

SALOME 3.2.4

Maintenance release announcement

December 2006

General information

OPEN CASCADE is pleased to announce SALOME version 3.2.4. It is a maintenance release that contains the results of planned major and minor improvements and bug fixes against SALOME 3.2.3 version released in September 2006.

New features and general changes

Building of presentations on groups

Now the user can build different presentations in VISU modules not only on the whole mesh, but as well as on different groups of this mesh.

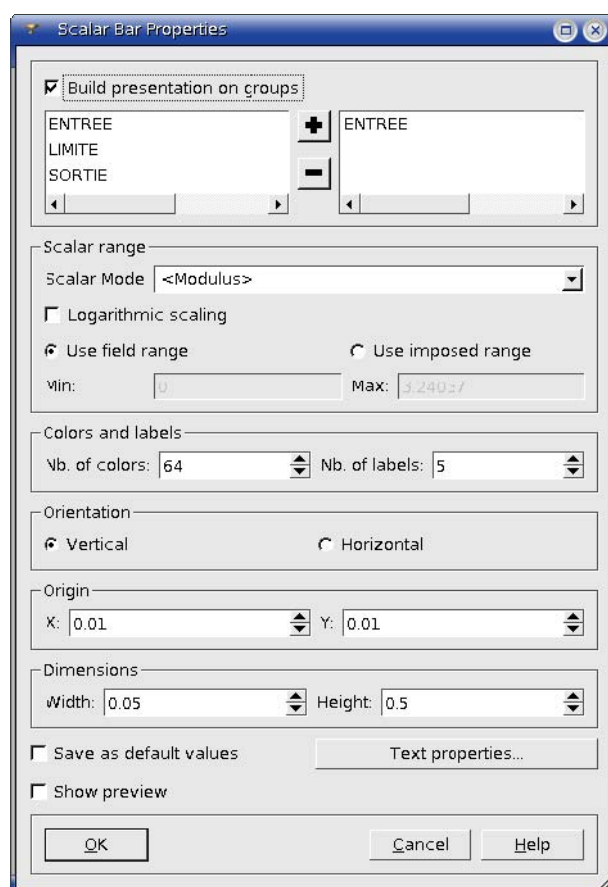


Figure 1: Dialogue box: group definition for a future presentation

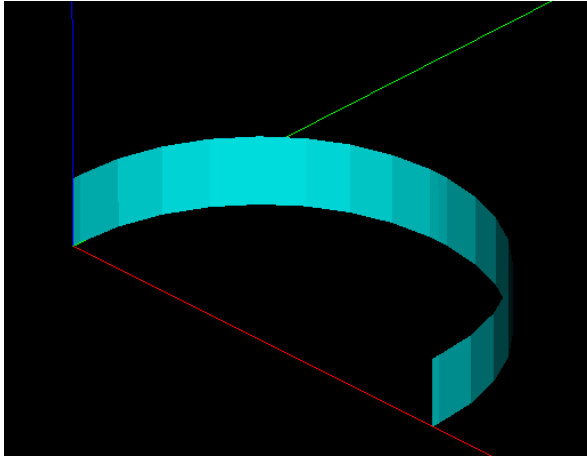


Figure 2a: A group

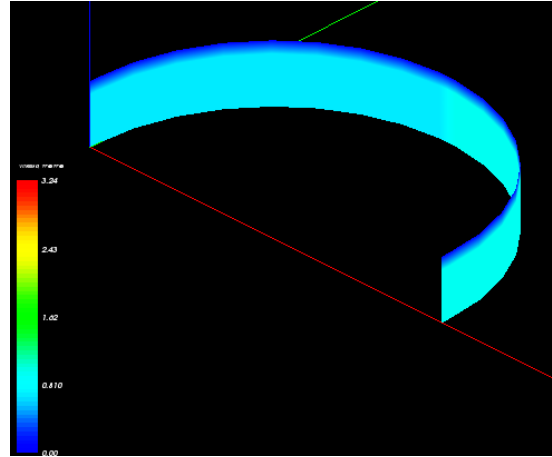


Figure 2b: Scalar map on a group

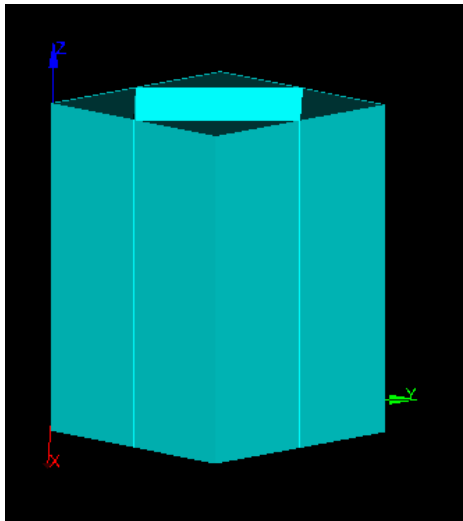


Figure 3a: Group presentation

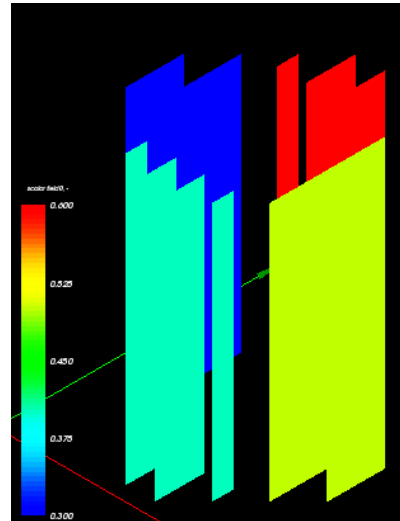


Figure 3b: ISO surfaces on a group

Support of structured mesh in VISU module

The VISU module now correctly supports internal mapping of elements during import of structured mesh. It also concerns clipping planes, selection info dialog.

The following new features are now available:

- ⇒ Clipping planes:
 - Work with unstructured meshes as before
- ⇒ Selection information must be used only on:
 - Families presentation
 - Group presentation
- ⇒ 3 Fields:
 - Scalar Map presentation
 - Deformed Shape presentation
 - Scalar Map On Deformed Shape presentation

The "Clipping planes" dialog now correctly works with structured meshes (i,j,k clipping).

The "Selection Info -> Data on elements" dialog has been modified and now more information is available to the user (for structured mesh only):

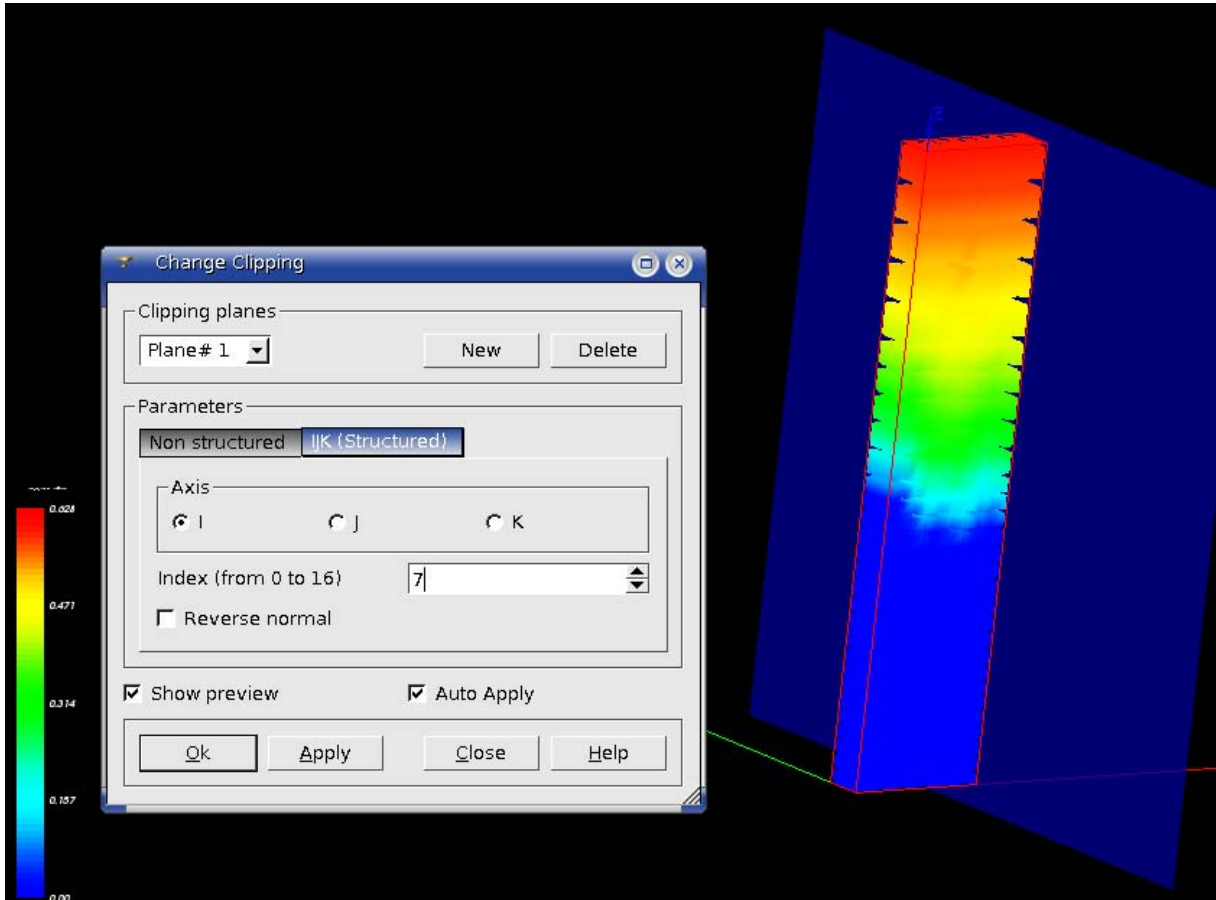


Figure 4: Support of structured mesh in VISU and its clipping

Generalization of the Gluing algorithm for non hexahedron solids

In Geom module an improvement has been implemented that allows the gluing algorithm to work on non hexahedral solids. From now it is more generic and can work with different solids.

The improvement deals with:

- ⇒ the inner parts of the main algorithm
- ⇒ existing auxiliary classes of the package GEOMAlgo
- ⇒ creating new auxiliary classes in the package GEOMAlgo

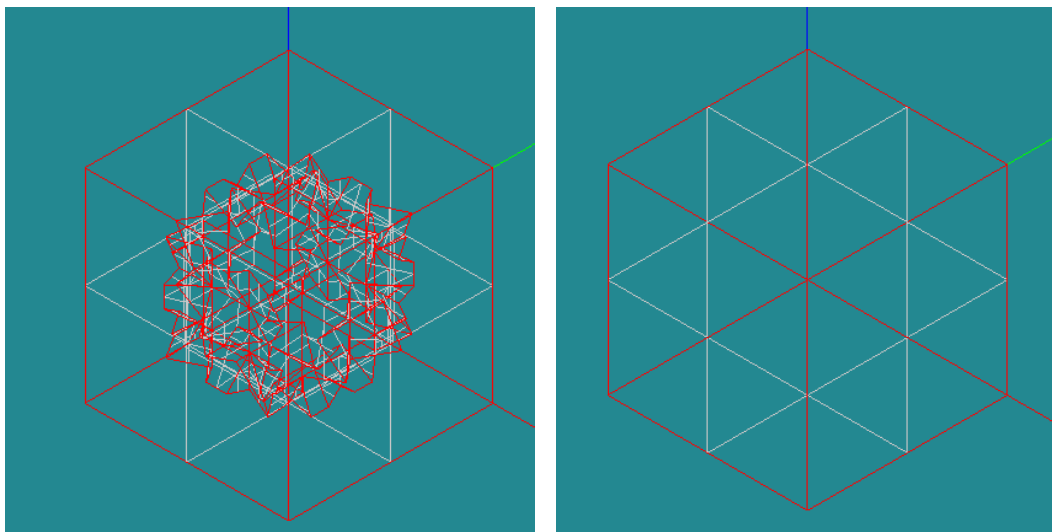


Figure 5a and 5b: Shape free faces before and after gluing

GetSame function which returns similar sub-shape from given arguments

A new function in Geom provides a way to find a similar shape in some argument. It can be used from the batch mode during the build of complex scripts. It allows finding the initial shape in some modified result to assign boundary condition properties.

New GetShapeOfBox function

New function if Geom allows finding a shape which is placed inside some box.

New functionality to build a repetitive mesh

There is a new improvement which allows building a mesh in a specific way in the SMESH module. It projects a mesh existing on one shape to another one.

Five new meshing algorithms have been added.

Three algorithms, "*Projection 1D*", "*Projection 2D*" and "*Projection 3D*", copy mesh existing on one shape (edge, face and solid correspondingly) to the shape where the algorithm is assigned to. "*Projection 3D*" applies to blocks only.

"*Prism 3D*" algorithm can be used for meshing prisms, i.e. 3D Shapes defined by two opposing faces having the same number of vertices and edges and meshed with similar meshes. These two faces should be connected by quadrangle "side" faces.

The opposing faces can be meshed with either quadrangles or triangles, while the side faces should be meshed with quadrangles only.

"*Radial Prism*" algorithm applies to the meshing of a hollow 3D shape, i.e. such shape should be composed of two meshed shells: an outer shell and an internal shell without intersection with the outer shell. One of the shells should be a 2D Projection of the other shell. The meshes of the shells can consist of both triangles and quadrangles. The algorithm would fill the space between the two shells with prisms.

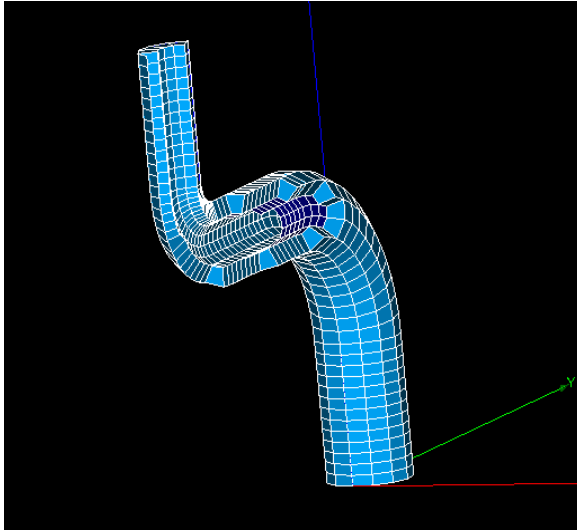


Figure 6a: Prism 3D

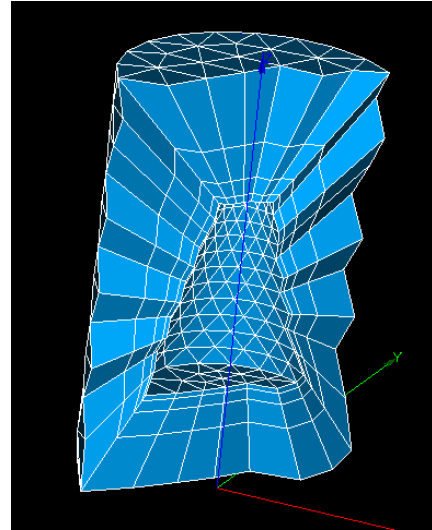


Figure 6b: Radial prism

Changing the point of rotation in viewers

A new mode of rotation is available in SALOME now. The user can choose the center of gravity, or any existing vertex or node or just precise a point in the viewer. This selected point will be center of rotation.

A functionality to change the rotation point in GUI has been implemented for both, VTK and OCC viewers. The rotation point may be changed via the "Set Rotation Point" dialog which is accessible from viewers' toolbars.

Types of the rotation point:

1. The rotation point is the center of a bounding box (gravity center),
2. The rotation point is a point selected by the user (the user can type the points' coordinates in the dialog or select a point (node, vertex) in the viewer). The origin of the coordinate system belongs to this category.

Bug corrections

Kernel

13959	<p><i>Summary:</i> Improvement of --splash and --gui option ?</p> <p>Improvement : The script runSalome.py has been improved:</p> <ol style="list-style-type: none"> 1. If it is called with --splash=0 option, the splash screen is not displayed (by default the corresponding option is read from the configuration XML file and --splash command line option overrides the option from the file). 2. If the script is called with --gui=0 option, all servers are launched in the same way as with --gui option with one exception: the session server is also launched but the GUI desktop is not activated and the splash screen is not displayed (even with --splash option). For example, this allows to use the VISU module in the batch mode.
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GUI module (IAPP)

10048	<p><i>Summary:</i> Changing rotation point in GUI visualization</p> <p>Improvement : Functionality to change rotation point in GUI has been implemented for both VTK and OCC viewers. The rotation point may be changed via the "Set Rotation Point" dialog which is accessible from the viewers' toolbars.</p> <p>Type of the rotation point:</p> <ol style="list-style-type: none"> 1. The rotation point is the center of a bounding box (gravity center), 2. The rotation point is a point selected by the user (the user can type the points' coordinates in the dialog or select a point (node, vertex) in the viewer). The origin of the coordinate system belongs to this category.
11537	<p><i>Summary:</i> Create an animation given several med files</p> <p>Improvement : A new animation mode has been added called "successive animation mode" for successive animation field by field. This functionality is available from "Successive animation..." object browser popup menu item on selected fields. The requirements for these fields are the following:</p> <ol style="list-style-type: none"> a) the number of time stamps > 0; b) the number of components is the same for all these fields.
13422	<p><i>Summary:</i> EDF PAL 291 : SMESH define a submesh with more than one entities</p> <p>Improvement : Now sub-mesh will be correctly created in case of multiple selected geometrical objects. For that a group of all selected sub-shapes will be created and then a sub-mesh will be put on this group. In the previous implementation (before this fix) the sub-mesh was put only on one of the selected sub-shapes.</p>
13883	<p><i>Summary:</i> customize windows() -> Impossible to have a python window</p> <p>Improvement : Modifications have been implemented in void</p>

	LightApp_Application::updateWindows() method for correct windows list customization.
13955	<p><i>Summary:</i> GIBI_MED_WROONLY_DRIVER::write() does not write double fields</p> <p>Improvement : Now GIBI_MED_WROONLY_DRIVER::write() writes double fields again</p>
14011	<p><i>Summary:</i> Strange behaviour in rotation in VTK Viewer</p> <p>Changes : Axis construction in void SVTK_InteractionStyle::RotateXY(int dx, int dy) function has been corrected.</p>
14012	<p><i>Summary:</i> Access the fit all functionality in python</p> <p>Improvement : A new functionality has been implemented in the libSALOME_Swig Pythoh interface:</p> <ul style="list-style-type: none"> o FitAll() : fit all current view window contents o ResetView() : reset the current view window contents to the default state o ViewTop() : switch the current view window to show top view o ViewBottom() : switch the current view window to show bottom view o ViewLeft() : switch the current view window to show left view o ViewRight() : switch the current view window to show right view o ViewFront() : switch the current view window to show front view o ViewBack() : switch the current view window to show back view <p>These functions work for all types of the view windows - VTK, OCC, Plot2d. The methods which are not supported for the corresponding viewer type, do nothing, e.g. View*() for the Plot2d viewer.</p>
14013	<p><i>Summary:</i> emit messages from Session</p> <p>Improvement : SALOME Session server interface has been extended by two methods which allow to send custom messages from the standalone components (e.g. from the container) to the GUI. In this case GUI desktop emits message(<msg>) signal. This signal then can be processed by the clients when necessary.</p> <p>The Session server interface provides two methods:</p> <pre>void emitMessage(in string theMessage); oneway void emitMessageOneWay(in string theMessage);</pre> <p>Both methods implement the same functionality. But the first method should not be called from the standalone component (container) if it processes a request from the GUI, because it can lead to the application blocking (the mutual lock can happen in this case).</p>
14087	<p><i>Summary:</i> Problem in import_hook.py with Eficas and Aster</p> <p>Improvement : The problem with import_hook.py related to Eficas And Aster has been fixed.</p>

GEOM module

9901	<p><i>Summary:</i> New GetShapesOnBox function to build geometric groups</p> <p>New Features : New GetShapesOnBox function has been implemented to build geometric groups.</p>
11298	<p><i>Summary:</i> GetInPlace and MakePartition Bugs in the same python script</p> <p>New Features : New method MakePartitionNonSelfIntersectedShape has been added with the same set of arguments as MakePartition. This method may be useful if it is needed to make a partition for compound, which contains nonintersecting shapes. Performance will be better since intersection between shapes from compound is not performed.</p> <p>Improvement : The partition algorithm has been fully reimplemented to work faster and better.</p> <p>Changes : GUI for Partition has been changed: only Shapes, Tools and Reconstruction Limit parameters stay in the dialog for Partition. Other parameters support (present in old versions) is not implemented in the new version of the Partition algorithm.</p> <p>Attention! For python interface users: The new Partition algorithm really takes into account only three arguments: ListOfShapes, ListOfTools, ReconstructionLimit. Other parameters are kept only for interface compatibility with previous versions. Arguments ListOfKeepInside, ListOfRemoveInside, RemoveWebs and ListOfMaterials are obsolete. This concerns both MakePartition and MakePartitionNonSelfIntersectedShape functions. If you need to remove a part of a shape from the result, use boolean operations CUT or COMMON.</p> <p>Attention! Direct calls to IDL function GEOM_IBooleanOperations.MakePartition are equivalent to geompy.MakePartitionNonSelfIntersectedShape. Using Partition from GUI, be aware that it will work as MakePartitionNonSelfIntersectedShape (so, be sure that shapes inside each argument compound do not intersect each other).</p>
11560	<p><i>Summary:</i> GetInPlace must extract a shape from a main shape</p> <p>New Features : A new function – GetSame – has been implemented. GEOM_Object GetSame(GEOM_Object where, GEOM_Object what); GetSame returns the same geometric shape as “what” in the framework of “where” using geometric matches: the same amount of vertices, edges, etc.</p>
13325	<p><i>Summary:</i> EDF264 GEOM: generalisation of Glue Faces to compounds of solides non hexaédriques</p> <p>Improvement : Improvement of the existing class GEOMAlgo_Gluer. The algorithm has been extended and is now able to treat non hexahedral solids.</p> <p>Improvement deals with:</p> <ul style="list-style-type: none"> -the inner parts of the main algorithm -existing auxiliary classes of the package GEOMAlgo -creating new auxiliary classes in the package GEOMAlgo
13703	<p><i>Summary:</i> EDF 320 : GEOM geometry creation time VS auxiliary operation time</p>

	<p>Improvement : Work with sub-shapes has been optimized: now a sub-shape will be recalculated only in case when its main shape is modified. This allows to speed up operating on sub-shapes.</p>
13708	<p><i>Summary:</i> EDF 321 GEOM : Complex geometry => Vertex creation very slow</p> <p>Improvement : Time, needed to select a unique object name, used as a default name in "Create ..." dialogs has been reduced. Currently, activation of the "Create Vertex" dialog box (with 16168 vertices, published in study) takes 3 s (on optimized Salome build). New vertex name is correctly found ("Vertex_16169"). Time of publication in the study is also significantly reduced (from 23 hours to 2hours), see PAL13703 for details.</p> <p>Remarks: Time of "Create Vertex" dialog activation, reported in the above description (3 s) is true only for the case, when shapes (main compound and its sub-vertices) are not displayed in the viewer. For the case of displayed shapes (in OCC viewer) this time is about 20 minutes. It is spent for local selection (VERTEX) activation. Further optimization is possible in the framework of a separate improvement of the algorithm.</p>
14122	<p><i>Summary:</i> EDF 307 : GEOM : GetInPlace --> COMM_FAILURE</p> <p>Improvement : GetInPlace functionality implementation has been changed with regard to the new Partition algorithm implementation. Besides, some additional checks have been done to protect this algorithm from failures. Wires/shells processing has been improved to find a group of edges/faces in case, when the wire/shell cannot be found as a whole.</p>

MESH module

13400	<p><i>Summary:</i> EDF PAL 281 : memory limitation and frozen desktop</p> <p>Improvement : In case of a memory allocation problem the application returns error with message "Memory allocation problem".</p>
13473	<p><i>Summary:</i> New functionalities to build repetitive mesh</p> <p>New Features : Five new meshing algorithms have been added.</p> <p>Three algorithms, "Projection 1D", "Projection 2D" and "Projection 3D", copy mesh existing on one shape (edge, face and solid correspondingly) to the shape where the algorithm is assigned to. "Projection 3D" applies to blocks only.</p> <p>"Prism 3D" algorithm can be used for meshing prisms, i.e. 3D Shapes defined by two opposing faces having the same number of vertices and edges and meshed with similar meshes. These two faces should be connected by quadrangle "side" faces. The opposing faces can be meshed with either quadrangles or triangles, while the side faces should be meshed with quadrangles only.</p> <p>"Radial Prism" algorithm applies to the meshing of a hollow 3D shape, i.e. such shape should be composed of two meshed shells: an outer shell and an internal shell without intersection with the outer shell. One of the shells should be a 2D Projection of the other shell. The meshes</p>

	of the shells can consist of both triangles and quadrangles. The algorithm fills the space between the two shells with prisms.
13701	<p><i>Summary:</i> EDF 319 SMESH : Export UNV failed with not enough space disk --> No user information</p> <p>New Features : Message box "Mesh export failed ..." appears now in case of UNV export problems.</p>
14022	<p><i>Summary:</i> createAndDisplay in SMESH from python</p> <p>New Features : Method CreateAndDisplayActor() in SMESHGUI_Swig has been implemented. Script SMESH_test1_AndDisplay.py is added to SMESH_SWIG to test the new functionality.</p>
14049	<p><i>Summary:</i> EDF PAL 335 SMESH : SIGSEV when we save the file after a transformation</p> <p>Changes : Modifications have been done in the following methods: TCollection_AsciiString SALOMEDSImpl_AttributePythonObject::Save(), char* SALOMEDS_AttributePythonObject_i::GetObject().</p>
14092	<p><i>Summary:</i> EDF PAL 337 : SMESH Display problem on VTK</p> <p>Improvement : Call ResetCameraClippingRange() function from vtkRenderer in function void SMESH::UpdateView(SUIT_ViewWindow *theWnd, EDisplaying theAction, const char* theEntry)</p>

MED module

13944	<p><i>Summary:</i> "OverflowError" is raised during "testMedMemGeneral.py" script execution on debug version.</p> <p>Changes : Fixed line in MEDMEM_SWIG_Templates.hxx: "structure Binding<int>": static int Functor(PyObject *func, int value) { return Traducer(PyObject_CallFunction(func, "f", value)); }</p> <p>Incorrect use of type character "f" (double type). Changed to "i". (integer type)</p>
13954	<p><i>Summary:</i> Order of elements changes when a mesh is read from SAUVE file by GIBI driver</p> <p>Improvement : Now order of elements is kept to the most possible extent when a mesh is read from SAUVE file by the GIBI driver</p>
13994	<p><i>Summary:</i> med2vtk crash</p> <p>Changes : Modifications have been done in void VTK_MED_DRIVER::writeField(FIELD_ * myField, string name) const method.</p>
14045	<p><i>Summary:</i> Bad connection between fieldclient and meshclient</p> <p>Changes : At present the MESHClient is filled before writing the mesh to a file.</p>

Summary: addInStudy method(FIELD interface) does not work if the MED component is not published in study

New Features :

Internal PublishMedComponent() method has been added to the FILED_i class.

```

SALOMEDS::SComponent_ptr FIELD_i::PublishMedComponent(SALOMEDS::Study_ptr
theStudy)
{
    if ( CORBA::is_nil(theStudy) )
        return SALOMEDS::SComponent::_nil();

    SALOMEDS::SComponent_var medfather = theStudy-
>FindComponent("MED");
    if ( !CORBA::is_nil(medfather) )
        return medfather._retn();

    ORB_INIT &init = *SINGLETON_<ORB_INIT>::Instance() ;
    ASSERT(SINGLETON_<ORB_INIT>::IsAlreadyExisting()) ;
    CORBA::ORB_var &orb = init(0,0);

    SALOME_NamingService* ns =
SINGLETON_<SALOME_NamingService>::Instance();
    ASSERT(SINGLETON_<SALOME_NamingService>::IsAlreadyExisting());
    ns->init_orb( orb );

    SALOME_LifeCycleCORBA* lcc = new SALOME_LifeCycleCORBA( ns );

    SALOME_ModuleCatalog::ModuleCatalog_var aCatalog =
    SALOME_ModuleCatalog::ModuleCatalog::_narrow(ns-
>Resolve("/Kernel/
ModulCatalog"));
    if ( CORBA::is_nil( aCatalog ) )
        return medfather._retn();
    SALOME_ModuleCatalog::Acomponent_var aComp = aCatalog-
>GetComponent( "MED" );
    if ( CORBA::is_nil( aComp ) )
        return medfather._retn();

    SALOMEDS::StudyBuilder_var aBuilder = theStudy->NewBuilder();
    aBuilder->NewCommand();
    bool aLocked = theStudy->GetProperties()->IsLocked();
    if (aLocked) theStudy->GetProperties()->SetLocked(false);

    medfather = aBuilder->NewComponent("MED");
    SALOMEDS::GenericAttribute_var anAttr = aBuilder-
>FindOrCreateAttribute(medfather, "AttributeName");
    SALOMEDS::AttributeName_var aName =
SALOMEDS::AttributeName::_narrow(anAttr);
    aName->SetValue( aComp->componentusername() );

    Engines::Component_var aMedComponent = lcc-
>FindOrLoad_Component("FactoryServer", "MED");
    SALOME_MED::MED_Gen_var aMedEngine = SALOME_MED::MED_Gen::_narrow(
aMedComponent );
    aBuilder->DefineComponentInstance(medfather, aMedEngine);

    if (aLocked) theStudy->GetProperties()->SetLocked(true);
    aBuilder->CommitCommand();

```

14086

	<pre>return medfather._retn(); }</pre> <p>Improvement : Now we don't have to publish the MED component in the study before the publishing field.</p> <p>Changes : FIELD_i::addInStudy method has been improved. Now it calls PublishMedComponent() before the field publishing.</p>
14107	<p><i>Summary:</i> REGR: FIELD::normL2(component, ...) is always computed for the 1st component</p> <p>Improvement : Regression that MEDMEM::FIELD<>normL2(component,p_field_volume) is always computed for the first component has been fixed.</p>
14113	<p><i>Summary:</i> EDF 339 MED/SMESH : Structured Mesh with unstructured grid</p> <p>Improvement : Now MEDMEM raises a proper exception in the case of using MESH(driverType,fileName,driverName) for reading a structured mesh instead of GRID(driverType,fileName,driverName). GRID(driverType,fileName,driverName) constructor has been repaired.</p>

VISU module

12002	<p><i>Summary:</i> Visualize a field on a group only</p> <p>New feature : Possibility to visualize a field on a particular group (several groups) instead of the whole mesh has been implemented.</p>
13176	<p><i>Summary:</i> EDF228 VISU : Enhancement of structured datas processing</p> <p>New Features :</p> <ol style="list-style-type: none"> 1. Clipping planes: <ol style="list-style-type: none"> 1.1 Works with unstructured meshes as before 2. Selection info must be used only on: <ol style="list-style-type: none"> 2.1 Families presentation 2.2 Group presentation 3 Fields: <ol style="list-style-type: none"> 3.1 Scalar Map presentation 3.2 Deformed Shape presentation 3.3 Scalar Map On Deformed Shape presentation <p>Improvement :</p> <ol style="list-style-type: none"> 1. The "Clipping planes" dialog can now work with structured meshes correctly.(i,j,k clipping) 2. The "Selection Info -> Data on elements" dialog has been modified. More information is available now (For structured mesh only): <ol style="list-style-type: none"> a) Visible structured coordinates (i,j,k) for points. in "Selection -> Point" b) Visible structured coordinates (i,j,k) for points. in "Selection -> Cell"

13663	<p><i>Summary:</i> problems with AVI files?</p> <p>Changes : Refresh dump image in</p> <pre>void VISU_TimeAnimation::saveImages(int theFieldId, double& theOneVal, int& theNbFiles, QValueList<int>& theIndexList)</pre> <p>method before saving pictures and creation an AVI file.</p>
13948	<p><i>Summary:</i> Impossible to load VISU component in batch mode on mdv 2007</p> <p>Improvement : The problem with exception and container crash after the second call to FindOrLoadComponent for VISU has been fixed.</p>
14191	<p><i>Summary:</i> EDF PAL : error with function generateFrames()</p> <p>Improvement : Fixed regression of Animation, concerning the use of TSCALARMAP presentation type.</p>
14202	<p><i>Summary:</i> EDF 341 : Sweep is not working on ScalarMapOnDeformedShape</p> <p>Changes : class ScalarMapOnDeformedShape_i: there are new overload functions, which come from parent classes:</p> <ul style="list-style-type: none"> - virtual void SetRange(CORBA::Double theMin, CORBA::Double theMax) sets the scalar range of presentation - virtual CORBA::Double GetMin() gets a minimum value for the scalar range of presentation - virtual CORBA::Double GetMax() Gets the maximum value for the scalar range of presentation - virtual void SetSourceRange() sets the source range of presentation <p>the modified method:</p> <ul style="list-style-type: none"> - virtual void SetSourceRange(CORBA::Double theMinRange,CORBA::Double theMaxRange) the same as SetRange(CORBA::Double theMin, CORBA::Double theMax)

SUPERVISOR module

13908	<p><i>Summary:</i> EDF PAL 331 : Animation range is not saved</p> <p>Improvement : Verification of whether the animation range is fixed has been added into function</p> <pre>void VISU::ScalarMap_i::DoSetInput(Result_i* theResult)</pre>
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Environment

13967	<p><i>Summary:</i> Distributed supervision graphs - Problem with "SALOME_trace"</p> <p>Changes : A new check has been added into LocalTraceBufferPool* LocalTraceBufferPool::instance() function: if SALOME_trace variable is not set, create the default LocalTraceCollector::instance().</p> <p>The line 'export SALOME_trace=local' is written now into a temporary script on a remote computer.</p>
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Other

14046	<p><i>Summary:</i> Bugtracker : CC field has disappeared?</p> <p>Improvement : CC field has been implemented to Bugzilla registration form.</p>
14048	<p><i>Summary:</i> CEA: 3.2.3: KERNEL don't build</p> <p>Improvement : The SALOME installation procedure has been improved:</p> <ul style="list-style-type: none"> - Qt 3.3.3 (3.3.4) binaries packages have been recompiled for all platforms to disable direct linking to the libGL.so library. - For Qt and CASCADE libraries the procedure of modifying of the *.la files (libtool) has been improved to correct the path to the libGL.so library. This improvement allows avoiding the problem on some platforms where OpenGL drivers are installed incorrectly (like for Nvidia drivers) and libGL.la file contains a wrong path to the libGL.so file.

Supported Linux distributions and pre-requisites

SALOME 3.2.4 supports Mandrake 10.1, Debian Sarge, Mandriva 2006, RedHat 8.0, 9.0, RedHat Enterprise 4, Scientific Linux 4.2 , Scientific Linux 4.3 and Mandriva 64 bit.

SALOME 3.2.4 version has been mainly tested with the following pre-requisite list on Mandrake 10.1 platform.

The following prerequisites are valid for SALOME 3.2.4 version. Please note that we try to use as much as possible of native products.

	Mandriva 2006 32bit	Mandriva 2006 64bit	Debian Sarge	Mandrake 10.1	RedHat Enterprise 4 32bit	RedHat 8	RedHat 9	RedHat Scientific 4.2 32bit	RedHat Scientific 4.3 32bit
gcc	4.0.1	4.0.1	3.3.5	3.4.1	3.4.1	3.2	3.2	3.4.4	3.4.4
Tcltk	8.4.5	8.4.5	8.4.5	8.4.5	8.4.5	8.0	8.0	8.4.5	8.4.7
Python	2.4.1	2.4.1	2.3.5	2.3.4	2.3.4	2.3.4	2.3.4	2.3.4	2.3.4
Qt&msg2qm	3.3.4	3.3.4	3.3.4	3.3.3	3.3.3	3.3.3	3.3.3	3.3.3	3.3.3
Sip	4.2.1	4.2.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1
PyQt	3.14.1	3.14.1	3.13	3.13	3.13	3.13	3.13	3.13	3.13
Boost	1.32.0	1.32.0	1.32.0	1.31.0	1.31.0	1.31.0	1.31.0	1.31.0	1.31.0
Swig	1.3.24	1.3.24	1.3.24	1.3.24	1.3.24	1.3.24	1.3.24	1.3.24	1.3.24
OpenCASCADE Technology	6.1.2a2	6.1.2a2	6.1.2a2	6.1.2a2	6.1.2a2	6.1.2a2	6.1.2a2	6.1.2a2	6.1.2a2
Qwt	4.2.0	4.2.0	4.2.0	4.2.0	4.2.0	0.4.1	0.4.1	4.2.0	4.2.0
OmniORB	4.0.7	4.0.7	4.0.7	4.0.5	4.0.5	4.0.5	4.0.5	4.0.7	4.0.7
Hdf	5-1.6.4	5-1.6.4	5-1.6.4	5-1.6.4	5-1.6.4	5-1.6.4	5-1.6.4	5-1.6.4	5-1.6.4
Med	2.2.3	2.2.3	2.2.3	2.2.3	2.2.3	2.2.3	2.2.3	2.2.3	2.2.3
Vtk	4.2.6	4.2.6	4.2.6	4.2.6	4.2.6	4.2.2	4.2.2	4.2.6	4.2.6
Numeric	23.7	23.7	23.7	23.7	23.7	22.0	22.0	23.7	23.7
Graphviz	2.2.1	2.2.1	2.2.1	2.2.1	2.2.1	1.9	1.9	2.2.1	2.2.1
Doxygen	1.4.6	1.4.6	1.4.6	1.4.6	1.4.6	1.4.6	1.4.6	1.4.6	1.4.6
NETGEN	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
docutils	0.3.7	0.3.7	0.3.7	0.3.7	0.3.7	0.3.7	0.3.7	0.3.7	0.3.7

In addition, other versions of pre-requisites may also work.

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 script delivered with Installation Wizard. Call "build.csh -h" to see all parameters of this script.
 - *Important remark:* on RedHat 8 with the native automake-autoconf tools, sources of KERNEL from CVS can not be compiled. As a workaround there is specially prepared sources of KERNEL in Installation Wizard (after "make dist" step from Mandrake 10.1). They can be compiled with old prerequisites, but user must not call "build_configure" step. To compile he must call "configure", "make", "make install" as usual. Because of this please don't use "build.csh" with "-b" option for KERNEL, because this option forces build_configure step. Call of "build.csh -i -o" process compilation and installation on RedHat8 correctly.

How to get the version and pre-requisites

The [SALOME 3.2.4](#) pre-compiled binaries for Mandrake 10.1, Debian Sarge, Mandriva 2006, Mandriva64 and RedHat 8.0 can be retrieved from the PAL/SALOME FTP site (<ftp://www.opencascade.com>).

There are sources of modules inside, and user can build sources from scratch using “build.sh” script coming with installation procedure.

Alternatively, SALOME modules can be downloaded from the following CVS repositories:

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

IMPORTANT! Source files for version 3.2.4 are available in CVS via tag [V3_2_4](#)

There are two patches on **NETGEN** which are placed inside NETGENPLUGIN sources. One path for all 32 bit platforms, other one is addition to first and should be applied only for Mandriva 64.

During the compilation on NETGEN from sources by Install Wizard, the patches are applied automatically to the standard NETGEN installation. You can download NETGEN 4.5 from CVS of their official site <http://www.hpfem.jku.at/netgen/>

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

Known problems and limitations

- Several animation cases in NR test bases do not pass on certain configurations of Mandrake 10.1 platform but pass elsewhere.
- Sometimes the NR test bases might give unstable results and have to be re-launched twice.
- Compilation on 64 bit when the videocard driver is not installed in standard location may fail and as a solution the prerequisites have to be recompiled.
- Netgen 1D-2D and 1D-2D-3D algorithm does not need definition of 2D and 1D algorithms and hypotheses both for mesh and sub-mesh. If you have defined 2D and 1D algorithms and hypotheses together with Netgen 1D-2D or 1D-2D-3D algorithm they will be ignored during calculation.
- SALOME supports reading of documents from the previous version, but documents created in the new version may not be opened in older ones.
- Due to a bug with changes of tolerance in OCT 6.1, GUI test scenario PROD 04 can not be played in TUI mode without a workaround. The workaround is to call the same Boolean operation cut twice
- During the compilation of OCT 6.1.x by makefiles on a station with NVIDIA video card you may 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 crash (See /usr/X11R6/lib/libGLU.la). We suggest making links:

```
"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
- In the current implementation of "Save VISU" state operation the parameters of Gauss view Partition mode are not stored. If a window has been partitioned and saved, it will be restored as non-partitioned. The same concerns the background color.
- Fails of display of some presentation on quadratic elements in VISU (cannot create animation for IsoLines, CutPlanes etc.) is inside of the VTK. Currently used version of the VTK library (4.2.6) can not properly process the quadratic mesh elements (only ScalarMap and DeformedShape can be created only) that is presented in the MED file. Unfortunately it is impossible to replace or overload the VTK functionality outside of the library. This problem will be fixed automatically when we port the SALOME platform on the VTK 5.0 or higher version). This concerns Gauss viewer on quadratic elements. On some files with quadratic elements it is impossible to build gauss presentation.
- Step-by-step execution in SUPERVISOR on some graphs fails. This functionality is only a prototype and has not been finished completely
- Due to VTK 4.4 limitation, display of numbers of nodes in SMESH module has problems (some numbers disappear from the viewer)
- VTK presentation in GEOM was not completely finished and has problems with performance and memory usage. It desirable to use OCT viewer in GEOM module.
- MEFISTO algorithm fails on some cases
- MEFISTO algorithm sometimes produces different results on different platforms
- On some cases the number of triangles generated by MEFISTO may change from each attempt of building the mesh
- Due to some known opened bugs, some non regression TUI tests fail or have different results on different OS:
 - **Component:**
 - unstable work of "PrintPorts()" method
/AddComponent/A1
/TypesCheck/A0,A2,A3
/united/A1
 - **Geometry:**
 - /boolean_operations/C0 – the result of the operation "common" of two shells connected by faces is a compound containing two faces (instead of 1 face)
 - /boolean_operations/C2,C7,D0,D5,E0 - section operation between two compounds produces a shape different from the one, produced by CASCADE
 - /boolean_operations/D1,D6,E4 - cut operation between two compounds produces a shape different from the one, produced by CASCADE
 - /partition/F9 - partition algorithm produces an invalid shape
 - **Med:**
 - /SWIG_scripts/M0 - hang up during the execution of "medcorba_test.py" in TUI
 - /bugs/A0 - group of edges is lost after reading a med file via the MED component
 - "omniORB.CORBA.COMM_FAILURE" is raised after trying to read "Mistrat_import22.med" file

/readStructFile/A4

/readStructFileWithFieldType/A3

Note: this problem is reproduced only on Mandriva2006 and not reproduced on Mandriva-64 version

▪ **Mesh:**

- /mesh_Quadratic/A6 - "RotationSweep()" of the quadratic face around its edge is not implemented yet

- /elements_edition/A6 - "ClearLog()" method is not implemented yet

- /groups/A3-A5 - unstable work of the "StudyBuilder::LoadWith()"

- 3D_mesh_NETGEN/A5,B5,B7 - mesh, based on the sphere is not computed via NETGEN

Note: this problem is not reproduced on Mandriva-64 version but is reproduced on Mandriva 2006

- 2D_submesh/A3 - submesh, computed via NETGEN2D differs from the one, computed the same way on Mandrake, Mandriva, RedHat, Debian versions

Note: this is reproduced only on Mandriva 64 bit

- /mesh/bugs/A0,A1 - Triangle (Mefisto) produces a wrong number of the triangles (or doesn't produce)

Note: this is reproduced only on Mandriva 64 bit

▪ **Study:**

- /std/copy_paste/A0 - applying of paste of the object imported via the MED component leads to crash

Note: This happens only on Mandriva 2006

▪ **Supervisor:**

- /spv/GNode/A0 - abort of the execution of the graph with Goto node

- unstable behaviour of the "SuperV.CNode.PrintPorts()" method

/spv/GNode/A0

/spv/INode/A0

/spv/LNode/A0

/spv/SAMPLES_python/A4

▪ **Visu:**

- /visu/Plot3D/F8,F9,G0 - SIGSEGV during creation of Plot3D presentation, because of VTK 4.2 limitation

- /visu/united/B1 - incorrect work of the "View::ShowPart()" method

- /visu/dump_study/A6 - "Min", "Max" range values are not taken into account after setting them for the "Scalar Map On Deformed Shape" presentation

- /visu/dump_study/A7 - "StreamLines" are not restored correctly during the execution of the script generated by the "DumpStudy" functionality

- /visu/SWIG_scripts/A9,B1 - SIGSEGV appears in GUI during the execution of "visu_view3d.py" and "batchmode_visu_view3.py" scripts

- End user documentation for Supervisor module has been updated only in part of screenshots.
- Results of some TUI non-regression testing are different on slow and fast computers. This is due to using in some test cases the functionality of GEOM from Supervisor in parallel nodes.

Due to the fact that Open CASCADE Technology (OCCT) does not thread safe in some geometry operations, in some hardware configurations there is parallel conflict access to some data and such supervisor graphs fail. This problem will be fixed in future. At this moment the workaround is usage of GEOM nodes subsequently.