SALOME 3.1.0a2 development version announcement

Common information

OPEN CASCADE is pleased to announce SALOME 3.1.0a2 development version. It is an intermediate development release that contains the results of planned improvements and bug fixes with reference to the SALOME 3.1.0a1 development release. Note that the SALOME 3.1.0a2 did not pass the complete industrialization cycle.

The major goal of SALOME 3.1.0a2 is to achieve enough stability of the version for testing by CEA/EDF, share the current development state among CEA/EDF/OPEN CASCADE and display significant step in platform industrialization process. This document presents the main differences since SALOME 3.1.0a1 version.

Since the 3.1.0a2 is a development release, this document addresses mainly the developers.

Major improvements according to SALOME 3.1.0a1

General modifications

- Examples data files from MODULE_ROOT_DIR/examples were regrouped in a separate folder according file types. Corresponding CVS module SAMPLES_SRC is created under the CVSROOT EXAMPLES. Its structure is the following:

  `SAMPLES_SRC` – root directory
  `SAMPLES_SRC/MedFiles` – subdirectory for MED files
  `SAMPLES_SRC/Unv` – subdirectory for unv files
  `SAMPLES_SRC/Sauv` – subdirectory for sauv files
  `SAMPLES_SRC/inp_xyz` – subdirectory for inp and xyz from MED module
  `SAMPLES_SRC/Shapes` – subdirectory for geom shapes (in BREP, IGES and STEP formats)
    `SAMPLES_SRC/Shapes/Brep` – subdirectory for BREP files
    `SAMPLES_SRC/Shapes/Iges` – subdirectory for IGES files
    `SAMPLES_SRC/Shapes/Step` – subdirectory for STEP files
  `SAMPLES_SRC/Tables` – subdirectory for VISU table files
  `SAMPLES_SRC/Superv/` – subdirectory for supervisor example files
  `SAMPLES_SRC/Superv/Python` – subdirectory for python scripts
  `SAMPLES_SRC/Superv/Graphs` – subdirectory for XML files which contains graphs for Supervision

  Corresponding files were removed from other SALOME modules except for the MED component. Files in the `MED_ROOT_DIR/resources` were left in order to support current test mechanism for the MED component.

- A new environment variable DATA_DIR is introduced to indicate the location of SAMPLES_SRC. All corresponded python file examples were updated to support new placement of data files. All TUI tests were updated too.

Installation procedure improvements

- Open Cascade Technology prerequisite is changed to 6.0 pre-version
- Examples (SAMPLES_SRC) is added
- Compilation of Open Cascade Technology from sources is added
- Bug with generated libtool *.la files is corrected. Now paths in *.la files of pre-requisites are modified during installation in order to achieve usage of libtool during compilation of 3-party products. Binary distribution of SALOME modules is done without *.la files.

KERNEL module improvement

- The SALOME 3.1.0a2 includes major modifications done by EDF including redesign of message traces and introduction of unitary tests based on the cppunit utility.

SMESH module improvements

- SMESH now provides computation of volume mesh by NETGEN without hypothesis by default

MED module improvements

- Compilation of MED component without connection to KERNEL. It’s done to have standalone MED component (mainly MEDMEM) for other projects. It can be done using options '--without-kernel' or '--with-kernel=no' for

build_configure and configure steps.
- Polyhedral elements support. IDL interfaces and also MEDMEM is modified in order to support this new feature.

Documentation

- Generation of “Doxygen” documentation for GUI is assured. Result is placed in doc folder of GUI module.
- Updated end user documentation is published for the GUI and GEOM modules. It’s available trough the “Help” menu

New sample

New sample SIERPINSKY developed by OCC is adopted for SALOME 3.1.0a2. It is called SIERPINSKY_SRC and RANDOMIZER_SRC and it demonstrates how to write a simple C++ and Python Salome Module which is interfaced with VTK viewer, MED component and together. Example implements simple interface to calculate Sierpinsky fields. Please read README in SIERPINSKY_SRC about configuration and usage of this example
It can be retrieved from CVS EXAMPLES :pserver:<username>@cvs.opencascade.com:/home/server/cvs/EXAMPLES. Module name is SIERPINSKY_SRC and RANDOMIZER_SRC.

Bug fixes

Total number of corrected problems: **38**

The following bugs were corrected in the version:

- Incorrect saving of the study in Supervisor module.
- 3.0.0: "Exit" dialog box misses.
- SIGSEGV after using View – Display Mode – Shading for VTK Viewer
- NETGEN doesn't need a 3D hypothesis
- 3.0.0: SMESH - filter does not work
- Edges are unselectable during creation of point on edge after pressing Apply button
- Display and Erase items are missing after table import
- Impossible to rotate 3D view during cutlines and cutplanes creation with preview
- SIGFPE at cut lines edition
- Remove "Add Port" functionality as duplicate of "Edit Ports".
- SIGSEGV appears after "InLine" node function edition.
- "GeomGraph_py.xml" execution aborted.
- 3.0.1: Regression: SMESH – union of triangles: common edge preview
- 9453: Rename of the mesh removes the assigned algorithm
- Missing bad file warning
- Mesh display and selection colors preferences have no effect
- 3.0.2: Regression: SMESH – pattern mapping - 3D block can not be selected
- Regression. Status bar doesn't show information about saving of study
- Incorect selection with <Shift> key:
- Filter library don`t save:
- Crash after run Dataflow and creating new file
- "Apply" button don't work in the "Preferences" dialog box.
- Two "Display" and "Display only" menus are in popup menu.
- Black rectangle in SUPERVISIUON viewer
- Several Geometry root objects in the Object Browser
- Result of Dataflow execution is not add in study
- Unnecessary window with VTK Viewer appears after table displaying
- Clone of Plot2D View work incorrect
- SIGSEV detected when selecting 2 objects and click in the object browser
- "ComponentName" field is empty in the "Informations" dialog box.
- "Author" field is not saved in the copy of dataflow in the "Informations" dialog box.
- Dialogs "Diagonal inversion" and "Union of two triangles" aren't update after "Apply" button:
- Several “Edit” in popup for several selected presentations
- MED files got during SAUVE->MED conversion isn't opened in Post-Pro
- Plot3D becomes incorrect after arranging actors
- SIGSEGV appears during creation a new 3Dview after deletion of the previous one.
- Confusing message in status bar after runSalome
- Application hangs up after trying to import "essaiminimail.med" file

Supported Linux distributions and pre-requisites

SALOME 3.1.0a2 supports the same Linux versions as SALOME 3.1.0a2

Note: OPEN CASCADE TECHNOLOGY version is changed to have more recent version which contains latest bug fixes. MED component now need SWIG 1.3.24 version

The SALOME 3.1.0a2 version has been tested with the following pre-requisite list on Mandrake 10.1 platform. However, other versions of pre-requisites may also work:

- 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,** from now earlier versions are not supported due to the use of new functionalities of SWIG 1.3.24
- **Open Cascade 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*

SALOME 3.1.0a2 has been also tested on native Mandrake10.1 (Except SWIG 1.3.24) and Debian 3.1 prerequisites, but for compilation on these platforms it is better to put environment variables on all native products correctly.

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 3.1.0a2 that can be found on the FTP site.

How to get the version and pre-requisites

The SALOME 3.1.0a2 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

IMPORTANT! Source files for version 3.1.0a2 are available in CVS via tag **V3_1_0a2**

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*).

Limitation

- 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, few non-regression TUI tests fail:
    - MED component PAL10355 (003A1, 004A0), PAL10303&8701 (005A1-I9, 005J1,J3), PAL10348

(006A4,A5)

- SALOMEDS (STUDY) PAL10353 (002A6)
- VISU PAL9929 (003A3)

- Advanced features of 1D hypothesis “Number of segment” for SMESH are not fully available since some algorithmic problems in density function are not yet corrected (see PAL8238).
- SALOME 3.1.0a2 has no end-user documentation available for some modules. If you need the description of functionalities, you may use SALOME 2.2.x help – though the look and feel have been changed.

Maintenance caution!

No maintenance is provided for this version and this is not the version that shall be used by end users. The functionalities of SALOME 3.0.1, its content and API may change and will be developed into the SALOME 3.1.0 as a maintainable version. Please contact OPEN CASCADE PAL/SALOME team for any questions.