

# Changes

## Processing

### Configuration files

- Now uses seuid where possible => specifications now take **seuid**: {} instead of **type**: **name**: {} (see arni\_processing/resources/testconfig.yaml)
- Now uses list of dictionaries against UserErrors from invalid parameter names

### Processing Data

- Added parameter `~aggregation_window (3) [seconds]` as length of time to aggregate topics,
- Created a new method to compare especially topics.
- Packages are rated as "alive" based on the parameters `~alive_interval` and `~alive_timer`.
- Data fields are not compared on the intended level thus leaving the `Metadata` class unnecessary.

### MetadataStorage

- automatic cleanup now depends on the rosparameters `~storage/auto_cleanup (True)`, `~storage/cleanup_timer (30) [seconds]` and `~storage/timeout (300) [seconds]`
- For more information on the new parameters see [The ROS wiki \(http://wiki.ros.org/arni\\_processing#Used\\_Parameters\)](http://wiki.ros.org/arni_processing#Used_Parameters).

## Arni GUI

- **arni\_gui\_detail**: added a Plugin-Class which holds the Widgets tree and selection
- moved `__on_item_in_item_tree_view_double_clicked(self, item)` from `tree_widget` to `arni_gui_detail` to handle the content change of the `selection_widget`
- **tree\_widget**: changed the param type from `..check_box_state_changed` from bool to int
- added method `get_relative_font_size(self)`
- added method `set_relative_font_size(self, relative_font_size)`
- **selection\_widget**: added method `create_graphs(self)`
- added method `get_current_tab(self)`
- added method `set_current_tab(self, index=0)`
- added method `get_range_combo_box_index(self)`
- added method `set_range_combo_box_index(self, index=0)`
- **arni\_gui\_overview**: added a Plugin-class which holds the Widget overview
- **overview\_widget**: added method `create_graphs(self)`
- added method `get_current_tab(self)`
- added method `set_current_tab(self, index=0)`
- added method `get_range_combo_box_index(self)`
- added method `set_range_combo_box_index(self, index=0)`
- **arni\_gui**: added class `connection_item_sub.py`
- added class `log_delegate.py`
- added class `lru_cache.py`
- added class `model_logger.py`
- added class `root_item.py`
- added class `topic_item_sub.py`
- **ros\_model**: added method `get_overview_data_since(self, time=None)`
- changed `transform_data(..)` to `transform_(rated|topic|node|host)_statistics_item(self, item)`
- added method `get_item_by_seuid(self, seuid)`
- added method `get_log_model(self)`
- added method `get_logger(self)`
- added method `get_overview_text(self)`
- added method `get_root_item(self)`
- added method `get_translator(self)`
- removed method `get_instance(self)`
- removed method `add_log_item(self, list)`
- => added inner class `QAbstractItemModelSingleton(Singleton, type(QAbstractItemModel))`
- **abstract\_item**: added method `get_type(self)`
- added method `get_seuid(self)`
- added method `get_seuid(self)`
- added method `set_state(self, state)`
- added method `get_state(self)`
- added method `_update_current_state(self)`
- added method `update_rated_data(self, data)`
- added method `child_count(self)`
- added method `column_count(self)`
- added method `row(self)`
- added method `get_amount_of_entries(self)`
- added method `get_rated_items_older_than(self, time)`
- added method `delete_rated_items_older_than(self, time)`
- added method `get_rated_items_younger_than(self, time, *args)`
- added method `get_detailed_data(self)`
- added method `get_plotable_items(self)`
- added method `get_erroneous_entries(self)`
- added method `get_erroneous_entries_for_log(self)`
- added method `can_execute_actions(self)`
- added method `get_short_data(self)`
- **item\_filter\_proxy**: added method `invalidateFilter(self)`
- added method `setFilterRegExp(self, string)`

- added method `show_subscribers(self, show_subscribers)`
- added method `set_filter_string(self, filter_string)`
- `log_filter_proxy`: added method `invalidateFilter(self)`
- added method `setFilterRegExp(self, string)`
- `size_delegate`: added method `initStyleOption(self, option, index)`
- removed method `paint(self, painter, option, index)`
- removed method `set_(bigger|smaller)_font_size(self)`
- the names of the services now are `/get_statistic_history` and `/execute_node_reaction`

## Final/Small Improvements --> maybe for after PSE...

- check why the translation is not working in the range boxes
- print the last update somewhere...
- interpolate the data with flowcharts or however the method is called
- hover texts have to be defined
- in the help button the api docs and the general docu (and our names should be shown)
- check host/node etc regularly for timeouts --> `get_time_of_last_update()` --> im model regelmäßig abfragen und nach 65 sekunden löschen
- find out why the translation is not used for generating the text of the range box in overview/ selection widget
- [mh]when plotting have to care for multidimensional entries --> simpel solution: don't add them right now --> currently not needed
- add state unknown-alive / unknown-dead etc.

## WiP

- [mh]topic aggregation not yet working!!! --> get the algorithm from matthias and build it in :) --> cannot be applied here --> check if everything is working
- [mh]make locking a little better by using different locks for rated and non rated data :) --> show if this works :) <--> still a little work to do
- [mh]race conditions in overviewWidget on `_graph_window_resized` or similar whenever the `resize` method is called to fast... --> probably fixed, at least in most cases ^^
- [sk]/[mh]document everything
- [mh]RUNTIME\_ERROR BECAUSE ELEMENT HAS BEEN DELETED --> Timer Fehler oder so... Schwer/nicht behebbar
- [mh]why are sometimes empty values given to the axis? --> for no plausible reason

## Done

- [?]/from some data in the overview widget the mean has to be calculated (or e.g. display the data from the last minute or something!!!) --> important
- [sk]also show subscribers
- [?]/the translation has to be done again for adapting to the newly added items and texts
- [mh]fixed division error
- [sk]make the show buttons more intelligent
- [mh]currently we do not support the `delivered_msg` part in `topicstatistics` --> may add support for it
- [mh]test code coverage with tools by trying out anything on the gui
- [mh]caching the filter results in the proxies for faster updates :) --> maybe also needed to fix the filter problems!!! (can return same result as long as the filter is not invalidated, but have to invalidate filter on every update)
- [mh]shrink the graphics to smaller size
- [mh]after a lot of time the program doesn't terminate any longer
- [mh]on enter clicked --> automatically activate apply button
- [mh]add an `expand_all` button
- [sk]delete items nolder than currently does **NOT** erase rated data!!!
- [mh]NEW SEGFAULT AND NOBODY KNOWS WHY.. --> still don't really know the reason, but it doesn't appear any longer
- [mh]race condition when `delete_items_older_than` and `get_items_younger_than` are executed paralelly
- [mh]cpu usage core ist nicht sinnvoll beim plotten --> currently simply ignored, has to be removed <--> ask alex if this makes sens at all --> IS NOT ANSWERING SINCE 3 DAYS --> now answered: can be removed --> remove in the code --> removed
- [sk]logging every error message occuring when updating an item <--> DAMAGED STATE CONVERSION BUT SEEMS TO BE WORKING
- [mh]/[sk]in the filter field add some default text
- [mh]filter is restricted to the upper plains --> if an word is searched and only a node but not its host contains the word <--> search every time through the whole subtree and if any element returns true return true, for efficiency use extensive caching --> caching now implemented, the rest still missing --> now working
- [mh]/[sk]solve funny graphs problem in `selectionWidget` (probably double plot or something similar)
- [sk]the flood of the data gets bigger and bigger, getting more and more data per each update - REASON UNKWON --> LOOK FOR BUFFERTHREAD AND THE INCOMING DATA IF THERE IS ALWAYS MORE AND MORE... IF NOT WE GONNA HAVE A PROBLEM
- [mh]if the gui runs longer sometimes segfaults may appear - might be because of the race conditions that are about to be fixed
- [mh]drawing the graphs in `selectionwidget` --> copy and paste --> many errors still remaining to fix!!!
- [mh]saving the model for only 60 seconds (maybe more, simply try it) --> seems to work --> keep testing this feature!!! <--> race condition up there is happing because of this!!!
- [sk]/[mh]host\_statistics arrives in the gui only at the beginning --> then nothing comes any longer!!!
- [mh]/[sk]because of new changes the state is no longer calculated correctly. HAS TO BE FIXED ASAP.
- [mh]the units in the graphs are still missing
- [mh]self.\_\_last\_update no longer needed
- [mh]CPU\_TEMP\_CORE IS UNNECESSARY AND SHOULD BE REMOVED BEFORE PUBLISHING!!!
- [sk]/[mh]host recognition for a host on the same pc --> seems to work but only in "real" networks, obviously a Configuration problem <--> when restarting most times works again
- [mh]Fixed a bug that when the erroneous checkbox was on, the filter could not be applied correcty without removing the "erroneous" filter
- [sk]/[mh]after some time the overview widget does not show any data any more...
- [sk]/[mh]remove all the todos and code comments everywhere
- [mh]the storage of the data in `node_item` is somehow erroneous --> Fix!
- [mh]round the shown data in the gui --> `round(number, 2)` --> started but not finished yet
- [mh]replace "something is wrong" with good text!
- [mh]update the texts that are shown -- the units in the overview are missing (maybe also some color if someone is too high)
- [mh]give the translatable items to somebody so that he can translate these items
- [mh]enter tr() everywhere for internationalisation --> still missing: the widget itself and the `actual_values` etc --> probably finished

- [mh]get overview widget to work --> still the bug with host items remains, don't know why
- [mh]SHORT\_DATA CANNOT BE RECEIVED VIA GET\_LATEST\_DATA--> FIX--> works at many positions
- [mh]update get\_erroneous\_entries for supporting the new format of the rated data
- [mh]translation root\_item
- [mh]disable action when not a nodeitem is selected --> check
- [mh]FINALLY FIX SEGMENTATION FAULT!!! - well at least it doesn't segfault any more^^
- [mh]adapt package.xmls for including pyqtgraph
- [mh]create to constants for minimum time and maximum number of elements in the model
- [mh]protect pyqtgraph imports with try/except
- [mh]locking the graph view to the views of the other so that the person sees the same range in every view --> done
- [mh]added stop/continue button to graphs so you have time to explore the data
- [sk]SelectionWidget: define services and check if working
- [mh]on close of one widget in detail gui, close the other! --> not possible
- [mh]lock updateGraphs --> non reentrant functions, otherwise segmentation faults occur!
- [mh]locking the updateModel from modifying the data while plotting the data in the gui --> shape errors
- [mh]unknown state errors
- [mh]make sure there are no more dict["time"] calls, they are invalid
- [mh]reformat the ROSModel to use the seuid helper class --> Helper class returns None values --> no longer using!!! --> wrongly used, maybe try another time!
- [sk]execute\_action not implemented
- [mh]why are there runtimeerrors when closing the gui. and why are there these threading errors(might it be the timers?)
- [mh]GUI WANTS TO RECEIVE ITEMS THE TOPIC DOES NOT PROVIDE!!!
- [mh]fixed indexerrors when element was None
- [mh]reason for wrong return values: \*args is never None, so if args is not None will always enter even though args might be empty!!!
- [mh]moved logging to own class
- [mh]changing the background of the updateGraphs
- [mh]change plotting to use one range\_box or maybe two or three if there is enough space :) <--> make this dependent from the available space
- [sk]scrolling does not work because of the permanent updates...--> solution: if no data has changed, simply get\_detailed\_data simply returns None --> or not calling the update so often, every minute should suffice --> found better solution by simply asking the scrollbar
- [mh]fixed never ending recursion
- [mh]fixed segfault that occurred because of using internalPointer() instead of data()
- [mh]fixed segfault that occurred because of missing input sanitization (inputted dict instead of str)
- [mh]fixed bad singleton error in ROSModel --> normal singleton implementation didn't work because of the missing superclass object in PyQt/PySide <--> Fix multiple inheritance for also using QObject
- [mh]extreme performance problem when plotting --> used the wrong method plot instead of setData, furthermore to clear graphs use clear(), a non api-documented method