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GRUAN Technical Document 3

User Guide of GRUAN RsLaunchClient

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Document Info

	Title:	*User Guide of GRUAN RsLaunchClient*
	Topic:	Data management
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Technical Documentation	*Publisher:*	GRUAN Lead Centre, DWD
	Document type:	Technical document
	Document number:	GRUAN-TD-3
	Page count:	61
	Version / date:	**DRAFT 0.7.3 / 2014-02-05 10:27:42**

Abstract

This user guide describes the use of software program "GRUAN RsLaunchClient" for collecting meta-data and transmitting these plus related raw data to the GRUAN Lead Centre.

Release notes

There are several changes between v0.4.x and v0.5.0 of GRUAN RsLaunchClient. Current version of the user guide is conform to version 0.5.0 including all improvements since version 0.4.0. Please find the long list of changes in the program history (see document "History of RsLaunchClient (RSL)" in sub-folder "docs" of program installation). A short summary is following:

- Inclusively improvements since version 0.4.0
  - Extended property list with special editors for different value types (like numbers)
  - Change list view to tree view at page 2 (instruments) of assistant
  - List of possible equipment (list of balloons) can be filtered (consulate the Lead Centre)
  - Events could be set as part of several campaigns and/or as experimental (if activated)
- Exclusively improvements of version 0.5.0
  - New start page with several measurement lists (e.g. opened [not finished], closed [finished/uploaded], archived, …)
  - Improved page to attach/manage related (raw)data files, including an improved automatic extraction of meta-data
  - Validation of complete meta-data of measurement before upload

Contact to GRUAN Lead Centre

Please contact the GRUAN Lead Centre (gruan.lc@dwd.de) if you have any questions, comments, requests to this document, to the RsLaunchClient, or to meta-data.

History

Version	Author	Description
0.7 (2014-02-05)	Michael Sommer	Start version for review process
0.6 (2014-01-15) **DRAFT**	Michael Sommer	Internal extended and adapted **DRAFT** version of this user guide describing the RsLaunchClient version 0.5.x
0.5 (2012-01-25)	Michael Sommer	Extended and adapted version of this user guide describing the RsLaunchClient version 0.4.x
0.4 (2011-02-16)	Michael Sommer	*First published version* of this user guide describing the RsLaunchClient version 0.3.x

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1 Begin

1.1 Aim and scope

The central scope of RsLaunchClient (RLC) is to collect all required meta-data and data of radio sonde launches. In GRUAN there are defined several goals with respect to data handling:

- *Measurements should be made as accurately as possible* – The (reference) instruments will change in the next twenty years and not all sites will use the same instruments. GRUAN is and remains a **heterogeneous** network.

- *Quality quantification (QQ)* – QA/QC of measurements is not enough. Every measured value should have an associated **uncertainty** (like an error bar) calculated according to the principles articulated in Immler et al., 2010.

- *Traceability* – The way measurements and data products were obtained should be **traceable**.

These goals result in a hard long-term mission:

> Log all things possibly relevant with respect to the measurements.

RsLaunchClient (RLC) is the tool for manual collecting all relevant meta-data and data files for ra diosonde launches in GRUAN. This tool is developed and maintained by the GRUAN Lead Centre. It can help to log all in a GRUAN-conform and traceable manner. This tool is first specialised for balloon-born in-situ soundings. But in future several additional tools should be available for other measurement systems, like for LIDAR, GNSS, and so on. At moment a second tool is in develop ment (alpha status), the LidarRunClient (LRC). Such additional tools are mostly the same as the RLC, but there are some modifications to fullfil specific requirements.

Every GRUAN station can use (and should use) this client for all in-situ soundings. Because that, I have a request: Please contact the Lead Centre, if:

- any bug is occurred,

- a question about the use is appeared,

- a comment or a suggestion is appeared.

Thank you for your cooperation. *Michael Sommer*

1.2 Preparatory work

Previously a consultation is necessary with the Lead Centre (gruan.lc@dwd.de). All potential equipment should be comprised of your station with respect to radiosonde launches, particularly:

- Used transient equipment: sondes, balloons, parachutes, unwinders, …

- Used permanent equipment: data processing systems (like DigiCoraIII), …

- Typical bundles to launch (in Lindenberg we have 3 bundles: ROUTINE, RESEARCH, OZONE) → Here we call it a *setup*.

- List of alias names (or in addition original names) of staff members → required for the in dication of the operator of launches

The Lead Centre inserts all that information in our Gruan Meta-data DataBase (GMDB) and create

a meta-data file, which is one base of the RsLaunchClient.

1.3   Installation

System requirements for running RsLaunchClient:

- Any operating system (like Windows, Linux, Mac OS, …)

- Installed Java (JRE) – Version 7 Update 45 (or newer)

- Display size 1280 x 1080 pixel in minimum

- Internet connection is recommended (without is also possible with some limitations)

Download and install Java

A current Java Runtime Environment (JRE) have to run on used operating system. If no or a too old JRE is installed you can download a current version from Java homepage (www.java.com) and in stall on your operating system.

Download and install RsLaunchClient

A current version of the RsLaunchClient is always on our FTP server at DWD. You can download the packed file of last (current) version **RsLaunchClient-vXXXX.zip** (*XXXX means version num ber*) from our FTP server.

- *Server*: ftp://ftp-outgoing.dwd.de

- *Path*: /software/RsLaunchClient/

- *User*: gruan

- *Password*: (is given by email; if not please contact the GRUAN Lead Centre)

Please unpack the packed file (ZIP) to a user-defined installation path. A real installation process is not necessary.

Download/Update current meta-data file

An internal meta-data file is very important and the base of functionality of RsLaunchClient. This meta-data file should always be up to date.

Since version 0.3 the RsLaunchClient can automatically update the required meta-data file. The only requirement is, that it can use an online connection to our FTP server.

Note: See chapter 5 "Troubleshooting", if there is an issue with the connection.

A current version of necessary meta-data file **RsLaunch-datagram.gdz** is also located on our out going FTP server (see section above) at path: *ap/metadata/current/*. You can manually copy this file to sub-directory data/ in the install directory.

Brief information about installation directory

The installation directory '…/RsLaunchClient' includes following sub-folders:

- archive   old meta-data files of measurements (*.gmd* files) with status ARCHIVED

- bin   binary files (*.jar* files)
- cache   meta-data files of current measurements (*.gmd* files)
- config   configuration files (*.properties* files)
- data   some files to handle all internal data
- log   logging files (*.log* files) of all sessions
- template   meta-data templates for measurements (*.gmd* files)
- upload   default sub-directory for uploading in case of using the offline mode

1.4   Update

Irregularly a new version of the program will be released. An email is sent by the Lead Centre to all stations which uses this program. In this case an update of your installed version is recommended. You can download latest software version from our outgoing ftp server (see chapter 1.3 "Installation"). We can distinguish between two cases: a major and a minor update of the software. And in addition, it is recommended to update the internal meta-data on a regular basis.

Major update

At longer intervals a major update is available for the RsLaunchClient. In this case a completely new installation is recommended. Please follow instructions in chapter 1.3 "Installation", section "Download and install RsLaunchClient" to download and install this new version in a separate directory. It is important, that the directory of old installation is untouched for this.

In a second step a transfer of configuration and existent meta-data of measurements is recommended. It is possible to do this manually or automatically. Following description includes only automatic way.

Please open new installed RsLaunchClient and switch into the administration mode (Navigation: *Maintenance → Change AdminMode → Yes*). Now the function "*Update from old*" is enabled and using it opens a dialog (see Figure 11). Please follow instructions in section 2.5.4.

The email from Lead Centre incloses additional instructions if other things are to do.

Minor update

Sometimes it is only a minor update and in this case it is not necessary to install a complete new version. Please download only file **GruanRsLaunchClient.jar** and copy it to sub-directory *bin/* of your install directory.

The email from Lead Centre incloses additional instructions if other things are to do.

Update of meta-data

An update of the meta-data file is also recommended from time to time. An automatically procedure is implemented. It test the meta-data file at every start of program, and update it if a new version is available. This feature needs a functional internet correction.

You can switch off this manner (see chapter 4; *set in file "config/RsLaunchClient_gruan .properties" the property autoUpdate to false and activate the line via removing "#"*).

1.5 Start

Windows (2000 / XP / Vista / 7)

Start the RsLaunchClient with a simple click to **StartRsLaunch.jar** in the base directory. If it does not work, you can use the batch-script "win-start-rsl.bat".

Linux (KDE, Gnome, …)

Start the RsLaunchClient with Bash-script **linux-start-rsl.bash**. Enter "./linux-start.bash" on con sole. Make sure that the script is executable.

Mac OS X

Start the RsLaunchClient with a simple click to **StartRsLaunch.jar**.

1.6 First steps

Before using RsLaunchClient first time, please contact the GRUAN Lead Centre to clarify a couple of questions (see chapter 1.2). After starting this program you see a graphical user interface with the start page which is described in chapter 2.1. Now you can choose between two operation modes of program: admin and operator (see chapter 2.2).

At first start it is necessary to administrate (configure) this program:

- Configure a couple of program properties (see next section 1.7 and chapter 4)

- Create one template in minimum (see sections 2.1.2 and 2.3.2)

An operator can use this program if both tasks are performed. Please choose (select) a template in internal frame "Templates" (see section 2.1.2) on start page. You can create a new measurement by clicking on the button *<New Measurement…>*. An assistant is opened, which helps to collect all re quired meta-data and data of a radiosonde launch. In chapter 3 you find a full description about this assistant that includes a complete guide through all pages of assistant.

You can close (and so save) opened measurements with a click to button *<Close>* at bottom or *<X>* at tab head (see chapter 3.8).

You can exit the program with a click to button *<Exit program>* in navigation side bar (see chapter 2.8). Please answer *<Yes>* following question.

1.7 First configuration

It is very recommended, that a small configuration is done before using this program. Unfortunately management of program configuration is not yet available in the graphical user interface. It is planned to implement it in future.

At moment you have to edit one (or a few) properties files in sub-folder "config/". As described in chapter 4, all files are pure ASCII text files and can be edited with any pure text editor (please don't

use a text processing program like Word). It is recommended to adjust properties in following files.

Note: Please contact the Lead Centre if you are unsure about editing such properties files. It is possible to write us what you want and we can prepare a correct properties file for you. It is an easy and fast way.

RsLaunchClient_gruan.properties

This is the main configuration file for the RsLaunchClient. You should adjust a couple of properties for using the program at your station.

- *defaultStation* – [*no default*] Please set this property to offical GRUAN three letter code of your station, e.g. LIN for Lindenberg. All GRUAN codes are available on our website www.gruan.org at specific site page and in yearly station reports.

- *defaultMeasuringSystem* – [*no default*] Please set this property to official GRUAN code of your radiosounding launch site, e.g. LIN-RS-01 for first launch site at Lindenberg. It is senseful if only one launch site is used.

- *defaultMeasuring* – [*no default*] You can set this property to a pre-defined setup-code if only one setup (see chapter 1.2) is defined or used.

- *calcScheduledDate* – [*default: NO*] It can help, that always a correct scheduled date is auto matically calculated for action "new measurement". Please set this property to one of fol lowing keys:

  ○ NO – No calculation of scheduled date. That means, current time is used without any calculation.

  ○ LAST – Scheduled date is calculated for a measurement on last schedule slot (related to current time). As example, that means at current time 14:02:26 UTC a scheduled date 12:00:00 UTC is calculated (if there are following possible schedule dates: 00, 06, 12, 18 UTC).

  ○ NEXT – Scheduled date is calculated for a measurement on next schedule slot (related to current time). As example, that means at current time 14:02:26 UTC a scheduled date 18:00:00 UTC is calculated (if there are following possible schedule dates: 00, 06, 12, 18 UTC).

- *allowExperiment* – [*default: false*] Please set this property to "true" if you launch sometimes experimental instruments or normal instruments in an experimental way (like rotated, or near balloon, or what ever). That enables a possibility to mark a measurement and/or an in strument as experimental. Data of experimental measurements are stored in GRUAN archive but not published in any automatic way.

- *allowCampaign* – [*default: false*] Please set this property to "true" if you launch sometimes radiosondes within or related to campaigns. That enables a possibility to mark a measure ment as a part of a campaign.

- *addFileSources* – Please configure file sources (see section 3.6.4, paragraph "Configuration of data sources") if you want to configure the list of possible data sources for action "Add files".

Please see chapter 4.2 for brief descriptions of all available properties of this file.

ProxyConfig.properties

This is a special configuration file to define a proxy server of a local network. Using this file is only necessary if no connection to GRUAN is possible, e.g. for updating base meta-data, uploading data.

Please see chapter 4.3 for brief descriptions of all available properties of this file.

2   General handling

2.1   Main program and general design

The RsLaunchClient is a program with a graphical user interface (GUI). That opens a comfortable way to manage the meta-data collection and data delivery from a GRUAN station to the GRUAN Lead Centre.

The main window is showed in Figure 1 and it is structured in two main parts. A sizeable sidebar is located on the left side. This bar is subdivided in two panels *Info* and *Navigation*. The info panel only shows very general information about the program itself. On the other hand the navigation panel contains the structured main menu of the program. Please see chapter 2.6 for more informa tion.
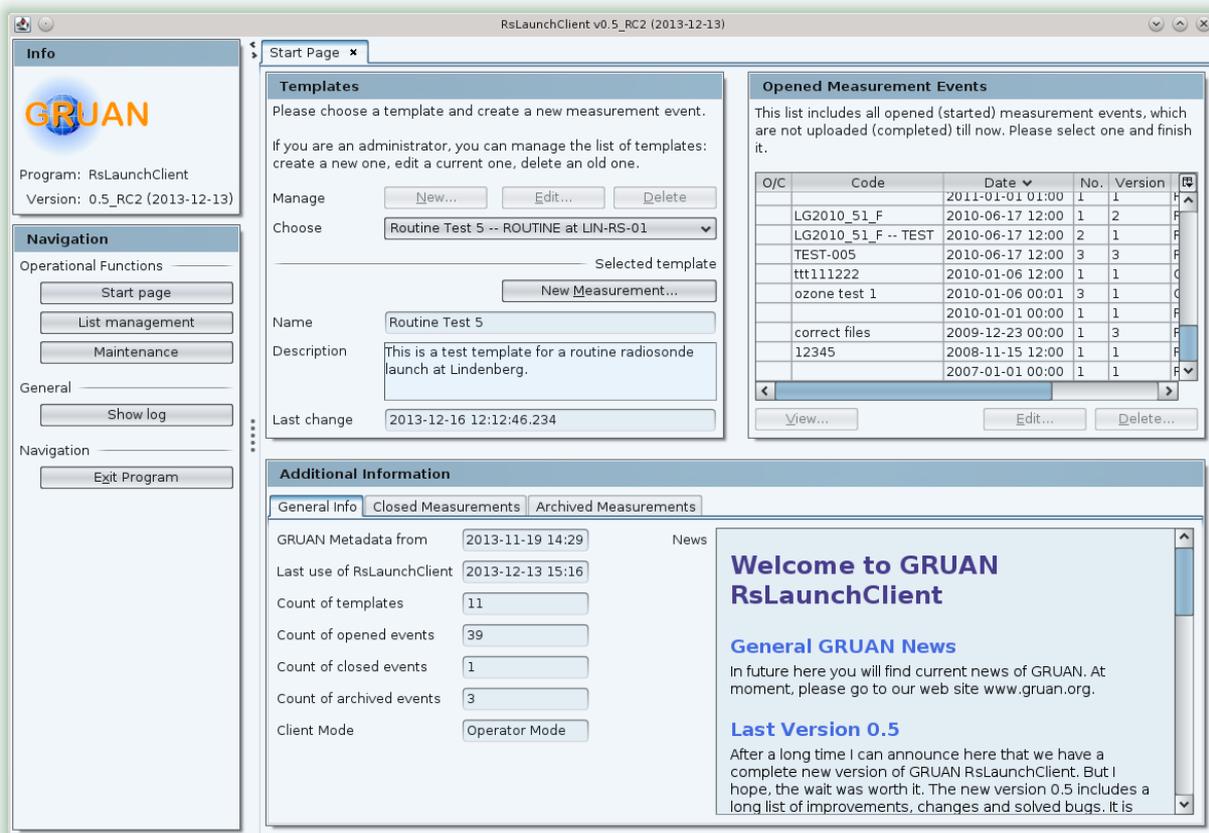
Figure 1: Main window of RsLaunchClient showing the 'Start Page'

All other space is filled through a so called main pannel which allows to handle multiple internal frames in a tabbed list. At begin the *Start Page* is only showed there.

The Start Page itself is a flexible page to show all relevant things in separated internal frames for normal use of the RsLaunchClient. In future it will be customisable for the users. But at moment it is fixed and it includes following internal frames: General Info, Templates, Opened Measurements, Closed Measurements, Archived Measurements.

Buttons for all context relevant actions are directly included in the internal frames. Some function

ality is coupled to current operation mode (see chapter 2.2). That means, there are some actions which are only available in administration mode.

2.1.1 General Info

This frame has two parts and shows a page with news about this software and a list of (maybe) interesting facts. The list of facts includes following at moment:

- GRUAN Metadata from – Creation date of used meta-data file

- Last use of RsLaunchClient – Date of last run

- Count of templates, opened events, closed events, archived events – Counts of different measurement lists

- Client mode – Currently activated client mode (Operator Mode or Admin Mode)

2.1.2 Templates

This frame provides all functionality to manage templates for measurement events and to create new measurements based on templates. Figure 2 shows this frame.
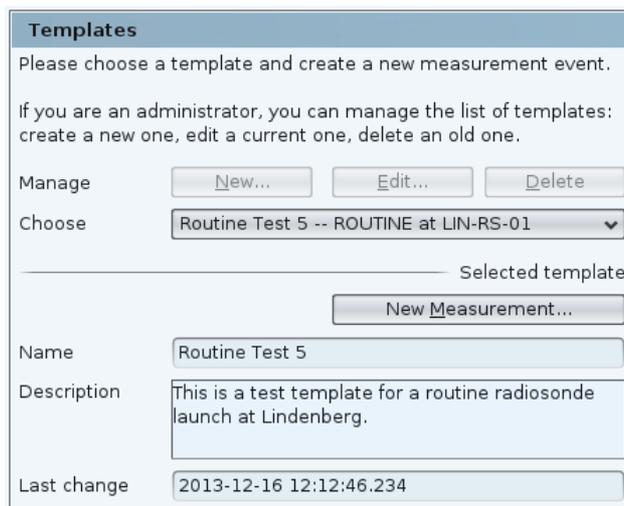
Figure 2: Internal frame for templates

Template management

Template management is only available in administration mode (see chapter 2.2). There are three actions:

- *New…* – Open a dialog to define base information about new template

- *Edit…* – Open an assistant which help you to define/change selected template.

- *Delete* – Delete selected template.

See chapter 2.3 "Using templates" for full description of these actions.

Create new measurement

If a template is selected you can use action to create a new measurement. Please see section 2.3.1 "Create new measurement" for a full description.

2.1.3 Opened Measurements

This frame provides the list of all opened measurements (which have not yet been uploaded) and all functionality to manage the measurement events of this list. Figure 3 shows this frame.

Figure 3: Internal frame for opened measurement events

The meaning of these columns are described in chapter 2.4.7.

Some actions are available (see also chapter 2.4) if a measurement is selected in the list:

- *View…* – View selected measurement with a special assistant (see chapter 3).
- *Edit…* – Edit selected measurement with a special assistant (see chapter 3).
- *Delete…* – Delete selected measurement from this local list.

2.1.4 Closed Measurements

This frame provides the list of all closed measurements (which have been uploaded) and all functionality to manage the measurement events of this list. Figure 4 shows this frame.

Figure 4: Internal frame for closed measurement events
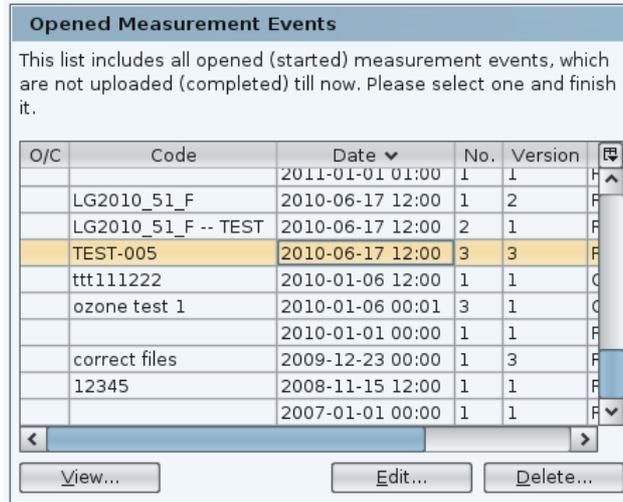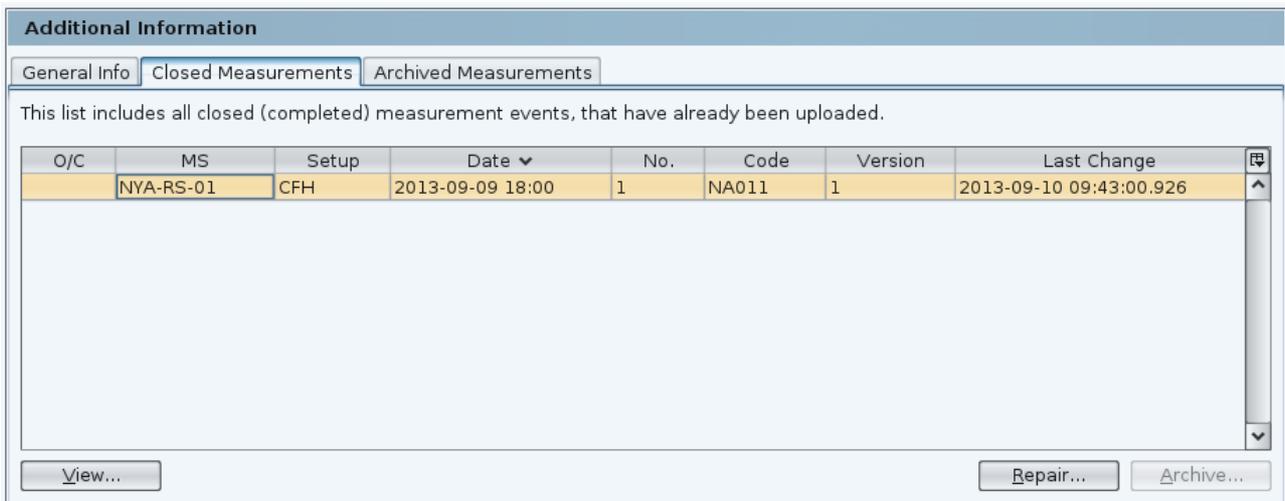
The list (table) has a couple of columns. The meaning of these columns are described in chapter 2.4.7.

Some actions are available (see also chapter 2.4) if a measurement is selected in the list:

- *View…* – View selected measurement with a special assistant (see chapter 3).
- *Repair…* – Repair selected measurement. That means, a new version of this measurement will be created and opened in edit mode in a specific assistant.
- *Archive…* – Opens a dialog which allows to archive a part of this list (see section 2.4.2).

2.1.5 Archived Measurements

This frame provides the list of all archived measurements and all functionality to manage the measurement events of this list. Figure 5 shows this frame.

The list (table) has a couple of columns. The meaning of these columns are described in chapter 2.4.7.

Some actions are available (see also chapter 2.4) if a measurement is selected in the list:

- *View…* – View selected measurement with a special assistant (see chapter 3).
- *De-archive…* – Opens a dialog which allows to de-archive a part of this list (see section 2.4.2).
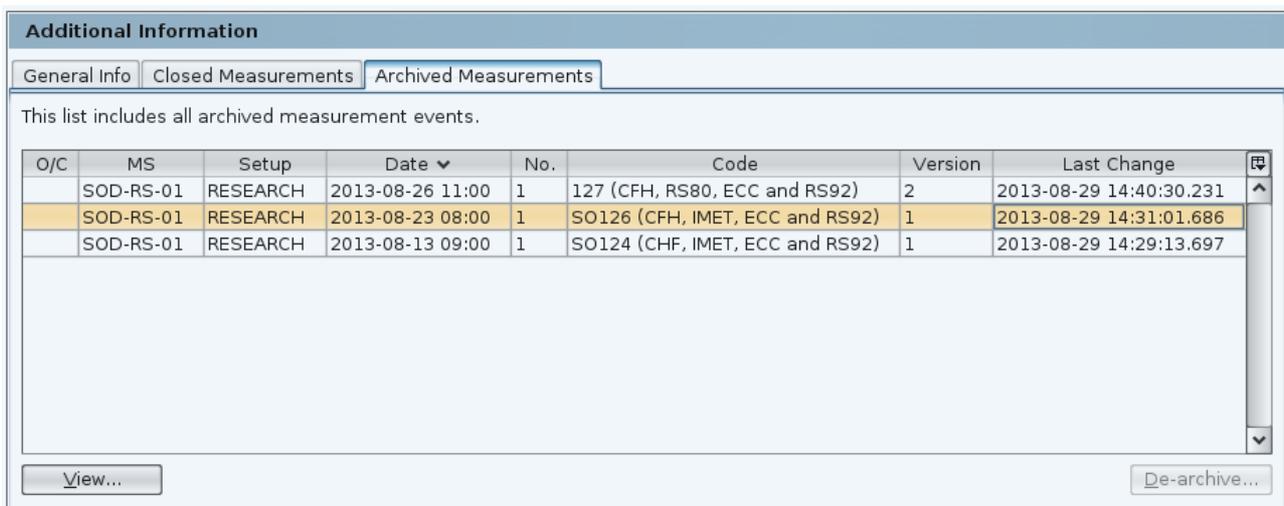
Figure 5: Internal frame for archived measurement events

2.2   Operation modes of program

This program can be run in two operation modes: operator mode and administration mode. The operator mode is used as default at start of program. Switching between both modes is available in navigation at *Maintenance → Change AdminMode*. It is recommended to work in admin mode only if it is necessary.

2.2.1 Operator mode

This is default mode of RsLaunchClient. All actions are available which are necessary for operational work, like creating new measurements, uploading these to GRUAN, viewing older measurements, and so on.

2.2.2 Admin (Administration) mode

It is recommended that only one person is the 'administrator' for an installation of RsLaunchClient. And only this person should be use the admin mode.

There is a couple of functions which are only available in this mode, like:

- mange measurement templates (create, edit, delete)
- archive/de-archive older measurements
- configure preferences of program (*not yet available*; but see also chapter 4)

2.3   Using templates

Templates are an additional new way to create new measurements since version 0.4 and the only way since version 0.5. Why templates are so important and why they are now a must?

Reality on a station is mostly that there is one scientist (or technician) and a couple of operators. Operators doing good work every day and they are happy about an easy and fast workflow. A tech nician has more knowledge and can handle more complex things. Projected to operation modes of this program and using templates, it means:

- *Administrator* → managing templates if something is new or changed
- *Operator* → using templates for daily work

Only the feature of templates allows to separate both tasks.

2.3.1 Create new measurement

If a template is chosen, a new measurement based on this template can be created. Some informa tion about this template is also shown here including name, description and date of last change. A click on button 'New measurement…' opens a dialog to start the process registering all relevant meta-data (and data) about a new measurement.
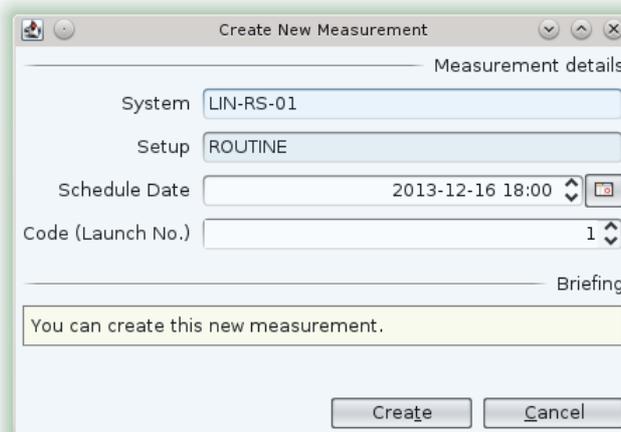

Figure 6: Dialogue for creating new measurements

First dialogue

The 'Create New Measurement' Dialogue (see Figure 6) allows to choose a schedule data and a code

(the launch number on this schedule date). Important is, that a measurement is unique. This soft ware always checks if such a measurement is already existent and an appropriate message will be shown.

There are two different cases:

- *Not existent* – You can create new measurement with chosen schedule date and code.

- *Already existent* – You can change the "code", if this new measurement is an additional one to the already existing one. Or you can use offered action:

  - *Edit* – Edit already existing measurement, which is from list of opened measurements.

  - *Repair* – Repair already existing measurement, which is from list of closed measure ments. Repairing means to create a new version of this already uploaded measurement.

  - *De-archive* – De-archive already existing measurement, which is currently stored in the local archive of measurements. Repairing is necessary in a second step.

Second dialogue

After creating a new measurement a second dialogue will be shown in case of required files which are marked for automatic extracting of meta-data. This dialogue is shown in Figure 7 for a case with a required Vaisala DC3DB file.
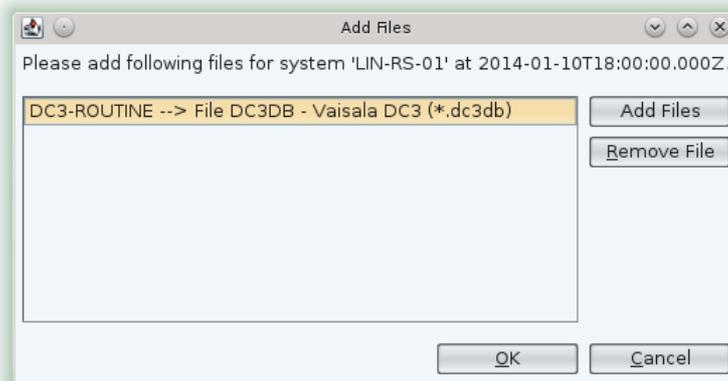
Figure 7: Dialogue to add files at new measurements

Often only one file type is listed in the file list. But it is also possible that there are several file types. It appends on used template and supported file types. (*At begin of 2014 there are only a couple of supported file types: Vaisala DC3DB, Strato DE1, Payerne SRS34-CSV. It is planned to support more over time.*).

These files will be tested and meta-data will be extracted after closing second dialogue.

Third dialogue

A third dialogue to adopt extracted meta-data will be shown for every file. Please see section 3.6.4 "File check" (page 44) for a full description about such dialogues.

2.3.2 Create template

The dialog "Create New Template" includes fields to choose/fill-in all relevant base data of new template (see Figure 8). A context-relevant comment for next step is always shown. Please fill-in this form step be step:

- *Site* – Chose your station.

- *System* – Chose measurement system (the sounding site).

- *Setup* – Chose basis setup for this measurement system.

- *First date* – Chose/fill-in date and time of first planned measurement for this template. Please use the calendar button on right side first.

- *Name* – Fill-in a meaningful name for new template. This name is shown for operator in list of templates.

- *Description* – Fill-in a brief description for new template. This description of template is shown for operator if a template is selected.
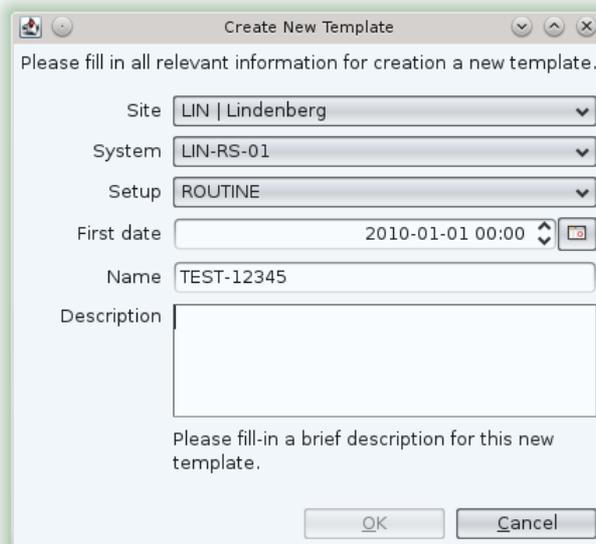
Figure 8: Dialog for creating new templates

2.4 Manage measurement lists (order out of chaos)

Every measurement is stored in one measurement list. There are three lists at moment for opened, closed and archived measurements. Some actions are defined to move a measurement from one list to another. Full workflow is schematically shown in Figure 9.

2.4.1 Edit… (opened → closed)

This action opens an assistant which helps to collect all relevant meta-data and data of selected measurement (see chapter 3). By the last step of the assistant an upload is performed which changes the status of the measurement and moves the measurement to list of closed measurements.
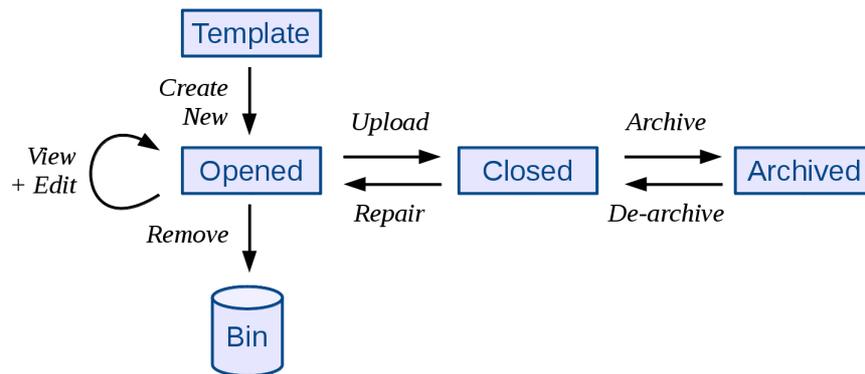
Figure 9: Schema of workflow

2.4.2 Archive… (closed → archived)

It is recommended to archive older measurements. This should help to keep overview about all measurements.

This action opens a special dialog to filter current list of closed measurements and then to archive these filtered measurements. Figure 10 shows the dialog. It includes a briefing text, a couple of fil ter options and the filtered list of closed measurements. At start the measurement list is empty, be cause it is necessary to fill-in one filter criterion in minimum.
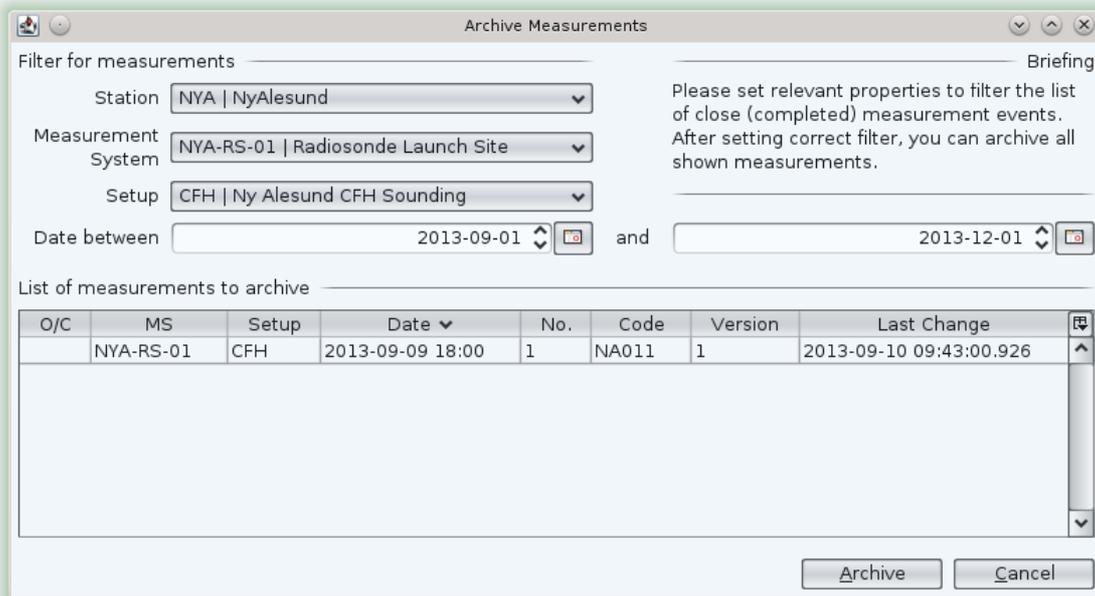
Figure 10: Dialog for archiving measurements

Following filter criteria are available:

- *Station* is <station> – Choose your station
- *Measurement system* is <system> – Choose a measurement system of chosen station
- *Setup* is <setup> – Choose a setup of chosen measurement system

- *Date between* <from> *and* <to> – Choose one or both dates (please use the calender buttons)

If a senseful filter is set, the list shows all matching measurements. After filtering the list of closed measurements, action "Archive" is available now. Using this action (button) all measurements in list will be moved to archive.

2.4.3 De-archive… (archived → closed)

This action shows (mostly) same dialog like in action *Archive….* Only difference is, that the list shows filtered measurements from archive. And of course filtered measurements will be moved from list of archived to closed measurements.

2.4.4 Repair… (closed → opened)

Sometime an already uploaded measurement is defective. Because that it is allowed to repair it. But what it means?

Because of the GRUAN obligation to store all meta-data and data in a traceable manner, it is not possible to change measurements anymore if they are already uploaded and stored at GRUAN. But we all know, defects will be happen. That is the reason to develop a way to handle it. Our way is version control.

It is always possible to repair an uploaded (closed) measurement. A new version is automatically created, if a repairing process will be started. And that new version of the measurement will be open in the assistant (like action *Edit…*).

2.4.5 Delete… (opened → garbage)

This action removes the selected measurement from the list of opened measurements. A small dia log with a confirmation prompt is shown because it is an irreversible action.

It is possible to undelete such a measurement, but only in a manual way (see chapter 5).

2.4.6 View… a measurement

This action opens an assistant (in view mode) which shows all meta-data and data of selected meas urement (see chapter 3). A changing of these meta-data is not possible in view mode. At moment most parameters and things are not locked in the assistant. But nothing will be saved if any is changed by user.

2.4.7 Tables

The tables can show a lot of columns with following meaning:

- *Code* – Site-internal code of measurement (helps to find specific measurements).

- *Date* – Scheduled date of measurement.

- *GmdFile* – relative path to related GMD file (Gruan Meta-Data file).

- *Last change* – Date of last change of measurement.

- *MS* – Unique code of measurement system (e.g. LIN-RS-01).

- *No.* – Launch number of measurement (default is 1).

- *O/C* – Shows current status, possible values are:
  - ○ >>> – measurement is open in the assistant,
  - ○ MISS – GMD file of measurement is missing.
- *Operator* – Alias of main operator of measurement.
- *Setup* – Code of measurement setup (e.g. ROUTINE).
- *Status* – Code of current status, possible values are started (opened), completed (closed), archived.
- *Version* – Version of measurement (increases only in case of repairing a closed measurement).

It is planned for future, that appearance (visibility and order of columns) of these tables should be customisable.

2.5 Further features

2.5.1 Using assistant for creating a measurement

This is a main function of RsLaunchClient. Because that please see chapters 3 or 2.3 for more information. You find a full description about the assistant "RsLaunch".

2.5.2 Configuration of program

It is possible to configure the program that it is more conform with standards at station. In future it will be a dialog to configure all relevant things, but at moment there is only a 'simple' option – the properties files. Please see chapter 4 for more information.

2.5.3 Import measurements from external sources

Sometimes it is necessary to import measurements in the RsLaunchClient. Maybe you have more than one installation of this client, or you get a GMD file from another person/station, or you want to undelete a measurement. The program includes two options to import measurements from external sources: add event list, and import GMD files.

Both actions are enabled only in administration mode (see chapter 2.2) and available in navigation at '*List management*'.

Add event list

If you choose action "*Add event list*" a file dialog will be appear. This dialog allows to select only special GRUAN measurement list files. You find a relevant file "*LmeList-datagram.gdz*" in every installation of RsLaunchClient at sub-folder "*data/*". If you choose and open such a file, the program will try to import all measurements from this list of measurement events.

Import GMD files

If you choose action "*Import GMD files*" a file dialog will be appear. This dialog allows to select only GRUAN meta-data (*.gmd) files. After choosing one or more GMD files, a second dialog will be shown, which allow to define the status of measurement(s):

- *UNKNOWN* – [*Please do not use it. This will cause problems.*]

- *STARTED* – Set status opened/started to all imported measurements. These measurements are editable.

- *COMPLETED* – Set status closed/completed to all imported measurements. These measure ments are not editable (but repairable).

- *TEMPLATE* – Set status template to all imported measurements. These measurements are templates. Warning! It is only recommended, that GMD files are used which are *really* tem plates.

- *ARCHIVED* – [*Please do not use it. This will cause problems.*]

2.5.4 Update from an old installation

If a new (fresh) version of RsLaunchClient is installed, it is possible to update the configuration properties and import the event list from old program version. This action is only enabled in admin istration mode (see chapter 2.2).

This action is available in navigation at "*Maintenance*" → "*Update from old*".

The resulting dialog is shown in Figure 11. First step is to choose main directory of old client in stallation. A default file dialog opens, which allows to select following specific file "*StartR sLaunch.jar*". Such a file should be available in the base path of each RsLaunchClient installation.
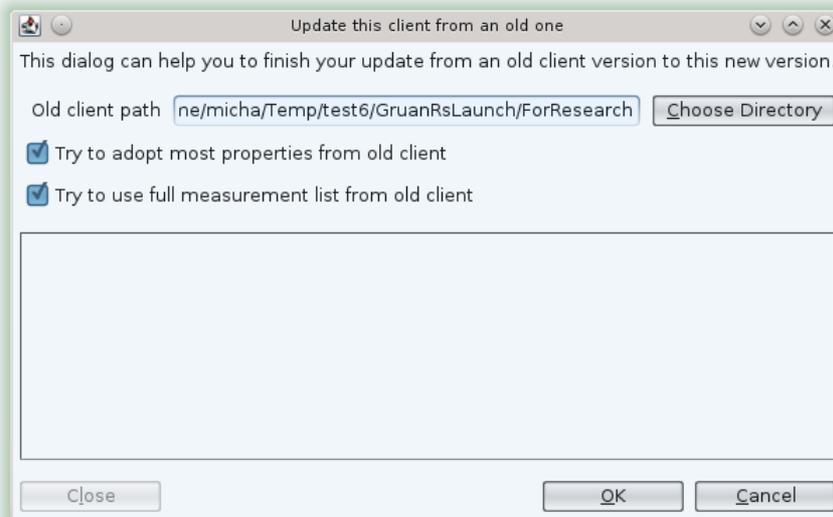
Figure 11: Dialog for updating the client from an old one

Check desired options for update, after selecting the path to old installation:

- Adopt properties – The program should try to adopt available configuration properties from old installation. See chapter 4 for more information about these properties.

- Import measurement list – The program should try to import full measurement list of old in stallation. See previous section 2.5.3 for more information about importing measurements from external sources.

After confirm with "OK", program is automatically updating itself. It can need some minutes de pending on the amount of measurements. At end some logging text will be shown.

2.6 Navigation

In the navigation panel general actions and navigation commands are shown which are separated in three main groups *Operational Functions*, *General* and *Navigation*.

2.6.1 Operational Functions

- *Start page* – open and show the start page in front (see chapter 2.1)
- *List management* – open a sub-navigation for management of event list (see below)
- *Maintenance* – open a sub-navigation for maintenance actions (see below)

Management of event list (sub-navigation)

- *Start page* – open and show the start page in front (see chapter 2.1)
- *Save event list* – save the event list now (*All opened tabs will be closed before.*)
- *Add event list* – add a full event list from an external source (see sections 2.5.3) *[admin mode]*
- *Import GMD files* – import (add) several GMD files to the event list (see sections 2.5.3) *[admin mode]*
- *Repair event list* – try to repair the event list *[admin mode]*

Maintenance actions (sub-navigation)

- *Program options* – *[not yet included]*
- *Change AdminMode* – change mode between Admin and Operator (see chapter 2.2)
- *Update from old* – try to update program properties and full event list from an old program installation *[admin mode]*
- *Show log* – open the internal log window (see chapter 2.7)

2.6.2 General

- *Show log* – open the internal log window (see chapter 2.7)

2.6.3 Navigation

- *Exit Program* – exit program (see chapter 2.8)

2.7 Logging

The logging will be shown using navigation item *Show log*.

The logging frame is shown in Figure 12. Program-internal things (e.g. progress, warnings, …) are logged in a log list. This list can help to find the relevant issue if anything going wrong.

The logging and the view can be tuned. Therefore you find a bar with several fields at the top:

- *L* – Level of logging
- *C* – Cache of logging
- *FS* – Font size of list items
- *F* – Level filter of view

The most important property is the level of logging (*L*). Only messages are logged which have such a level at minimum. The default level is defined in the property file (see chapter 4, property *fileLog Level*). The cache size (*C*) describes how much log entries (messages) are buffered internally. The list items are formatted with the given font size (*FS*). The level filter of view (*F*) define which log entries (messages) are shown in the log list.

At the bottom of the logging frame a button bar is located containing following buttons:

- *Dialog/Tab* – change between log list as a tab or a separate dialogue
- *Scoll Lock* – lock/unlock the log list at current position
- *Clear* – cache of log entries will be cleared
- *Close* – tab/dialogue will be closed
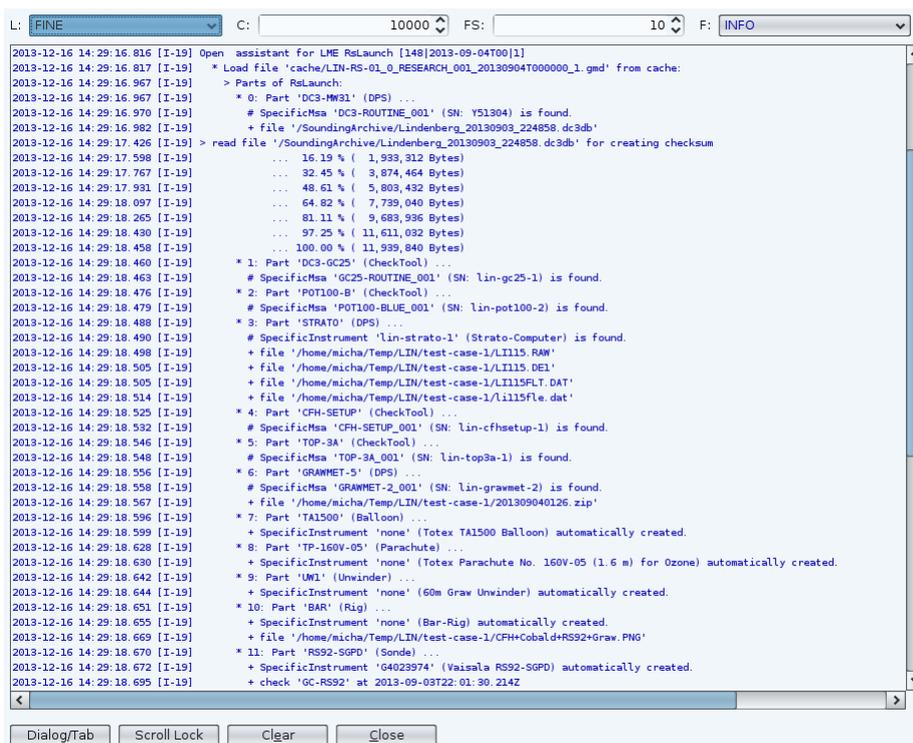
Figure 12: Frame of log messages

The logging mechanism is automatically started at every program start. It is possible to configure this mechanism by main configuration file (see chapter 4.2).

2.8   Exit Program

There are two possibilities to exit the program

- a click of main window closing button

- a click of the button "Exit Program" in the sidebar

In both cases a dialogue with following message will be shown:

Do you want to save current session?

Normally please always save the current session. Then the event list will be saved in current status with all changes which have happened.

If the current session is not saved all open tabs of assistants and the event list will not be saved.

3 RsLaunch – Assistant for collecting meta-data about a radiosonde launch

The assistant is the central point of RLC. It can be opened through different activities:

- create new measurement

- edit existent measurement

- view existent measurement (changes won't be saved)

- create or edit a template (only in administration mode)

An assistant is opened with six steps, which helps to collect all required meta-data and data of a radiosonde launch. Please follow these steps till upload to GRUAN.

On bottom you see a button bar with following buttons for navigation:

- *< Prev* – go back to previous page

- *Next >* – go to next page (it is disabled while a problem is occurred → see the coloured message above this button bar)

- *Finish* – is enabled only at end of assistant (same as *Close*)

- *Close* – close the assistant (with [*EDIT* mode] or without [*VIEW* mode] saving changes)

3.1 Opening issues

Some warnings/errors can occur during open the assistant to edit or to view the selected measurement. Following an incomplete list of possible issues is shown:

- GMD file is missing

- Meta-data codes are not known (maybe changed)

- Linked files are missing, corrupt, or not available

3.1.1 Missing GMD file

During open an event (view or edit) the following message can appear:

> The GMD file of this event is not existent.

This means, that the GMD file of this event is not available in the cache directory. The list of launch events is not consistent with the cached GMD files. There are several reasons to create such an inconsistent state:

- cashed files are manually deleted

- crash of RsLaunchClient during ending the program

- maybe: change of "*scheduled date*" of an existing launch event in combination with an unsaved session

Solutions: What is to do?

- Manual search of missing GMD file in the backup sub-directories (like "backup_*") of

cache. If the missing GMD file is found, it should manually copied to the base of cache directory.

- Delete the event in the event list. After that create a new event like the missing one.
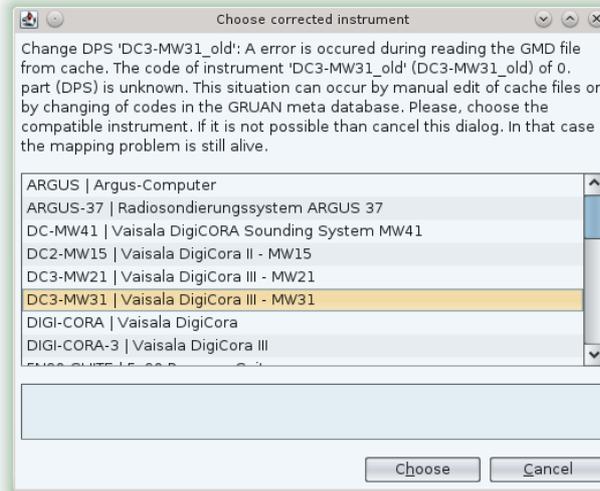
Figure 13: Dialogue for choosing correct instrument

3.1.2 Unknown meta-data code

During open a measurement (edit or view) the dialogue (shown in Figure 13) can appear. This situation can occur by manual edit of cache files or by changing of code in the GRUAN meta database.

Solutions: What is to do?

- If possible, please choose the compatible instrument (or sometimes the instrument type).

- If is not possible, cancel the dialogue and if it is maybe a bug or real issue please contact the GRUAN Lead Centre.

3.1.3 Missing linked files

During open an event (edit or view) the dialogue (shown in Figure 14) can appear. This means, that one or several files attached to the launch event are missing, not available or not same one as last time.

Solutions: What is to do?

There are several options to solve this problematic situation. Please select one or more files and then choose one of following options:

- Choose a new directory to search selected files at other position.

- Remove selected files from event.

- **Ignore the issue at moment. → This is not a real solution, but helps sometimes.**
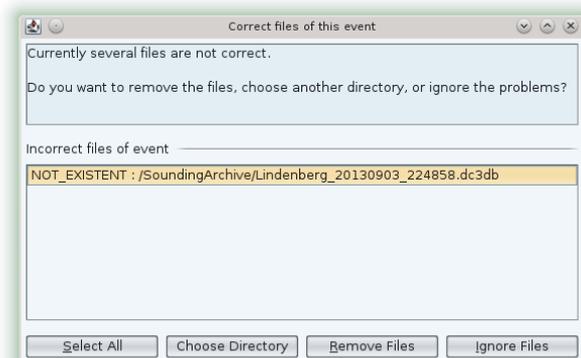
Figure 14: Dialogue to correct linked files

3.2   Step 1: Observation – define basics of launch event

On first page basics of a measurement event (e.g. a radiosonde launch) can be defined. This page is shown in Figure 15.

Figure 15: Step 1 – Observation

Following fields are available at this page:

- *GRUAN Station* – GRUAN station
- *Measuring System* – measuring system, like a radiosonde launch site
- *Observation Type* – typical launch set-up/bundle/... (e.g. ROUTINE)
- *Scheduled Date (UT)* – scheduled date (e.g. 00:00, 06:00, 12:00, 18:00, 21:00 UTC)
- *Balloon No.* – always one (1), except you have more than one launch at same scheduled date
- *Site-internal Code* – free definable number/code/key of launch
- *Main Operator* – operator of this launch
- *Comments* – only if special comments to this launch are necessary
- *Version* – (not editable) show current version of this event file

Note: Some additional fields are only available, if they activated in the properties file (properties *allow Experiment* and *allowCampaign*, see chapter 4). This additional part of page is shown in Figure 16.

Now detailed descriptions are followed for all these fields/parameters.

GRUAN station

This field shows the unique abbreviation (like "LIN") and the full name (like "Lindenberg") of se

lected GRUAN station. In default case, this field is pre-selected not changeable anymore.

Measuring system

This field shows the unique abbreviation (like "LIN-RS-01") and the full name of selected measurement system. In default case, this field is pre-selected and not changeable anymore.

Observation type

This field shows the unique abbreviation (like "ROUTINE") and the full name of selected setup or observation type. In default case, this field is pre-selected and not changeable anymore.

Scheduled date (UT)

This field shows the scheduled date of measurement event. This date should be defined in a site-typical manner. That it means?

- If balloons are launch at specific synoptic hours like 00, 06, 12, 18 UTC, please use such synoptic date.

- If ballons are launched at specific other hours like 16 or 21 UTC (or locale time), please use such a rounded date with full hour (no minutes).

- If ballons are launched at a linked external date like a satellite overpass, please use the over pass date here.

- It is not recommended and mostly not useful to set this date to correct launch date with minutes.

In default case, this field is pre-selected. It should be changed only at start of defining a new measurement. In future, it will be changeable only in the dialog "Create new measurement".

Note: If scheduled date is not defined at full hour, a warning will be appear at last step during "Validation".

Balloon number

This field shows the number of balloon at the selected scheduled date. That means, it should be always one (1) except in case of several launches at same schedule date like:

- after start – first launch was cancelled because any problem
- several balloons – launching several balloons at same time (mostly during campaigns)

Note: If balloon number is not defined as one (1), a warning will be appear at last step during "Validation".

Site-internal code

Most stations label all launches with a unique or inner-annual number or code. It is recommended to use this functionality. All measurement tables/lists of this client show this code and allow thereby a much better recognition of older measurements.

Note: If no site-internal code is defined, a warning will be appear at last step during "Validation".

Main operator

This field shows the main operator of this specific measurement. In case of a radiosonde launch, it is required to choose one.

Note: List of operators are pre-defined and can not be changed here. But it is planned to include such functionality in this client software in near future. At moment, please contact the GRUAN Lead Centre if a change is necessary.

Note: Without choosing the main operator it is not possible to go to next step.

Comments

This field allows to give a comment to whole measurement. Please use this possibility, if you think it is necessary.

Please give comment in English. If it is not possible because operator can not speak/write any Eng lish: then give comment in your language, but add a bracked language code (e.g. "[de]" for Ger man) at begin of comment. Following an example for such a case is shown:

[de] Beim Sondenaufstieg traten große Probleme auf, u.a. …

This comments should be relevant for whole measurement. If you have any comments for specific parts of the measurement, like one instrument/equipment or ground check, you can comment these parts directly (see sections 3.3.2 and 3.4.2, paragraph "Comments").

Version

This field shows the version of this measurement or better of the GRUAN meta-data file describing this measurement. The version number cannot manually be changed. The number will only be in creased if you repair an already uploaded measurement (see section 2.4.4).

Experiment

It is necessary to activate this parameter (see at start of this chapter, page 29).

The event can be marked as an experimental launch (see Figure 16 at top). All data of such an ex periment are not automatically processed at the "GRUAN processing centre" (e.g. GRUAN Lead Centre). But the meta-data and the raw data are stored for any additional processing.

Figure 16: Additional fields "experiment" and "campaigns"
on step 1

Sometimes the experiment affects only one instrument of whole instrumentation. As example a dual launch with two different radiosondes is launched and only one of them is "experimental". In such a case, it is possible to mark only this specific instrument (see chapter 3.3.2, paragraph "Experi ment").

Campaigns

It is necessary to activate this parameter (see at start of this chapter, page 29).

Meta-data of a campaign should be defined before the campaign starts. An email with basic information about the campaign should be sent to the GRUAN Lead Centre (gruan.lc@dwd.de) some time before the campaign starts (in minimum two weeks before). Following points have to be defined:

- Name, small description, contact person, …

- Campaign phases (if more than one are planned) – name, description, contact person, …

- Time range (from … till) of campaign and/or all phases

- List of measurement systems (like LIN-RS-01), which are involved in this campaign

Now, it is possible to mark a launch event as a part of one (or more) campaign. Only pre-defined campaigns are available, which are possible for this event (scheduled date + measurement system).
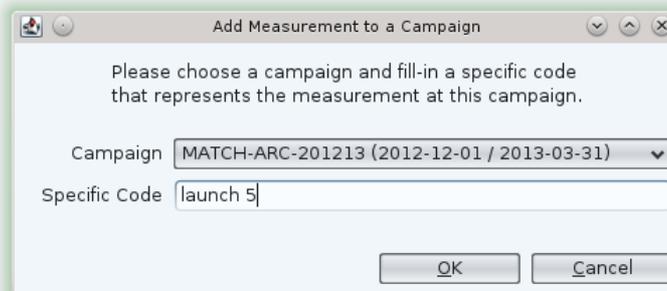
Figure 17: Dialog for linking a measurement to a campaign

Please press button "Add…" to open a special dialog which is shown in Figure 17. Then follow the briefing text and press "OK".

> Please choose a campaign and fill-in a specific code that represents the measurement at this campaign.

All added campaigns are shown in list of attached campaigns. Only if campaigns are shown here, they are correct linked and stored in the meta-data of this measurement event.

3.3 Step 2: Instruments – add all used instruments and sounding equipment

On second page all used equipment can be managed and it is shown in Figure 18. This page is much complexer than first one. It is splitted in two internal frames, "Instruments and Sounding Components" and "Description". Both are discussed in detail below.

Figure 18: Step 2 – Instrumentation

Aim of this page is to collect all information about the relevant equipment of measurement. The list of components may already be fully or some components are missing depending on used template. Every component can be described in detail including serial number and a list of specific properties.

Please add all relevent equipment in a sequence:

- *Ground equipment* – used data processing systems (DPS) and check tools

- *Passive launch equipment* – balloon, parachute, unwinder, rig

- *Active launch equipment* – sondes

Every component can be described in detail, including:

- *Serial Number* – is only required by measuring instruments

- *Operator* – only if is different to the main operator

- *Processing* – the used data processing system (telemetry, …); is only required by measuring instruments

- *Experiment* – instrument is in experimental use

- *Comments* – special comments to this device on this launch

- *Property list* – special properties to this device on this launch (only red-coloured properties are required)

3.3.1 Instruments and sounding components

List of components/parts

The list of instruments and sounding components is subdivided in pre-defined groups, like "ground equipment" and "launch equipment". Every component is automatically part of one group. The list is an ordered list and can be adapted at real (natural) order, e.g. balloon, parachute, unwinder, rig, sonde.

Some actions and description of selected component will be available, if a part is selected.

Note: At bottom of page appears a message, if one or more required parts are missing in this list.

Note: A warning will be appear at last step during "Validation", if an "unusual" order is chosen, like un winder, sonde, balloon or so.

Add a part

This combo box allows to add missing parts to list of components. If you press these box a list of possible instruments and sounding components will be appear. Then you can select one of them. After choosing there is a couple of different cases:

- distinct part was already existent → nothing is happened

- distinct part was missing → it will be added

- ambiguous part is chosen → a special dialog will be appear

"Distinct" means in this case that it is a permanent equipment (like a ground system) with a serial number or it is a non-am biguous type (like sonde type RS92-SGPL) or there is only one possible type (e.g. using pre-defined filter for your sta tion. This is common e.g. for balloon or parachute types).

In case of an ambiguous part the dialog "Choose Instrument" will be appear which is shown in Figure 19. This dialog al lows to choose a distinct instrument type for new part to add. A small description will be shown (if any is existent), if an in strument type is selected.

Figure 19: Dialog for choosing an instrument type

Remove a part

It is possible to remove an already existing part. You can select it and then action "remove" (X) is available.

A dialog with a warning message is shown, if selected part is used for some of following things:

- Another part use this part as "processing".

- An instrument check is existent for this part.

- An instrument check is existent for another part using this part as "check tool".

- One or more files are attached to this part.

It is recommended to clarify all given points **before** you finally remove the part.

Move a part up or down

It is possible to change the order of instruments and sounding components. You can select a part and then both actions "up" (▲) and "down" (▼) are available (if senseful). It is not possible to move a component to another group, like from "ground equipment" to "launch equipment".

3.3.2 Description (of selected component)

This internal frame is filled with relevant information about selected component from component list above (see Figure 18). It splits in two sides, left a couple of general meta-data and right a table of component-specific properties. The property table is separately described in following chapter 3.3.3.

Type

This field shows a unique code of the basis type, like BALLOON, SONDE, … A small tool tip is shown (with full name of type) if the mouse curser is waiting at this field.

Model

This field shows a unique code of the concrete instrument model, like RS92-SGPL. A small tool tip is shown (with full name of instrument model) if the mouse curser is waiting at this field.

At moment the "Change" button is disabled and has no function in the RsLaunchClient. This can be changed in future.

SN / Part ID

The field "SN" means serial number and can be enabled or disabled depending on selected component. This field is only enabled in case of an active instrument (e.g. a sonde) which is not permanent (e.g. not a ground system).

Most passive equipment, like balloons or parachutes, has no serial number.

Note: All permanent equipment can not be managed here at this point. At moment it is necessary to write an email to the Lead Centre to change permanent equipment. But it is planned to include such functionality in this client software in near future.

At moment the second field "Part ID" is disabled and has no function in the RsLaunchClient. This can be changed in future.

Operator

This field should be empty in most cases. It is only necessary to fill-in an operator here, if there is responsible a different operator than main operator (see chapter 3.2, section Main operator).

Note: If an operator is set, a warning will be appear at last step during "Validation".

Please press on button "X" to remove a chosen operator.

Processing

Most active instruments which can measure have to be linked to a corresponding data processing
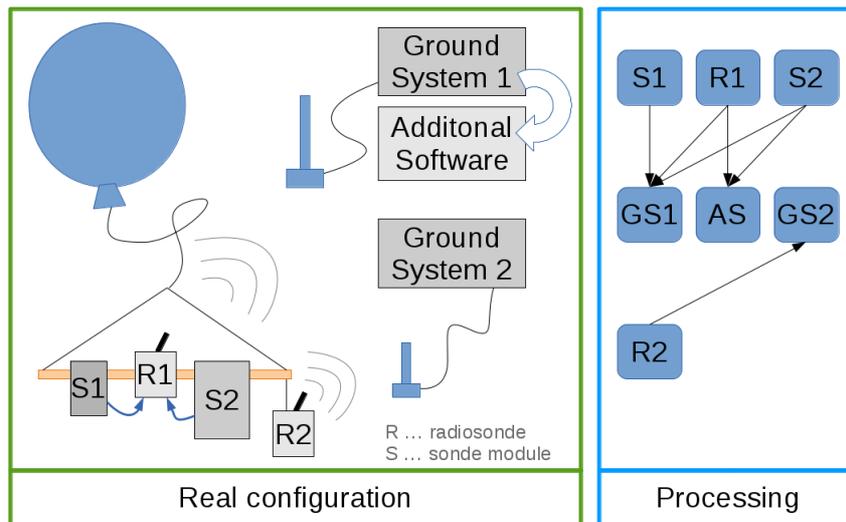
Figure 20: Processing -- a measurement-internal data flow

system (DPS), like a ground system or software. Such a link is like the telemetry signal from a ra diosonde to a telemetry ground system, but a bit more general (see Figure 20).

Please press "Add processing" and choose a relevant DPS. It is possible to add several DPSs which are shown in small list below.

Please press button "X" to clear list of chosen data processing systems.

This function is only available in case of an active measurement instrument.

Experiment

It is necessary to activate this parameter (see at start of chapter 3.2, page 29).

This check box allows to set a component as "experi mental". That results in ignoring data from this instrument in default GRUAN data flow. All data and meta-data will be stored but not used for processing and distributing.

Comments

This field allows to comment this component/instrument (see also chapter 3.2, section Comments).

3.3.3 Table of properties

On right side of frame "Description" a special range is shown for a list or table of component-related properties. This range is shown in Figure 21 and includes three parts, a tool bar, the table with a table header and some columns, and below a description field.

Figure 21: Table of properties with a tool bar and a description field

Tool bar

At moment the small tool bar presents following actions:

- *Filter* – switch a filter to show **all** and **only important** properties

- *Full Name* – switch between a reduced and the full name of properties
- *Add Property* – Opens a small dialog to define a new property for this list. It is **not** recommended to use this function in default case. It is much more constructive to inform the Lead Centre about your request to extend this property list.
- *Clear List* – *[not functional at moment]*

Description field

If a row in the property table is selected, it can appear a description about this property. At moment not all properties are fully described.

Table

It is pre-defined for each instrument/component, which properties are listed here. A full described list with all possible properties should be available in the specific GRUAN Technical Document (TD) about Radiosonding. Unfortunately such a TD is not available to now.

Note: Please contact the Lead Centre if you find ambiguous property names/descriptions.

A property table has several columns:

- *Name (or Full name)* – significant name of property or (if activated) full name of property
- *Value* – current value of property (It is possible that such a property value is pre-defined.)
- *Unit* – unit of property value, e.g. [m] … metre, [hPa] … hecto pascal, [-] … no unit

If a property is selected, you can edit the value of the property. The edit mode starts by mouse double-click or writing. A matching editor is assigned to every property, like a simple text editor, a number editor (including a value range check), a combo box (with a list of possible options), and so on. Using these should be self-explanatory.

A property row can be shown in several colors:

- **black** text color – this is an optional property
- **blue** text color – this is a required property
- **red** bg (background) color – this required property is missing
- **green** bg color – this property is set for this measurement (all other properties with values are pre-defined)

Note: A warning will be appear at last step during "Validation", if a required property is still missing.

3.4   Step 3: Instrument checks – add all instrument checks for used instruments

On page 3 all relevant instrument checks (e.g. ground checks) can be managed. This page is shown in Figure 22. It is splitted in two internal frames, "Instruments ground checks" and "Description". Both are discussed in detail below.
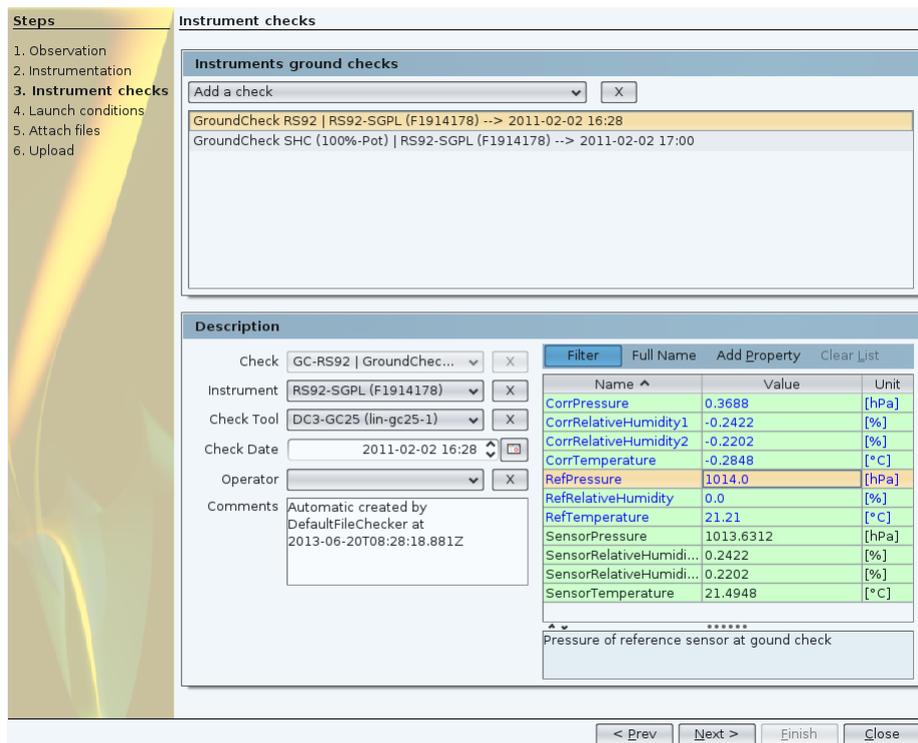
Figure 22: Step 3 – Instrument checks

Every instrument check can be described in detail, including:

- *Check* – type of check

- *Instrument* – instrument to check

- *Check Tool* – instrument/device used as checker

- *Check Date* – date and time of checking

- *Operator* – only if is different to the main operator

- *Comments* – special comments to this check

- *Property list* – special properties to this check

3.4.1 Instruments ground checks

List of instrument checks

This list includes all instrument checks related to the measurement. A check is labelled by title of check, unique code of instrument, serial number of instrument, and check date.

Some actions and description of selected instrument check will be available, if one is selected.

Add a check

This combo box allows to add missing instrument checks to the list. If you press these box a list of possible instrument checks will be appear. Then you can select one of them. This action creates a new one and add it to the list.

It is possible to add several equal instrument checks. But this it not recommended except for ozone

preparations (there are always two).

Note: If several equal instrument checks are added, a warning will be appear at last step during "Validation".

Remove a check

It is possible to remove an already existing instrument check. You can select it and then action "remove" (X) is available.

3.4.2 Description (of instrument check)

After creating a new instrument check some of following details should automatically be filled. A change of these parameters is usually not required. An exception is the list of properties. These should be changed and/or filled.

Check

This field shows a unique code and a title of the concrete instrument check, like GC-RS92.

Instrument

This field holds the instrument which is checked during the instrument check, e.g. a specific radio sonde.

Pressing button "X" will remove the chosen instrument.

Check Tool

This field holds the check tool which is used to check the instrument, e.g. a specific ground check unit.

Pressing button "X" will remove the chosen check tool.

Check Date

This field shows the start date (including minutes) of the checking procedure. A date is automatically computed based on the scheduled date of measurement. Please correct it, if the correct date is known.

Note: If this check date is not before the scheduled date and/or the real start date (if known), a warning will be appear at last step during "Validation".

Operator

This field should be empty in most cases. It is only necessary to fill-in an operator here, if there is responsible a different operator than main operator (see chapter 3.2, paragraph "Main operator").

Note: If an operator is set, a warning will be appear at last step during "Validation".

Please press on button "X" to remove a chosen operator.

Comments

This field allows to comment this instrument check (see also chapter 3.2, paragraph "Comments").

Properties

All relevant meta-data (relating to an instrument check) are shown in the table of properties.

Please see section 3.3.3 for an elaborate description of such a table of properties.

3.5   Step 4: Launch conditions – additional information about launch

On page 4 additional information about the measurement itself can be filled in. This page is shown in Figure 23.

Every measurement can be described in detail, including:

- *Comments* – special comments to this launch
- *Properties* – special properties to this launch

Comments

This field allows to comment this measurement. It is same comment field like on page 1 (see chapter 3.2, paragraph "Comments").

Properties

All relevant meta-data (relating to the measurement itself) are shown in the table of properties.

Please see section 3.3.3 for an elaborate description of such a table of properties.

Figure 23: Step 4 – Launch conditions

3.6   Step 5: Attach files – attach raw data files

The aim of step 5 of this assistant is the management of attached files (raw, data, additional) to the measurement. The page is shown in Figure 24.

Figure 24: Step 5 – Attach files

This page is completely new designed since version 0.4.x of RsLaunchClient. This new page is splitted in two parts "List of files to attach" and "Selected file *<file name>*". In which second part has also three zones: "Selected Part", "File Information", and "Actions". All these distinct page re gions are fully described in following sections.

Usually you should select a data processing system (a blue row) and only use action "Add files" to attach all required data files. If there is a data issue, you can mark it as "corrupt" that means: too few, or no, or corrupt data files.

In some cases it is helpful to attach "additional" files (which are not pre-defined), like images, pro tocols, additional measuring data, etc. That is allowed but it is not recommended as a permanent solution.

Note: If you think, there are missed files in the pre-defined list. Please contact the Lead Centre to discuss it. An upgrade of the pre-defined list of (required and optional) file types is always possible and welcomes.

3.6.1 File list

The file list shows a couple of information about data processing systems (DPS) and related file types. One or more files are always following directly on a part (e.g. DPS, instrument). A part is marked with blue background color.

Each row of files give some information about dedicated file type. All possible facts are described in following paragraphs.

Foreground color

A row of a file is always colored by following color code:

- **Black** – File is OK.

- **Gray** – File type is optional.

- **Red** – An error is occurred (see paragraph "Status and requirement" below).

File type

This column shows the type (or file format) of file. All types are pre-defined in GRUAN meta-data base (GMDB) and part of basis meta-data.

You can find an incomplete list of file types in **appendix XXX**.

Status and requirement

This column shows the current status of file and in brackets the requirement.

See also section 3.6.3, paragraphs "Status" and "Required?" for more information.

File name

This parameter shows the complete name of file (including file extension) or " – ", if no file is set.

3.6.2 Selected part

This page region collects all relevant information of selected part (e.g. data processing system). Only parameter "corrupt or missing" can be edited.

Part

This line shows the selected part in the same way like in the file list above (including position, in strument model code, instrument type, and serial number).

Linked instruments

This small list shows all instruments which are linked to selected part. That helps to know, which data should be inside of attached files.

Such a linking is described in section 3.3.2, paragraph "Processing".

Corrupt or missing

Sometimes, it is helpful to mark an instrument (or data processing system, like a specific software) that data files are incorrect (corrupt) or missing.

> This instrument has corrupt or missing data files.

Such a mark is necessary and/or helpful in two cases:

- *Missing file(s)* – One or more "required" files are missing. There is no file to add because, e.g. a crash, a cancel, an error, etc.

- *Corrupt files(s)* – One or more "attached" files are corrupt. "Corrupt" can mean, e.g. file is unfinished because a crash, file is too short, file is wrong "formatted", etc. Nevertheless you should attach corrupt files, if you think there is maybe relevant information in it.

3.6.3 File information

This page region collects all relevant information of selected file. An editing of these parameters is not possible.

Type

This parameter shows the type (or file format) of selected file. All types are pre-defined in GRUAN meta-data base and part of basis meta-data.

Type: Please contact the GRUAN Lead Centre if you need a list of known file types.

Required?

This parameter shows if selected file is required or optional. It is pre-defined in basis meta-data if there is a requirement. We can distinct between two cases:

- *Required* – You have to attach an adequate file or you can mark this selected part as corrupt (see section 3.6.2, paragraph Corrupt or missing).

- *Optional* – You can attach an adequate file or you ignore it.

Status

Depending on the file requirement we can distinguish between several cases which results in several statuses:

- *File is OK* – All is fine.

- *Optional file* – This is an optional file and not set.

- *Warning: Missing required file* – This file is still missing and have to be attached (or marked as missing).

- *Error: File is not existent* – A file is set, but this file is not existent anymore. Such a situation is often occurred if an older measurement is viewed again. The reason is mostly a change in the file system, e.g. files removed (archived), directories renamed (moved), etc.

- *Error: File has another checksum* – A file is set, but this file is not the same as last time (an other file checksum). The reason is, that selected file was modified since last edit of this measurement.

- *Error: File has another size* – A file is set, but this file is not the same as last time (another file size). The reason is, that selected file was modified since last edit of this measurement.

- *Unknown status* – Should not be happen. Please contact Lead Centre if this status is often shown, because there is something wrong.

Note: In case of an error you should repair this file relation. Please use actions "Remove file" and "Add file". *Of course, this is not relevant if this measurement is opened in view mode.*

File Name

This parameter shows the complete name of file (including file extension), if a file is set.

File Path

This parameter shows the path to the file (all directories), if a file is set.

Checksum

This parameter shows the checksum (CRC-32) of file, if a files is set.

Size

This parameter shows the size of file in bytes, if a files is set.

3.6.4 Action to add files

This action is available if a part (or a file) is selected. It is always related to the part shown in page section "part" – not to the selected file type itself. That allows to choose and add a couple of files (if necessary) in one step.

In the following paragraphs, the complete procedure (including relevant configuration) is fully de scribed.

Data sources

Pressing the button opens a small menu with a list of data sources. It is necessary to define these data sources before it can be used (see paragraph "Configuration of data sources" below).

Please choose one of them and select it.

Attach files dialog

After selecting a data source from list a special file dialog will be shown. It always start at base path of data source. Now, please search the relevant file (or files), select it, and press button "Accept file(s)".

Adding several files in one step is expressly permitted. The program automatically tries to assign these to defined file types of selected part (see section 3.6.2).

Files can be marked for an automatic file check. See next paragraph for it. This behaviour is pre-defined be Lead Centre.

File check

A file check is started in several cases:

- attach file at creating new measurement (before step 1)

- attach new file (at step 5)

- using action "Check file" (at step 5)

A file will be tested if possible (*only some file formats can directly be read by the RsLaunchClient*). Several issues will be checked:

- check file format

- check file size and checksum

- try to extract meta-data

Meta-data can be extracted from a file. A special dialogue will occur if some new or different meta-data are found. An example of such a dialogue is shown in Figure 25. It is divided in several parts, a briefing text, a table of properties to merge, an area for property description, and a button bar.
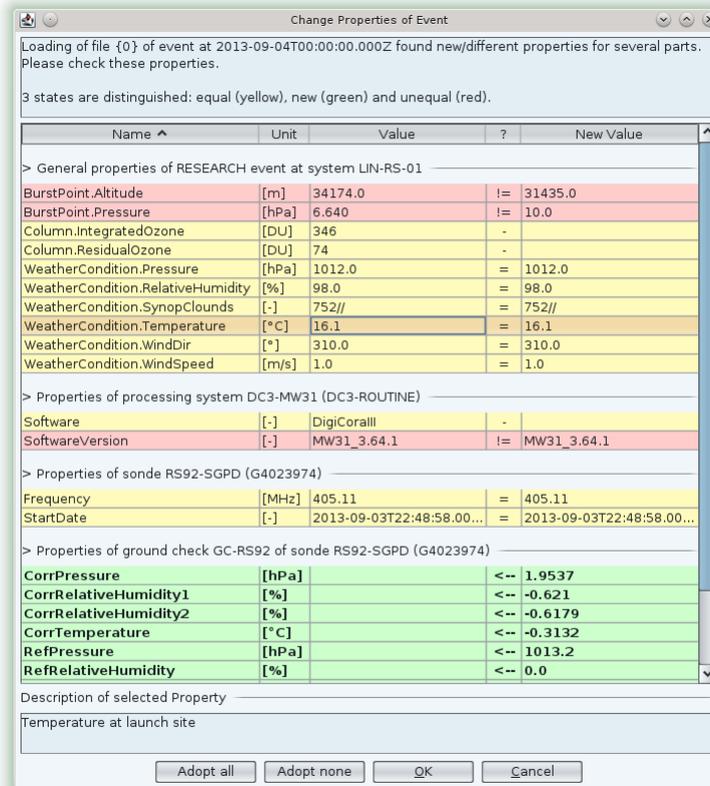
Figure 25: Dialogue to merge properties from two sources

Properties in the table are grouped in related things like data processing system, sondes, ground checks, and so on. These groups are directly coupled to full meta-data description of measurement. The table has a couple of columns:

- *Name* – name of property

- *Unit* – unit of property

- *Value* – a value which already exists in meta-data of measurement (e.g. pre-filled)

- *?* – current status of merging

   o - → property is not existent in file (mering not possible: color yellow)

   o = → property has equal values (mering not necessary: color yellow)

   o != → property has unequal values (mering is possible: color red)

   o <-- → property is only existent in file (merging is recommended: color green)

- *New Value* – a new value from checked file (it can be adopted)

The related description of property will be shown if a row (a property) is selected by focus. A double-click with left mouse button on a property row select or deselect this property for adoption. A selected property is shown in bold letters.

Following actions are available in button bar at bottom:

- *Adopt all* – select all new (green) and different (red) properties for adoption
- *Adopt none* – deselect all selected properties
- *OK* – all selected (bold) properties are adopted
- *Cancel* – no meta-data from file are adopted to the measurement

Configuration of data sources

Before you can use the list of data sources it is necessary to configure it. At moment, such a config uration is only possible using the properties files in sub-directory "config/". For a full description of using and changing these files, please see chapter 4.

Nevertheless, a brief example should be included here to understand the way. Please look to follow ing **example** of specific lines of file "RsLaunchClient_gruan.properties":

```
addFileSources=LOCAL:Temp|FTP:TestFTP|LOCAL:Data
addFileSourcePath:LOCAL:Temp=D:/Temp/
addFileSourcePath:LOCAL:Data=F:/TestData/
```

First line defines a list of data sources which are separated by " | ". Each definition is splitted in two parts (by " : ") in which first part is the type (LOCAL or FTP) and second part is a unique name. In this example there are three named data souces: "Temp", "Data" (both local ones), and "TestFTP" (a remote FTP source).

Paths of both local data sources are really defined in lines two and three. The path of such a data source should always be an absolute path, like in this example. Please don't use a backslash " \ " in these paths. Instead you can use a slash " / ".

The remote FTP data source can't directly be defined in this file. Such a special FTP connection have to be described through an identical named configuration file, e.g. "TestFTP.properties". Struc ture of such a FTP configuration file is also described fully in chapter 4.

3.6.5 Actions to selected file

Remove file

The action "Remove" is available if a file type is selected and a file is set. After pressing the button the relation to the selected file will be removed without any confirmation prompt.

Add file

This action allows to add one file to selected file type.

See section 3.6.4 above for a full description about adding files.

Check file

This action allows to check the selected file. It is only available if a file type is selected and a file is set. The program tries to extract relevant meta-data from this file during such a check.

See section 3.6.4 above for a full description about extracting meta-data from files.

View file

[This action is not implemented yet.]

In future this action should be allow to open and view "known" file types:

- Images → a picture viewer

- ASCII Text (e.g. txt) → a simple text viewer

- Documents (e.g. pdf) → a simple document viewer

- Known data files (e.g. dc3, nc, csv) → a complex viewer for meta-data lists/trees, data tables, and data diagrams

3.7 Step 6: Upload – validate, prepare, and upload all

Last page of assistant is also completely new designed since version 0.4.0 of RsLaunchClient. It al lows now a better final procedure including three inner steps:

- 1) Validate – Software can validate all meta-data which are filled in.

- 2) Prepare – Prepare a well-defined GRUAN meta-data file (GMD file).

- 3) Upload – Upload all related files and created GMD file.

This page is shown in Figure 26 and it is parted in several regions. At top the inner steps are listed including a button (to start the action), a status message, and a longer information (or briefing) text. Please read it every time, it should help you in all cases.

Below on page a tabbed pane is shown with step-related tabs (validation, preparation, uploading). Following the three inner steps including related tabs are described in detail.
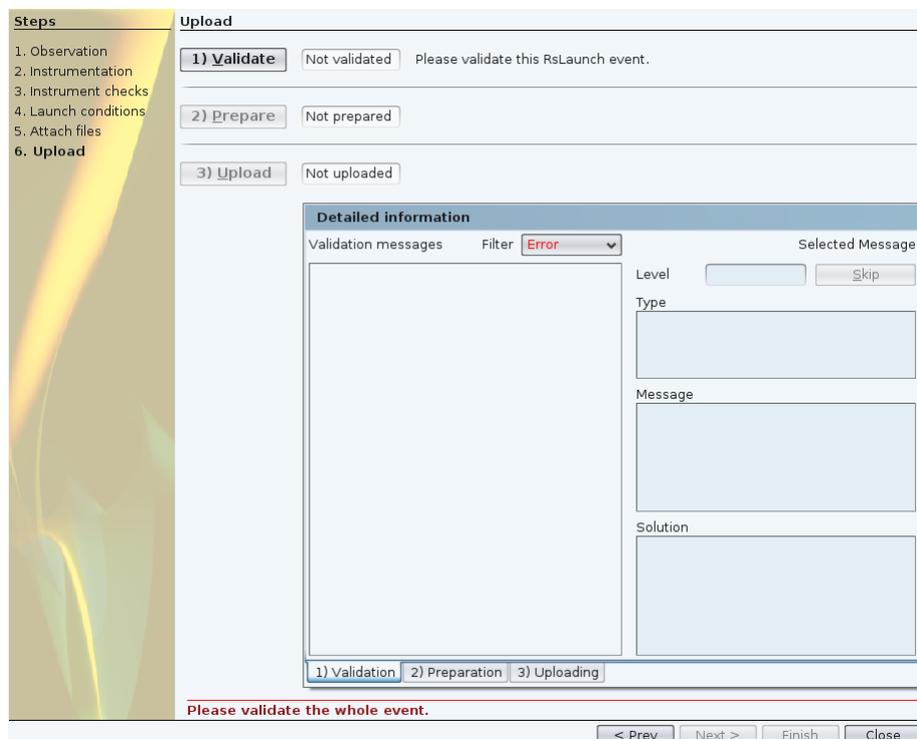
Figure 26: Step 6 – Upload (situation before validation)

3.7.1 Validate

First inner step is titled "validate". Here software can automatically validate all meta-data of current measurement, including instrumentation, instrument checks, attached files, properties, and so on. During validation a list of log messages is created. It is only possible to go ahead, if all validation tests are finished without any error or warning (see next paragraphs). If you want you can start the validation several times.

Log level

A log message has one of following log-levels:

- **Error** – There is *really* a wrong thing in meta-data. It have to be repaired before you can go ahead. It is not possible to upload to GRUAN a measurement with an error.

- **Warning** – There is *maybe* a wrong detail in meta-data. The details of warning should be verified and then repaired (it is really a mistake) or skipped (it is correct).

- **Info** – Every block of validation tests is producing one info message in minimum.

- **Skip** – All warnings which are marked for skipping (see below).

- **Fine** – Debug messages are only shown if level filter is changed. Every single (internal) val idation test is producing one debug message in minimum. It's a long list …

Layout of inner validation tab

Figure 27 Shows the frame for validation messages. On left side a message list is located including a possibility to use a filter of log levels. In default case this filter is automatically managed by pro gram itself. If a message is selected in the list, following details about it are shown on right side:

- *Level* – log level (see paragraph above)

- *Type* – a short text describing the type of message

- *Message* – full message text including all relevant details

- *Solution* – a solution to repair the issue of message (only in case of errors or warnings)

In addition there is one button "Skip" which is only available in case of a selected warning. Pressing this button allows skipping of a warning.

Figure 27: Internal frame for validation messages

Manage validation errors

Validation errors should not often occur. But if one is detected, it has to be repaired. Full description and a solution will be shown if you select an error message in the log list. Please follow these in structions. That means – go back to relevant page and repair the error. After repairing, you can go back to this page and start validation again.

Note: It is possible (*but not probable*) that an error is detected which can not be repaired by yourself. Such a case can occur if a validation rule is uncorrect. All validation rules are meta-data which is pre-defined by the Lead Centre. Please contact the Lead Centre if you think that all is OK but an error is shown.
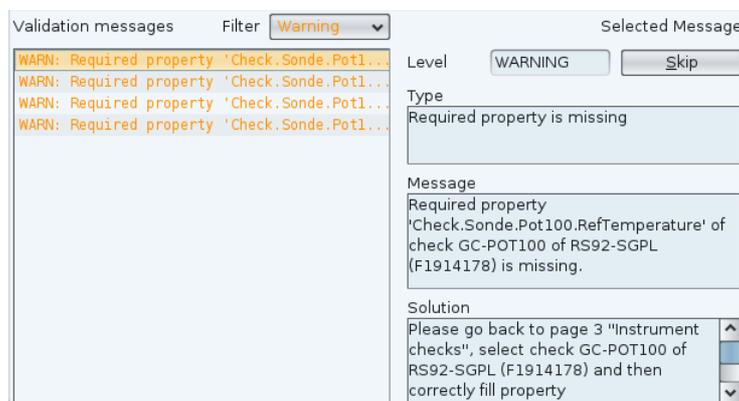
Manage validation warnings

Validation warnings can often occur. If such an issue is found it would be shown in the message list. Full description and a solution will be shown if you select a warning in the log list. Please follow these instructions.

You should verify if the warning:

- Is a fixable one. → Please see solution and repair it.

- Is (in your case) not relevant or not fixable. → Skip this warning.

Mostly a solution is given. You should read it and then you can choose between both ways.

Note: It is possible that a warning is shown every time. The reason is mostly, that your launch "setup" in cludes systematic differences which are not common, as example: using of two balloon or un winders, not fillable properties, and so on. Sorry, at moment you have to skip it every time.

3.7.2 Prepare

Second inner step is titled "prepare". After validation is finished (without any warnings and errors), this step is available. Pressing the button produces the GRUAN meta-data file (GMD file) of this measurement.

Such a GMD file is a well-defined XML file which contains all meta-data to the measurement and relations to all attached files. Please see first GRUAN technical document (GRUAN-TD-1) for a complete description of GMD files.

3.7.3 Upload

Third inner step is titled "upload". The action is available if both validation and preparation are cor rectly finished. Figure 28 shows the full page if uploading is in progress.

Pressing button "3) Upload" starts an uploading process which needs some time (depending on how many and how large files are uploaded). In normal case it should finished correctly. But sometimes errors occur. Following some possible reasons are listed:

- Network connection is not correct, e.g. offline, proxy server, firewall, …

- FTP server of GRUAN Lead Centre is temporary full or unavailable

Note: First please see chapter 5 if you have trouble with uploading, second contact the Lead Centre.
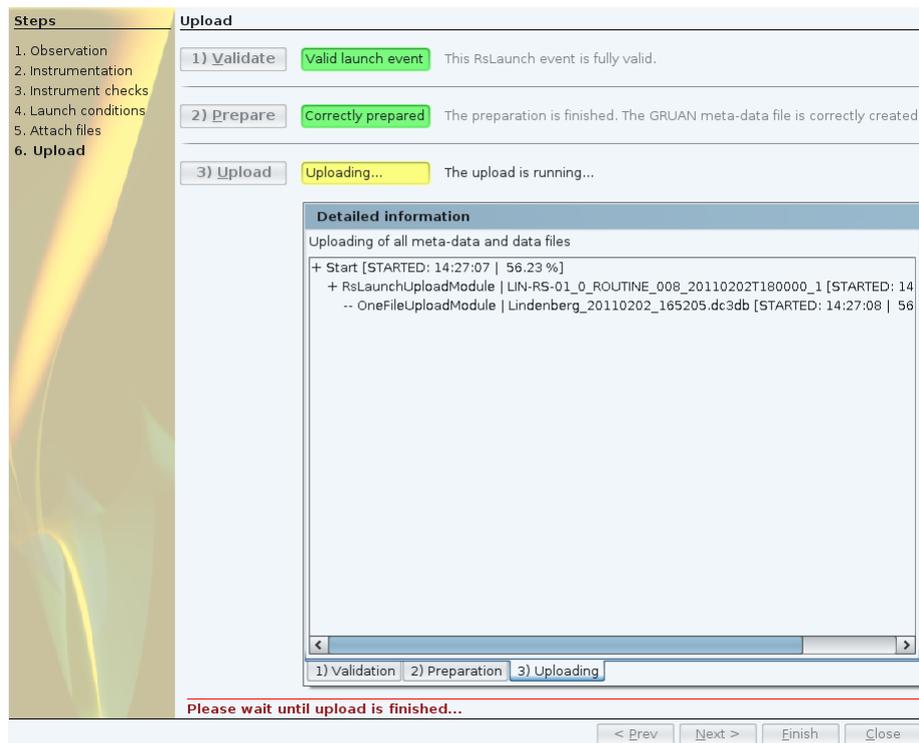
Figure 28: Step 6 – Upload (uploading in progress)

3.8   Closing the assistant

Closing of assistant is possible at all time. But there are several situations which we should distinguish:

- Uploading is correctly finished → measurement will be saved and marked as "closed"

- Measurement is new or edited (but not uploaded) → current status will be saved and marked as "opened"

- Measurement is opened in view mode → nothing is saved (anything is as before) and status is not changed

It is necessary to save session at exit of program, if any is edited or changed. Please see chapter 2.8 for enhanced description.

Note: A backup will be created of old Gruan Meta-Data file (GMD file) before saving a changed measurement. But there is no user-friendly (easy) possibility to restore such backup files at moment (*maybe in future*).

4 Program configuration – the properties files

It is possible to customise the RsLaunchClient with properties-files in sub-directory config/. Inside you find several files:

- [specific name]FTP.properties – definition of a FTP server

  ○ GruanIncomingFTP.properties – properties of FTP connection to GRUAN data flow entry point. This is the destination for uploading data. Please only change this file if ne cessary (e.g. firewall).

  ○ GruanOutingFTP.properties – properties of FTP connection to GRUAN dissemination point. This is the source of current meta-data. Please only change this file if necessary (e.g. a firewall).

- RsLaunchClient_gruan.properties – general and special properties of client functioning. Please use this file to customise the client for your station.

- ProxyConfig.properties – definition of used proxy server (sometimes necessary at computers behind central managed firewalls)

All properties files are pure ASCII text files with a unix line separator (abbr.: *LF*, code(hex): *0A*, code(decimal): *10*). That means, you should edit all these files only with a pure text editor (like vi, nedit, Notepad++, …). Please do not use any text processing program (like Word, Writer, …).

All lines starting with "#" are comments. If you want to change (and activate) a property you have to delete the "#". Following example should demonstrate it:

```
# property:    cachePath
# default:     cache/
# description: path for cached files (like GMD files)
#cachePath=cache/
```

Now line of property *cachePath* is changed and enabled:

```
# property:    cachePath
# default:     cache/
# description: path for cached files (like GMD files)
cachePath=cache-new/
```

Information about possible properties are mostly given directly in files. In addition please see fol lowing chapters including tables of possible properties.

4.1 FTP configuration file

FTP servers are used in GRUAN for transferring data and meta-data from and to GRUAN Lead Centre. And in addition FTP servers are used at some stations (like in Lindenberg) for internal data storing.

Because that there are two pre-defined FTP configuration files ("GruanIncomingFTP.properties" and "GruanOutingFTP.properties") and you can define additional user-defined ones (for this see also next chapter 4.2, paragraph "FileSources").

Following two lines have to be first in a FTP configuration file (*Please do not change or remove these!*):

```
type=org.gruan.config.FtpConfig
converter=org.osjava.sj.loader.convert.BeanConverter
```

Table 1: Properties of file [specific name]FTP.properties

Property	Default	Requirement	Description
Properties of FTP server connection			
protocol	[no default]	**required**	Protocol to use, choose always *ftp*
provider	[no default]	*optional*	Name of provider of FTP server
host	[no default]	**required**	DNS name of FTP server, or IP address
port	[no default]	*optional*	Port for connection to FTP server
user	[no default]	*optional*	User for connection to FTP server
passwd	[no default]	*optional*	Password for connection to FTP server
dir	[no default]	*optional*	Start directory on ftp server
Additional properties (for experts)			
autoNoop	0	*optional*	Should the program send a NOOP command after x milliseconds inactivity; 0 means no
mode	PASSIVE	*optional*	Node of ftp data transfer, choose between *PASSIVE* and *ACTIVE*
checkAlways	true	*optional*	Check of connection before every command; *true* or *false*

4.2   RsLaunchClient configuration file

The main configuration file for the RsLaunchClient includes general and special properties of client functionality. You can use it to customise the client for your station.

The configuration file has several groups of properties:

- *General properties* – properties to config behaviour and paths of client program
- *Defaults for assistant* (RsLaunch) – properties to config the measurement assistant
- *Logging* – properties to config logging mechanism
- *File sources* – properties to define additional file (or data) sources
- *Filter* – properties to config filter of measurement lists
- *Further properties* – [only for experts]

Following two lines have to be first in a RsLaunchClient configuration file (*Please do not change or remove these lines!*):

```
type=java.util.Map
converter=org.osjava.sj.loader.convert.MapConverter
```

Table 2 shows an overview of all properties of all groups. It is possible to change all properties, but not recommended. Most properties have senseful default values which should not be changed. But there are properties of some groups which should correctly be configured for your station, e.g.

- Please configure defaults for assistant (see also chapter 1.7).

- Please configure file sources (see also section 3.6.4, paragraph "Configuration of data sources").

- Please configure relevant general properties in case of offline use (e.g. *useFtp*).

- Please configure logging in case of troubleshooting (see also chapter 5).

Note: Please contact the GRUAN Lead Centre in case of ambiguity or other concerns.

Table 2: Properties of file RsLaunchClient_gruan.properties

Property	Default	Description
Specific Properties for RsLaunchClient		
cachePath	cache/	path for cached files (like GMD files)
dataPath	data/	path for used datagram files
templatePath	template/	path for template files (GMD files)
archivePath	archive/	path for archived files (like GMD files)
lmeListDatagram	LmeList-datagram.gdz	file name (or absolute path) of event list file
rsLaunchDatagram	RsLaunch-datagram.gdz	file name (or absolute path) of meta-data file
autoLoad	true	automatic load of meta-data and event list at program start
autoLoadLmeList	true	automatic load of event list at program start (only if autoLoad=true)
autoUpdate	true	automatic update of meta-data at program start (only if an upload is defined)
useFtp	true	use FTP connections for upload and update
ftpWrapper	Sauron	name of the used FTP-wrapper (library): Jakarta or Sauron
uploadConn	GruanIncomingFTP	name of the FTP connection for upload need a properties file, e.g. GruanIncomingFTP.properties
uploadPath	upload/	path for upload in a local directory (in case of faulty FTP connection)
updateConn	GruanOutgoingFTP	name of the FTP connection for update
updatePath	[no default]	*[not in use]*
useNews	true	show a news page on client start page
newsPath	<dataPath>/news-RsLaunchClient.html	path of news file (Html file)
Defaults for RsLaunch Assistant		
defaultStation	[no default]	code for pre-selected station (e.g. LIN for Lindenberg)

Property	Default	Description
defaultMeasuring System	[no default]	code for pre-selected measuring system (e.g. LIN-RS-01 for radiosonde launch site 1 at Lindenberg)
defaultMeasuring	[no default]	code for pre-selected measuring set-up (e.g. ROUTINE)
calcScheduledDate	NO	calculate scheduled date of new event, choose • NO – [variable] • LAST – last scheduled date • NEXT – next scheduled date
allowMoreCloning	false	allow use of all cloning possibilities
allowExperiment	false	allow, that events and/or every instrument of launch equipment can be an experimental use
allowCampaign	false	allow, that events can be part of several campaigns
useExtended-PropertyEditors	true	use extended property editors
Logging		
consoleLog	[no default]	*[not in use]*
consoleLogLevel	INFO	level of console logging, choose SEVERE, WARNING, INFO, CONFIG, FINE, FINER, FINEST
fileLog	true	Activate writing of log files
fileLogLevel	INFO	level of file logging, choose SEVERE, WARNING, INFO, CONFIG, FINE, FINER, FINEST
fileLogPath	log/	relative or absolute path (directory) for log files
fileLogNamePre	RsLaunchClient_	prefix of log-files
fileLogNameTime	yyyy-MM-dd_HHmmss	time stamp of names of log-files
fileLogNameExt	log	extension of log-files
File Sources		
addFileSources	[no default]	define a list of file sources for button "*Add Files*"; list items are separated by a vertical slash " | "; types of file sources: • LOCAL – a local path • FTP – a special ftp connection (described through an identical named configuration file, e.g. TestFTP.properties) Example: `| addFileSources=LOCAL:Temp|FTP:TestFTP |`

Property	Default	Description

addFileSourcePath: <FileSource>	[no default] → *necessary for every defined file source*	local path to a relevant directory for adding files
		
		Example:
		
		```addFileSourcePath:LOCAL:Temp=D:/Temp/```
		```addFileSourcePath:LOCAL:Data=F:/Data/```

Filter		
useFilter	true	use filtering of event list
saveFilter	true	save changed state of filter of event list
filterPath	data/filter-list.xml	path to the file of filter definition
Further properties (only for experts and debugging)		
autoLoadFromDb	false	only for inner use at Lead Centre; only useful if *autoLoad=true*
dbUsername	[no default]	only for inner use at Lead Centre; only useful if *autoLoadFromDb=true*
dbPassword	[no default]	only for inner use at Lead Centre; only useful if *autoLoadFromDb=true*
testDataFiles	true	only for debug

4.3 Proxy configuration

State of the art is that a local network behind a firewall. In case of bigger organisations (like weather services, and so on) these firewalls are very strict and block in both directions. That means a computer of local network can not reach the internet. A special proxy server have to be used be hind such firewalls. Ask your network manager how you can config the proxy server of your institu tion.

This properties file allows to define a proxy server which is used for all (or some) internet protocols like HTTP, FTP, and so on. You can define either a general proxy server (for a list of protocols) or one (or more) specific proxy server for each protocol.

Note: If you have trouble with configuration of such a proxy server, please contact the GRUAN Lead Centre. We can help you find out how a correct configuration should be done. See also chapter 5.1.

Table 3: Properties of file ProxyConfig.properties

Property	Default	Requirement	Description
Properties of a general proxy server			
proxyHost		**required**	DNS name of proxy server, or IP address
proxyPort		*optional*	Port for connection to proxy server
proxyUser		*optional*	User for connection to proxy server
proxyPasswd		*optional*	Password for connection to proxy server

Property	Default	Requirement	Description
nonProxyHosts		*optional*	Define one or list of hosts which should not using this proxy server.
proxyTypes		**required**	Define one or list of types (protocols) which general proxy server is used for. Choose between HTTP, HTTPS, FTP, SOCKS. A list is separated by a " *|* " like *HTTP*|*FTP*.
Properties of a HTTP proxy server			
httpProxyHost		**required**	DNS name of http proxy server, or IP address
httpProxyPort		*optional*	Port for connection to http proxy server
httpNonProxyHosts		*optional*	User for connection to http proxy server
httpProxyUser		*optional*	Password for connection to http proxy server
httpProxyPasswd		*optional*	Define one or list of hosts which should not using this http proxy server.
Properties of a HTTPS proxy server			
httpsProxyHost		**required**	DNS name of https proxy server, or IP address
httpsProxyPort		*optional*	Port for connection to https proxy server
httpsNonProxyHosts		*optional*	User for connection to https proxy server
httpsProxyUser		*optional*	Password for connection to https proxy server
httpsProxyPasswd		*optional*	Define one or list of hosts which should not using this https proxy server.
Properties of a FTP proxy server			
ftpProxyHost		**required**	DNS name of ftp proxy server, or IP address
ftpProxyPort		*optional*	Port for connection to ftp proxy server
ftpNonProxyHosts		*optional*	User for connection to ftp proxy server
ftpProxyUser		*optional*	Password for connection to ftp proxy server
ftpProxyPasswd		*optional*	Define one or list of hosts which should not using this ftp proxy server.
Properties of a SOCKS proxy server			
socksProxyHost		**required**	DNS name of socks proxy server, or IP address
socksProxyPort		*optional*	Port for connection to socks proxy server
socksNonProxyHosts		*optional*	User for connection to socks proxy server
socksProxyUser		*optional*	Password for connection to socks proxy server
socksProxyPasswd		*optional*	Define one or list of hosts which should not using this socks proxy server.

Property	Default	Requirement	Description
socksProxyVersion	5	*optional*	Version of socks protocol. Choose between *4* and *5*.

5 Troubleshooting

All details of RsLaunchClient should be fully described in chapters above. But sometimes a specific issue is arised during use of this program. For that an incomplete list of (maybe) upcoming issues is discussed here:

- *Network connection* – Uploading data to GRUAN or updating meta-data is not possible.
- *Missing basis meta-data* – There are missing (or wrong) things in basis meta-data (e.g. equipment, setups, operators, campaigns, properties, …).
- *Disappeared measurements* – Bring they back.
- *Program bugs* – You find a bug (or maybe a feature…). Please help the Lead Centre.

Note: Are there other things to discuss here? Please contact the GRUAN Lead Centre.

5.1 Network connection

The RsLaunchClient is designed for use in online mode. That means, there are some functions (features) which only work if a correct network connection is available. Sometimes the network connection is not working correctly at stations. At moment, there is a couple of options to handle it:

- Change firewall rules (mostly not possible/allowed)
- Configure the network connection to use correct proxy server
- Switch to offline mode (not recommended!)

Adjust firewall

Most computers are behind a firewall. Mostly such a firewall is configured to block incoming connections only. Then no problems should occur. But in case of larger local networks sometimes such a firewall is configured to block specific outgoing connections in addition, or to allow only one connection type (like HTTP on port 80).

If possible (and allowed) you can configure the firewall that a FTP connection is allowed. This is mostly not allowed in large organisations. Proxy server are used in most cases instead (see next paragraph).

Use a proxy server

Mostly a specific proxy server should be used, if the used computer is behind a firewall of a large organisation.

It is possible to configure such a proxy server since version 0.5 of RsLaunchClient. You have to prepare config file "*ProxyConfig.properties*" in subfolder "*config/*". Following you find two simple examples, one for a SOCKS proxy server and one for a HTTP/FTP proxy server.

Example one shows an explicit configuration for a SOCKS proxy server:

```
# EXAMPLE proxy server (SOCKS version 5)
socksProxyHost=socks.dwd.de
socksProxyPort=28957
```

Example two shows a general configuration for a HTTP/FTP proxy server:

```
# EXAMPLE proxy server (for HTTP and FTP)
proxyHost=proxy.dwd.de
proxyPort=8080
proxyTypes=HTTP|FTP
```

Please see chapter 4.3 for full description about using proxy server and relevant configuration file.

Use offline mode

You can switch to offline mode if an online connection is not possible or allowed. Using RsLaunch Client offline is **not recommended** because some main features are not available:

- no automatic update of basis meta-data

- no direct upload of measurements to GRUAN

Please change following parameters in main config file "*RsLaunchClient_gruan.properties*" in sub-folder "*config/*" (see also chapter 4.2) to switch in offline mode.

```
# Please change following properties from 'true' (default) to 'false'.
autoUpdate=false
useFtp=false

# You can define an own upload path, like following example for a
# Windows computer. Default is the relative path 'upload/'.
uploadPath=D:/test/gruan-upload/
```

After switching in offline mode there are some things to do in manual (or other external) way.

Change of basis meta-data is happened in irregularly intervals. Because that a manual update is ne cessary often enough (*maybe monthly?*). Please download file "*RsLaunch-datagram.gdz*" from our outgoing FTP server of the GRUAN Lead Centre (see chapter 1.3). This file is located in remote folder "*metadata/current/*". Please overwrite older file in local sub-folder "*data/*".

The RsLaunchClient can store all "uploaded" data and meta-data files in a user-defined local direct ory (default: "*upload/*"). In a second step these files have to be uploaded manually to the incoming FTP server of the GRUAN Lead Centre. The description of this connection is available in config file "*GruanIncomingFTP.properties*" in local sub-folder "*config/*". Please upload all files in correct folder of your station, for example:

```
# Definition of correct path
/in/raw/<official GRUAN station name>/Radiosonde/

# Example of correct folder for GRUAN station Ny-Ålesund
/in/raw/NyAlesund/Radiosonde/
```

5.2   Missing basis meta-data

At moment there is no possibility to change/repair/add basis meta-data by yourself using this client. It is necessary to contact the GRUAN Lead Centre. Please contact us in following cases:

- change in list of operators (someone is new/gone since a specific date)

- change in launch setups (new setup should be created, old setup is not used anymore)

- changed properties of "permanent" equipment/instruments (e.g. changed altitude/position of a pressure sensor, new calibration of a sensor, changed software version of a data processing system, …)

- change in equipment availability (e.g. new balloon type, unwinder type, …)

- new campaign (name, brief description, from – till, related stations + measurement systems)

- equipment list is too long/short in some cases (in example for balloons)

- additional files should be collected per default (e.g. pictures, ground check data, additional manufacturer product, …)

- additional properties should be available (e.g. in case of specific instruments, equipment, ground checks, …)

In future it will be a possibility to change some of often changed basis meta-data like operators, campaigns, additional equipment, and so on. It is in development but not finished yet. Hopefully this can be a new feature in one of next release versions of RsLaunchClient.

5.3 Disappeared measurements

Sometimes (hopefully never) one or more measurements are disappeared from all lists of measure ments. Such a problem can be happen in following cases:

- program is crashed

- program was closed without saving the session (see chapter 2.8)

- program has a bug (see next chapter)

There is a chance (*but no assurance*) to resore such measurements. Reason is, that a backup is cre ated for all meta-data files of measurements (GMD files) if such a file is saved with changes. These backup files are stored in day-specific backup sub-folders in related folders "*template/*" (for all tem plates) and "*cache/*" (for all opened or closed measurements).

```
# GMD file with measurement system, setup, version and schedule date
LIN-RS-01_0_ROUTINE_001_20100101T000000_1.gmd

# Example of backup
# as backup file (with an attached timestamp ~xxxx)
LIN-RS-01_0_ROUTINE_001_20100101T000000_1~20130909T133201.gmd

# in day-specific backup sub-folder
backup_2013-09-09/LIN-RS-01_0_ROUT…0000_1~20130909T133201.gmd
```

If you know which measurement is missing (and you are sure you saved that measurement once in minimum), you can search in relevant folder (mostly "*cache/*"). Using a file search program is re commended if there is a lot of saved measurements.

You can import such a backup file if one (or more) is found. Please see chapter 2.5.3 for a full de scription of importing measurements.

5.4 Program bugs

"My program has no bugs. Never. It is perfect."

You know that is wrong. But I want to write some points, why it is so:

- I'm a man.

- I'm not using this program daily → I'm not the user.

- I can only check and repair cases which I know and which I can reproduce:

  ○ there is different computer hardware

  ○ there are different operational systems

  ○ there are different Java versions

  ○ there are different handlings (work flows) of users

Because that, there are bugs. Fortunately most bugs are only relevant in very special cases. And you will never touch with most of them. Please take following note to heart.

Note: The program has (maybe) bugs and is not fully optimised. Please contact the GRUAN Lead Centre (gruan.lc@dwd.de or better gruan.bugs@dwd.de), if
– any bug is occurred
– a question about the use is appeared
– a comment or a suggestion is appeared
Thank you for your cooperation. Michael Sommer