SALOME 6.4.0
Minor release announcement

December 2011

GENERAL INFORMATION

CEA/DEN, EDF R&D and OPEN CASCADE are pleased to announce SALOME version 6.4.0. It is a minor release that contains the results of planned major and minor improvements and bug fixes against SALOME version 6.3.1 released in July 2011.

SALOME Platform

Table of Contents

■ NEW FEATURES AND IMPROVEMENTS

PREREQUISITES CHANGES

Important: SALOME 6.4.0 is based on the Open CASCADE Technology version 6.5.2. Since version 6.4.0, the source code of SALOME is no more compatible with Open CASCADE Technology 6.3 and older versions.

The table below provides full list of pre-requisite products used with SALOME 6.4.0. The table shows the differences of 3rd-party product versions used for SALOME 6.4.0 and 6.3.1; the changes are highlighted in bold. New products are colored in blue.

Product	SALOME 6.3.1	SALOME 6.4.0
Boost	1.46.1	1.46.1
Cgns	-	**3.1.3**
CMake	2.8.4	2.8.4
Docutils	0.7.0	0.7.0
Doxygen	1.7.3	1.7.3[1]
Expat	2.0.1	2.0.1
Freeimage	-	**3.14.1**
freetype	-	**2.3.7**
Ftgl	-	**2.1.2**
gl2ps	-	**1.3.5**
Graphviz	2.26.3	2.26.3
HDF5	1.8.4	1.8.4
Homard	10.1	**10.3**
Intel® Threading Building Blocks	-	**3.0**
Jinja2	2.5.5	2.5.5
LAPACK	3.3.0	3.3.0
libBatch	1.3.1	**1.4.0**
Libxml2	2.7.8	2.7.8[2]
Med	3.0.3	**3.0.4**
METIS	4.0	4.0
NETGEN	4.9.13	4.9.13
NumPy	1.5.1	1.5.1
omniORB	4.1.5	4.1.5
omniORBpy	3.5	3.5
omniNotify	2.1	2.1
Open CASCADE Technology	6.3.0 service pack 13	**6.5.2**

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[1] Patched for SALOME (bugs in doc tree javascript)
[2] Patched for SALOME (bug for 64bit platforms)

SALOME Platform

Product	SALOME 6.3.1	SALOME 6.4.0
ParaView	3.10.1	3.10.1[3]
Pygments	1.4	1.4
PyQt	4.7.3	4.7.3
Python	2.6.6	2.6.6
QScintilla	2.4.3	2.4.3
Qt	4.6.3	4.6.3
Qwt	5.2.1	5.2.1
Scotch	5.1.11	5.1.11
Setuptools	0.6c11	0.6c11
SIP	4.10.2	4.10.2
Sphinx	1.0.7	1.0.7
SWIG	1.3.40	1.3.40
Tcl	8.4.14	**8.5.8**
Tk	8.4.14	**8.5.8**
TclX	8.3.5	**8.4.0**
VTK[4]	5.8.0	5.8.0
Xdata	0.9.1	**0.9.2**
Distene Blsurf[5]	3.0	**3.1**
Distene TetMesh-GHS3D[6]	4.2 + 4.1	4.2 + 4.1[7]
Distene Hexotic[8]	-	**1.0**

For additional information about pre-requisite products and SALOME modules dependencies refer to the paragraph "Supported Linux distributions and pre-requisites" below.

LICENSE RESTRICTIONS

▪ Hereby we explicitly declare that PyQt 4 toolkit (Riverbank Computing Ltd) is distributed under the terms of GPL license.

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[3] Patched for SALOME (provide compatibility with OCCT 6.5.2: problem with freetype/ftgl)
[4] Included to the ParaView distribution
[5] Commercial product, requires license for using in runtime
[6] Commercial product, requires license for using in runtime
[7] Version 4.1 is required to prevent bug in ghs3d 4.2
[8] Commercial product, requires license for using in runtime

IMPROVEMENTS

Group on Filter

Group on filter, a new way of standalone group creation using filters, is now available via choosing **Group on filter** radio button in **Create Group** dialog box and clicking **Set Filter** button, which opens the standard Filter definition dialog box.

In this case, as opposed to **Standalone group + Set filter** definition, no list of element IDs is used and the created group is automatically composed of all mesh elements satisfying the filter. This difference is sensible in how the group creation is dumped into python script (using `MakeGroupByFilter()` python command) and also provides faster generation and display in case of huge meshes.

In the picture, the cells with Geometry type – tetrahedron are colored in yellow.
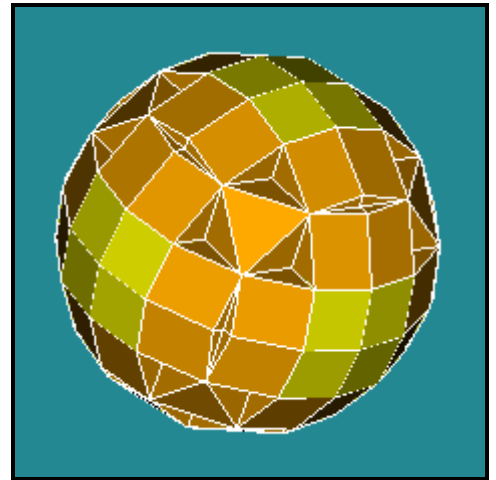
Improved Mesh Presentation

The visibility of elements in the shrink display mode has been improved.

Previously in **Shrink** mode the original mesh was drawn as a wireframe and element outlines were not drawn. Now the original mesh does not appear and the outline of each shrink element is drawn as a wireframe.

As a result, the contrast between cells is stronger and the visibility is better.
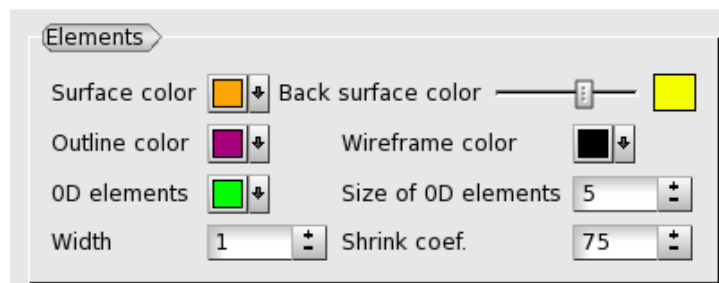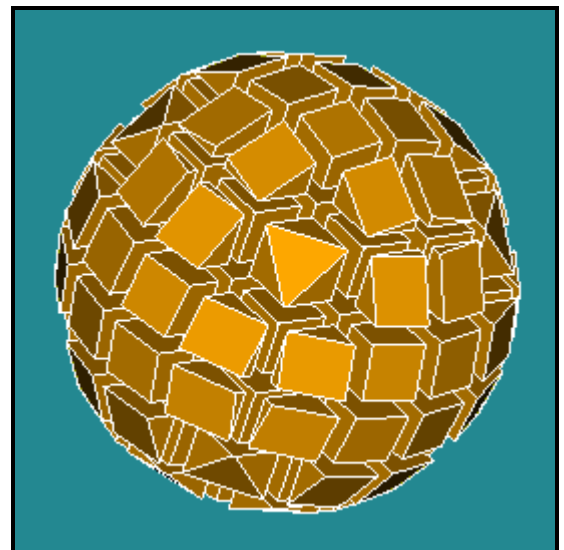
The **Outline color** has become customizable for any mesh object via the "**Set Color**" preferences. The parameter that was previously called "**Outline color**" has been renamed into "**Wireframe color**" (it is used to show internal cell borders in Wireframe display mode).

It has also become possible to customize the **Back surface** color of meshes, sub-meshes and groups, which is generated on the base of the front **Surface** color, by changing its brightness, saturation and hue

Additional Mesh Information

"Additional Info" tab of Mesh Information" dialog box provides the following information on the selected mesh, sub-mesh or group object.

For mesh:

- **Name**;
- **Type**: based on geometry, imported, standalone;
- **Shape** (if the mesh is based on geometry);
- **File** (if the mesh is imported from a file);
- **Groups**;
- **Sub-meshes**.

For sub-mesh:

- **Name**;
- **Parent mesh**;
- **Shape**.

For group:

- **Name**;
- **Parent mesh**;
- **Type**: standalone, group on geometry, group on filter;
- **Entity type**: node, edge, face, volume;
- **Size**;
- **Color**;
- Number of **Underlying nodes** (for non-nodal groups). For performance reasons this number is computed only by demand - by pressing "**Compute**" button.
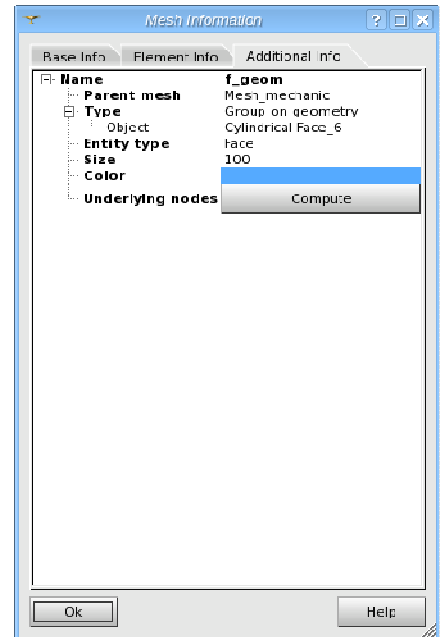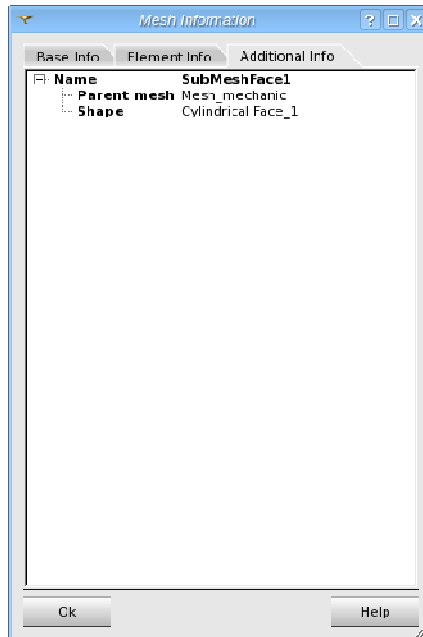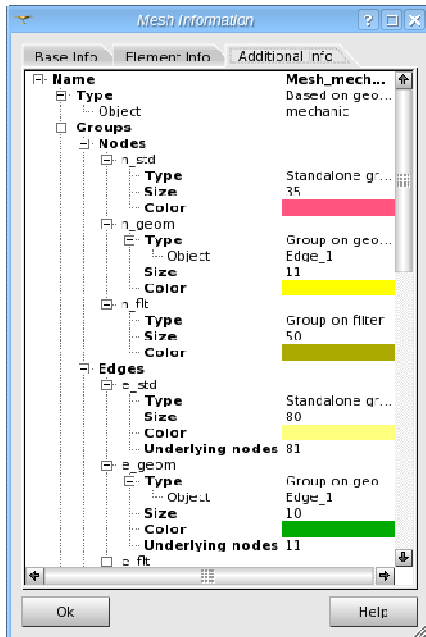
Dynamic preselection

New **Dynamic preselection** mode has been implemented in VTK viewer for Mesh and Post-Pro modules. It can be switched on/off using the corresponding

toolbar button.

When this mode is on, an object is automatically selected in the viewer and the object browser by clicking a point or a cell belonging to it, with some performance loss.

It can be useful to switch dynamic pre-selection off to have good performance on big objects.
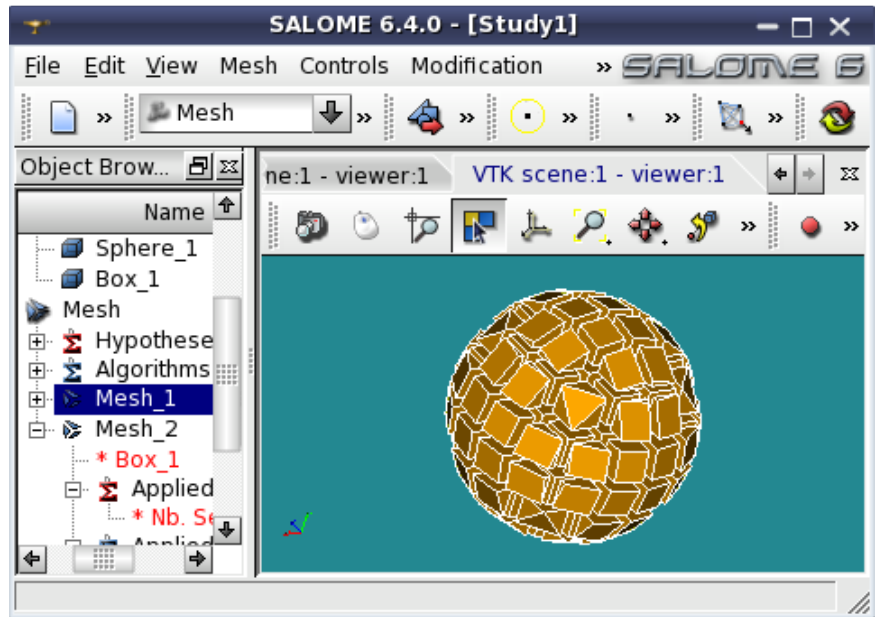
Extrusion with Scale Factor

New "**Scale the face opposite to the base**" checkbox in the Extrusion dialog allows scaling the extruded object by the Scale Factor. By default, it is not enabled negative, which means that the extrusion is not scaled. This option is not compatible with "**Both directions**" option.

In the image, one of the box faces has been extruded with **Scale Factor** = 2.
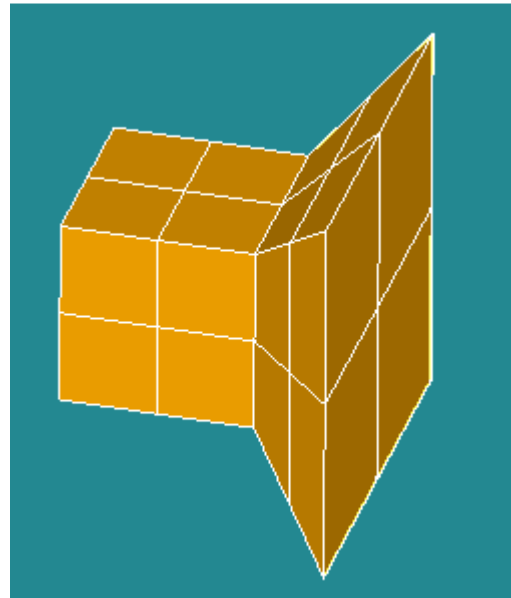
Body Fitting Algorithm
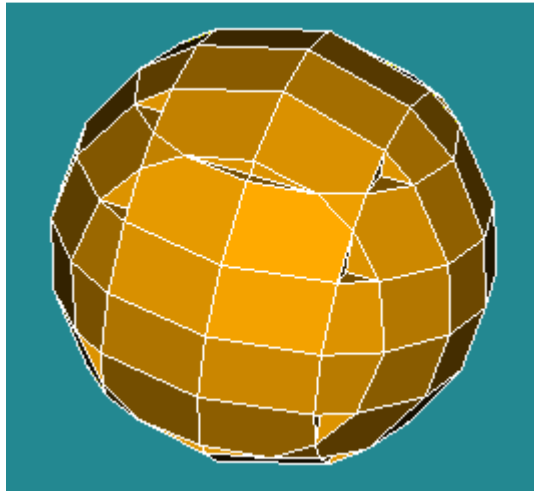
New **Body Fitting** meshing algorithm generates hexahedrons of a Cartesian grid in the internal part of geometry and polyhedrons and other types of elements at the intersection of Cartesian cells with the geometrical boundary.

This algorithm creates a Cartesian grid and intersects it with the geometry. The grid cells lying wholly inside the geometry remain hexagonal; others are truncated by the geometry boundary.

If the size of the resulting cell is smaller than **Threshold** parameter a mesh element is not created.

The Cartesian structured grid is defined individually for each grid **Axis** by **Coordinates** or by **Spacing**.

Spacing of a grid is defined as an algebraic formula *f(t)* where *t* is a position along a grid axis normalized at [0.0,1.0]. The whole range of geometry can be divided into sub-ranges with their own spacing formulas to apply; *t* varies between 0.0 and 1.0 within each sub-range. **Insert** button divides the selected range into two ones. **Delete** button adds the selected sub-range to the previous one. Double click on a range in the list enables edition of its right boundary. Double click on a function in the list enables its edition.

**Coordinates** of grid nodes can be defined explicitly. **Insert** button inserts a node at distance **Step** (negative or positive) from a selected node. **Delete** button removes the selected node. Double click on a coordinate in the list enables its edition. A grid defined by Coordinates should enclose the geometry, else the algorithm will fail.

SALOME Platform
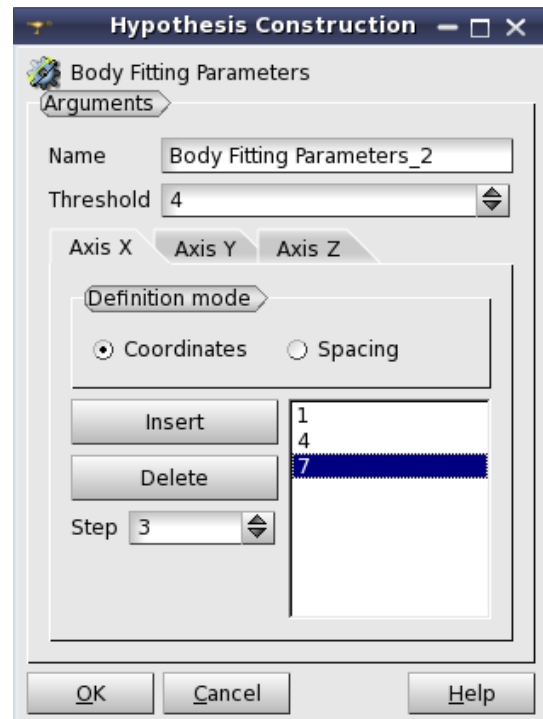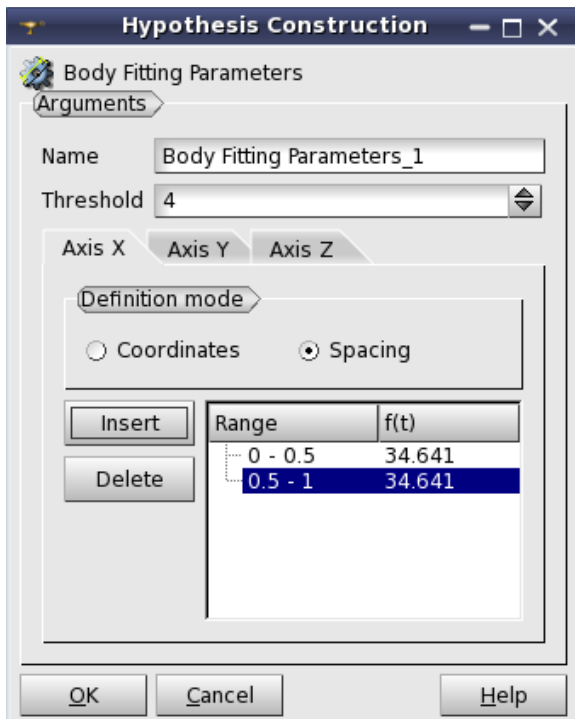
Plot 2D viewer improvements

The curves, selected in the **Object Browser** or **Viewer Legend**, are now highlighted in the Plot 2D viewer.
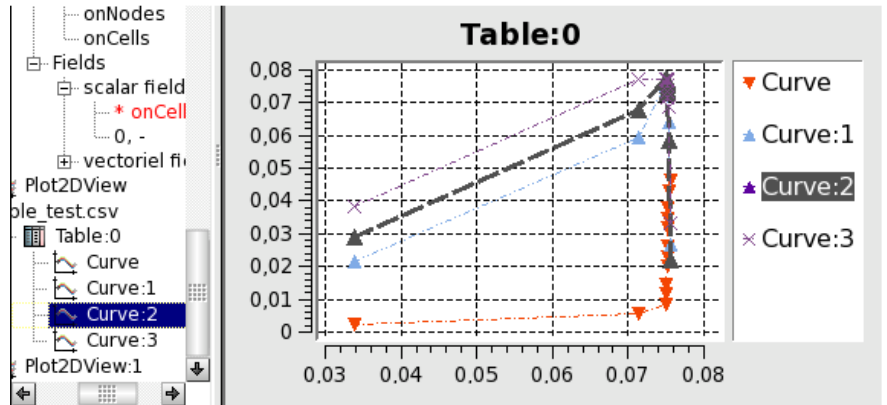
Each curve can be scaled by the **Scale factor** (1 by default), which can be changed in the "**Curve Scale**" dialog box assessable via the context menu of the selected curve → Scale
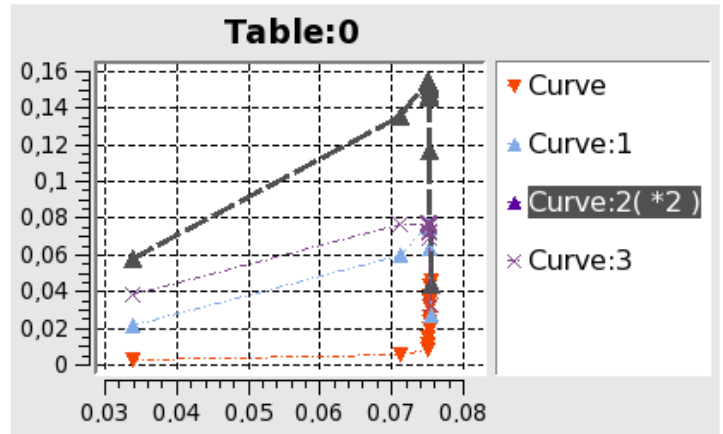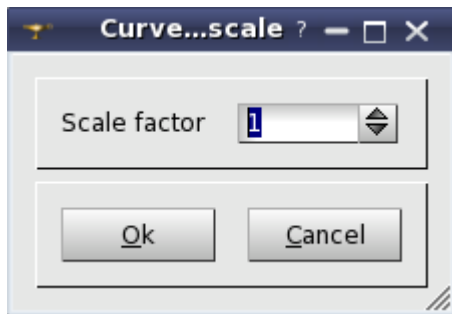
The **Scale Factor** is indicated in the viewer Legend

Additionally, the font of Plot 2D viewer legend items can be customized using "Plot 2d View Settings" dialog box. Default font properties are specified via the common "Preferences" dialog box.

MED module improvements

Improvements in MEDCoupling:
- o New functions to calculate `norm2` and `normMax` of fields.
- o Write into VTK ascii files format of `MEDCouplingUMesh` and instances to ease debug.
- o Iterator in python on `DataArrays`:

```
for it in da: ...
```

- o Iterator over all cells in python on `umeshes` instances:

```
for cell in myUmesh: ...
```

- o Iterator over all cells in python on `umeshes` instances sorted by geometric type:

```
for cellsByType in myUmesh.cellsByType():
   for cell in cellsByType:
       ...
```

Improvements in INTERP_KERNEL and in MEDCouplingRemapper:
- o P0P0 interpolation 2DCurve ↔ 2D interpolation
- o P0P0 interpolation 3DCurve ↔ 3D interpolation

Improvements in MEDLoader:
- o Read/Write in `MEDLoader` of files in SAUV format (XDR included).
- o In advanced python API of `MEDLoader` implementation of `__repr__` of `MEDFileMesh*` instances.

libBatch Improvements

The following improvements have been implemented in libBatch version 1.4.0 (comparing with version1.3.1):
- o Add new boolean parameter "EXCLUSIVE" to give the user the choice to share or not to share the nodes with other jobs.
- o Refactor code for parameters and Swig wrappings to improve maintainability.

JOBMANAGER improvements

- o Job can be stopped (before it could be only deleted).
- o GUI improvements:
  - ▪ Add multi selection in the job's list.
  - ▪ Three actions could be done when some jobs are selected: delete, stop and get results.
  - ▪ A job could be deleted with the key <Delete>.

YACS improvements

Improvement of YACS's executor trace:
- o Adding informations on elapsed time.
- o Adding imformations on services placement (CORBA components and distributed python nodes).

Improvement of driver executable:
- o New option to shutdown SALOME if driver process is killed.
- o Fix driver return value:
  - ▪ 0 – ok.
  - ▪ 1 - YACS unknown exception.
  - ▪ 2 - YACS schema failure.

HOMARD improvements

- o Curved boundaries that are taken into account in the Homard software can be defined in the HOMARD module.
- o The main functions of the HOMARD are defined as components in the YACS module.

SALOME Platform

Other improvements:

- o It is possible to specify the data object color and create / use references between objects in "light" (no-CORBA-engine) SALOME modules. The corresponding API functions are available in both C++and Python.
- o Dump Study operation can be applied to "light" SALOME modules.
- o Processing of reversed edges in "Propagation" hypothesis via TUI is improved.
- o The tolerance parameter computed basing on the minimum linear size of imported elements is now used in "Use existing 1D/2D elements" algorithms to check if the imported mesh fits to the geometry.
- o GIBI driver can use ParaMEDMEM::MEDFileData as input and output.
- o Internal browser based on Qt WebKit has been implemented to display SALOME documentation.
- o Information about version of SALOME modules is available in the "Modules Information" tab of the "About" dialog box.
- o Mesh groups now can be exported into MED, UNV, STL and DAT formats in the same way as meshes.
- o "Find Element by Point" operation can be used with mesh groups.
- o New Projection 1D-2D algorithm has been implemented. It works in the same way as Projection 2D algorithm, but also generates mesh segments on the edges according to the projected 2D elements. Thus this algorithm does not require the edges to be meshed by any other 1D algorithm; moreover it does not allow meshing edges of the face using another algorithm via definition of sub-meshes.
- o "Show static trihedron" and "Relative size" preferences have been added to the OCC Viewer.
- o GetInPlace functionality now can find curved parts with significantly outstanding mass centers (when the mass center of a part is closer to the "parent" shape than to the part).
- o "Minimum size" parameter has been implemented for NETGEN 3D hypothesis.
- o The order of algorithms in mesh creation window has been optimized.
- o It is possible to read/write mesh data in CGNS format using a dedicated driver.
- o It is possible to switch application in full screen mode by pressing F11 key or from the main menu via View → Full Screen.
- o New "Synchronize view" functionality allows set the view parameters (view point, position, zoom coefficient, etc.) from one open viewer scene to another. The views synchronization can be also applied dynamically (i.e. on the zoom, pan, rotate and other view operations).
- o Prototype functionality of Plot 2D analytical curves has been introduced in GUI module. This feature allows showing "auxiliary" view-related 2d curves built on the user-defined algebraic formulas *y=f(x)*. Such curves can be used as "reference" ones since they are automatically recomputed on pan, zoom and other view operations. Due to the prototypic feature of this functionality the implementation will be completed in future versions of SALOME.

BUG CORRECTIONS

GUI MODULE (IAPP)

20178	*Summary:* EDF OCC : Export in Postscript with OCC viewer failed : SIGSEGV The possibility to dump OCC viewer contents to Postscript format has been restored.
20494	*Summary:* EDF 1123 KERNEL/GUI: Improvement of 'About' dialog box. "About" dialog box has been redesigned to show information about the version of Salome modules in the Modules Information tab.
20512	*Summary:* EDF 1113 OTHER : Using WebKit to display documentation Internal browser based on Qt WebKit has been implemented to display SALOME documentation.
21254	*Summary:* EDF 1861 VISU: Eye symbol and VISU presentations The problem with Visibility State update has been fixed.
21317	*Summary:* EDF 1614 ALL: Trihedron size preference "Show static trihedron" and "Relative size" preferences have been added to the OCC Viewer.
21318	*Summary:* EDF 1615 ALL: Display in full screen mode It has become possible to switch the application in full screen mode, when only Object Browser and Viewers are displayed by F11 key or from the main menu via View -> Full Screen.
21319	*Summary:* EDF 1616 ALL: synchronization of 3D viewers "Synchronize view" functionality for synchronization of 3D view parameters has been implemented. Clicking "Synchronize view" button opens a drop-down list of compatible views. As soon as user selects any view from the list, the parameters (view point, position, zoom coefficient, etc.) of the current view are synchronized with the selected view. There is also possibility to switch on the "dynamic" synchronization: in this mode the view parameters are synchronized automatically on each view operation (zoom, pan, rotate, etc) of the source view.
21328	*Summary:* EDF 1920 PARAVIS: Missing drop down menu in the calculator SALOME style has been corrected to properly draw drop-down menu indicator for the push button with the associated menu.
21351	*Summary:* EDF GEOM: Auto size for first column does not work Object Browser preference "Auto resize for first column" has been renamed into "Auto resize for Name column".
21360	*Summary:* EDF 1954 ALL: Possibility to change the title of the Salome main windows Application crash if application version (`APP_VERSION`) is not in `<major>.<minor>.<release>` format is now avoided.

21373	*Summary:* [CEA] missing some contextual menu The module activation procedure has been fixed to correctly process focus events in case of blocking window activation signal.
21377	*Summary:* [CEA 506] Connect light SALOME modules to "Dump Study" operation It has become possible to exercise "Dump Study" operation on light Salome modules. For this, a separate instance of `SalomeApp_Engine_i` is created per each light module type, with the corresponding unique `ComponentDataType`. Thus one-to-one mapping between light modules and corresponding engines is established, which enables the existing `DumpPython()` mechanism to work.
21378	*Summary:* [CEA 505] Possibility to change data object color using `SalomePyQt` API `SalomePyQt` API has been extended with the possibility to specify the data object color for references to data objects in Object Browser representation of PPGP module.
21379	*Summary:* [CEA 504] Implement mechanism of references in Object Browser in light SALOME GUI. "Light references" have been implemented in SALOME GUI as an alternative to standard references. In case of a light reference the "reference object" simply holds an entry of the "referenced object" and this information is used to provide ergonomics similar to the existing references based on SALOMEDS.
21417	*Summary:* [CEA] View windows created by `SalomePyQt.createView()` cannot be closed It has become possible to close view windows created by `SalomePyQt.createView()`.
21419	*Summary:* [CEA 516] Invalid tree representation of ATOMIC light-component The problem with two component items created for a light module in the study when SALOME is operating in "full" (Session server) mode has been fixed. The API of `LightApp_DataModel` study has been changed: `createModuleObject()` virtual function is now used to create top-level data object representing the module component. This function creates `LightApp_ModuleObject` (or its successor) instance in the "light" mode or `SalomeApp_ModuleObject` (or its successor) instance in the "full" mode.

GEOM MODULE

| 20506 | *Summary:* EDF 1064 PERF : Manipulating big amount of spheres in GUI

To improve performance when operating with big number of objects in GUI, the following actions have been done:
• Optimize source code to remove redundant 'update viewer' operations (especially in cycles).
• Improve popup menu handling mechanism by introducing cache system.
• Introduce deflection coefficient that is used when calculating displayed shapes presentations. |
| 21024 | *Summary:* EDF 1537 GEOM: IDs of the subshapes of a shape

The algorithm of mesh element ID definition has been improved to guarantee that each element has the same IDs in all groups to which it belongs. |

21067	*Summary:* EDF 1625 GEOM: Extrusion of a 2d object with a scale factor New parameter "Scale Factor" added to the Extrusion functionality allows building extrusion with scaled opposite base.
21085	*Summary:* EDF 1491 GEOM: Badly shaped solid The problem with generation of solids with negative volume has been fixed.
21129 21182 21209	*Summary:* EDF 1541 GEOM: Problem with GetInPlace A reimplementation of GetInPlace functionality has been introduced to find curved parts with significantly outstanding mass centers (when the mass center of a part is closer to theShapeWhat than to the part). An argument in geompy.GetInPlace() allows switching between the old and the new implementation. By default, the old implementation is used. The new implementation is used by "Restore existing sub shapes" functionality (geompy.RestoreSubShapes() and geompy.RestoreGivenSubShapes()).
21181	*Summary:* EDF 1788 GEOM: The partition of a pipe by 4 planes create only 2 solids Fixed Partition operation bug.
21200	*Summary:* EDF 1795 GEOM: Problem of performance when doing a partition with great number of subshapes Partition algorithm has been partially re-designed to improve performance. In addition, the patch for OCCT has been integrated for v6.5.2 with performance improvements.
21260	*Summary:* [CEA 470] Problem of Export STEP The fix for this bug has been made in bug OCC22492. Export of a scaled sphere (Solid with BSplineSurface) into STEP has been improved.
21297	*Summary:* [CEA] Problem with cut The problem with MakeRevolution operation, which produced solids with negative volume in some cases, has been fixed.
21312	*Summary:* EDF 1900 GEOM: Background picture in OCC viewer It has become possible to set a background picture in the OCC viewer.
21326	*Summary:* EDF 1913 GEOM: Bad MakeCut result Regression in Cut operation has been fixed.
21342	*Summary:* EDF 1931 GEOM: The edition of a group has no effect after exporting it to BREP. It has become possible to edit a group after its export to BREP.
21353 21367	*Summary:* [CEA] Show only selected in Create / Edit Group Behavior of "Edit/Create group" dialog has been improved. Now "Show Only Selected" operation correctly processes elements, selected in the list of IDs.

21354	*Summary:* [CEA] Failing partition on CentOS 5.5 64 bits The problem with Cut operation on 64bit platforms has been fixed.
21355	*Summary:* [CEA] Problem of partition Partition algorithm has been improved to minimize generation of extra edges on parametric curves.
21365	*Summary:* [ANDZ-01-001] Using named surfaces and edges of STEP file in SALOME Reading the geometry from the STEP file has been improved by reading names of all geometrical STEP entities. The read names become visible in the study at exploding the imported geometry into sub-shapes.
21366	*Summary:* EDF GEOM: Modification of sketcher GUI The sketcher GUI has been modified to avoid applying the non applied modifications with "Sketch Validation" button. This button has been replaced with a standard "Close" button.
21368	*Summary:* EDF GEOM: From Salome forum, dump study leads to unknown exception The commands containing a sequence of the repeating space symbols are now dumped into Python correctly.
21399	*Summary:* EDF 1636 GEOM: Cant' build an edge from a wire composed of C1-continuous edges The problem with building an edge from a wire connected with initial edges orientation inside the wire has been fixed.
21409	*Summary:* EDF 395 GEOM: Export to STL ASCII format fails The fix for this bug has been made in bug OCC22760. A regression has been eliminated in STL export algorithm.
21414	*Summary:* There is a difference between vectors and other edges in Geometry The methods `ChangeOrientation()`, `ChangeOrientationShell()` and `ChangeOrientationShellCopy()` have been redesigned to deeply reverse vectors (change orientation of the underlying curve and the order of vertices, but not the orientation flag).
21421	*Summary:* [CEA 517] regression with explode/Create groups with Vertex type "Create/Edit Group" and "Sub Shape Selection" dialogs have been improved for the case of vertices extraction. In this case the main shape is not hidden, so the user can correctly identify required vertices.
21423	*Summary:* EDF 2013 GEOM: MakeScaleAlongAxes does not work Fixed bug in Scaling operations with producing bad shape when different scaling coefficients are used for different axes.
21431	*Summary:* [CEA 519] Regression in Glue Faces between Salome 5 & 6 The problem in the new Glue Faces algorithm has been fixed.

21441	*Summary:* 0021441: [CEA 523]: Graph YACS not working missing component GEOM_Superv Fixed problem with running YACS graphs on Windows: symbols were not export by GEOM_SupervEngine library.
21442	*Summary:* EDF 2044 GEOM: MakeCut leads to SIGSEGV when click on Apply Fixed bug in the browseToObject() procedure.

SMESH MODULE

19957	*Summary:* EDF 785 SMESH: Convert Quadratic and Group on GEOM The SIGFPE problem has been fixed with OCCT bug OCC22409. In addition, a fix has been added in SMESH module to avoid endless recursion in `FindCoincidentNodes()` function (causing crash).
20511	*Summary:* EDF 1101 SMESH : Add CGNS to Mesh Format Supported Support of CGNS mesh format has been introduced in Salome. A driver to read/write files from/to this format has been created.
20716	*Summary:* EDF 1229 SMESH : Improvement of reversed edges dialog box The processing of reversed edges in "Propagation" hypothesis using TUI has been improved to accept the list of GEOM objects instead of the list of IDs. The selection has been restricted to GEOM edges and groups of GEOM edges only when defining reversed edges of some hypotheses.
20743	*Summary:* EDF 1271 SMESH : Create a mesh from a group Export (into MED, UNV, STL and DAT formats) and "Find element by Point" operations have become applicable to mesh groups.
20918	*Summary:* EDF 1447 SMESH: Mesh common borders "Use existing 1D/2D elements" algorithms have been improved: the tolerance parameter computed basing on the minimum linear size of imported elements is now used to check if the imported mesh fits to the geometry.
20984	*Summary:* EDF 1566 SMESH: Better visibility of the elements in a shrink representation The elements visibility in shrink viewing mode has been improved.
21014	*Summary:* EDF 1583 SMESH: Improvement of the Python Dump for the creation of groups "Group on Filter" has been introduced as a new type of mesh group. The contents of a Group on Filter are defined by the filter and dynamically updated as the mesh changes.
21096	*Summary:* EDF 1729 SMESH: Create a Projection 1D-2D algorithm New "Projection 1D-2D" meshing algorithm has been implemented. It is analogous to "Projection 2D" algorithm, however it defines mesh on 1D elements automatically.

S A L O M E   P l a t f o r m

21106	*Summary:* EDF 1691 SMESH: `Mesh.Group(SubShape)` fails on Shells Dump Python algorithm for groups built on geometry has been changed to always use `GroupOnGeom()` function passing entity type explicitly as parameter.
21185	*Summary:* EDF 1785 SMESH: A group created by filters is incomplete The fix for this bug has been made in bug OCC22494. The groups creation algorithm of has been improved to eliminate the problem with missing 2D elements.
21263	*Summary:* EDF 1868: Several use cases fail (regressions) The problem with Boolean operations, `MakeRevolution()` and `MakeSection()` has been fixed.
21275 21359	*Summary:* EDF 1681 SMESH: Find the number of nodes of any group "Mesh Information" dialog box has been improved: it now contains also "Additional Info" tab page that provides additional information on the selected mesh, sub-mesh or group object.
21276	*Summary:* EDF 1857 SMESH: Order of algorithms in the combobox The order of algorithms in the list has been changed in "Create Mesh/SubMesh" dialog.
21285	*Summary:* EDF 1877 SMESH: Color of groups is only visible on one side Now in the SMESH module of the mesh back side color, submeshes and groups are generated on the base of the front side color, by changing its brightness, saturation and hue.
21327	*Summary:* EDF 1915 SMESH: impossible to select a group to copy mesh Object names with many white spaces at end have become selectable in "Copy Mesh" dialog
21329	*Summary:* EDF 1922 SMESH: Performance issue of VTK viewer with big meshes Switchable Dynamic pre-selection functionality has been added to the VTK viewer as a new toolbar button.
21330	*Summary:* EDF 1919 SMESH: Convert to quadratic gives wrong elements "Convert to quadratic" operation has been improved.
21332	*Summary:* [CEA 494] Problem of visualization of a med file `sauv2med` converter has been improved to produce correct orientation of all volumes.
21333 21334	*Summary:* [CEA] Meshing error Regression caused by a wrong implementation of "Min Size" NETGEN parameter has been fixed.
21336	*Summary:* EDF 1717 SMESH: New Cartesian algorithm "body fitting" unstructured New meshing algorithm "Body Fitting" has been implemented in Salome. This algorithm generates hexahedrons of a Cartesian grid in the internal part of geometry and polyhedrons and other types of elements at the intersection of Cartesian cells with the geometrical boundary.

SALOME Platform

21343 21344	*Summary:* EDF 1930 SMESH: Huge memory occupation when assigning an hypothesis to a big model Preview of edge orientation in 1D hypotheses construction dialog ("Reversed Edges" pane) has been improved to keep good performance on big shapes. The edges of such shapes are shown segment by segment, the segment size can be customized via SMESH module preferences.
21345	*Summary:* EDF 1936 : Problem in submeshes management The problem with removing "Composite side discretization" algorithm from a sub-mesh has been fixed.
21346	*Summary:* EDF 1938 SMESH: "Use existing elements" functionality "Use existing 2D elements" algorithm has been improved to create 1D elements on a seam edge.
21348	*Summary:* EDF 1944 SMESH: Problem to assign a 3D algorithm on a mixed 2D/3D shape The problem with definition of geometry dimension at mesh creation has been fixed.
21356	*Summary:* EDF 1705 SMESH: Extrusion along a path using a mesh w/o geometry The possibility to use mesh without geometry as a path mesh has been added in the "Extrusion along a path" algorithm.
21358	*Summary:* [CEA 500] SMESH HEXAHEDRA from 2D quad skin detect a error The problem with generation of a hexahedral mesh from a 2D skin has been fixed.
21363	*Summary:* EDF 1957 SMESH: Use of viscous layers with BLSURF Viscous layers are now properly generated even in case of incorrect node positions on geometrical faces generated by BLSURF algorithm.
21369	*Summary:* EDF SMESH: Meshing of a cube in hexes fails The problem with incorrect mesh generation Hexahedron (i,j,k) on a cube including a reversed wire has been fixed.
21370	*Summary:* EDF SMESH: Hexahedron + Composite Side Disretization generate a bad mesh It has become possible to mesh by "Hexahedron (i,j,k)" algorithm a cube including a composite edge meshed by "Composite side discretisation" algorithm.
21371	*Summary:* EDF SMESH: The propagation of elements curvature is sometimes wrong in quadratic conversion with nodes on geometry The problem with "Convert to quadratic" operation creating distorted volumes has been fixed.
21408	*Summary:* EDF 2006 SMESH: Use of `DoubleNodesOnGroupBoundaries` on 2D leads to crash `DoubleNodesOnGroupBoundaries()` method has been protected from crash.
21410	*Summary:* EDF 2007 SMESH: Problem with the formula of aspect ratio 3D The description of aspect ratio 3D operation has been improved in the documentation.

21411	*Summary:* EDF 2000 SMESH: Netgen 2D fails on shapes meshed with "composite side" in 1D It has become possible to use "NETGEN 2D" together with "Composite side discretization" algorithm.
21416	*Summary:* EDF SMESH: Impossible to display a group of polyhedral `SMESH_Object` has been modified to correctly display groups by element type on complex meshes.
21422	*Summary:* EDF 1963 SMESH: Viscous layer algorithm fails in some cases The algorithm of viscous layers generation has been improved.
21436	*Summary:* EDF 1810 SMESH: Create a segment and adding it to a group causes Salome to crash SALOME crash at pressing Enter key after typing a group name in Add Node dialog has been fixed.
21427	*Summary:* EDF 2024 SMESH: numbering does not take into account clipping Fixed bug that clipping was not applied to the numbering (nodes, elements) actor. In addition, similar problem has been fixed for the face normals actor.

MED MODULE

21311	*Summary:* [CEA 293] `MEDMEM::SUPPORT` constructor GIBI driver has been improved to create a group copy for each named references the group has in SAUV file.
21314	*Summary:* [CEA 490] Driver GIBI with `medloader / medcoupling` GIBI driver has been enabled to use `ParaMEDMEM::MEDFileData` as input and output.
21349	*Summary:* [CEA 498] MED documentation is missing `LightApp.dll` has been corrected to allow viewing help from MED module from the application.
21362	*Summary:* [CEA 502] `GIBI` driver and `seg3` The numbering of `seg3` elements by GIBI driver when the mesh mixes linear and quadratic elements has been corrected.

VISU MODULE

21341	*Summary:* [CEA 496] impossible to modify color in "feature edge" mode It has become possible to change the presentation color in the "Feature edge" mode.
21384	*Summary:* [CEA 508] Plot2d Allow user to rescale curve The possibility to rescale curves has been implemented in Plot 2D viewer.

S A L O M E   P l a t f o r m

21385	*Summary:* [CEA 509] Modify font properties in legend It has become possible to customize legend items font in Plot 2D viewer using "Preferences" and "Plot 2D View Settings" dialogs.
21386	*Summary:* [CEA 510] Plot2d Highlight curves in the viewer The mechanism of highlighting curves selected in the object browser or Plot 2D legend has been implemented in the Plot 2D viewer.
21403	*Summary:* EDF 1972 VISU: Crash when dumping study Dump VISU algorithm has been improved: `ColoredPrs3dHolder` is removed from study if the Result to which it refers is already removed.

PARAVIS MODULE

21307	*Summary:* EDF PARAVIS: Mismatch in buttons and windows when switching from a component to PARAVIS and back The following improvements have been introduced in the interface of PARAVIS module: - Visibility state of toolbars and dockable windows is stored/restored at module deactivation / activation; - The application name has been changed to avoid problems with dockable windows settings caused by bad environment from previous versions of SALOME - Desktop signals during the module deactivation process have been blocked to prevent false module activation.
21313	*Summary:* object picking popup disabled (vs ParaView native) Popup menu behavior in PARAVIS module has been synchronized with Paraview.
21402	*Summary:* EDF 1950 PARAVIS: Buttons for the macro "modes" Excess macro "mode" buttons are no longer created on Salome launch with PARAVIS.
21430	*Summary:* EDF 2031 PARAVIS: PARAVIS links to system VTK if it is installed The conflict between VTK and PARAVIS module, which produced crashes on some platforms, has been resolved.

NETGENPLUGIN MODULE

21271	*Summary:* [CEA 473] Implement min size in Netgen plugin "Min Size" parameter has been added to NETGEN mesher hypotheses.
21337	*Summary:* EDF 1924 NETGENPLUGIN: Mesh optimization "Optimize" parameter of NETGEN 2D hypotheses has been restored.
21364	*Summary:* EDF NETGENPLUGIN: Dump of Netgen parameters has duplicate lines Parameters of "Netgen 2D/3D Parameters" hypothesis created in GUI mode are not reset in a Python Dump.

21405	*Summary:* EDF 1965 SMESH: Anomaly with Netgen 1D-2D-3D and submesh It has become possible to correctly recompute a mesh with added submesh after the mesh has already been computed without the submesh.
21406	*Summary:* EDF 1975 NETGENPLUGIN: Submesh hypothesis not taken into account Local NETGEN algorithms are now correctly applied before global ones.
21429	*Summary:* EDF 2027 NETGENPLUGIN: Regression in Netgen2D mesh leads to failure in GHS3D computation A regression has been fixed in NETGEN mesher plug-in.

HEXOTICPLUGIN MODULE

21412	*Summary:* EDF 1987 HEXOTICPLUGIN: HEXOTIC fills holes HEXOTIC mesher has been fixed to avoid generating elements on holes.

OTHER ISSUES

21247	*Summary:* EDF 1856 STUDY: Unification of the configuration files and directories of Salome The locations of directories used in SALOME to store different resource files have been changed: • User preferences and custom styles are stored in `~/.config/salome` directory. • SALOME plugins are searched in `~/.config/salome/Plugins` directory. • PARAVIS settings are stored in `~/.config/salome` directory. Backward compatibility with previous versions of SALOME is provided (existing files are still searched in the previously specified directories).
21443	*Summary:* EDF 2030 CALCULATOR: Problem in the catalog Obsolete content has been removed from the CALCULATOR module's catalog file.

SALOME Platform

PROCESSED AND ANSWERED QUERIES

19989	*Summary:* EDF 820 GEOM/OCC `MakeCut` infinite loop
21289	*Summary:* EDF 1879 GEOM: Bug in `Cut operation`
21298	*Summary:* EDF 1891: Bad performance of Add operation in create group dialog box
21309	*Summary:* EDF GEOM: Pipe T-Shape built with default parameters causes a crash
21325	*Summary:* EDF 1914 GUI: correct usage of the `LightApp_DataModel`
21331	*Summary:* EDF 1919 SMESH: Convert to quadratic gives wrong elements
21335	*Summary:* [CEA 445] `mdump`: double free or corruption with a Salome 5.1.3
21352	*Summary:* EDF 1949 VISU: Crash when importing 2 MED files in VISU
21357	*Summary:* EDF 1955 VISU: Visualization of a result on 2 different meshes in the same MED file
21361	*Summary:* [CEA] Non regression script fails
21372	*Summary:* EDF 1979 SMESH: Retrieve max value of a control
21376	*Summary:* EDF 1929 GEOM: `MakeCompound` with a list of edges and lines
21388	*Summary:* EDF 1988 SMESH: Problem in `GroupOnGeom`
21389	*Summary:* [CEA] Error with `sauv2med`
21398	*Summary:* EDF 1995 GEOM: Partition fails probably in reconstruction step
21400	*Summary:* [CEA] Starting with `sigsegv`
21413	*Summary:* EDF GEOM: Block when trying to display an object
21418	*Summary:* [CEA] Non regression test fails
21420	*Summary:* [CEA] non regression test succeeds only on MD08 32 bits
21428	*Summary:* [CEA] Dump Python produces incorrect output in SMESH
21438	*Summary:* [CEA 521] Dynamic library load error with NETGENPlugin (g++ v 4.6.1)

SALOME Platform

CASCADE 6.5.2 BUG CORRECTIONS

This chapter lists all the bug corrections and improvements included to the Open CASCADE Technology 6.5.2. Note that only issues that came from SALOME platform are listed below. For complete list of changes refer to the Open CASCADE Technology version 6.5.2 Change Log.

OCC21981	Additional callback before redraw procedure Referenced by SALOME issue 0020874
OCC22109	Boolean operation common fails Referenced by SALOME issue 0021060
OCC22296	The algorithm BRepSweep_MakeRevol produce non-licit toroidal based face Referenced by SALOME issue IPAL22181
OCC22310	Boolean operation common fails Referenced by SALOME issue 0021128
OCC22356	The result of fuse is not valid for two straight edges Referenced by SALOME issue 0022182
OCC22409	Boolean operation cut fails Referenced by SALOME issue 0019957
OCC22435	Wrong value of reached tolerance for intersection curves Referenced by SALOME issue 0021246
OCC22436	Extra compound is created when importing non-manifold topology from STEP file Referenced by SALOME issue 0020442
OCC20485	Shape Processing - SplitClosedFace produce wrong shape Referenced by SALOME issue IPAL20393
OCC22489	BRepClass3d_SolidClassifier::PerformInfinitePoint() gives wrong result on the given solid Referenced by SALOME issue 0021085
OCC22492	Scaled sphere (Solid with BSplineSurface) is wrongly exported in STEP. Referenced by SALOME issue 0021262
OCC22494	BRepClass_FaceClassifier bug Referenced by SALOME issue 0021185
OCC22519	Boolean operation gives different results Referenced by SALOME issue 0021174

OCC22588	Revolution with negative volume in some cases. Referenced by SALOME issue 0021297
OCC22610	The algorithm GeomAPI_ProjectPointOnSurf produces wrong results Referenced by SALOME issue 0021246
OCC22646	Error in algorithms BRepOffsetAPI_ThruSections and BRepOffsetAPI_MakePipeShell: sections with degenerated edges are processed in Referenced by SALOME issue 0021067
OCC22653	Bad performance of Open CASCADE libraries that are used by Partition Algorithm (SALOME platform) Referenced by SALOME issue 0021200
OCC22678	Bad result of the Cut operation. Referenced by SALOME issue 0021326
OCC22723	Wrong intersection curve for the case of intersection between cylinder and plane Referenced by SALOME issue 0021355
OCC22733	Empty result for the extrema between a circle and a line. Referenced by SALOME issue 0021354

SALOME Platform

▣ SUPPORTED LINUX DISTRIBUTIONS AND PRE-REQUISITES

SALOME 6.4.0 supports Linux Debian 4.0 Etch 32bit and 64bit, Debian 5.0 Lenny 64bit, Debian Squeeze 6.0 64bit, Mandriva 2008 32bit and 64bit, Mandriva 2010 32bit and 64bit, Red Hat Enterprise 4.0 64bit, Scientific Linux 5.1 64bit, CentOS 5.5 64bit. SALOME 6.4.0 version has been mainly tested with the following pre-requisite list on Mandriva 2010 32bit and Debian 6.0 Squeeze 64bit platforms.

SALOME 6.4.0 comes with the same prerequisites versions on all supported platforms (with some exceptions). The table below lists the versions of the products used by SALOME platform. Other versions of the products can also work but it is not guaranteed.

Product	Version	GUI (IAPP)	KERNEL	GEOM	SMESH	VISU	MED	YACS	PARAVIS	HOMARD	HEXABLOCK	NETGENPLUGIN	GHS3DPLUGIN	GHS3DPRLPLUGIN	BLSURFPLUGIN	HexoticPLUGIN	HEXABLOCKPLUGIN
gcc*	4.2**	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
automake*	1.9**	X	X	X	X	X	X	X		X	X	X	X				X
autoconf*	2.59**	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X
libtool*	1.5.6**	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X
GNU make*	3.80**	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
cmake	2.8.4								X								
Python	2.6.6	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Qt	*4.6.3*	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X
Sip	4.10.2	X			X												
PyQt	4.7.3	X			X												
Boost	1.46.1	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X
Swig	1.3.40	X	X	X	X	X	X	X		X		X	X	X	X	X	X
OCCT	6.5.2	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X
Qwt	5.2.1	X			X												
QScintilla	2.4.3								X								
OmniORB	4.1.5	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
OmniORBpy	3.5	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
omniNotify	2.1		X														
Hdf5	1.8.4	X	X	X	X	X	X		X	X		X	X	X	X	X	X
Med	3.0.4				X	X	X		X	X		X			X		
Vtk	5.8.0	X		X	X	X	X		X			X	X	X	X	X	X
numpy	1.5.1		X														
lapack	3.3.0		X														
graphviz	2.26.3	X	X	X	X	X	X	X				X	X	X	X	X	
Doxygen	1.7.3	X	X	X	X	X	X	X				X	X	X	X	X	X
NETGEN	4.9.13											X					
docutils	0.7.0	X	X	X	X	X	X	X		X	X	X	X	X	X	X	
metis	4.0							X									
scotch	5.1.11							X									
libxml2	2.7.8	X	X					X	X								
blsurf	3.1														X		
TetMesh-GHS3D	4.1 + 4.2												X	X			
Hexotic	1.0															X	
sphinx	1.0.7		X	X	X				X			X	X				
expat	2.0.1								X								
libBatch	1.4.0		X														
cgns	3.1.3				X												
ParaView	3.10.1								X								
Homard	10.3									X							

*) Not included into SALOME Installation procedure
**) Minimal required version

Product	Version	RANDOMIZER	SIERPINSKY	PYCALCULATOR	COMPONENT	CALCULATOR	HELLO	PYHELLO	LIGHT	PYLIGHT	ATOMIC	ATOMGEN	ATOMSOLV	HXX2SALOME	YACSGEN	JOBMANAGER
gcc*	4.2**	X	X	X	X	X	X	X	X	X	X	X	X	X		X
automake*	1.9**	X	X	X	X	X	X	X	X	X	X	X	X	X		X
autoconf*	2.59**	X	X	X	X	X	X	X	X	X	X	X	X	X		X
libtool*	1.5.6**	X	X	X	X	X	X	X	X	X	X	X	X	X		X
GNU make*	3.80**	X	X	X	X	X	X	X	X	X	X	X	X	X		X
Python	2.6.6	X	X	X	X	X	X	X	X	X	X	X	X		X	X
Qt	*4.6.3*		X		X	X	X	X	X		X	X	X	X		X
Sip	4.10.2				X							X				
PyQt	4.7.3				X					X		X				
Boost	1.46.1		X			X	X							X		X
Swig	1.3.40		X	X	X											
OCCT	6.3 sp12		X		X	X	X		X		X		X			
Qwt	5.2.1				X											
OmniORB	4.1.5	X	X	X	X	X	X	X				X	X			X
OmniORBpy	3.5	X	X	X	X	X	X	X				X	X			X
Hdf5	1.8.4		X		X	X			X		X					
Med	3.0.3		X	X	X	X										
Vtk	5.8.0		X		X				X	X	X		X			
graphviz	2.26.3	X	X	X	X		X	X				X				
Doxygen	1.7.3	X	X	X	X		X	X				X				

*)   Not included into SALOME Installation procedure
**)   Minimal required version

The following products are not used directly in SALOME, they are only required to build other pre-requisite products.

Product	Version	Required by	Comment
tcl	8.5.8	Open CASCADE Technology, VTK	Optional
tk	8.5.8	Open CASCADE Technology, VTK	Optional
tclX	8.4.0	Open CASCADE Technology	Optional
jinja	2.5.5	Sphinx	
pygments	1.4	Sphinx	
setuptools	0.6c11	Sphinx	
freetype	2.3.7	Open CASCADE Technology	
ftgl	2.1.2	Open CASCADE Technology	
freeimage	3.14.1	Open CASCADE Technology	Optional
gl2ps	1.3.5	Open CASCADE Technology	Optional
Intel TBB	3.0	Open CASCADE Technology	Optional
xdata	0.9.2		Can be used to create 3rd- party SALOME modules

NOTE: For some platforms SALOME uses prerequisites with patches (to fix different problems, like it is done in RPM) and defines specific configuration/compilation options. If you compile products without the Install Wizard we strongly recommend you to check configuration/compilation options using shell scripts located in `config_files` folder of the SALOME Installation Wizard.

S A L O M E   P l a t f o r m

SALOME 6.4.0 depends on a number of products for run time execution, others are necessary only for compilation or generation of development documentation (like doxygen for example). Below there is a list of mandatory and optional products.

Software Requirements

Product	Compilation and Development		Execution		Remarks
	Mandatory	Optional	Mandatory	Optional	
gcc	X		X		
Automake	X				Except PARAVIS
Autoconf	X				Except PARAVIS
libtool	X				Except PARAVIS
GNU make	X				
cmake	X				For PARAVIS only
Python	X		X		
Qt	X		X		
sip	X				
PyQt	X		X		
Boost	X		X		
Swig	X				
OCCT	X		X		
Qwt	X		X		
QScintilla		X		X	For YACS only Required only if used at compilation step
omniORB	X		X		
omniORBpy	X				
omniNotify	X		X		
Hdf	X		X		
Med	X		X		
Vtk	X		X		
numpy + lapack		X			
graphviz	X		X		In run-time required for YACS only
Doxygen	X				
NETGEN	X		X		For NETGENPLUGIN only
docutils		X			
cppunit		X			Used for unitary testing
mpi		X		X	Required only if used at compilation step
openpbs		X		X	Required only if used at compilation step
Lsf		X		X	Required only if used at compilation step
metis		X		X	Required only if used at compilation step
scotch		X		X	Required only if used at compilation step
libxml2	X		X		
blsurf	X		X		For BLSURFPLUGIN only
TetMesh-GHS3D	X		X		For GHS3DPLUGIN and GHS3DPRLPLUGIN only
Hexotic			X		For HexoticPLUGIN mesh only
sphinx		X			
expat	X		X		For YACS only
libBatch		X		X	Required only if used at compilation step
ParaView	X		X		For PARAVIS module only
Homard			X		For HOMARD module only
cgns		X		X	For SMESH only Required only if used at compilation step
freetype		X		X	Required only if used when building OCCT
ftgl		X		X	Required only if used when building OCCT
freeimage		X		X	Required only if used when building OCCT
gl2ps		X		X	Required only if used when building OCCT
Intel TBB		X		X	Required only if used when building OCCT

HOW TO INSTALL AND BUILD SALOME

Please follow README file from Installation Wizard for processing correctly installation of SALOME and all prerequisites.

If you would like to compile SALOME from scratch, please use `build.csh` or `build.sh` script delivered with the Installation Wizard. Call "`build.sh -h`" to see available options of this script.

SALOME SYSTEM REQUIREMENTS

Minimal Configuration:

- Processor: Pentium IV.
- 512 Mb RAM.
- Hard Drive Space: 1.5 Gb.
- Video card 64mb.
- CD/DVD

Optimal Configuration:

- Processor: Dual Core.
- 2 Gb RAM.
- Hard Drive Space: 5Gb.
- 2Gb Swap.
- Video card 128mb.
- CD/DVD

HOW TO GET THE VERSION AND PRE-REQUISITES

SALOME 6.4.0 pre-compiled binaries for Linux Mandriva 2008 (32bit and 64bit), Mandriva 2010 (32bit and 64bit), Debian 4.0 Etch (32bit and 64bit), Debian 5.0 Lenny 64bit, Debian 6.0 Squeeze 64bit, Red Hat Enterprise 4.0 64bit, Scientific Linux 5.1 64bit and CentOS 5.5 64bit can be retrieved from the ftp://ftp.opencascade.com repository or from the SALOME web site http://www.salome-platform.org.

The SALOME Installation procedure includes SALOME modules sources, and it is possible to build sources from scratch using `build.sh` or `build.sch` script coming with installation procedure.

SALOME Installation procedure includes a patch for NETGEN which is placed inside NETGENPLUGIN modules sources. This patch is used for all platforms to fix several bugs of NETGEN. During the compilation on NETGEN from sources by the SALOME Installation Wizard, the patch is applied automatically to the standard NETGEN distribution. You can download NETGEN 4.9.13 from its official site using the following link: http://www.hpfem.jku.at/netgen.

All other pre-requisites can be obtained either from your Linux distribution (please be sure to use a compatible version) or from the distributors of these pre-requisites (for example, http://qt.nokia.com for Qt). Note, that for some of pre-requisite products SALOME Installation procedure also includes patches that fix the problems detected by SALOME.

KNOWN PROBLEMS AND LIMITATIONS

- The following modules have not been migrated to Qt series 4 and thus are not included into SALOME 6.4.0 release: FILTER, SUPERV, MULTIPR. These modules are considered obsolete and not supported anymore.

- Application crash might occur on the data publication in the study if both data server and CPP container are running in the standalone mode.

- On some platforms default font settings used in SALOME might cause the bad application look-n-feel. This problem can be solved by changing of the font settings using the `qtconfig` utility included into the distribution of Qt 4.

- The following limitations refer to BLSURF plug-in:

  o Mesh contains inverted elements, if it is based on a shape, consisting of more than one face (box, cone, torus...) and if the option "Allow Quadrangles (Test)" has been checked before computation.

  o SIGFPE exception is raised after trying to compute a mesh based on a box with "Patch independent" option checked.

  o It has been found out that BLSURF algorithm can't be used as a local algorithm (on sub-meshes) and as a provider of low-level mesh for some 3D algorithms because BLSURF mesher (and, consequently, the plug-in) does not provide information on node parameters on edges (U) and faces (U, V). For example, the following combinations are impossible:

    ▪ global MEFISTO or Quadrangle(mapping) + local BLSURF;

    ▪ BLSUFR + Projection 2D from faces meshed by BLSURF;

    ▪ local BLSURF + Extrusion 3D.

- Sometimes regression test bases give unstable results; in this case the testing should be restarted.

- A native VTK can be used only after manual recompilation with the GL2PS component.

- NETGEN 1D-2D and 1D-2D-3D algorithm do not require definition of 2D and 1D algorithms and hypotheses for both mesh and sub-mesh. 2D and 1D algorithms and hypotheses defined with NETGEN 1D-2D or 1D-2D-3D algorithm will be ignored during calculation.

- SALOME supports reading of documents from earlier versions but the documents created in the new version may not open in earlier ones.

- If SALOME modules are not installed in a single folder, SALOME may not work in the CSH shell since the environment variables are too long by default. In this case, it is suggested to use SH or to install all modules in the same folder.

- During the compilation of OCT 6.x by Makefiles on a station with NVIDIA video card you can experience problems because the installation procedure of NVIDIA video driver removes library `libGL.so` included in package `libMesaGL` from directory `/usr/X11R6/lib` and places this library `libGL.so` in directory `/usr/lib`. However, `libtool` expects to find the library in directory `/usr/X11R6/lib`, which causes compilation failure (See `/usr/X11R6/lib/libGLU.la`). We suggest making symbolic links in that case using the following commands:

      ln -s /usr/lib/libGL.so /usr/X11R6/lib/libGL.so

      ln -s /usr/lib/libGL.la /usr/X11R6/lib/libGL.la

- VISU module does not support timestamps defined on the same field but on different meshes

- Stream lines presentation can not be built on some MED fields due to limitations in VTK.

- MEFISTO algorithm sometimes produces different results on different platforms.

- In some cases the number of triangles generated by MEFISTO may be different at each attempt of building the mesh.

- When generating 2d mesh with "Maximum Area" hypothesis used, MEFISTO algorithm can produce cells that maximum area is larger than specified by hypothesis.

- For the current moment, because of architecture limitations of the ParaView application, the PARAVIS module has the following known limitations:

    o PARAVIS is a "singleton" module: that means that it can be used within one study only. As soon as the user activates the PARAVIS in some study, this module becomes unavailable in other studies.

    o PARAVIS module works unstably using the remote connection; when SALOME is running on remote computer, activation of PARAVIS module can sometimes lead to the application hang-up.

SALOME Platform