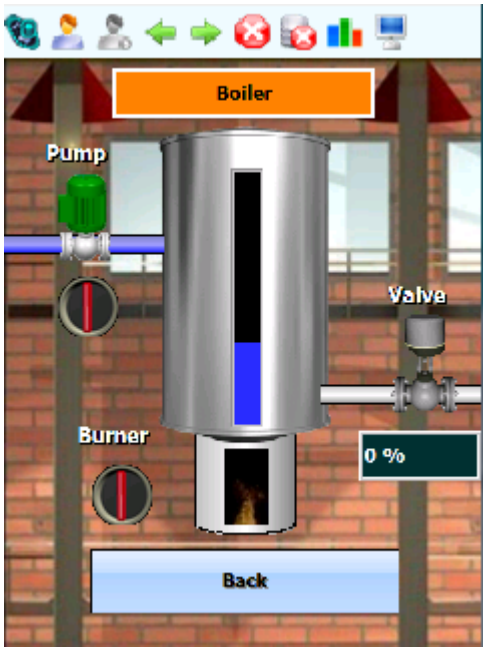
Visualization windows

Bottom alarms/events panel

2.1.1 Main window

Mobile Client's main window contains following parts:

- Title bar (not shown)
- Toolbar
- Visualization windows area



Mobile Client – Main window

2.1.2 Title bar

The text contained in the title bar has the following format:

Reliance 4 Mobile Client - [<project_name>] - <connection_state>

where:

<project_name>

Name of the visualization project loaded by Mobile Client.

<connection_state>

Indicates state of the connection with a data server ("Disconnected", "Connecting", "Connected", "Disconnecting"

2.1.3 Toolbar

Toolbar

Toolbar contains following parts:

- A command that opens Main menu (1)
- Selected commands from the main menu (2):

  User login

  User logoff

  Previous window

  Next window

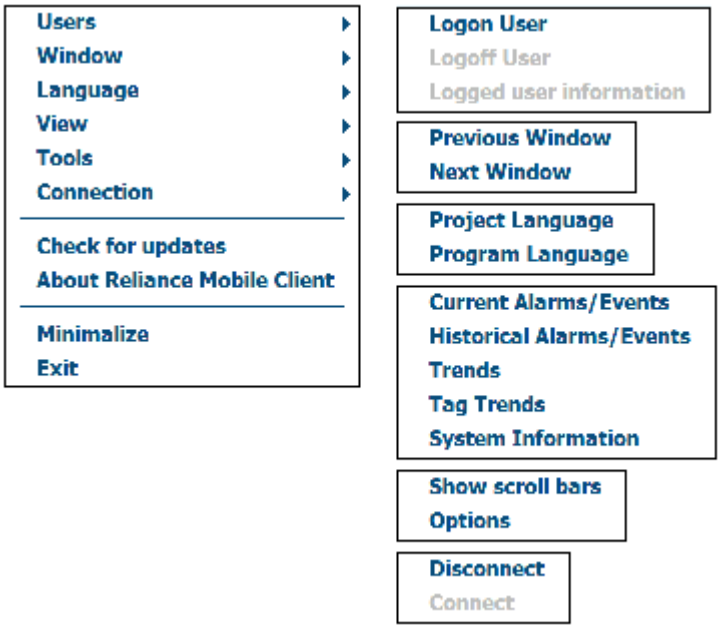
  Current alarms/events

  Historical alarms/events

  Trends

  System information

2.1.4 Main menu



Main menu

- **Users menu**

  Log on user

  Brings up a dialog for user logon.

  Log off user

  Logs off the current user.

  Logged user information

  Displays a dialog window with the information about the currently logged on user.

- **Window menu**

  Previous window

  Shows the previously shown window.

Next window

Shows the next window. The command can be used after the *Previous window* command.

- **Language menu**

Program language

Brings up a dialog which contains a list of program languages available in Mobile Client (Czech and English). You can choose GUI language (texts defined in the project are not affected).

Project language

Brings up a dialog which contains a list of languages defined in the project. You can choose the language of the texts defined in the project (GUI is not effected).

- **View menu**

Current alarms/events

Displays a list of current alarms/events.

Historical alarms/events

Displays a list of historical alarms/events.

Trends

Displays a list of available trends. A trend selected in the list is displayed in the *trend viewer*.

Tag Trends

Shows a list of defined *tags*. A trend of selected *tag* can be displayed in the *trend viewer*.

System information

Displays a window containing system information.

- **Tools menu**

  Display scrollbars

  Displays the scrollbars on the bottom and right side of visualization windows. Scrollbars enables you to view all components even if visualization have been designed for different screen resolution.

  Options

  Brings up a dialog window where you can change various Mobile Client settings.

- **Connection menu**

  Connect

  Connects Mobile Client to the data server.

  Disconnect

  Disconnects Mobile Client from the data server.

- **Miscellaneous**

  Update

  Starts the *Updater* external utility. The utility is designed to check for and download program and/or project updates from the data server.

  About Reliance Mobile Client

  Displays a window with basic program and license information (version, registration, etc.).

  Minimalize

  Minimizes/hides an application into the icon in the taskbar of the mobile device. To restore the application click on the icon.

  Close

  Closes the Mobile Client application.

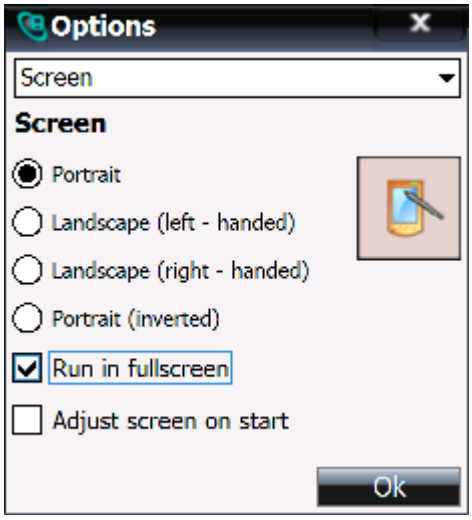
2.2 Virtual keyboard

Virtual keyboard can be used to enter values on devices without physical keyboard. To provide comfortable input on different devices, keyboard integrated with an OS is used. Virtual keyboard is sometimes called SIP "Soft Input Panel".

Virtual keyboard

2.3 Options

The Options dialog contains following groups of settings:



Options

Alarms/events

Defines parameters displayed in the alarm/event viewers.

Screen

Enables you to select an orientation of a device and define if Mobile Client should run in the full screen mode.

Note.: Function is available only it is supported by device's OS. Function is supported on *Windows Mobile 5.0* and later.

3 Appendix

Windows CE emulator installation and configuration

3.1 Windows CE emulator installation and configuration

You can also start *Reliance Mobile Client* on a common PC (with MS Windows installed) inside an emulator (e.g. to test the functionality).

Required software

- Install the *.NET Compact Framework 2.0 SP2* runtime environment on your computer (it is available in the *Reliance 4 Add-On Pack* package).
- Install the *Microsoft Windows CE 5.0 Device Emulator* application (it is available as a part of the *Reliance 4 Add-On Pack* since the version 4.0.4). Both the applications can also be downloaded from the official Microsoft web pages.

Emulator configuration

- On the hard drive of your computer create a folder that will be used to share data between Windows and the emulator (e.g. `C:\PDA_Storage`).
- Copy the *.NET Compact Framework* installation package to the newly created folder (the package is located in `C:\Program Files\Microsoft.NET\SDK\CompactFramework\v2.0\WindowsCE\wce500\x86\NETCFv2.wce5.x86.cab`). Set the "read only" atribut of the file.
- Start the Windows CE emulator with the following parameters: "`nk.cem /ethernet shared /video 240x360x16 /sharedfolder C:\PDA_Storage`" (you can edit the parameters of the sample device shortcut located in the start menu).
- Install the *.NET Compact Framework* inside the emulator (start the `NETCFv2.wce5.x86.cab` package located in the `My Device\Storage Card` folder).
- Install the *Reliance Mobile Client* application as described in the section Mobile Client installation.