Release Notes V5.6

2018 02 23

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Upgrading to Proview V5.6.0

This document describes new functions i Proview V5.5.0, and how to upgrade a project from V5.5.0 to V5.6.0.

New functions

Revisions

A revision is a state in the development environment that is stored in a version control system. The revision should include all source files to make it possible to restore a revision. A revision can be used to review the state when the revision was created, and also to build runable systems from the restored source to test or run aa restore revision in production.

The currently supported version control system is Git. A new repository will be created on $pwrp_root/src when the first revision is created.

Revision window

Revisions are handled from the Revision window that is opened from the File menu in the configurator.

Create a revision

A new revision is created from Functions/New Revison in the menu. New revisions can only be created if the currently checkedout revision is the end point of a branch.

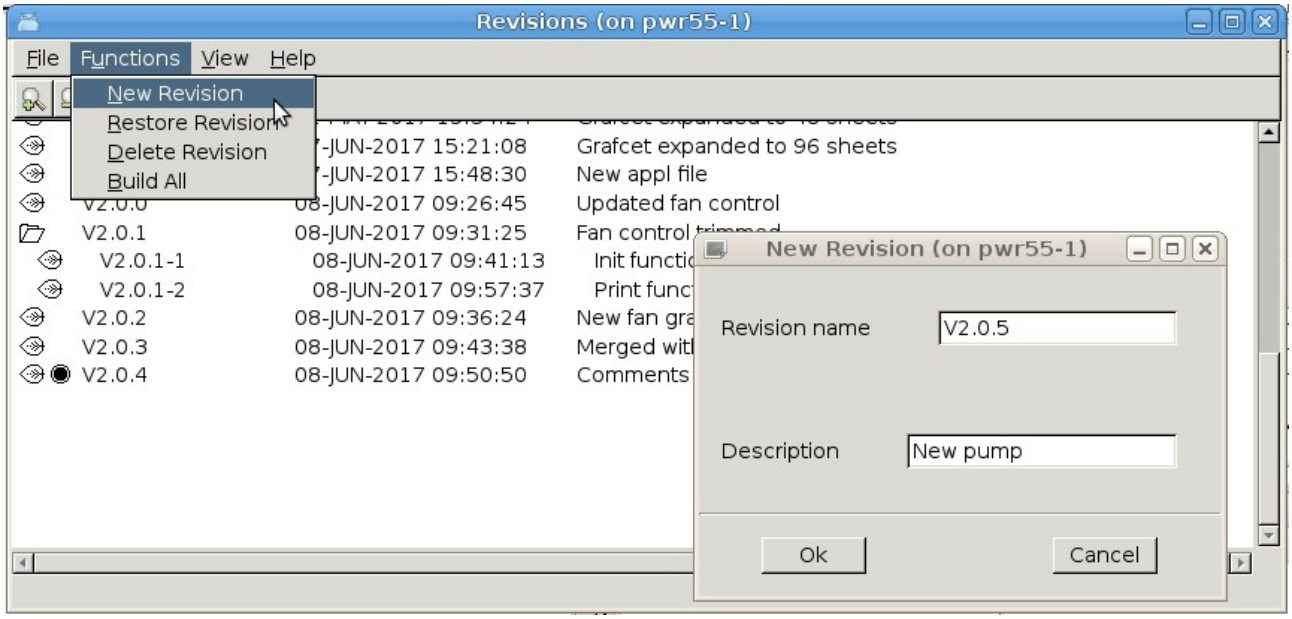


Fig Create a new revision

Restore a revision

A revision is restored from Functions/Restore in the menu. Select the revision to restore first.

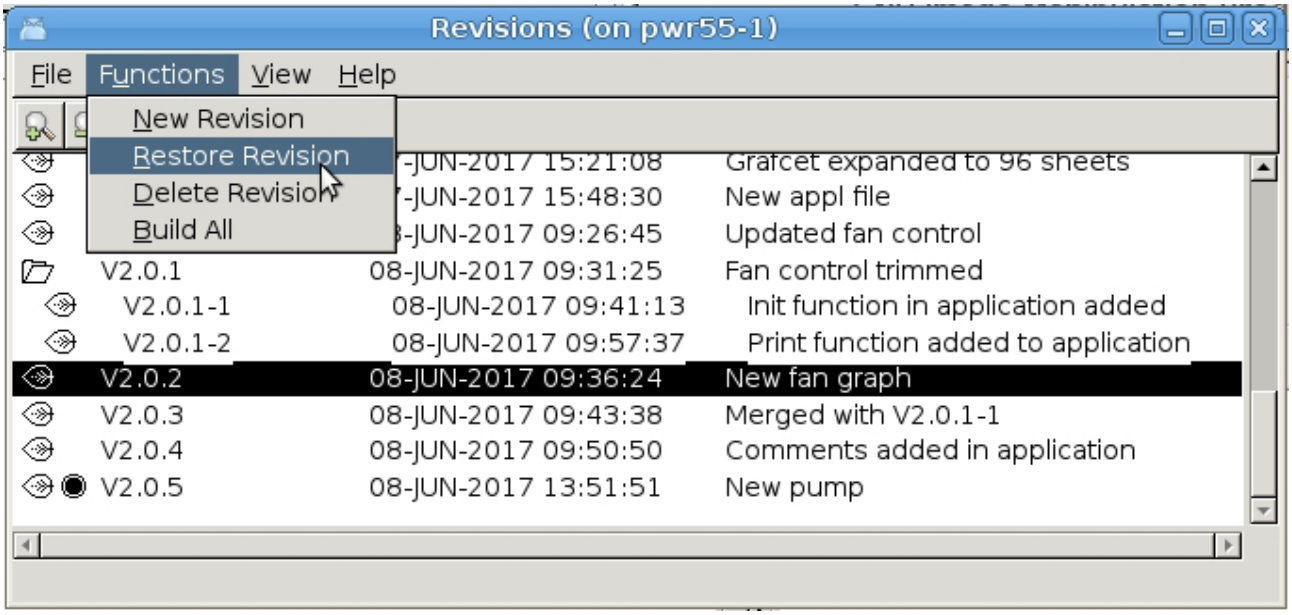


Fig Restore a revision

When a revision is restored the checked out revision is marked with a radio button in the list. Also in the configurator title bar, the current revision is written.

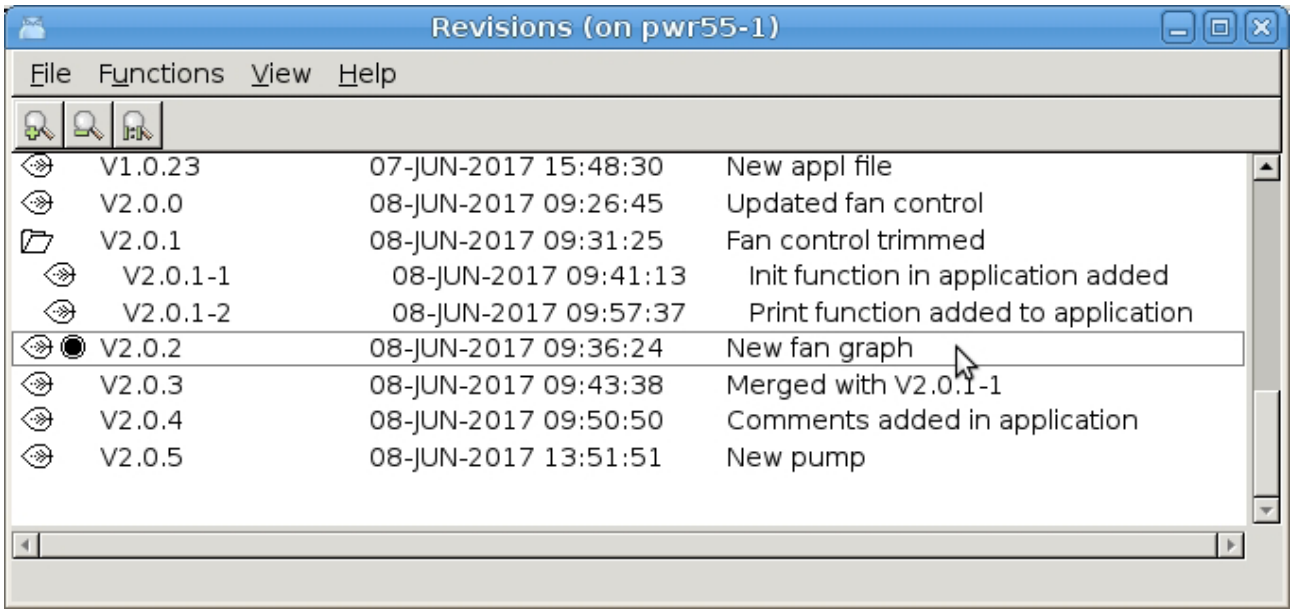


Fig An old revision is restored

Create a branch

If on old revision in the main line is restored, a branch can be created by creating a new revision from this point. In the figure above, a branch has be created from revision V2.0.1. New revisions can also be created from the end point of the branch. In the figure above, a new revision can be created from V2.0.1-2 that is an end point, but not from V2.0.1-1.

New files

New files, e.g. c-applications, are not automatically added to the git repository. This has to be done manually. New files are displayed by Git as untracked files in the 'git status' command. Untracked

files can be added with the 'git add' command and will then be included in the next revision.

Note! It's important to add new files to be able to restore a complete revision.

Example

```
> git status
On branch B_V2.0.5
Untracked files:
(use "git add <file>..." to include in what will be committed)
appl/ra_appl.c
> git add appl/ra_appl.c
```

Configurator alternatives for object and type attributes

When inserting values for attributes of type object identity and attribute references, you prevously had to type the object name, or find it in the hierarchy somewhere and connect of copy the name. Now the valid objects of the attribute will be listed when the attribute is opened. In the example below, the ThreadObject attribute in the PlcPgm is opened, and the present PlcTreads objects are displayed as alternatives.

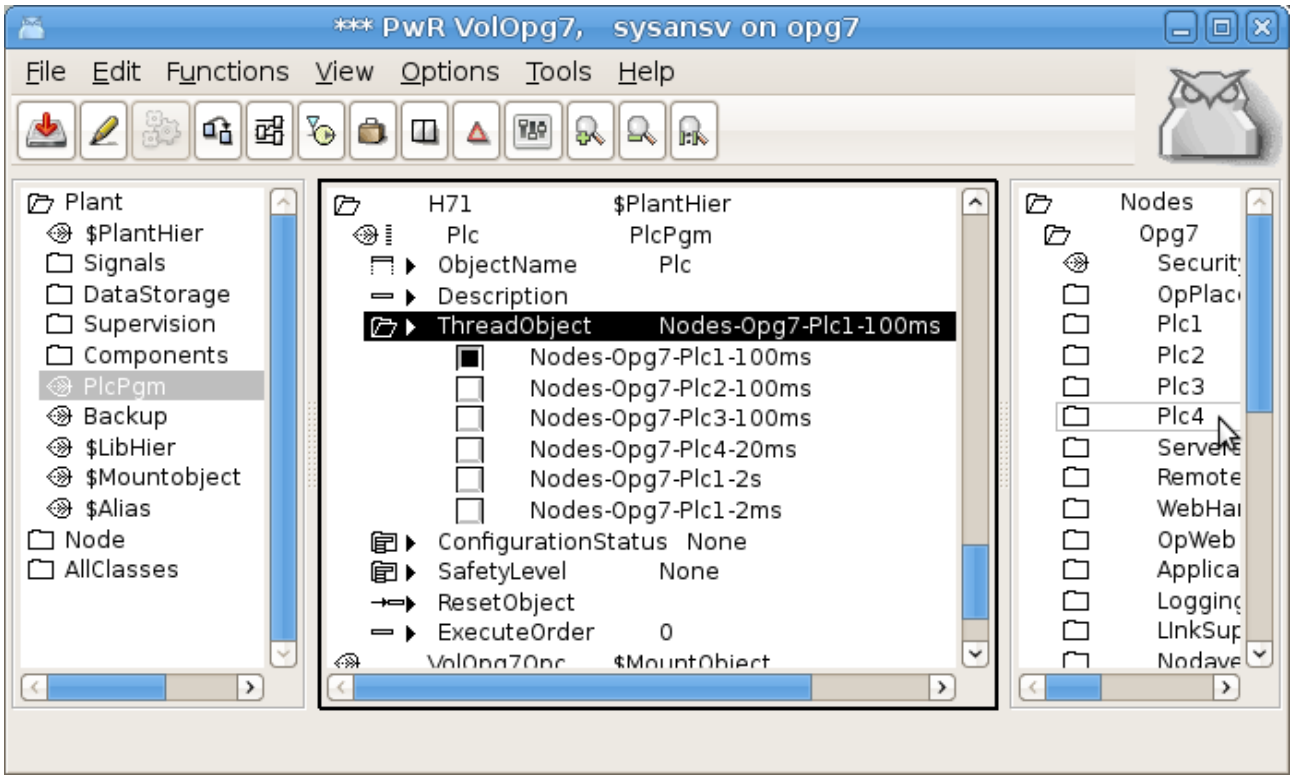


Fig The alternatives for the PlcPgm.ThreadObject

The alternatives are configured in the class description with a $ReferenceList object. The $ReferenceList object is positioned under the ClassDef object and named after the attribute it serves.

CompPosit

CompPosit is a positioner implemented as a component with main object and function object.

The positioner calculates an output from the current position and a desired set position. When the distance to the set position is larger than a break distance, the maximum output is set as output. When the distance is less than the break distance the output is proportional to the square root of the

distance. When the distance enters the dead zone, the unit is considered to be in position. The positioning continues beyond that for a period of time, InPosTime, before it is stopped. It can also be stopped from the program (in Auto mode) of by the operator (in Manual mode).

The operating mode, Auto or Manual, is selected in the object graph.

In Auto mode, the object is controlled by inputs in the function object.

The set position is fetched from the SetPosValue input, and the positioning is started on leading edge of the Start input. It's stopped from the Reset input, or automatically when the desired position is reached if TimerStopPosit is set.

In Manual mode, the object is controlled from the object graph. The set position can be entered in the Set field, and start/stop is controlled from the Start and Stop buttons.

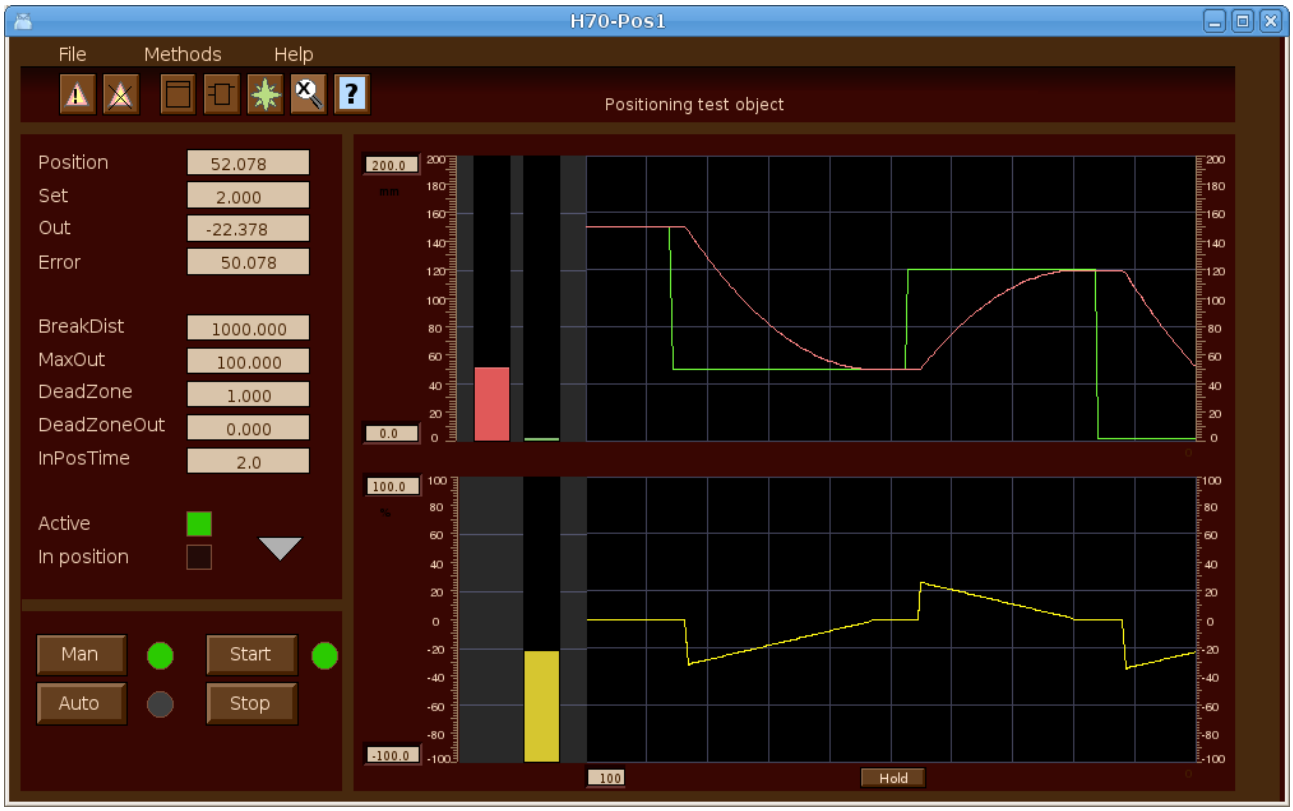


Fig Object graph for CompPosit

Thread safe strings and times

Times and strings can not be accessed in an atomic operation and has thus not been thread safe. Therefore two new locks are introduced, one for times and one for strings.

Time lock

The time lock is used for attributes of type pwr_tTime and pwr_tDeltaTime. Every time a time attribute is read or written, the lock should be set. The following function objects will use the lock to protect the reading or writing of the time value.

`StoATv, StoDTv, CStoATv, CStoDTv, StoDTp, StoATp, CStoDTp, CStoATp, GetATp, GetDTp, GetATv, GetDTv, CurrentTime.`

Note that other time objects are not protected by the lock. It's not safe to use the output from for example a AtAdd in another Plc thread or an application program. In this case the time should first be stored in an ATv object.

Applications should use the new gdh functions

```
void gdh_GetTimeDL( pwr_tTime *atp, pwr_tTime *time);
void gdh_SetTimeDL( pwr_tTime *atp, pwr_tTime *time);
void gdh_GetDeltaTimeDL( pwr_tDeltaTime *dtp, pwr_tDeltaTime *time);
void gdh_SetDeltaTimeDL( pwr_tDeltaTime *dtp, pwr_tDeltaTime *time);
pwr_tStatus gdh_GetObjectInfoTime( char *name, pwr_tTime *time);
pwr_tStatus gdh_SetObjectInfoTime( char *name, pwr_tTime *time);
pwr_tStatus gdh_GetObjectInfoDeltaTime( char *name, pwr_tDeltaTime *time);
pwr_tStatus gdh_SetObjectInfoDeltaTime( char *name, pwr_tDeltaTime *time);
```

Before using any of these functions, the time lock has to be initialized by the application with a call to lck_Create(), eg

```
lck_Create(&sts, lck_eLock_Time);
```

String lock

The string lock is used for string attributes. The following objects will use the lock.

```
StoSv, CStoSv, StoSp, CStoSp, StoNumSp, CStoNumSp, GetSp, GetSv.
```

Other string objects are not protected by the lock and the string values in these objects should not be read or written in other Plc threads or in application programs.

Applications should use the new gdh functions

```
void gdh_GetStrDL( char *sp, char *str, int size);
void gdh_SetStrDL( char *sp, char *str, int size);
pwr_tStatus gdh_GetObjectInfoStr( char *name, char *str, int size);
pwr_tStatus gdh_SetObjectInfoStr( char *name, char *str, int size);
```

Before using any of these functions, the string lock has to be initialized by the application with a call to lck_Create(), eg

```
lck_Create(&sts, lck_eLock_Str);
```

IO copying of ATv, DTv and Sv

As most other signals, ATv, DTv and Sv objects are now IO copied. This means that ActualValue now a pointer, pointing to an area object where the actual signal value is stored. An initial value has to be set in the InitialValue attribute, not in ActualValue as before.

Ge object navigator

A new navigator that displays the Ge objects in a tree structure is implemented.

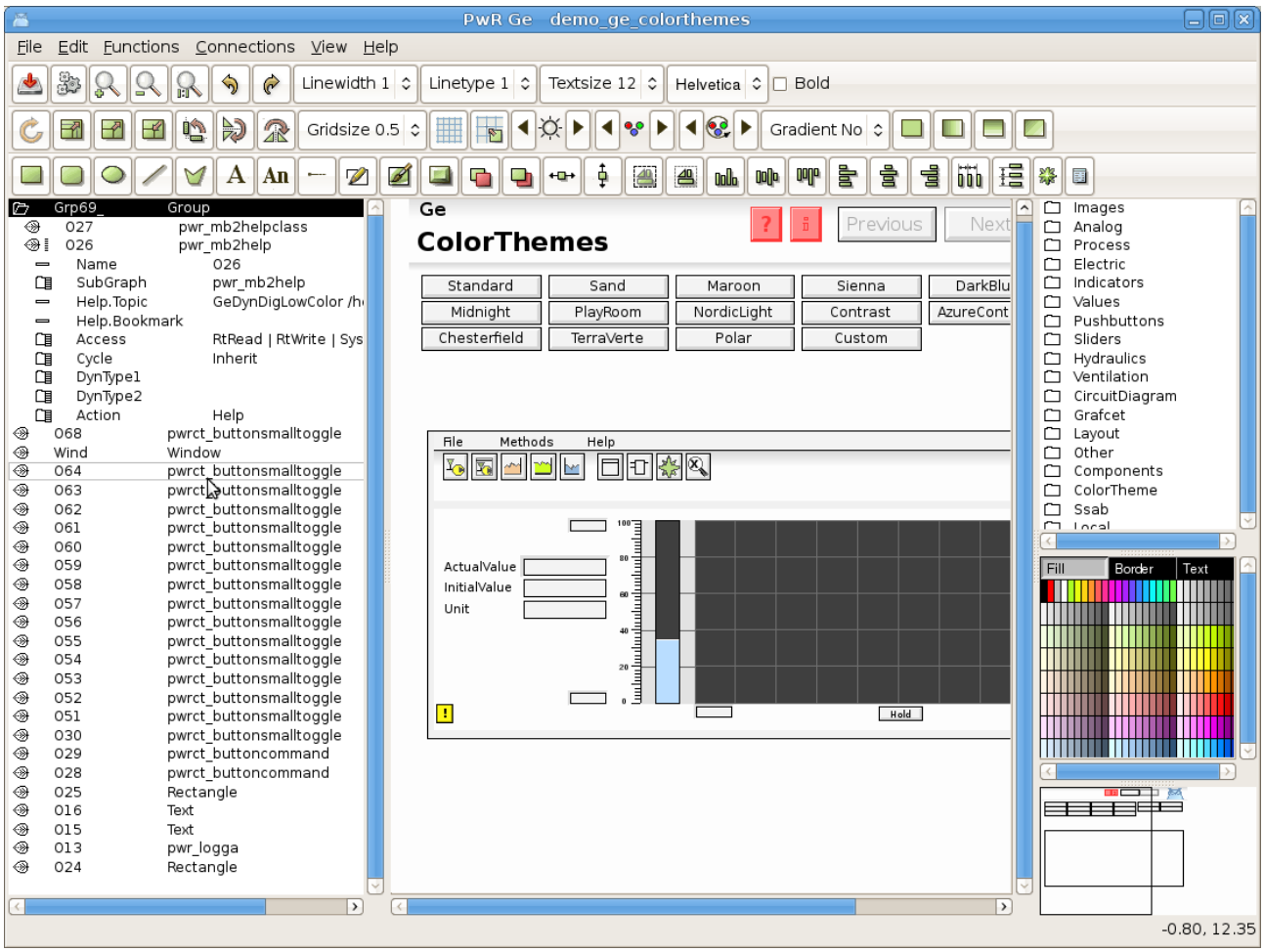


Fig Ge object tree

The object tree is displayed by activating 'View/View Object Tree' in the menu. It displays all objects and groups in the graph. An object can be opened displaying the properties of the object. A group is displayed as a map, and group members are displayed as children to the group. Properties for the members can also be opened and modified. Objects can be moved up or down which will affect if objects are drawn on top of below each other. When an object is selected in the tree, it's also selected in the drawing area which makes it easy to identify the objects.

Navigator filter

The object tree cab be filtered to only display objects that are interesting for the moment. The filtering is done with the 'filter navigator' command. For example 'filter navigator /type=name /pattern=*button*' will show all objects with the string 'button' in the name. The syntax for the filter function is

```
ge> filter navigator /type= /pattern=
ge> filter navigator /reset

/reset   <t>Reset filter and show all objects.
/type    <t>'name' or 'class'. Name will filter on object name
         <t>and class on subgraph.
/pattern <t>Filter pattern. Can contain wildcard (*).
```

Ge syntax control

The Ge syntax is activated from 'File/Syntax Check' in the Ge menu. It will go through all objects in the graph and check for example that all mandatory properties are filled in, that referenced attributes

exist and are of the correct type and that format specifications are correct. Detected errors and warnings are displayed in the Message window, and by clicking on the arrow the corresponding object is selected in the graph and in the object tree.

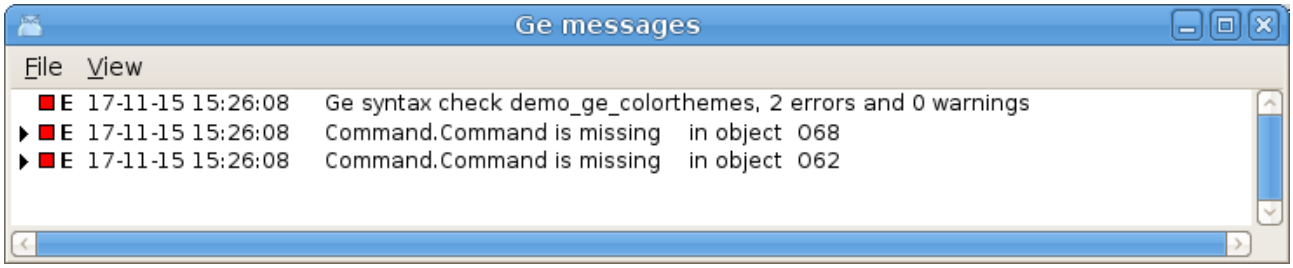


Fig Ge syntax error messages

Xtt curve window features

Curve type

The curve type can be selected with four buttons in the toolbar. In the original curve type the curve is drawn with straight lines between the points. In addition to this the curve types *Line and points*, *Points* and *Square* can be selected.

Line and points

This curve type will mark the stored points and draw straight lines between them.

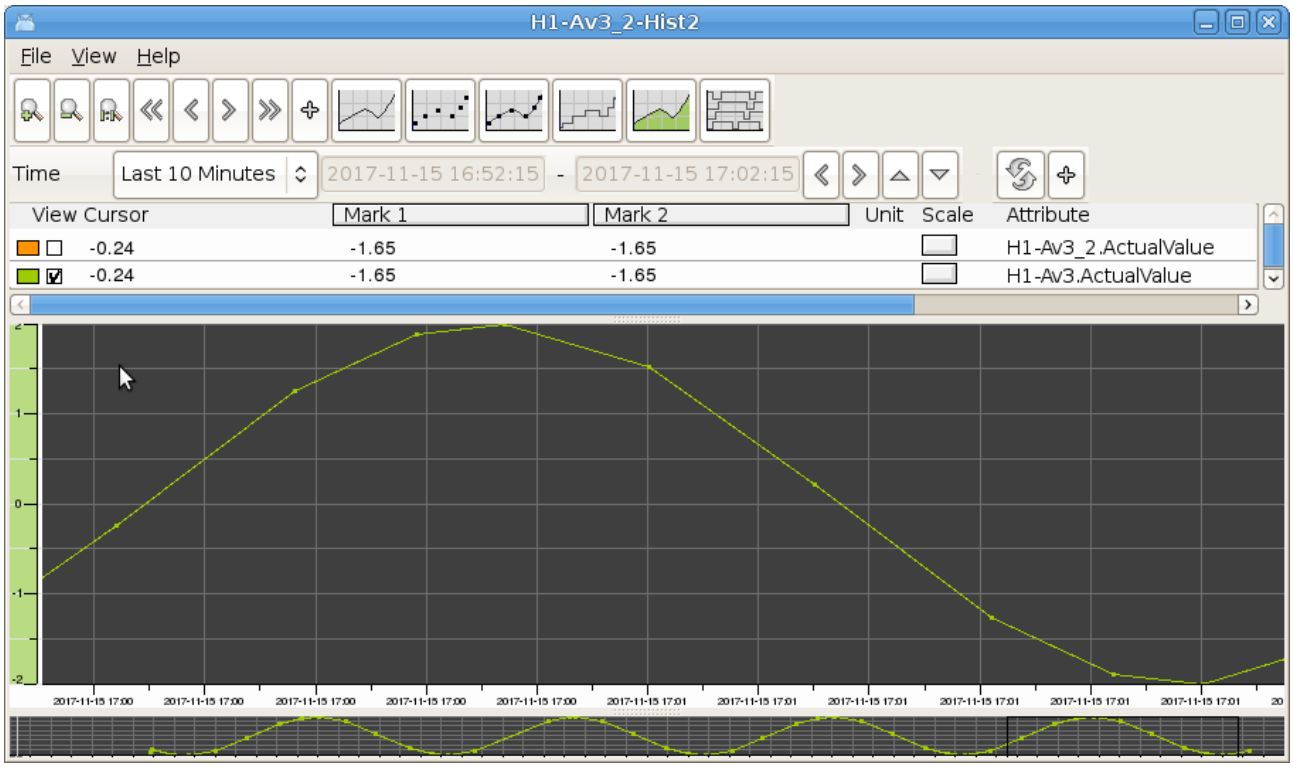


Fig Curve type Line and points

Points

This curve type will draw the points but no lines.

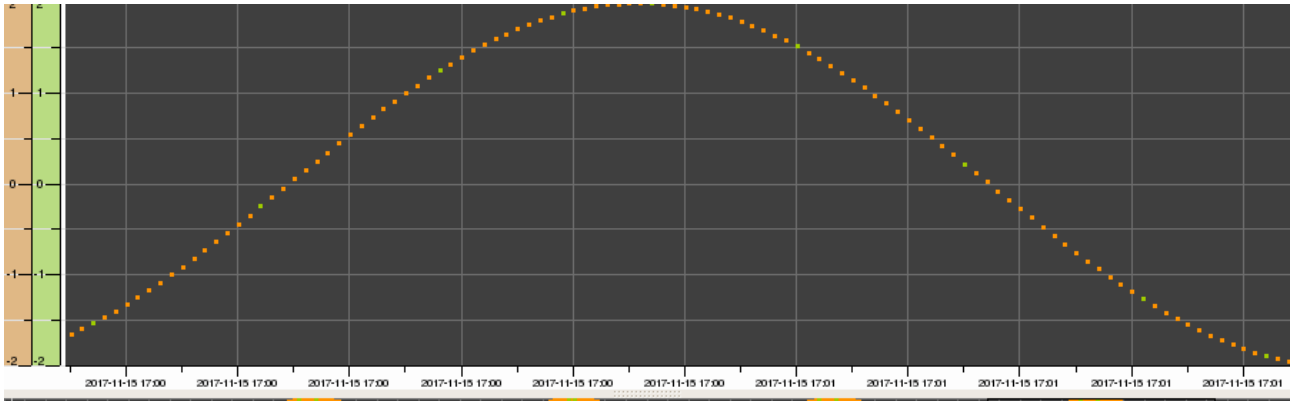
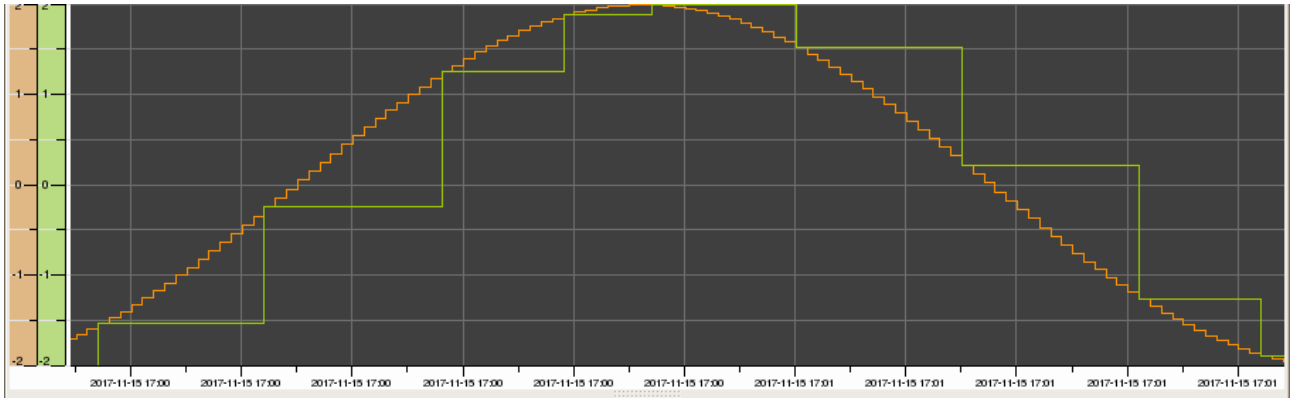


Fig Curve type Points

Square

Curve type with horizontal lines between the stored points.



Split digital curves

Digital values are drawn with square lines, and is by default drawn on the bottom line. With the 'Split digital curves' button in the toolbar, they can be separated and spread vertically over the curve window.

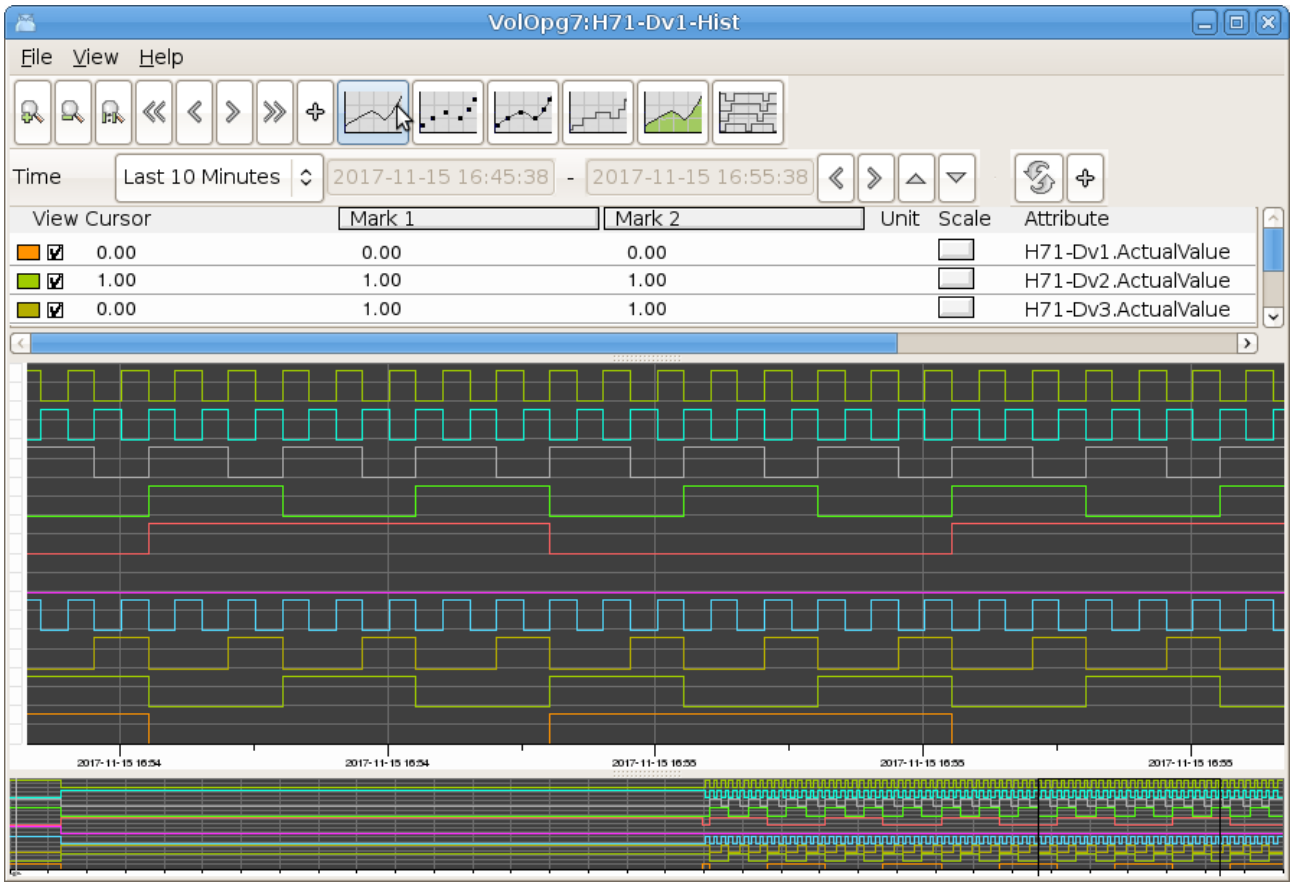


Fig Split digital curves

Storage station features

Realtime database

It's now possible to configure and start the realtime database on a storage station. The realtime database will contain information about the store items (see I*tem object tree* below) and make it possible for applications to get information about table names, mean values etc. It is also possible to configure an operator place configured with the new SevPlotGroup objects.

Fig Operator place on a storage station

Configuration

As before a root volume has to be registered for the storage station, as the volume identity for the volume works as the network address for QCom. The new thing is that the root volume can be configured with a RootVolumeConfig object in the Directory volume and opened in the configurator. The configuration should contain a SevServer object in the node hierarchy, and it's also possible to create OpPlace objects and plot group objects to display several curves together in one window on the storage station.

The root volume should be built from the configurator with *Functions/Build/Build Volume* in the menu.

To distribute the root volume load files to the storage station, *LoadFiles* should be marked in the Components attribute of the Distribute object under the SevNodeConfig object in the directory volume.

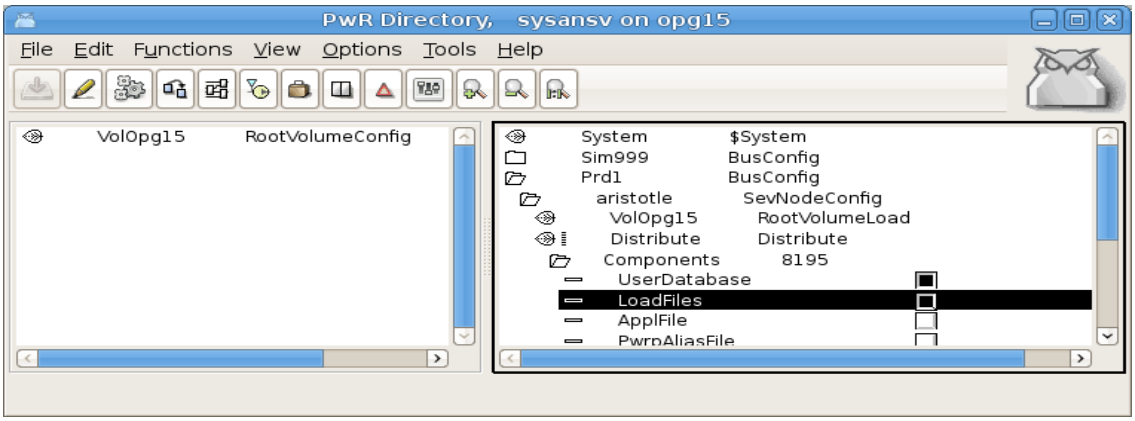


Fig LoadFiles is marked in the Distribute object

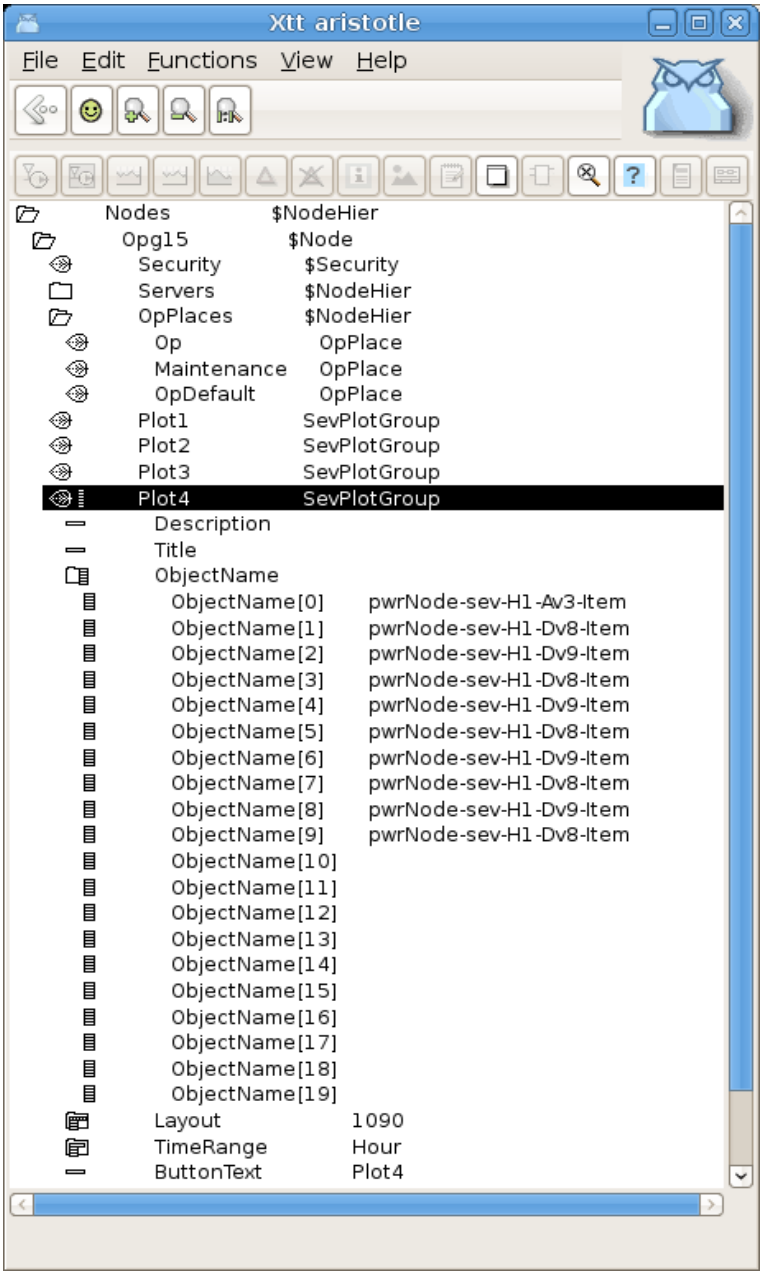


Fig Node hierarchy in a storage station

Item object tree

The sev_server will create an *Item object tree* in the realtime database. The tree is created in the System volume that is mounted under pwrNode. Under pwrNode-sev a tree with the ordinary hierarchy names for the stored signals are built, and as end nodes objects of type SevItemFloat, SevItemInt and SevItemBoolean are created. The SevItem object contains configuration data for the item and also data to monitor the storage of the item. For example the number of received values is displayed, and number of stored values. WriteQuota is the qouta between these values in percent. Also the last received value and the time is displayed.

A mean value is calculated and the configuration of this might seem a bit complicated, and the reason for this is to be backward compatible. It's possible to configure two mean value intervals in /etc/proview.cnf with the sevMeanValueInterval1 and sevMeanValueInterval2 parameters

```
sevMeanValueInterval1 10
sevMeanValueInterval2 30
```

For each item one of these two intervals can be selected for the mean value calculation. This is done by setting bit MeanValue1 or MeanValue2 in options in the SevHist object. The calculated mean value and standard deviation are displayed in the SevItem object together with the time for the calculation.

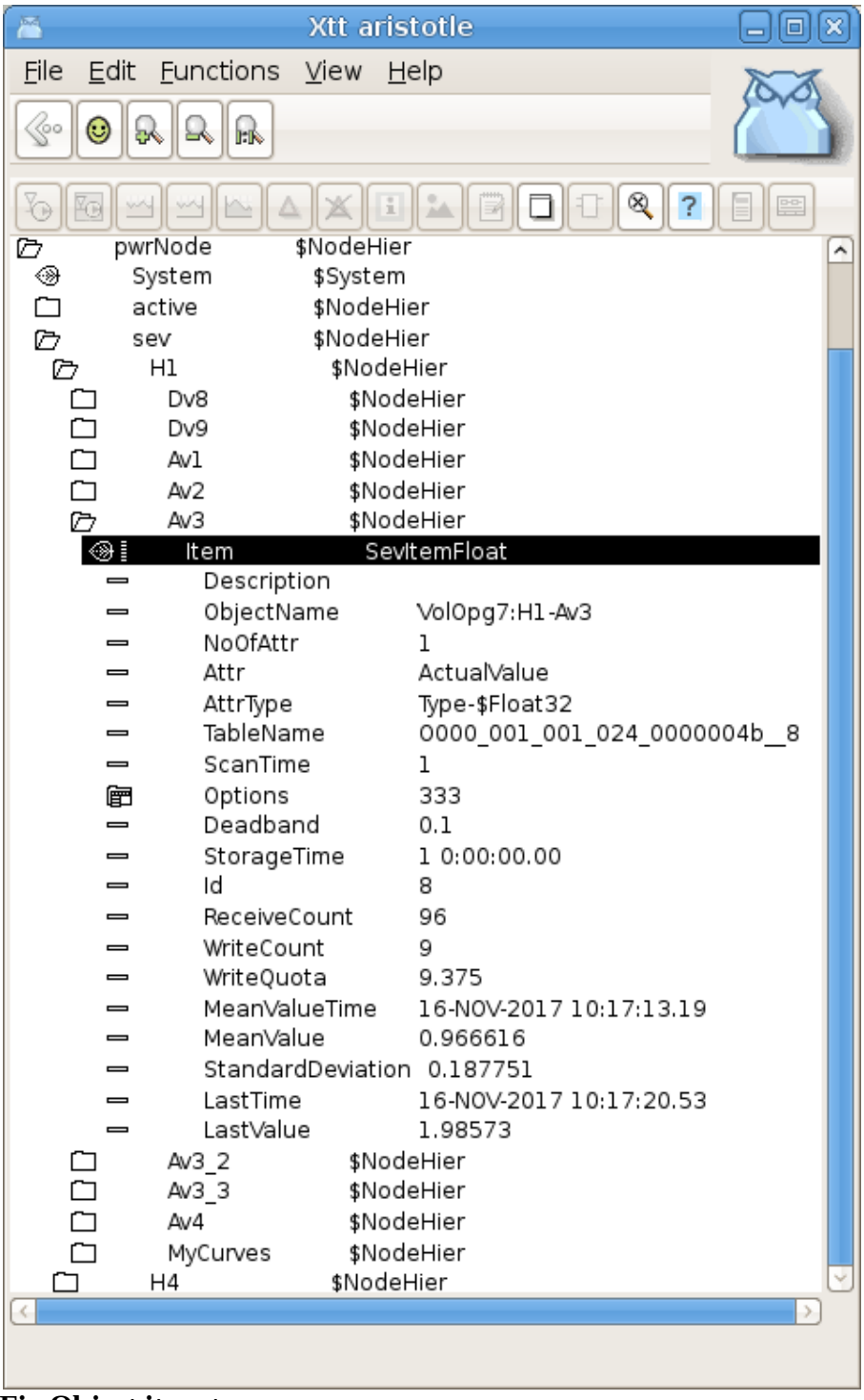


Fig Object item tree

SevPlotGroup

The SevPlotGroup object makes it possible to configure plot groups in the storage station. An example is viewed in *Fig Node hierarchy in storage station* above. In the ObjectName array SevItem objects in the item object tree is specified, and the curves for all objects in the array will be displayed in the curve window. Note that the names are specified with strings, not object identities.

Thus these has to be updated if object names or hierarchies are changed.

Mysql threads

When using a mysql database it is possible to separate the storage from different messages into different threads, and thus in different kernels. The sevhist monitor threads can be directed to different storage thread with the new ServerThread attribute in the SevHistThread object. This is integer index value and all values from SevHistThread object with the same index will be handled by the same server thread. In this way the storage can be directed to different storage threads to distribute the load.

It's also possible to sevThreadKeyNode to 1 in /etc/proview.cnf to distribute values from each node to a separate thread. This is useful when communicating with nodes with older version that don't have the ServerThread attribute.

Statistics for the threads are calculated and stored in the SevServer object and is displayed in the object graph for this object.

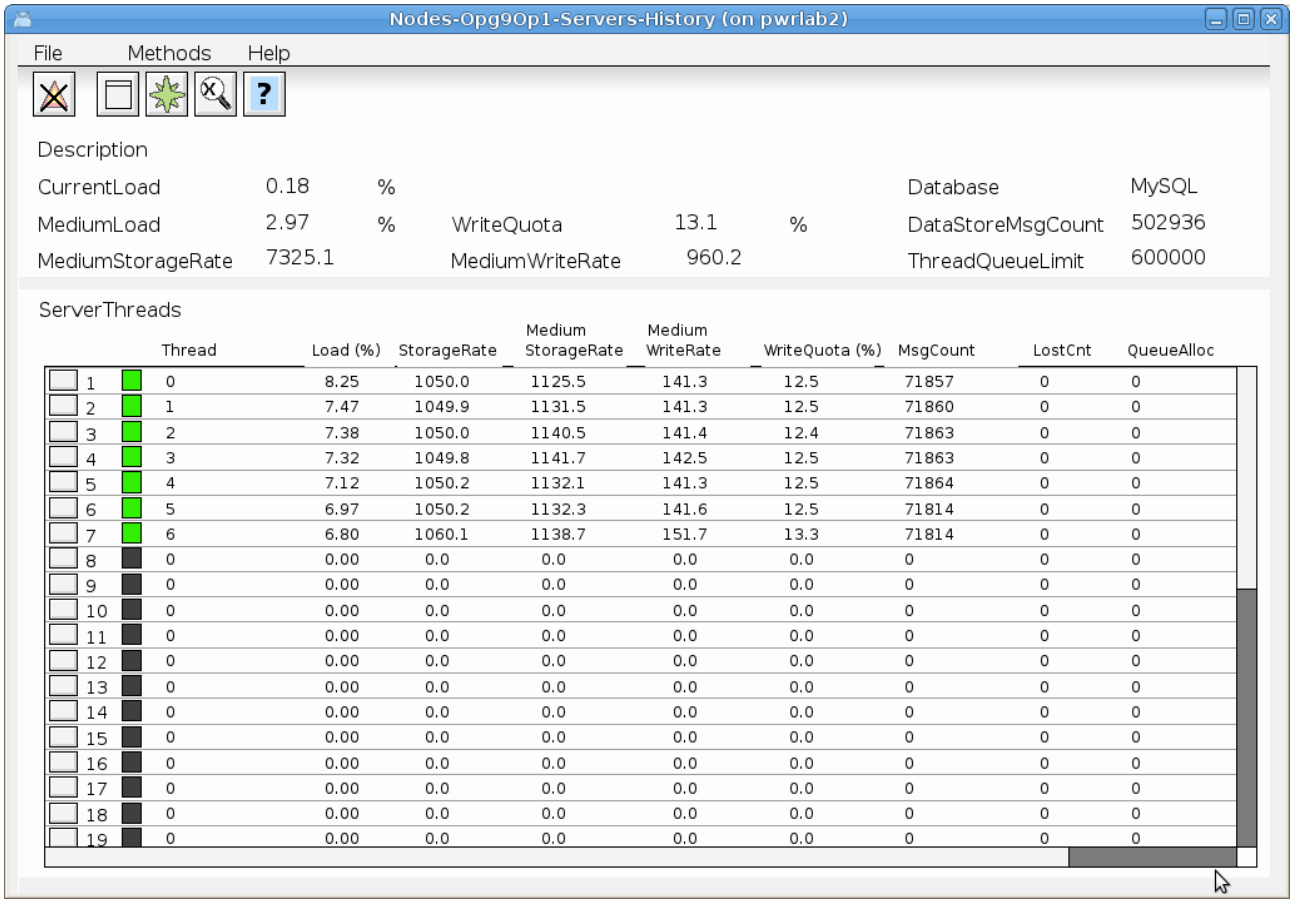


Fig Object graph for SevServer object

New sev parameters in /etc/proview.cnf

sevMeanValue1All

Parameter to set the MeanValue1 option on all items. This makes it possible to configure mean value calculation also on items from Proview nodes with older versions.

```
sevMeanValue1All 1
```

sevLinearRegrAll

Parameter that set the DeadBandLinearRegr option on all items with UseDeadBand. This makes it possible to use the linear regression deadband also on items from Proview nodes with older versions.

```
sevLinearRegrAll 1
```

sevLinearRegrMaxTime

Parameter to force a storage within the specified time even if the value is not outside the deadband. Time in seconds.

```
sevLinearRegrMaxTime 15
```

Ge Window/TabbedWindow object graph depth

The depth for object graphs in Windows and TabbedWindows was previously limited to two levels. This limitation is now removed.

Ge display of parent attributes in object graphs

Attributes in the parent object for an object in an object graph can be referenced with the .< syntax. The parent object to the $object can be referenced with '.<' or '-<'. These operators will remove the last attribute or the last object to the closest preceding '.' or '-'. H1-H2-<.Description will be H1.Description. If you have an hierarchy graph for H1-H2, the description in the parent object H1 can be displayed with

```
$object-<.Description##String80
```

For attribute objects, where attribute names is removed instead, '.<' is used.

H1-Plates.Data.<.Temperature will be H1-Plates.Temperature. Thus in the object graph for Data the Temperature attribute in parent object Plates can be displayed by

```
$object.<.Temperature##Float32
```

Variable array index in Ge graphs

Array indexes can be specified with attributes of type Int32 or UInt32. In

H1-H2-Array[&(H1-H2-CurrentIndex.ActualValue)].Value##Float32

H1-H2-CurrentIndex.ActualValue is an Int32 attribute, and the value of this attribute will be fetched and inserted as array index.

The index is evaluated when the graph is opened and if the index value is changed, the connection will not be automatically changed. The dynamic DigSwap though can be used to reconnect all connections in a graph.

Ge AnalogColor instances with separate attributes

AnalogColor has new property AnalogColor.CommonAttribute. By default this is set to 1 and all instances of the AnalogColor is connected to the same attribute. If CommonAttribute is set to 0, one attribute can be specified for each instance and the instances can be connected to different attributes.

Crossreferences options in configurator settings

Two options in the configurator settings are added for Crossreference Simulation and Crossreference Graph. If Crossreference Simulation is set, simulation object will be added to the crossreference list. If Crossreference Graph is set, references in Ge graphs will be included in the list.

Xtt commands to set signal invert, conversion and test

Previously it was possible to set signal invert, conversion and test with commands in rt_rtt. Now this is also possible to do in Xtt. The new Xtt commands are

```
xtt> set signal conversion /on [/name=]
xtt> set signal conversion /off [/name=]
xtt> set signal invert /on [/name=]
xtt> set signal invert /off [/name=]
xtt> set signal test /on [/name=]
xtt> set signal test /off [/name=]
xtt> set signal testvalue /on [/name=]
xtt> set signal testvalue /off [/name=]
```

Conversion can be set on Di, Ii and Ai.

Invert can be set on Di and Do.

Test can be set on Do, Ao and Io.

Testvalue can be set on Do.

System privilege is required to execute the commands.

Xtt menu methods to set signal, invert and test

For Di and Do invert conversion and test can also be set from the popup menu. The new menu items for Di is Set/Conversion On/Off and Set/Invert On/Off, and the new items for Do is Invert On/Off, Set/Test On/Off and Set/TestValue True/False. The menu items are only viewed for users with System privilege.

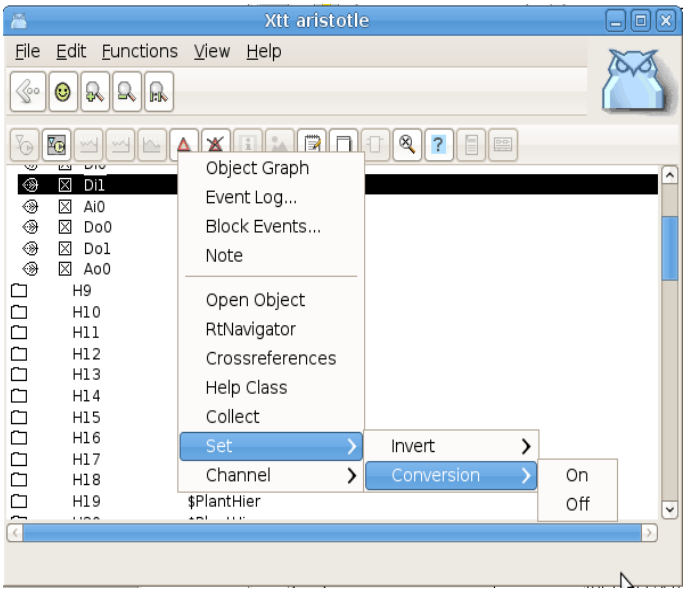


Fig Menu items for *Set Invert* and *Set Conversion*

Show all toplevel objects in the configurator

With the new menu item in the Configurator 'View/View all toplevel' the whole object hierarchy is displayed in one window, or actually in all visible windows. This function already existed before with the command 'set alltoplevel' and is now also available in the menu.

Display of Profinet configuration in Xtt

The Profinet configration can now be displayed in Xtt by activating Show Configuration in the popup menu for a Profinet device. The xml-files for the Profinet configuration has to be distributed to $pwrp_load.

Plotgroup objects in OpPlace.FastAvail

It's now possible to insert PlotGroup objects in OpPlace.FastAvail and they can then be opened from a button in the Operator window. The new attribute ButtonText is added in the PlotGroup object to specify the text of the button.

Conversion functions cdh_XxxToString() modified

The functions below were not thread safe. They are now thread safe, but in some cases requires that an optional string argument is supplied to be thread safe. They all have modifications in the argument list or return type.

```
cdh_MaskToBinaryString()
cdh_ClassIdToString()
cdh_ObjectIxToString()
cdh_ArefToString()
cdh_TypeIdToString()
cdh_VolumeIdToString()
cdh_SubidToString()
cdh_DlidToString()
```

cdh_OidToString() is a new thread safe version of cdh_ObjidToString().

New Types and Classes

CurveLayoutMask

Type to configure the layout of the curve window.

TimeRangeEnum

Type to configure default time range in the curve window.

SevPlotGroup

Curve display on a storage station.

SevItem, SevItemInteger, SevItemFloat and SevItemBoolean

Objects created on a storage station to monitor storage items.

DataArithmT and DataArithmTL

The function is the same as the DataArithm object. The difference is that the DataArithmT displays a descriptive text in the function object instead of the code.

CompPosit

New positioner.

Modified Classes

PlotGroup

Attributes ButtonText, TimeRange and Layout added.

Di

Added Xtt methods Invert On/Off and Conversion On/Off.

Do

Added Xtt methods Invert On/Off, Test On/Off and TestValue True/False.

Upgrade procedure

The upgrading has to be done from any V5.5. If the project has a lower version, the upgrade has to be performed stepwise following the schema

V2.1 -> V2.7b -> V3.3 -> V3.4b -> V4.0.0 -> V4.1.3 ->V4.2.0->V4.5.0->V4.6.0->V4.7.0->V4.8.6->(V5.0.0)->V5.1.0->V5.2.0->V5.3->V5.4->V5.5->V5.6

The upgrade procedure is to dump the database with reload.sh, change the version of the project in the projectlist, and then execute the script upgrade.sh.

NOTE !!

Do not activate Update Classes.

If the previous version should be kept, first make a copy of the project.

Make a copy of the project

Do `sdf` to the project and start the administrator

```
> pwra
```

Now the Projectlist is opened. Enter edit mode, login as administrator if you lack access. Find the current project and select Copy Project from the popup menu of the ProjectReg object. Open the

copy and assign a suitable project name and path. Save and close the administrator.

Dump the databases

Execute the first pass, *dumpdb*, in the script *`reload.sh`*.

```
> reload.sh

  reload.sh   Dump and reload of database.

  Arguments   Database or databases to reload.
              I no arguments is supplied, all databases will be
              reloaded.

  Pass

    dumpdb       Dump database to textfile $pwrp_db/'volume'.wb_dmp
    classvolumes Create structfiles and loadfiles for classvolumes
    renamedb     Rename the old database
    loaddb       Load the dump into the new database
    compile      Compile all plcprograms in the database
    createload   Create new loadfiles.
    createboot   Create bootfiles for all nodes in the project.


-- Reloading volume  directory volopg2

Pass: dumpdb classvolumes renamedbloaddb compile createload createboot

Enter start pass [dumpdb] >

------------------------------------------------------------------------
 Pass dump database
------------------------------------------------------------------------
Do you want to continue ? [y/n/go] y
ls: cannot access /data0/pwrp/opg2/common/db/*.wb_dmp: No such file or
directory
Dumping volume directory in /data0/pwrp/opg2/common/db/directory.wb_dmp
...
I Database opened /data0/pwrp/opg2/common/db/volopg2.db
ls: cannot access /data0/pwrp/opg2/common/db/*.wb_load: No such file or
directory



------------------------------------------------------------------------
 Pass create structfiles and loadfiles for classvolumes
------------------------------------------------------------------------
Do you want to continue ? [y/n/go] n
setdb is obsolete
>
```

Check that the one dumpfile is created for every rootvolume

```
> cd $pwrp_db
> ls -l *.wb_dmp
-rw-rw-r-- 1 cs pwrp 7467 2010-03-26 16:32 volopg2.wb_dmp
```

Linux release upgrade

If you are using an older Ubuntu version upgrade the linux release and install the pwr55 package.

Change version

Enter the administrator and change the version of the project to V5.5.0. Save and close the administrator.

upgrade.sh

Do `sdf` to the project.

upgrade.sh is a script that is divided into a number of passes. After each pass you you have to answere whether to continue with the next pass or not.
Start the script with

```
> upgrade.sh
```

Start from the savedirectory pass.

```
Enter start pass [savedirectory] >
```

savedirectory

Save the directory volume.

classvolumes

Create loadfiles and structfiles for the class volumes.

cnvdump

Convert the dumpfiles.

renamedb

Store the old databases under the name `$pwrp_db/'volumename'.db.1.`

loaddb

Create databases and load the dumpfiles into them.

compile

Compile all the plc programs.

createload

Create loadfiles for the root volumes.

createboot

Create bootfiles for all nodes in the project.

If the project contains any application programs, these has to be built manually.

Delete files from the upgrading procedure:

`$pwrp_db/*.wb_dmp.*`
`$pwrp_db/*.db.1` (old databases, directories which content also should be removed)

List example

```
>
> sdf opg2
Setting base /data0/x5-6-0/rls
>
> upgrade.sh

  upgrade.sh  Upgrade from V5.5 to V5.6


  Pass

    savedirectory  Save directory volume.
    classvolumes   Create loadfiles for classvolumes.
    cnvdump        Convert dumpfiles.
    renamedb       Rename old databases.
    loaddb         Load dumpfiles.
    compile        Compile all plcprograms in the database
    createload     Create new loadfiles.
    createboot     Create bootfiles for all nodes in the project.
    createpackage  Create distribution packages for all nodes in the
                   project.

-- Upgrade opg2

Enter start pass [savedirectory] >

------------------------------------------------------------------------
 Pass save directory volume
------------------------------------------------------------------------
Do you want to continue ? [y/n/go] y
-- Processing line: 270
-- Building volume directory
I Volume directory loaded
I Database opened /data0/pwrp/pwrtestloc/src/db/directory.wb_load
-- Saving file /data0/pwrp/pwrtestloc/src/db/directory.wb_load ->
/data0/pwrp/pwrtestloc/src/db/directory.wb_load.1
%WNAV-E-MSG, Session saved

------------------------------------------------------------------------
Pass create structfiles and loadfiles for classvolumes
------------------------------------------------------------------------
Do you want to continue ? [y/n/go] y
ls: cannot access /data0/pwrp/opg2/src/db/*.wb_load: No such file or
directory
```

```
--------------------------------------------------------------------------
Pass convert dumpfiles
--------------------------------------------------------------------------
Do you want to continue ? [y/n/go] y
/data0/pwrp/opg2/src/db/volopg2.wb_dmp

--------------------------------------------------------------------------
Pass rename old databases
--------------------------------------------------------------------------
Do you want to continue ? [y/n/go] y
-- Saving file /data0/pwrp/opg2/src/db/volopg.db ->
/data0/pwrp/opg2/src/db/volopg.db.1

--------------------------------------------------------------------------
Pass load database
--------------------------------------------------------------------------
Do you want to continue ? [y/n/go] y
-- Loading volume volopg
...
-- Processing line: 57
-- Building volume directory
I Volume directory loaded
I Database opened /data0/pwrp/opg2/src/db/directory.wb_load
-- Processing line: 200
-- Building volume VolOpg
I Volume VolOpg loaded
Berkeley DB 4.6.21: (September 27, 2007)
info put: 0
Berkeley DB 4.6.21: (September 27, 2007)
info get: 0
int rc =  m_txn->abort(): 0

--------------------------------------------------------------------------
Pass compile plcprograms
--------------------------------------------------------------------------
Do you want to continue ? [y/n/go] y
...
Berkeley DB 4.6.21: (September 27, 2007)
info get: 0
I Database opened /data0/pwrp/opg2/src/db/volopg.db
-- Plc window generated            F1-Z1-Plc-W
-- Plc window compiled for x86_linux optimized -O3 F1-Z1-Plc-W
-- Plc plcpgm compiled for x86_linux optimized -O3 F1-Z1-Plc
-- Plc window generated            F1-Z2-Plc-W
-- Plc window compiled for x86_linux optimized -O3 F1-Z2-Plc-W
-- Plc plcpgm compiled for x86_linux optimized -O3 F1-Z2-Plc

--------------------------------------------------------------------------
Pass create loadfiles
--------------------------------------------------------------------------
Do you want to continue ? [y/n/go] y
-- Removing old loadfiles
rm: cannot remove `/data0/pwrp/opg2/bld/common/load/ld_vol*.dat': No
such file or directory
...
Berkeley DB 4.6.21: (September 27, 2007)
info get: 0
```

```
I Database opened /data0/pwrp/opg2/src/db/volopg.db
-- Building archive for volume: 000_001_001_012
-- Archive built for volume: 000_001_001_012

-- Working with load file volume 'VolOpg'...
-- Open file...
-- Successfully created load file for volume 'VolOpg'
-- 26 objects with a total body size of 21976 bytes were written to new
file.

Before this pass you should compile the modules included by ra_plc_user.


------------------------------------------------------------------------
Pass create bootfiles
------------------------------------------------------------------------
Do you want to continue ? [y/n/go] y
-- Creating bootfiles for all nodes

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-- Creating bootfile for node opg
      plc_opg_0507_00011
-- Plc thread generated priority 0, scantime   0.10000 s, 2 plcpgm's
-- Plc process compiled for x86_linux optimized -O3 Dummy
-- Plc program linked for x86_linux  node plc_opg_0507
-- Creating bootfile for node aristotle
      plc_aristotle_0517_00011
-- Plc thread generated priority 0, scantime   0.10000 s, 2 plcpgm's
-- Plc process compiled for x86_linux optimized -O3 Dummy
-- Plc program linked for x86_linux  node plc_aristotle_0517

-- The upgrade procedure is now accomplished.

setdb is obsolete
>
>
```