SALOME 6.2.0
Minor release announcement

December 2010

GENERAL INFORMATION

CEA/DEN, EDF R&D and OPEN CASCADE are pleased to announce SALOME version 6.2.0. It is an internal minor release that contains the results of planned major and minor improvements and bug fixes against SALOME version 6.1.0 released in July 2010.

In major, SALOME version 6.2.0 provides the results of the porting of SALOME public version 5.1.5 released in December 2010 to the latest versions of 3rd party pre-requisite products, and thus it includes all bug-fixes and improvements available in version 5.1.5. In addition, SALOME 6.2.0 includes the latest version of PARAVIS module (a new post-processing module based on Kitware's Paraview application). Also, some specific improvements and bug fixes are included to this version.

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NEW FEATURES AND IMPROVEMENTS

PREREQUISITES CHANGES

The table below provides a list of pre-requisite products for SALOME 6.2.0. This table shows the differences of 3rd-party product versions used for SALOME 6.2.0 and previous releases – 6.1.0 and 5.1.5; the changes are highlighted in bold in the corresponding column.

Product	SALOME 5.1.5	SALOME 6.1.0	SALOME 6.2.0
boost	1.40.0	1.40.0	1.40.0
Open CASCADE Technology	6.3.0 service pack 10	6.3.0 service pack 9	**6.3.0 service pack 11**
cmake	2.6.4	2.8.0	2.8.0
docutils	0.6.0	0.6.0	0.6.0
doxygen	1.6.1	1.6.1	1.6.1
expat	2.0.1	2.0.1	2.0.1
graphviz	2.24.0	2.24.0	2.24.0
hdf5	1.6.9	1.8.4	1.8.4
jinja2 (required by sphinx)	2.2.1	2.5.0	2.5.0
lapack (required by numpy)	3.2	3.2	3.2
libbatch	1.2.0	1.1.0	**1.2.0**
libxml	2.6.27	2.6.27	**2.7.7**
med	2.3.6	2.3.6	2.3.6
metis	4.0	4.0	4.0
netgen	4.5	4.5	4.5
numpy	1.3.0	1.3.0	1.3.0
omniORB	4.1.4	4.1.4	4.1.4
omniORBpy	3.4	3.4	3.4
omniNotify	2.1	2.1	2.1
pygments (required by sphinx)	1.0	1.3.1	1.3.1
MedReader	X	3.0.0	**Included to PARAVIS**
ParaView	X	3.8.0	**3.10.0 dev snapshot[1]**
PyQt	4.5.4	4.7.3	4.7.3
Python	2.4.4	2.6.5	**2.6.6**
QScintilla	2.4	2.4.3	2.4.3
Qt	4.5.2	4.6.2	**4.6.3**
qwt	5.2.0	5.2.1	5.2.1
scotch	4.0	4.0	4.0
setuptools (required by sphinx)	0.6c9	0.6c11	0.6c11
sip	4.8.2	4.10.2	4.10.2
sphinx	0.6.3	0.6.6	**1.0.4**
swig	1.3.40	1.3.40	1.3.40
tcl (required by OCCT)	8.4.14	8.4.14	8.4.14
tk (required by OCCT)	8.4.14	8.4.14	8.4.14
tclX (required by OCCT)	8.3.5	8.3.5	8.3.5
VTK	5.0.4	5.6.0	**5.8.0 dev snapshot[2]**
Distene Blsurf	2.8	2.8	2.8
Distene TetMesh-GHS3D	4.1	4.1	4.1
xdata	0.7.3	0.7.3	0.7.3

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[1] Referenced in products as version 3.9.0
[2] Referenced in products as version 5.7.0 (distributed as a sub-package of Paraview)

LICENSE RESTRICTIONS

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

IMPROVEMENTS

Since SALOME 6.2.0 is mainly the result of SALOME 5.1.5 version porting to the new versions of the pre-requisite products, it includes all improvements provided by the version 5.1.5. Please refer to the SALOME version 5.1.5 Release Notes for the full list of the improvements included in that version.

This chapter lists only some improvements made especially for version 6.2.0.

New Mesh Controls

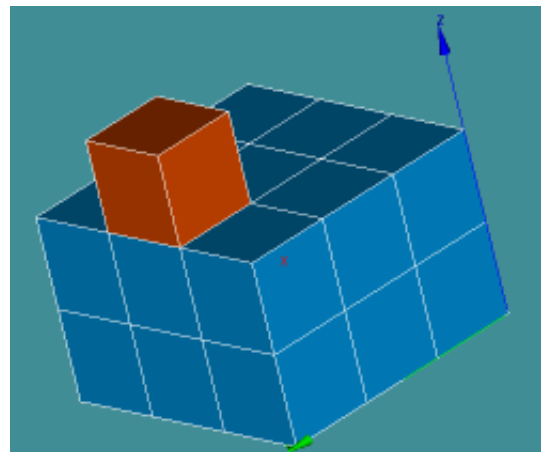### Over-constrained faces

This mesh quality control highlights faces sharing only one of the borders with other faces.
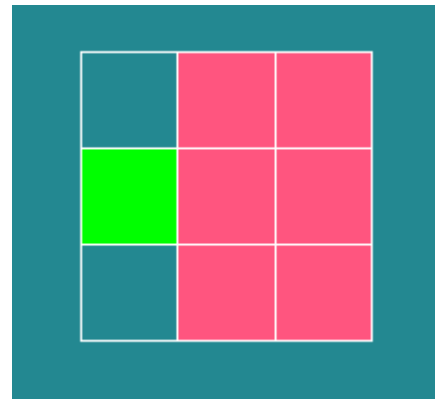
Over-constrained volumes

This mesh quality control highlights volumes sharing only one of the borders with other volumes.

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Bare border faces

This mesh quality control highlights the faces with borders not shared with other faces (free borders) and without the edges based on the nodes of the free borders.
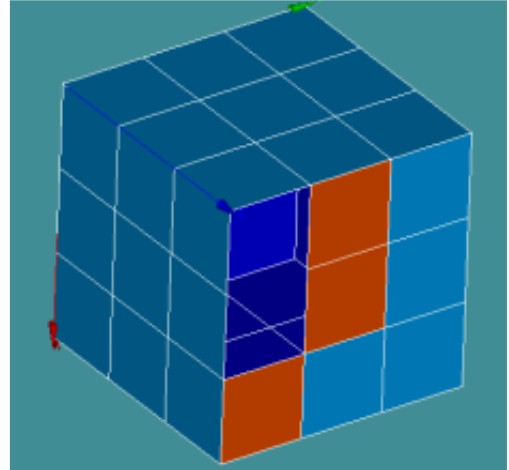
Bare border volumes
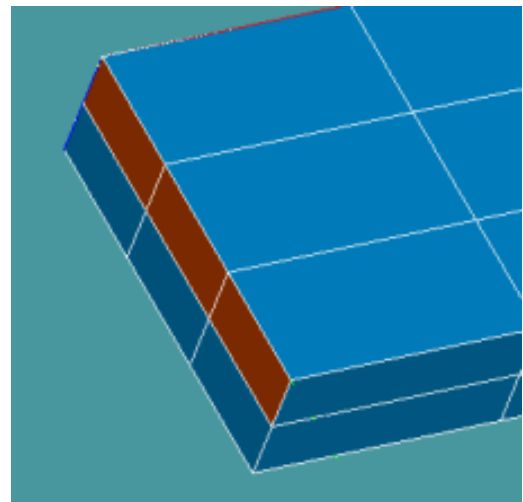
This mesh quality control highlights the volumes with borders not shared with other volumes (free borders) and without the faces based on the nodes of the free borders.

Element Diameter 2D

This quality control criterion highlights 2D mesh elements (triangles and quadrangles) basing on the calculated length of edges and diagonals combining them.

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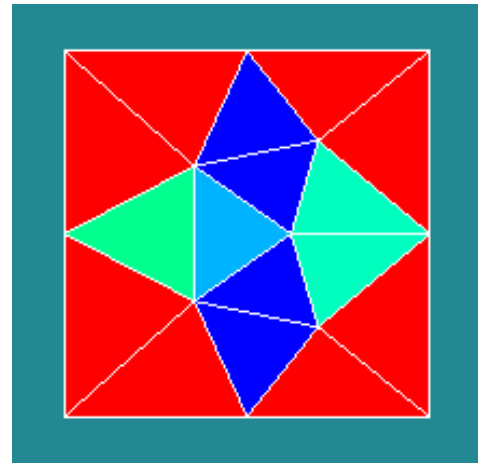
Element Diameter 3D

This quality control criterion highlights 3D mesh elements (tetrahedrons, pyramids, pentahedrons, hexahedrons and polyhedrons) basing on the calculated length of edges and diagonals combining them.
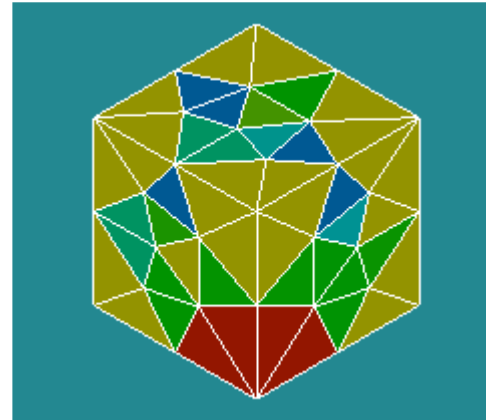
Clipping on several meshes at once

It has become possible to create clipping planes on several meshes, sub-meshes and groups at once.

In the image two meshes: sphere and box are cut by the same clipping plane.
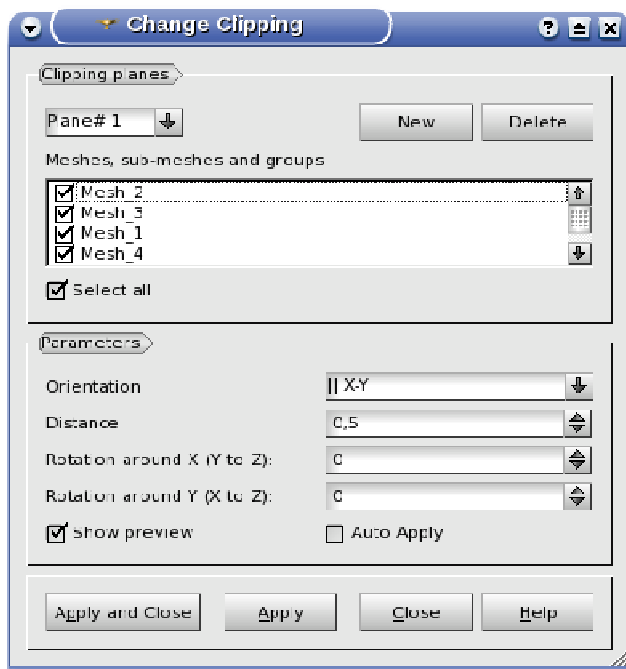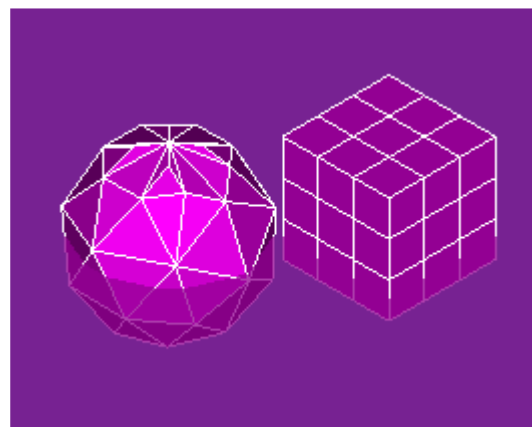
Change Clipping dialog has been extended by a list control, which allows selecting and unselecting presentations to which the corresponding clipping plane will be applied.

Select All button below this list allows selecting/unselecting all available mesh presentations at once.

Change Clipping dialog now can be activated even if no meshes are selected.

Copy mesh

New **Copy Mesh** functionality allows creating a mesh by copying a part of or the whole other mesh.

Ii is possible to select the whole mesh for copy, apply filters to mesh elements, input element IDs or select elements directly in the viewer.
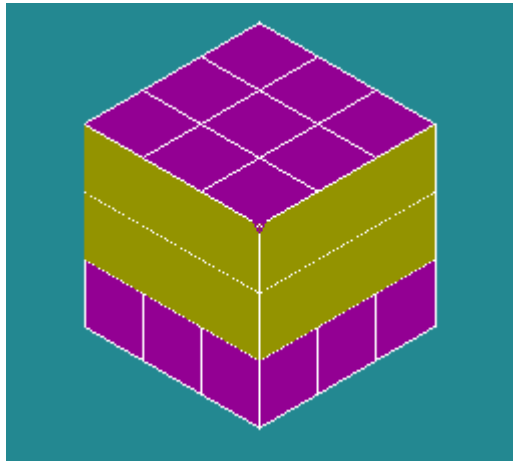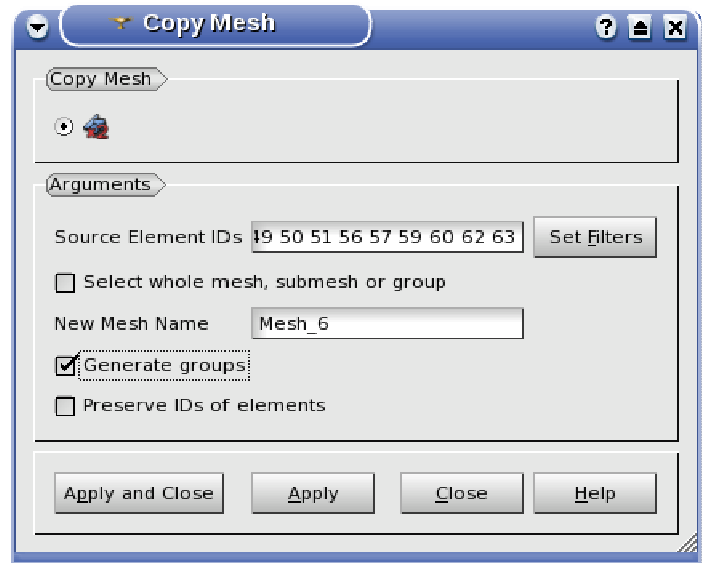
In the image, the initial mesh is violet and the elements selected for copy are yellow

Mesh measurements

Two measurements operations have been added to the Mesh module. These operations are available via the **Measurements** main menu.

Minimum Distance operation allows measuring of the distance between different objects.

For the current moment the operation is limited by the nodes only but in future it will be extended to support mesh elements, meshes, sub-meshes and groups.

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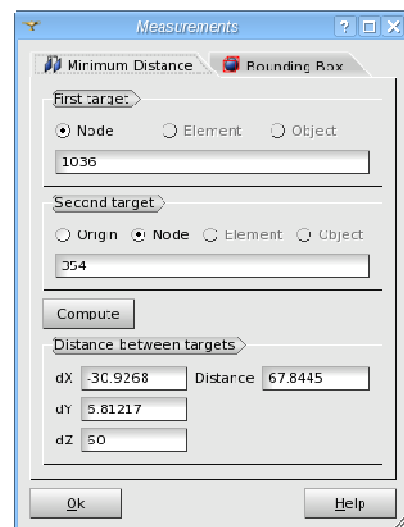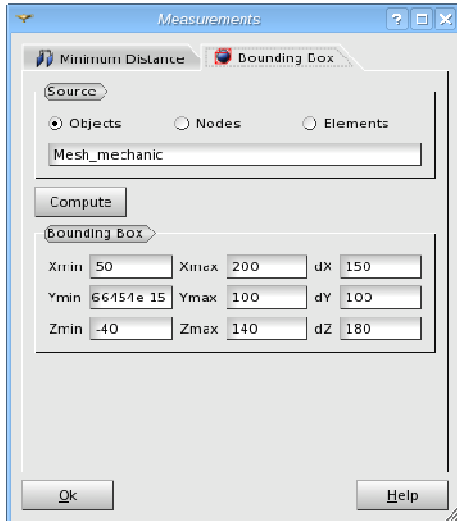
Bounding Box operation allows calculation of the bounding box for the selected mesh data.

For the current moment this operation is supported for the mesh, sub-mesh, mesh group, arbitrary set of nodes, set of elements.

In addition, the Mesh Information dialog boxes have been redesigned:

- **Standard Mesh Infos** dialog box has been eliminated as obsolete.

- **Advanced Mesh Infos** (renamed to **Mesh Information**) the and **Mesh Element Info** (renamed to **Mesh Element Information**) dialog boxes have been combined to the single dialog box with two pages.
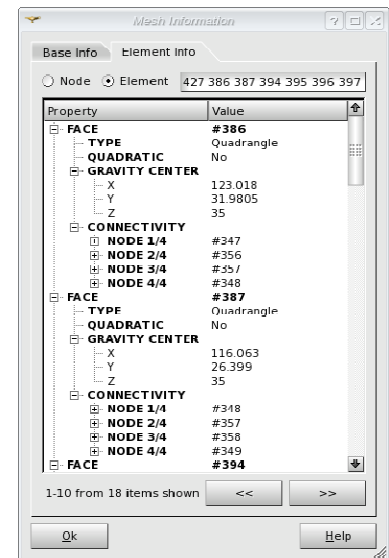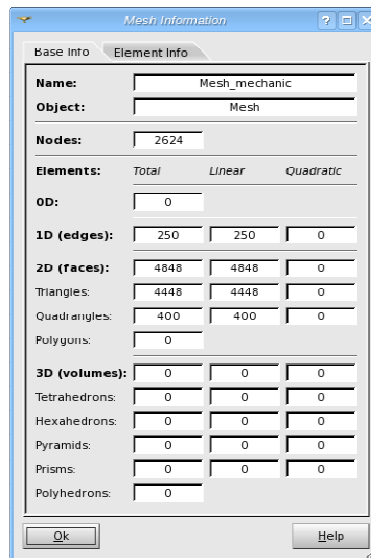
Other improvements:

o A document describing the **methodology of the Partition and Boolean operations** usage has been added to the Geometry module's User documentation

o **Support of non-manifold topology** has been introduced in the OCCT STEP reader/writer.

o The most appropriate result shape type (limit) is now automatically detected and proposed to the user In the "Partition" dialog box. In addition, if result shape type is not specified in the `geompy.MakePartition()` TUI function, the most appropriate value is automatically chosen.

o **New zooming style** has been introduced in OCC and VTK viewers. It allows zooming relatively not to the view center, but to the appropriate point in the view specified by the current mouse cursor position.

o The user receives a warning that Hexotic mesher is experimental and no guarantee about the results can be given.

o It has become possible to change color and size properties of all selected mesh/sub-mesh/group objects in SMESH module using single dialog box (in contrast to previous way, where specific dialog box had been shown for each object separately).

o The calculation formula of Aspect Ratio on quadrangles has been changed.

o The filters for all new mesh controls have been added.

o The function to retrieve time values of the time stamp has been added to the `VISU::Result` interface.

o The `SalomePyQt` Python interface for GUI module has been extended with the function `createView(type, widget)` that allow embedding custom view windows with arbitrary widgets to the desktop's central area from Python. In addition, new function `setViewClosable(id, closable)` allows to prevent closing of the view windows by the user.

o "Netgen 2D/3D Parameters" hypotheses have been made compatible with "Tetrahedron (Netgen)" and "Netgen 2D" algorithms.

o New algorithms "**Use existing 1D elements**" and "Use **existing 2D elements**" have been introduced to the Mesh module. These algorithms allow defining the mesh of a geometrical object by the importing suitably located mesh elements from another existing mesh. The mesh elements to import from the other mesh are to be contained in groups. The algorithms also provide a possibility to import the whole source mesh, optionally with groups.

o In Geometry module, new dialog box "**Get Shared Shapes**" has been added. This dialog box allows extracting the sub-shapes common (shared) for the all the selected shapes. The extracted shapes are published as children of the first selected shape.

o New measurements TUI functions has been added to the `smesh.py` Python interface to give access to the different properties of mesh elements: `GetArea()`, `GetLength()`, `GetVolume()`, `GetAspectRatio()`, `GetWarping()`, `GetMinimumAngle()`, `GetTaper()`, `GetSkew()`.

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▣ BUG CORRECTIONS

Since SALOME 6.2.0 is mainly the result of SALOME 5.1.5 version porting to the new versions of the pre-requisite products, it includes all bug-fixes provided by the version 5.1.5. Please refer to the SALOME version 5.1.5 Release Notes for the full list of the bug-fixes included in that version.

This chapter lists only the bug-fixes made especially for version 6.2.0.

GUI MODULE (IAPP)

21101	*Summary:* [CEA 439] `QtxSpinBox` in scientific notation Change: The last character "0" is now properly taken into account when typing a value in scientific notation in `QtxSpinBox`.
21103	*Summary:* EDF 1665 OTHER: Clipboard problem in the embedded python console Change: The problem with handling mouse events in the embedded Python console has been fixed. Previously the selected text was wrongly put to the Clipboard buffers instead of Selection buffer only.

KERNEL MODULE

21026	*Summary:* EDF 1635 GUI: VTK Warnings when compiling GUI Change: The incorrect warnings about deprecated or antiquated headers shown during modules compilation have been removed by adding the option –DVTK_EXCLUDE_STRSTREAM_HEADERS in file `check_vtk.m4`.
21063	*Summary:* [CEA 434] Compilation using gnu compiler v4.5 Improvement: `Source` and `makefile` modifications have been implemented to allow Salome 6 compilation using `gcc/g++/gfortran` v4: ▪ some indirect dynamic links with dynamic libraries have been explicitly specified; ▪ explicit class `ctor` is no more allowed to replace throw `YACS::Exception::Exception(msg.str());` by throw `YACS::Exception(msg.str());`

GEOM MODULE

20842	*Summary:* EDF GEOM 1373 : `AllSorted` meaning Changes: The algorithm, which calculates the coordinates of gravity centres of objects to be sorted has been changed to use `BrepGProp::LinearProperties()` only for edges and wires, `BrepGProp::SurfaceProperties()` for faces and shells and `BrepGProp::VolumeProperties()` for other shapes (except for vertices). Earlier in the sorting algorithm the center of mass was calculated with `BrepGProp::LinearProperties()` method for all shapes.

	21005	*Summary:* EDF 1576 GEOM: SIGSEGV with Offset Surface Change: Critical error resulting from the Offset Surface operation on complex shapes has been fixed.
	21008	*Summary:* EDF 1581 GEOM : Bad result in the partition of a compound with a plane Improvement: New check-box "No sub-shapes intersection (Compounds only)" has been implemented. When this option is checked, `MakePartitionNonSelfIntersectedShape()` function is used instead of `MakePartition()`. In addition, the second constructor "Half Partition" has been improved: it calls `MakeHalfPartition()` function, passing one source object and one tool object (plane) as parameters.
	21019	*Summary:* EDF 1574 GEOM: Make Common doesn't stop when applied to a corrupted shape Change: Check of arguments of Boolean operations has been introduced. This allows preventing infinite loop on invalid shapes.
	21020	*Summary:* EDF 1590 GEOM: No "Set presentation parameters and subshapes from arguments" in multi- translation/rotation Change: Behavior of "Set presentation parameters and subshapes from arguments" option in case of in multi- translation/rotation has been corrected.
	21022	*Summary:* EDF 1582 GEOM: Bad coordinates of center of mass Change: The mass center of a shape is now computed correctly.
	21030	*Summary:* EDF 1599 GEOM: Bug in `GetInPlace` shell of the created group may be badly shaped Change: The processing of subshapes in Partition algorithm, which caused unstable behavior in some cases, has been improved.
	21081	*Summary:* [CEA] non regression test fails Change: Regression caused by the implementation of fix 20980 has been eliminated.
	21107	*Summary:* EDF 1701 GEOM: deflection value of preferences not taken into account Change: The preference value of the deflection coefficient is now properly taken into account for compounds.

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SMESH MODULE

21079	*Summary:* EDF 1694 SMESH: overload a global hypo by a local hypo on subshape identical to main shape
	
	New Feature:
	Two new methods have been implemented in `geompy`:
	  ▪ `NbShapes(theShape, theType)` returns integer number.
	  ▪ `ShapeInfo(theShape)` returns a dictionary, where number of shapes is bound to the shape type (the shape type is set as string).

21082	*Summary:* EDF 1675 SMESH: Can't display CAO in VTK viewer while hypothesis window is opened Improvement: Show/Hide visibility status changes now can be done during any SMESH operation.
21084	*Summary:* EDF 1696 SMESH: Convert to quadratic generates contorted triangles Change: The behavior of "Convert to/from quadratic" operation has been changed to bend internal links near concave boundary only.
21087	*Summary:* EDF 1673 GEOM: Start and End length hypotheses don't always match edges orientation Improvement: The behavior of "Show Edge Direction" display mode has been changed to show direction of the curve of edge which is actually defines how an edge is meshed. As a consequence, "Change orientation" operation applied to an edge does not influence the shown edge direction unless the edge represents a vector.
21092	*Summary:* [CEA] rc3 – non regression test : unpredictable behavior Change: The problem in Partition algorithm the results depended on the order of shapes in the list of arguments has been fixed.
21104	*Summary:* EDF 1715 SMESH: `RotationSweepObject` crashes Salome Change: The bug of Revolution operation has been improved to perform correctly on a mesh containing edges located on the rotation axis.

BLSURFPLUGIN MODULE

20693	*Summary:* EDF 1686 GEOM: Bad triangle in a BLSURF + GHS3D mesh after converting to quadratic Change: "Convert to quadratic" functionality has been improved to avoid bad triangles in a BLSURF + GHS3D mesh after conversion.

YACS MODULE

21049	*Summary:* [CEA] problem with make check Change: Problem of unitary testing (make check) has been fixed.

CASCADE 6.3 SERVICE PACK 11 CONTENTS

This chapter lists all the bug corrections and improvements included to the Open CASCADE Technology 6.3.0 service pack 11.

20442	*Summary:* EDF 1087 GEOM: IGES format The fix for this bug has been made in bug OCC22114: Non-manifold topology in STEP. Changes: Support of non-manifold topology has been added to the STEP reader/writer tool.
20938	*Summary:* EDF 1450 GEOM: center of zoom This improvement has been implemented with issue OCC22055: Zoom at a point. Changes: possibility to zoom OCC view using custom center point has been implemented.
21005	*Summary:* EDF 1576 GEOM: SIGSEGV with Offset Surface The fix for this bug has been made in CASCADE issue OCC22064: 3D offset algorithm crashes with exception on the customer's shape. Changes: Fixed crash in the Offset algorithm.
21008	*Summary:* EDF 1581 GEOM : Bad result in the partition of a compound with a plane The fix for this bug has been made in bug OCC22063.
21019	*Summary:* EDF 1574 GEOM: Make Common doesn't stop when applied to a corrupted shape The fix for this bug has been made in bug OCC22043 `CheckShape` command does not return faulty shapes for the face.
21022	*Summary:* EDF 1582 GEOM: Bad coordinates of center of mass The fix for this bug has been made in bug OCC22051: Wrong center of mass calculation for Compound of faces. Changes. Fixed bug in the formula calculating center of the mass for the shape.
IPAL20393	*Summary:* (Internal Bug) Shape Processing - SplitClosedFace produce wrong shape The fix for this bug has been made in bug OCC20485.

PROCESSED AND ANSWERED QUERIES

21117	[CEA] non regression test fails
21119	[CEA] non regression test fails
21076	EDF 1678 NETGENPLUGIN: Deformed tetras are computed by Netgen3D
21112	EDF 1652 OTHER: A script fails when launched in a terminal
21095	EDF 1645 SMESH: Pb with DoubleNodeElemGroups

SALOME Platform

■ SUPPORTED LINUX DISTRIBUTIONS AND PRE-REQUISITES

SALOME 6.2.0 supports Linux Debian 4.0 Etch 32bit and 64bit, Mandriva 2008 32bit and 64bit, Mandriva 2010 32bit and 64bit. SALOME 6.2.0 version has been mainly tested with the following pre-requisite list on Mandriva 2008 32bit and Debian 4.0 Etch 64bit platforms. Linux Debian 3.1 and Mandriva 2006.0 are no more supported.

SALOME 6.2.0 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.

	Version	GUI (IAPP)	KERNEL	GEOM	SMESH	VISU	MED	YACS	PARAVIS	MULTIPR	NETGENPLUGIN	GHS3DPLUGIN	GHS3DPRLPLUGIN	BLSURFPLUGIN	HexoticPLUGIN
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			
autoconf*	2.59**	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
GNU make*	3.80**	X	X	X	X	X	X	X	X	X	X	X	X	X	X
cmake	2.8.0								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	X	X
Sip	4.10.2	X													
PyQt	4.7.3	X													
Boost	1.40.0	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
OCCT	6.3 sp11	X		X	X	X	X	X		X	X	X	X	X	X
Qwt	5.2.1	X													
QScintilla	2.4.3								X						
OmniORB OmniORBpy omniNotify	4.1.4 3.4 2.1	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Hdf5	1.8.4	X	X	X	X	X	X		X	X	X	X	X	X	X
Med	2.3.6				X	X	X		X	X	X		X		
Vtk	5.7.0****	X		X	X	X	X		X	X	X	X	X	X	X
numpy	1.3.0		X												
lapack	3.2		X												
graphviz	2.24.0	X	X	X	X	X	X	X			X	X	X	X	X
Doxygen	1.6.1	X	X	X	X	X	X	X			X	X	X	X	X
NETGEN	4.5										X				
docutils	0.6.0	X	X	X	X	X	X	X			X	X	X	X	X
metis	4.0							X							
scotch	4.0							X							
libxml2	2.7.7	X	X				X	X							
blsurf	2.8													X	
TetMesh-GHS3D	4.1											X	X		
tcl/tk	8.4.14														
sphinx	1.0.4		X	X	X			X							
expat	2.0.1							X							
libBatch	1.2.0		X												
jinja	2.5.0***														
pygments	1.3.1***														
Setuptools	0.6c11***														
ParaView	3.9.0****								X						

	Version	RANDOMIZER	SIERPINSKY	PYCALCULATOR	COMPONENT	CALCULATOR	HELLO	PYHELLO	LIGHT	PYLIGHT	HXX2SALOME	YACSGEN	JOBMANAGER
gcc*	4.2**	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
autoconf*	2.59**	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
GNU make*	3.80**	X	X	X	X	X	X	X	X	X	X		X
cmake	2.8.0												
Python	2.6.6	X	X	X	X	X	X	X	X	X			X	
Qt	4.6.3		X		X	X	X	X	X		X		X
Sip	4.10.2				X								
PyQt	4.7.3				X					X			
Boost	1.40.0		X			X	X						X
Swig	1.3.40		X		X	X							
OCCT	6.3 sp11		X		X	X	X		X				
Qwt	5.2.1				X								
QScintilla	2.4.3												
OmniORB OmniORBpy omniNotify	4.1.4 3.4 2.1	X	X	X	X	X	X	X					X
Hdf5	1.8.4		X		X	X			X				
Med	2.3.6		X	X	X	X							
Vtk	5.7.0****		X		X				X	X			
numpy	1.3.0												
lapack	3.2												
graphviz	2.24.0	X	X	X	X				X				
Doxygen	1.6.1	X	X	X	X				X				
NETGEN	4.5												
docutils	0.6.0	X	X	X	X				X				
metis	4.0												
scotch	4.0												
libxml2	2.7.7												
blsurf	2.8												
TetMesh-GHS3D	4.1												
tcl/tk	8.4.14												
sphinx	1.0.4												X
expat	2.0.1												
libBatch	1.2.0												
jinja	2.5.0***												
pygments	1.3.1***												
setuptools	0.6c11***												
ParaView	3.9.0****												

*)   Not included into SALOME Installation procedure
**)   Minimal required version
***)   Required to build other pre-requisite(s) only
****) Development snapshot

NOTE: For some platforms Salome uses prerequisites with patches like in RPM and defines specific keys. If you compile products without the Install Wizard we strongly recommend you to check compilation keys using shell files located in `config_files` folder of the Installation Procedure.

SALOME Platform

SALOME 6.2.0 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

	Compilation and Development		Execution		Remarks
	Mandatory	Optional	Mandatory	Optional	
gcc	X		X		
Automake	X				
Autoconf	X				
libtool	X				
GNU make	X				
cmake	X				For PARAVIS and LIBBATCH modules only
Tcl/tk					for OCCT compilation from source files 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	
OmniORB	X		X		
Hdf	X		X		
Med	X		X		
Vtk	X		X		
numpy/lapack		X			
graphviz		X			
Doxygen		X			
NETGEN	X				for NETGENPLUGIN mesh plug-in only
docutils		X			for KERNEL and YACS documentation only
cppunit		X			
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		
scotch	X		X		
libxml2	X				
blsurf	X		X		for BLSURFPLUGIN mesh plug-in only
TetMesh-GHS3D			X		for GHS3DPLUGIN mesh plug-in only
sphinx		X			for YACS documentation only
expat	X				For YACS only
libBatch		X			
jinja					To build Sphinx only
pygments					To build Sphinx only
setuptools					To build Sphinx only
ParaView	X		X		For PARAVIS module only

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 6.2.0 pre-compiled binaries for Linux Mandriva 2008.0 (32bit and 64bit), Mandriva 2010.0 (32bit and 64bit) and Debian 4.0 Etch (32bit and 64bit) can be retrieved from the ftp://ftp.opencascade.com repository.

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.

There are two patches on NETGEN which are placed inside NETGENPLUGIN modules sources. The first patch file is used for all 32 bit platforms; the second patch file is an addition to the first one and should be applied only for 64bit platforms.

During the compilation on NETGEN from sources by SALOME Installation Wizard, the patches are applied automatically to the standard NETGEN distribution. You can download NETGEN 4.5 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).

SALOME Platform

KNOWN PROBLEMS AND LIMITATIONS

- The following modules have not been migrated to Qt series 4 and thus are not included into SALOME 6.2.0 release: FILTER and SUPERV.

- 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: "`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 de different at each attempt of building the mesh.

- 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 lead to the application hang-up.