SALOME 3.1.0 beta 1 development release announcement

General information

OPEN CASCADE is pleased to announce SALOME 3.1.0 beta 1 (b1) minor development version. It is an intermediate development release that contains the results of planned improvements and bug fixes with reference to the SALOME 3.1.0a2/3 development releases. Note that the SALOME 3.1.0b1 did not pass a complete industrialization cycle.

The major goal of SALOME 3.1.0beta1 is to fix the state of the SALOME platform before final GUI testing and to share the current development state among CEA/EDF/OPEN CASCADE. This document describes the main differences since SALOME 3.1.0a2/3 versions.

Since the 3.1.0b1 is a development release, this document mainly addresses to the developers.

Major improvements according to SALOME 3.1.0 alpha 3

General modifications

SALOME copyright information was updated and normalized in all files where it had been previously absent. This action is done according to the PAL/SALOME Technical Committee 11 decision and according to SALOME 2 partner agreements.

GUI module improvements

- New improvement PAL10635 is realised in tabbed viewer. In the 3.1.0beta1 version it's possible to rename and close viewers through popup menus.

- Display and Erase in popup present only for objects which can be displayed in a current active viewer.

- Improvements in behaviour of SALOME preferences

- Minor but useful GUI ergonomics improvements

KERNEL module improvements

- Various KERNEL improvements done by EDF are within this version

MED module improvements

- From now on the MED module can save its data within SALOME study. This allows external modules to write down their MEDMEM fields published in the study

SUPERVISOR module improvements

- Implementation of improvements request PAL8551 for Supervision messages classification was done

SMESH module improvements

- Functionality for mesh extrusion was improved and currently includes parameters for automatic Sewing calling after the extrusion of 2D mesh and option to switch on/off the building of 2D skin mesh.
- After implementation of improvement PAL8377, export to med dialog box now allows controlling the creation default groups of elements in med files
- Portability with gfortran of MEFISTO algorithm (patch from bug PAL10718) was applied

- 1D hypothesis includes the following improvements in ergonomics (see the picture below for an example):
  - "Enter", "Tab", "Shift-Tab" keys are now recognized for cell navigation
  - Preview for tables and analytical presentation - draw of function and distribution of points
  - Numerical algorithm for points calculation based on density function was significantly improved to provide robust results
  - New mode of function conversion was introduced to provide "healing" of input data – cut of negative part of function, but for tables it removes doubled values of T, and extrapolate boundary values to have 0:1 range always.
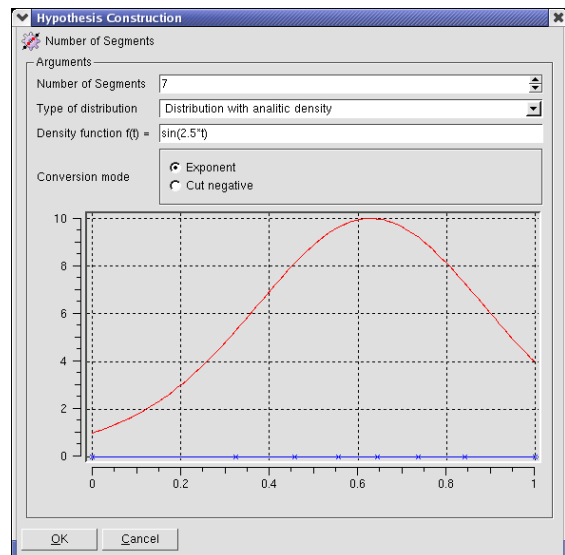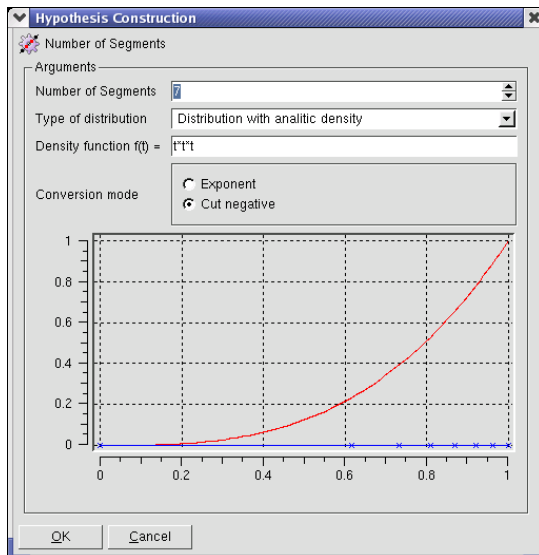
Figure 1. Preview for tables of 1D SMESH hypothesis

General documentation improvements

- Renovated and significantly improved documentation of SMESH modules was added providing examples and TUI command interface description.
  - In general please have a look at the documentation of installation/running of SALOME, its general desktop organization, KERNEL operations and end user actions for SMESH and GEOM modules with the corresponding examples of TUI scripts.
  - These help items are available via SALOME Help menu and provide access to Python (TUI) documentation as well.

Bug fixes and improvements

Total number of corrected problems since SALOME 3.1.0a3: **61**

The following bugs were corrected in the version:

- PAL6886 - Application hangs up after trying to kill dataflow execution
- PAL6905 - Strange value appears in the input field of the node after the link deletion
- PAL8054 - "Supervisor is running" wrong message
- PAL8071 - Application hangs up after trying to run bad dataflow
- PAL8293 - Build face from a wire
- PAL8540 - Crash after copy "Switch" inline node
- PAL9883 - When .SalomeApprc3.0.2 is created, gui information does not reflect real config state
- PAL9929 - "Create3DView()" method applied to StudyManager of the second study set as "current" creates NONE 3Dview
- PAL10303 - An exception is raised via "readMeshInFile" method during mesh reading from the MED file
- PAL10333 - Selected sub-shapes are in the same color as iso-lines
- PAL10353 - Copy-Paste applying isn't changed the number of the objects in the study
- PAL10354 - "getMedObjectFromStudy()" method from "batchmode_medcorba_test1.py" has to be updated
- PAL10376 - Qt redefines typedef INT32 => conflict when compiling GUI_SRC
- PAL10408 - Strange behaviour of the selection icon in the "create group" dialog box
- PAL10491 - incomplete diagnosis when missing hypothesis
- PAL10611 - problems with visu from supervision.
- PAL10612 - persistence of Visu
- PAL10719 - Portability gcc4.0.1
- PAL8980 - Add "Dump view" into pop-up
- PAL9019 - 20th document opened without using any viewer is broken
- PAL9064 - application hangs up after trying to create revolution
- PAL9322 - CRASH after trying to save view parameters in the locked study
- PAL9323 - CRASH after trying to delete view parameters in the locked study
- PAL9325 - CRASH after trying to create "Plot2d" object in the locked study
- PAL9330 - CRASH after trying to create/delete presentation in the locked
- PAL9648 - Default columns in preferences do dot work

- PAL9764 - names are not displayed in plot2d viewer
- PAL9818 - Dataflow nodes have "No status" statuses during dataflow execution
- PAL9828 - Regressions of the legend and titles in the Plot2d viewer
- PAL9856 - Display only operation does not work with two modules
- PAL9878 - Selection is lost after mesh operations
- PAL10051- SIGSEGV appears if try to create geom object when Plot2D viewer is active
- PAL10226 - Point Construction- impossible to create point on vertex
- PAL10295 - Quick path regression
- PAL10386 - Edit Ports : InLine : Error "Port with such name already exists" dlg goes under
- PAL10397 - Regression - SMESH: add element – nodes remain selected
- PAL10466 - POST-PRO: Crash during save as in multi mode with replacing existing file
- PAL10471 - Incorrect popup in the OCC viewer for erased geometry objects
- PAL10478 - "Display" and "Display only" don't work in second VTK viewer in Post-Pro
- PAL10498 - Error message after attempt to compute mesh in the attached study
- PAL10502 - Error message has been appeared after moving of mouse above of imported brep model in MESH modeler
- PAL10505 - Explode with "Select Sub Shapes" is impossible
- PAL10506 - Incorrect popup is called in the Object Browser if to select object before
- PAL10516 - Corrupted 3D popup for mesh in Mesh
- PAL10527 - It is impossible to display object after save/close/open operations
- PAL10531 - Correction of the "CreatePrsForResult()" method in "visu.py".
- PAL10532 - Difference between files from "SAMPLES_SRC" directory and files of maintainance version
- PAL10533 - "Display only" switches all toolbars and menus to view as in Salome module
- PAL10562 - SIGSEGV detected after close and trying create new window with OCC Viewer
- PAL10596 - Regression: Visualization is not displaed after save/restore study
- PAL10625 - salome_test differs from maintenance and has no presentations in post-pro
- PAL10627 - Can not build wire from four edges
- PAL10665 - Unnecessary plot2D viewer in the "Hypothesis Construction" dialog box
- PAL10678 - Selection is lost after update
- PAL10679 - Incorrect labels in the Post-Pro module
- PAL10696 - Shift+C doesn't work for a viewer closing
- PAL8210 - The color of TUI tests on COMPONENT doesn't show real state of results
- PAL10549 - big PYTHONPATH with KERNEL_TEST/Env/env_for_test.sh
- PAL9111 - View menu items
- PAL10050 - SIGSEGV appears if try to display geom object in Plot2D viewer
- PAL10173 - Application hang up then use Nb. Segments hypothesis with table or analitic distribution
- PAL10313 - It is impossible to select "Start point" from 3D viewer in "Extrusion along a path" dialog box

Supported Linux distributions and pre-requisites

SALOME 3.1.0beta1 supports the same Linux versions as SALOME 3.1.0a3

Note: OPEN CASCADE TECHNOLOGY version has been changed to have more recent version which contains latest bug fixes.
The MED component now needs SWIG 1.3.24 version

The SALOME 3.1.0beta1 version has been mainly tested with the following pre-requisite list on Mandrake 10.1 platform. However, other versions of pre-requisites may also work. The version was also tested on Debian 3.1 distribution and on native Mandrake10.1 prerequisites.
- gcc 3.4.1 - native for Mandrake 10.1
- tcl/tk 8.4.5 - native for Mandrake 10.1
- Python 2.3.4 - native for Mandrake 10.1
- Qt 3.3.3 - native for Mandrake 10.1
- Doxygen 1.3.7 - native for Mandrake 10.1
- Boost 1.31.0
- sip 4.1
- PyQt 3.13 *officially does not support Qt 3.3.3 but nevertheless it can be used*
- Swig 1.3.24
- OpenCASCADE TECHNOLOGY 6.0
- Qwt 4.2.0/0.2.4
- OmniORB 4.0.5
- OmniORBPy 2.5
- OmniNotify 2.1
- Hdf5 1.6.3
- Med 2.2.2

- Vtk 4.2.6
- Numeric 23.7
- HappyDoc 2.1
- Graphviz 2.2.1
- NETGEN 4.3 *a patched version of NETGEN*

Note that the list of pre-requisites for Redhat 8 platforms is different and can be found within the Redhat 8 installation procedure for SALOME 3.1.0beta1 that can be found on the FTP site.

How to get the version and pre-requisites

The SALOME 3.1.0beta1 pre-compiled binaries for Mandrake 10.1 and RedHat 8.0 can be retrieved from the PAL/SALOME FTP site (ftp://www.opencascade.com). Alternatively, SALOME modules can be downloaded from the following CVS repositories:

- KERNEL module: :pserver:<username>@cvs.opencascade.com:/home/server/cvs/KERNEL
- GUI module: pserver:<username>@cvs.opencascade.com:/home/server/cvs/GUI
- GEOM module: pserver:<username>@cvs.opencascade.com:/home/server/cvs/GEOM
- MESH module: pserver:<username>@cvs.opencascade.com:/home/server/cvs/SMESH
- SUPERVISOR module: pserver:<username>@cvs.opencascade.com:/home/server/cvs/SUPERV
- VISU module: pserver:<username>@cvs.opencascade.com:/home/server/cvs/VISU
- MED module: pserver:<username>@cvs.opencascade.com:/home/server/cvs/MED
- NETGEN plugin module: pserver:<username>@cvs.opencascade.com:/home/server/cvs/NETGENPLUGIN
- SAMPLES: pserver:<username>@cvs.opencascade.com:/home/server/cvs/EXAMPLES

IMPORTANT! Source files for version 3.1.0beta1 are available in CVS via tag **V3_1_0b1**

The Open Cascade Technology 6.0 can be retrieved in its binary and source forms from the PAL/SALOME FTP site (ftp://www.opencascade.com).

The patch on NETGEN is placed inside NETGENPLUGIN sources. During the compilation of a plug-in, the patch is applied automatically to the standard NETGEN installation.

All other pre-requisites shall be obtained either from your Linux distribution (*please be sure to use a compatible version*) or from the distributors of these pre-requisites (*www.trolltech.com for QT for example*).

Known problems and limitations

- Please, note that this version is an intermediate 2005 development release. It has not gone through complete testing and debugging processes.

- Due to some opened bugs, some non regression TUI tests fail:
    - COMPONENT tests: PAL10730 (001: C1, C2), PAL10733 (001: C3, C7)
    - MED component PAL10355 (003A1, 004A0),PAL10303&8701 (005A1-I9, 005J1,J3), PAL10348(006A4,A5)

- End user documentation for Supervisor and VISU modules were updated only in parts of screenshots. No revision of these modules was done due to planned major changes in GUI for SALOME 3.2.0 version

- Results of some TUI non-regression testing are different on slow and fast computers. This is due to using in some test cases the functionality of GEOM from Supervisor in parallel nodes. Due to the fact that Open CASCADE Technology does not thread safe, in some hardware configurations there is parallel conflict access to some data and such supervisor graphs fail. This problem will be fixed in future. At this moment the workaround is usage of GEOM nodes subsequently.

- Advanced features of 1D hypothesis "Number of segments" for SMESH are not completely finished yet. However it provides quite a good level of functionality to start its testing.

Maintenance caution!

No maintenance is provided for this version and this is not the version that will be used by end users. The functionalities of SALOME 3.1.0beta1, its content and API may change and will be developed into the SALOME 3.2.0 as a maintainable version. Please contact OPEN CASCADE PAL/SALOME team for any questions.