SALOME 5.1.2
Maintenance release announcement

July 2009

General information

OPEN CASCADE is pleased to announce SALOME version 5.1.2. It is a maintenance release that contains the results of planned major and minor improvements and bug fixes against SALOME 5.1.1 version released in March 2009.

New features

Open CASCADE Technology 6.3.0sp6

Open CASCADE Technology 6.3.0 service pack 4 has been replaced by 6.3.0 service pack 6, which includes a correction of some bugs that came from SALOME.
See Change Log file in the source archive of CASCADE 6.3.0sp6 for more details.
Note: it is necessary to recompile NETGEN mesher with the new Open CASCADE Technology version.

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Improvements

Visualization of Quadratic Elements

In the Post-Pro and Mesh module 1D and 2D quadratic elements (of types MED_TRIA6 and MED_QUAD8) can be visualized as arcs of circle.

To activate this functionality, select the presentation in the viewer and choose from the context menu:
- **2D Quadratic → Lines** to display edges of 2D quadratic elements as straight lines, or
- **2D Quadratic → Arcs** to display edges of 2D quadratic elements as arcs.

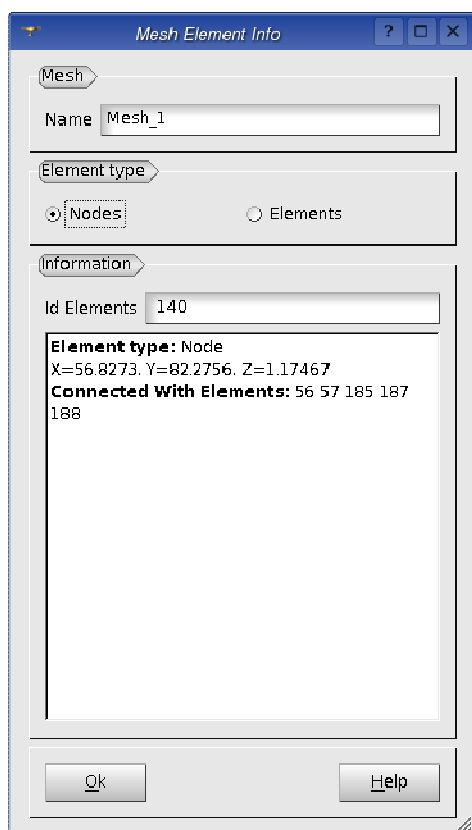The default representation mode can be set via application preferences.
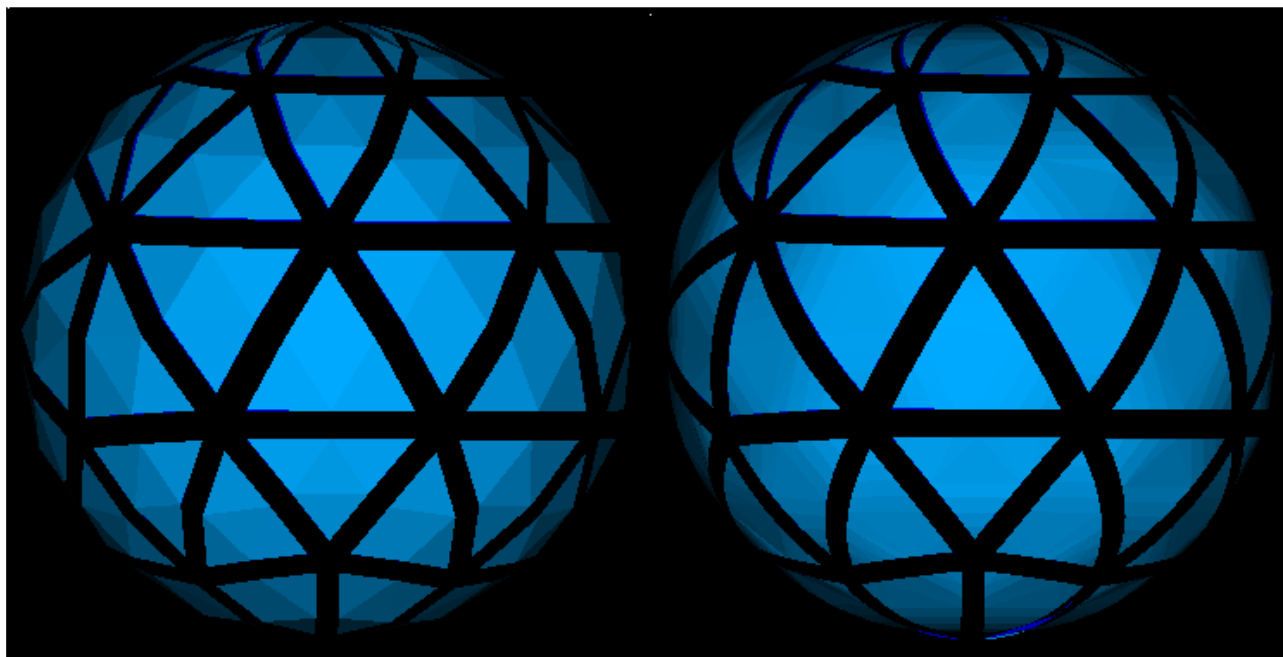
The edges of 2D-quadratic elements are displayed as straight lines on the left meshed sphere and as arcs of circle on the right sphere.
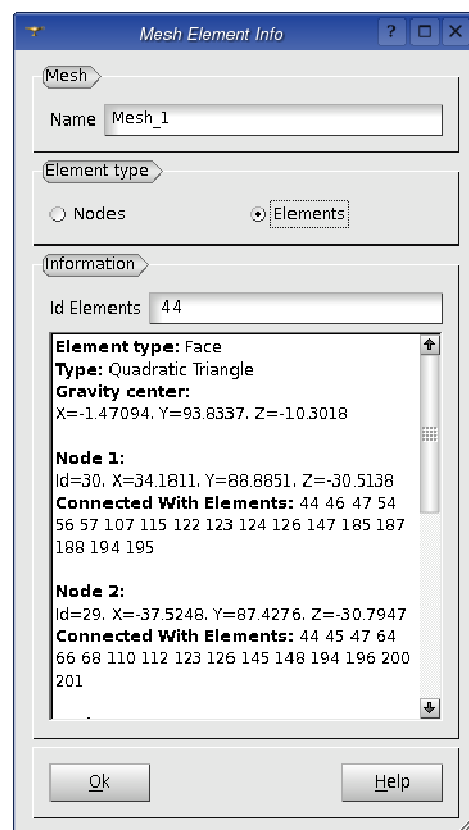
The picture to the right shows the difference between straight lines and arcs of circle for a 1D mesh presentation.
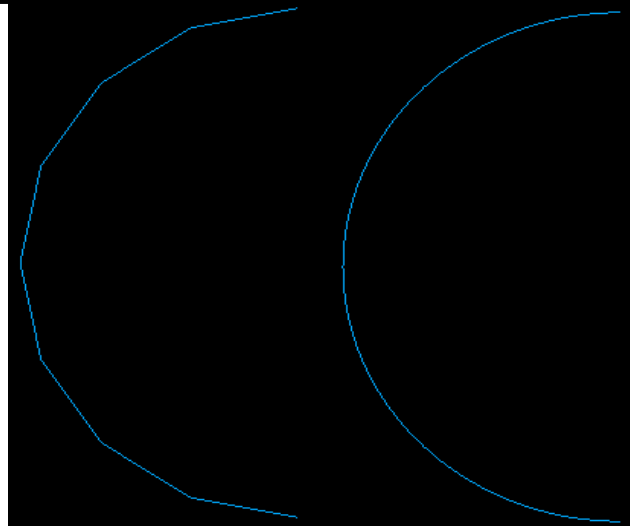
Connectivity in Mesh Element Info

Mesh Element Info" dialog box now shows the list of the nodes associated with the elements and their connectivity information (in addition to identifiers and coordinates).

Improvements of the Installation procedure

- The installation now stops with a warning if any errors occur. However, it is possible to ignore installation errors by switching on the corresponding check box.

- The scripts build.sh and build.csh distributed with the SALOME Installation procedure, intended for automated building and installation of SALOME modules, have been significantly improved including removal of the obsolete command line options. In particular, an "-i" option (install) is not supported anymore since all the SALOME modules require 'make install' step to be performed. By default, all SALOME modules are installed with build.sh (build.csh) script to the INSTALL subfolder of the current directory. The installation directory can be customized by passing "-p <dir>" option.

Other Improvements

- The new light python module provides a way to develop Python-based modules for SALOME without CORBA engine.

- Partition dialog has been modified to warn the user if the resulting shape is empty. An empty partition cannot be published to Study anymore.

- The option `--enable-new-dtags` is now used for building of all libraries and executables to solve the problem with hard-coding of `RPATH` to the executables.

- The notion of Working Plane, earlier used for 2D sketcher, has been removed from Geometry. In the Sketcher dialog box it has become possible to select a global coordinate system or any previously created local coordinate system as a plane for sketching.

- The algorithm of mesh export to UNV format has been modified to color nodes in blue and to begin the count of group numbers from 1.

- Two new functions have been added to python interface:
  - `geompy.NumberOfSubShapes(theShape, theShapeType)` allows to get the number of any kind of subshapes in the given shape..
  - `geompy.NumberOfSolids(theShape)` allows to get the number of solids in the given shape.
- The function `MEDMEM::FIELD<T>::normL2()` has been modified to work in case of nodal field support.
- It has become possible to build and install only base packages of the MED module (so-called `MicroMED` mode). This extra mode is available only if MED module is configured without the link to SALOME KERNEL module.
- Modification of GEOM groups in SMESH module is now taken into account when the mesh is recomputed after having been cleared with the "Clear Mesh Data" functionality.
- New parameter Tolerance has been added to the `MakeWire()` function to enable building wires from the unconnected edges. If the detected gap between some edges lies within the given tolerance, the edges will be modified to join in the middle of the gap, thus building a connected wire.
- "Use Only Groups" option has been made available in the animation mode and for field presentations.

YACS module improvements

Note: YACS module was introduced in SALOME version 4.1.4 as a replacement of SUPERV module.

General Principles

- YACS allows building and executing of calculation schemes.
- A calculation scheme is constructed basing on the calculation node concept. A calculation node represents an elementary calculation that can be the local execution of a Python script or the remote execution of a SALOME component service.
- The calculation scheme is a more or less complex assembly of calculation nodes.
- This assembly is made by connecting input and output ports of these calculation nodes.
- Data are exchanged between nodes through the ports. The ports are typed.
- Composite nodes: Block, Loop, Switch are used to modularise a calculation scheme and define iterative processes, parametric calculations or branches.
- Finally, containers can be used to define where SALOME components will be executed (on a network or in a cluster).

Major changes between SALOME 4.1.4 and SALOME 5.1.2

The YACS Graphic User Interface has been redesigned. It is based on several new capabilities of Qt4. Several improvements allow more flexibility in the scheme edition, a better control in execution (access to more detailed error logs, for instance).

YACS GUI description

The YACS GUI document contains several 2D and tree views, one of each per run of a schema. There are different view modes of the schema. The SALOME Object browser is only used to publish the run of the schema as a whole, and under the run, the outputs of the run that are published for the use of other SALOME modules. During the schema design (edition), a dedicated edition tree view of the YACS data structure is used for schema building. Modifications are displayed on the 2D view.
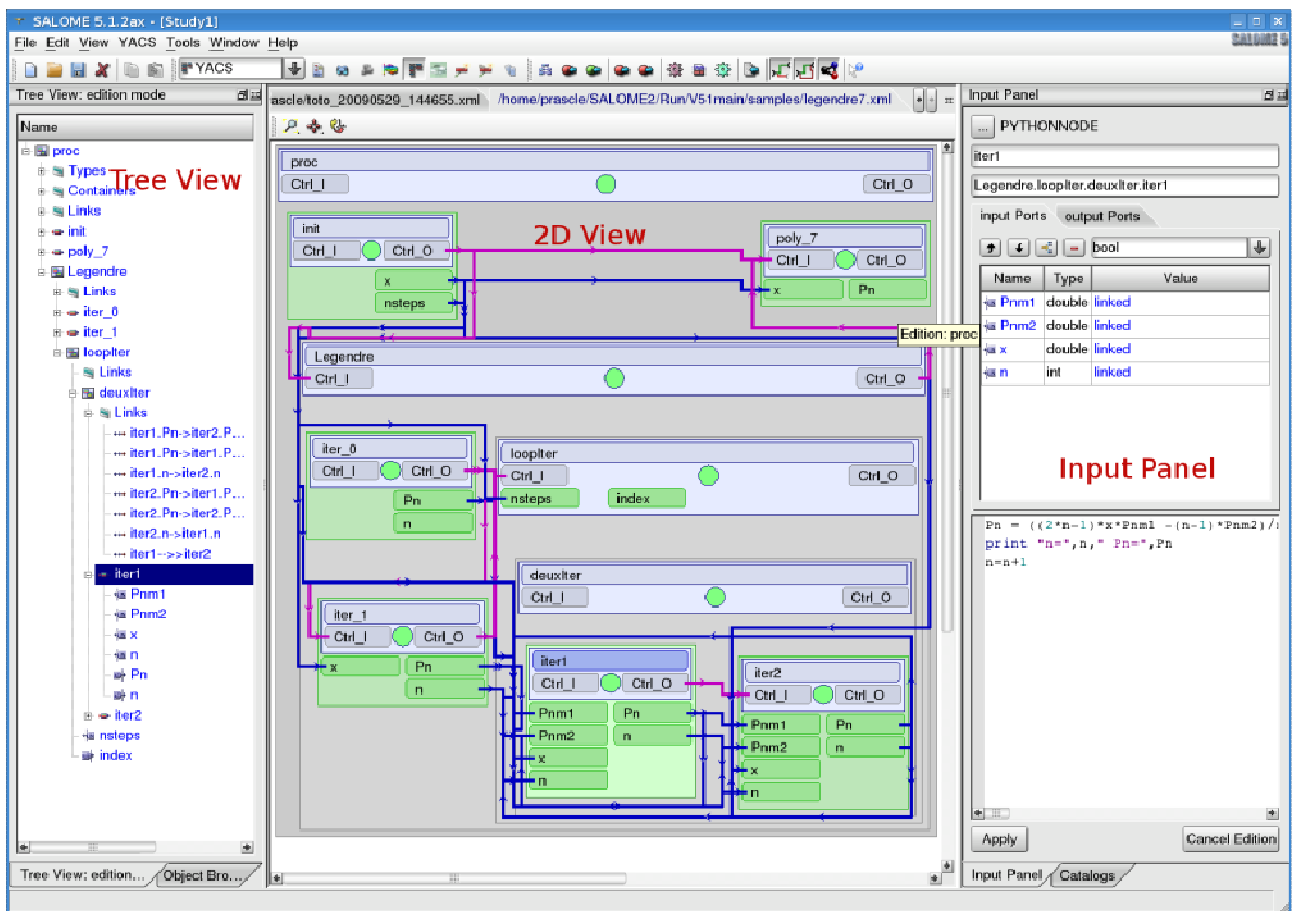
Several executions (run) of the same schema can occur at the same time. Dedicated tree in run mode and 2D views are used for each run. The run tree view is used to control the execution (stop, breakpoints) and the 2D view reflects the detailed current state of execution.

The Python Console and Log Window often present in other SALOME modules are not used in YACS, so, they are not present by default.

For the quick access to basic operations the system of context-dependent popup menu is supported. Popup menu is called by click of the right button of the mouse on the selected object.

Drag and drop operations are often used in edition, between tree items and/or 2D items, for associations (link creation, for instance).

The main window look & feel is presented schematically below. Note that SALOME Object browser and Schema tree view are regrouped under tabs by default.

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▣ **Bug corrections**

GUI module (IAPP)

20151	*Summary:* SALOME: Light Python module The new light python module has been implemented to provide a way to develop Python-based modules for SALOME without CORBA engine.
20342	*Summary:* EDF 1025 GUI: Impossible to choose the container for a Python module Improvement: The possibility to customize the container for loading of the engine of the Python-based modules has been implemented. The Python module can provide `engineIOR()` function returning the string, which is an IOR of the module engine. In this case the Python module itself is responsible for loading the engine to the container. If this function is not implemented in the Python module, the original behavior is preserved, so the engine is automatically searched in the `FactoryServerPy` container.
20351	*Summary:* Compatibility vtk5.2 for `check_vtk` Change: A correction has been made in `check_vtk` for compatibility with vtk5.2.
20352	*Summary:* Compatibility native qt4 on Mandriva 2009.1 for `check_qt` Checking of native Qt 4 to provide compatibility with Mandriva 2009 has been implemented.
20356	*Summary:* [windows] a fix for `VTKViewer_Trihedron.cxx` Changes: The problem of Windows platform incompatibility with `fmin()` and `fmax()` functions has been fixed.
20357	*Summary:* [windows] conflict between python2.6 and cascade Change: A conflict between `pymath.h` from python2.6 and `Standard_math.hxx` has been resolved.
20358	*Summary:* EDF 1033 GUI : Wrong warning at Salome launch Improvement: The notification shown to the user at the SALOME session start-up if the GUI module is not found in the resources has been changed.
20367	*Summary:* EDF 1038 GUI,GEOM,SMESH,VISU : Default preferences Improvement Default settings for all preferences in GUI, GEOM, SMESH, VISU modules have been revised and corrected. Previously missing default values have been added.

20375	*Summary:* A tiny fix in `VTKViewer_GeometryFilter.cxx` Change: `VTKViewer_GeometryFilter.cxx` has been modified for compatibility with Win32.
20384	*Summary:* EDF 1050 GUI : Strange behavior of dockable windows Changes: The problem with restoring the default position of the dockable windows using "Refresh" Object Browser context command has been fixed.
20385	*Summary:* EDF 1051 GUI : Windows of a deactivated module stay visible in the View menu Improvement: Dockable windows in VISU module are now hidden from the View main menu when the module is deactivated.

KERNEL module

20303	*Summary:* Install some .py in the correct way Change: .py files are now installed correctly using `pycompile`
20331	*Summary:* add the `-nohostname` option on windows Change: The problem who `omniNames` not finding the hostname to write the `omniNames.log` file on Windows has been fixed.
20332	*Summary:* Do not dist `calcium_wrap.cpp` Change: The files generated by the SWIG are now included into the distribution, which allows building the distribution even if SWIG is unavailable.
20343	*Summary:* [WNT] Do not compile `DSC_User` and `DSC_Python` Change: `DSC_User` and `DSC_Python` have been excluded from compilation on Windows.
20349	*Summary:* compatibility python 2.6 in `import_hook` Change: Compatibility with Python 2.6 has been provided.
20350	*Summary:* compatibility gcc4.3.2 Change: Compatibility with Python gcc 4.3.2 has been provided.
20414	*Summary:* rm -rf unprotected in a script of SALOME Application Change: Integrated patch for appli_clean.sh script changing its behavior: show the command to be executed and ask for confirmation.

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GEOM module

16562	*Summary:* EDF 508 GEOM: Link the sketcher and the WP/LCS New feature: The notion o*f* Working Plane, earlier used for 2D sketcher, has been removed from Geometry. It has become possible to select a global coordinate system or any previously created local coordinate system as a plane for sketching. The constructors "Plane by two vectors" and "Plane by LCS and OXY, OYZ, OZX orientation" have been transferred to the "Create Plane" Dialog.
19580	*Summary:* EDF 702 GEOM : Partition dialog should warn the user when he create an empty object New feature: Partition dialog has been modified to warn the user who creates a partition of the plan in case if the resulting shape is empty. An empty partition cannot be published to Study anymore.
19776	*Summary:* EDF 720 GEOM: Building a Wire from unconnected edges by introducing a tolerance New feature: New parameter Tolerance has been added in the `MakeWire()` function to enable building wires from unconnected edges. If the detected gap between some edges lies within the given tolerance, the edges will be modified to join in the middle of the gap, thus building a connected wire.
20004	*Summary:* EDF 827 GEOM : `NumberOfSolids` in TUI New feature: Two new functions have been added to Python interface: • `geompy:NumberOfSubShapes(theShape, theShapeType)` allows to get the number of any kind of subshapes in the given shape. The given shape is also counted, if it matches the given type (in the same way as `WhatIs()` function does). • `NumberOfSolids(theShape)` allows to get the number of solids in the given shape. This is an alias to `NumberOfSubShapes(theShape, geompy.ShapeType["SOLID"])`
20060	*Summary:* EDF GEOM: Regression with Propagate algorithm Change: The problem with wrong construction of two residual edges has been solved in OCCT bug 20881.
20143	*Summary:* EDF 941 GEOM :`MakePipeWithDifferents` Sections : Pipe face not normal to the section Change: The problem with exception, occurred at the attempt to build a pipe on more sections has been solved in OCCT bug 20866.
20233	*Summary:* Infinite loop in Boolean operation with a sphere with r=0 Change: It has become impossible to create a sphere and a circle with a very small radius (R < 1e-07) from the TUI, as such shapes are invalid.

20228	*Summary:* [CEA 331] the geompy.RemoveExtraEdges crash with the attached brep shape file Improvement: RemoveExtraEdges functionality has been improved to correspond to its original purpose: healing of blocks (hexahedral solids) and compounds of blocks. A new parameter theOptimumNbFaces has been added. By default, this parameter is set to -1, which means that union of faces is not performed, and seam, degenerated and union edges are removed to obtain quadrangle faces. If the parameter is set to "0" the union of faces is always performed. If it takes any other positive value, the union of faces is performed only for the solids that have more than theOptimumNbFaces faces. In the GUI there is a check-box "Union faces, laying on common surface" for this parameter, by default it is not checked.
20229	*Summary:* Perf of MakeSphere and RemoveObject Improvement: It has become possible to reuse not only the last cleared label, but also the sequence of empty labels directly following it, if such exists.
20230	*Summary:* Memory perf of BoundingBox Improvement: The procedure of calling GEOM_Object_i::GetEntry() method has been improved to avoid memory leaks.
20300	*Summary:* MakeGlueFaces error with box and sphere Improvement: GEOMAlgo_Tools method has been improved to avoid errors in some gluing cases.
20320	*Summary:* EDF GEOM 1008 : Negative extrusion is not possible Change: A regression in extrusion algorithm has been fixed.
20321	*Summary:* EDF : Some windows do not appear depending on the platform (MinimumSizeHint()) Change: The resize() function has been modified: (0,0) replaced by MinimumSizeHint().
20327	*Summary:* EDF 1018 GEOM : Missing MakeTangentPlaneOnFace in geompy Change: geompy.BasicOp.MakeTangentPlaneOnFace operation has been described in user's documentation together with examples of test scripts.
20328	*Summary:* EDF 1017 GEOM : Translation with distance GUI Exception, correct in TUI Change: The incorrect exception in a Translation operation has been fixed.
20329	*Summary:* EDF 1016 GEOM : Error GetShapesOnShapeIDs Change: Boolean operations have been corrected to automatically extract a shape from the resulting compound, if there is only one.

20360	*Summary:* MakeFillet failed on maintenances branch (V4 and V5) Change: The python scripts have been updated to take into account changes in Boolean operations
20361	*Summary:* [CEA 340] MakeBoolean : Error occurred during check of geometric coincidence Change: The bug in the "Common" Boolean algorithm has been fixed.
20366	*Summary:* SelectionTypeClicked() defined but not implemented Change: The definition of a non-implemented method has been removed.
20373	*Summary:* MakeMultiTransformation1D failed on maintenances branch (V4 and V5) This is a duplicate of bug 20360.
20398	*Summary:* EDF 1052 GEOM: Import error of IGES file Change: The problem of impossibility to import an IGES file with a capitalized extension (i.e. *.IGES) has been fixed.
20404	*Summary:* EDF 1061 GEOM: Keep in memory the directory of import/export file Change: The last visited directory is now memorized and suggested as default in "File Open/Save" dialog boxes.

MESH module

19936	*Summary:* EDF 794 SMESH : Export UNV : Node color and group id Change: The algorithm of mesh export to UNV format has been modified to color nodes in blue and to begin the count of group numbers from 1.
20042	*Summary:* EDF 864 SMESH: Mesh of holes (GHS3D/BLSurf) This is a duplicate of bug 20330.
20185	*Summary:* EDF SMESH 967 : Anomaly in Merge Nodes Change: A problem in OctreeNode class, which lead to incorrect work of FindCoincidentNodes functionality has been fixed .
20104	*Summary:* EDF 861 SMESH : Mesh element info evolution Improvement: "Mesh Element Info" dialog box has been improved to show the list of nodes with connectivity information (in addition to identifiers and coordinates).

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20145	*Summary:* EDF 666 SMESH: Modifications of GEOM groups are not taken into account This is a duplicate of bug 20210.
20210	*Summary:* EDF SMESH 976: Update of a smesh group after modification of the associated eom. group Improvement The group on mesh is now updated when the corresponding group on geometry is changed or destroyed.
20279	*Summary:* [CEA 334] control the "random" use when using mesh algorithms Change: The mechanism to provide generation of the same mesh on the same shape with the same hypotheses (even using random algorithms) has been implemented.
20313	*Summary:* EDF 1002 SMESH : Mesh groups are not published in the good study. Change: The script `smeshDC.py` has been corrected to correctly initialize `smeshgui`
20317	*Summary:* EDF SMESH 1004: "Edit group" changes the name of the group Change: Automatic renaming of edited groups has been disabled.
20319	*Summary:* EDF SMESH 1007: creation of a sub-mesh on face tries to assign Netgen3D algorithm Change: The invalid check of available dimension in the hypothesis dialog has been fixed.
20323	*Summary:* EDF SMESH 1006: Group on geometry: automatic switch to geometry selection field Improvement: Automatic switching to geometry selection field after selection of the mesh has been implemented in the dialog Group from geometry.
20338	*Summary:* EDF 1019 SMESH : 3D extrusion issue Change: The problem of failure of "Extrusion 3D" algorithm on a box geometry with "Nb. Segments" = 1 hypothesis has been fixed.
20340	*Summary:* EDF 1022 SMESH : Crash with `FindNodeClosestTo` in a second new study. Change: Problem of SALOME crash at using SMESH command `FindNodeClosestTo()` after closing a study has been fixed.
20362	*Summary:* EDF SMESH: `Smesh` commands always generate print logs Change: Useless print command has been removed from the `SetName()` function of `smeshDC` class in `smeshpyDC.py`.

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20368	*Summary:* SMESHGUI_MeshDlg::isTabEnabled must return something Change: A logic error has been fixed in SMESHGUI_MeshDlg::isTabEnabled() function to correctly return the value.
20369	*Summary:* a cast in tmpPred->SetGeometryType Change: Problems with Win32 incompatibility have been fixed.
20370	*Summary:* Symbols multi defined Change: Multiple definitions of symbols (generated from templates) have been corrected for Win32 compatibility.
20379	*Summary:* EDF SMESH 1047: Impossible to select pentahedrons when creating mesh volume groups Change: The bug with creation of a group of volumes containing pentahedrons has been fixed.
20386	*Summary:* EDF 1039 SMESH : FindNodeClosestTo problem Change: The problem of wrong detection of the mesh node closest to the given point has been fixed.

VISU module

19930	*Summary:* EDF 779 VISU : Filter group inactive in animation Improvement: "Use Only Groups" option has become available in the animation mode and for field presentations.
20064	*Summary:* EDF 877 VISU : NaN in scalar bar Improvement: Check for NaN values has been added in methods VISU_ColoredPL::GetSourceRange() and DeformedShapeAndScalarMapPL::GetSourceRange(). If the computed range contains NaN values these methods throw std::runtime_error exception and "NAN values in the presentation" error message is shown in the terminal window.
20107	*Summary:* EDF 890 VISU: In some cases, Scalar bar and Deformed Shape does not store the component used as scalar New feature: It has become possible to display the numerical values on the fields of a Post-Pro presentation.

20123	*Summary:* EDF VISU 914 : Pyramids are not displayed for ELGA field Change: The problem of incorrect display at zooming in perspective mode caused by incorrect work of "Relative size" preference has been fixed.
20115	*Summary:* [CEA 308] Quadratic elements visualization New feature: It has become possible to visualize 2D quadratic elements (MED_TRIA6 and MED_QUAD8) with edges represented as arcs (in addition to straight lines).
20380	*Summary:* EDF 1048 VISU: Presentation with negative time stamps Change The dialog for "Deformed shape and Scalar map" presentation has been modified so that now it checks the validity of scalar data of the field chosen as scalar field, and, if it is invalid, the corresponding message is shown and other controls stay disabled until another field is chosen.
20383	*Summary:* EDF 1049 VISU: `DisplayOnly, EraseAll,` ...do not work with Python Change The feature introduced in bug 19818 (displaying of names of mesh groups in viewer) has been temporarily disabled to provide a workaround fixing the problem with work of some operations using Python.

MED module

20120	*Summary:* [CEA 206] normL2 on NODE field Change: `MEDMEM::FIELD<T>::normL2()` function has been modified to work in case of nodal field support.
20172	*Summary:* `TestMEDMEM` fail Change: The problem of SIGSEGV while executing `TestMEDMEM` due to unset TMP environment variable has been solved.

20196	*Summary:* [CEA 323] `MicroMED` compilation
	
	Improvement:
	It has become possible to build and install only base packages of the MED module (so-called `MicroMED` mode). This extra mode is available only if MED module is configured without the link to SALOME KERNEL module.
	To build MED module in `MicroMED` mode, perform the following steps:
	`mkdir MED_BUILD`
	`cd MED_BUILD`
	`../MED_SRC/build_configure --without-kernel`
	`../MED_SRC/configure --prefix=<install_dir> --with-interp-kernel-only [<other_options>]`
	`make`
	`make install`

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20216	*Summary:* [CEA 327] `getConnectivityOfAnElementWithPoly` and 1D mesh Change: Exception in `CONNECTIVITY::getConnectivityOfAnElementWithPoly()` method in 1D mesh is now avoided.
20227	*Summary:* `test_MEDMEM_MeshinPoly` remove result file in V5 Change: The output MED files generated by test programs are now removed only if the tests are running in 'make check' mode.
20232	*Summary:* [CEA 330] crash Salomé and `mdump` through `sauv2med` (when reload created med file) Change: The problem of SALOME crash when reading a 2D mesh in 3D space from a med file using SMESH and VISU modules has been fixed.
20273	*Summary:* [CEA 333] `NormL1` cannot calculate It has been suggested to use the absolute value of size of field support when computing `normL1()` and `normL2()` of `MEDMEM::FIELD`, because the field in fixed script can be either double or integer, but not both at once.
20305	*Summary:* [CEA - 332] family on all faces Change: The attribute `_isOnAllElts == true` has been removed from families on `MED_FACEs`.
20316	*Summary:* [CEA 338] MED exception in `convertToPoly` Exception in `convertToPoly` has been fixed
20393	*Summary:* Adding some conversion tools into MED module Improvement: The tools for conversion to and from `castem` have been integrated into MED module.
20411	*Summary:* [CEA 342] Sigsegv on gibi writing of MESH coming from MED file without face computation Change: A new test has been added to MEDMEMCppTest test suite, the problem revealed by the test has been fixed. The new test checks desactivateFacesComputation() option of MEDMEM_MedMeshDriver.
20412	*Summary:* [CEA 343] GIBI Driver is not usable using MESH::addDriver Change: Enable adding GIBI_MESH_WRONLY_DRIVER and GIBI_MESH_RDWR_DRIVER to MEDMEM::MESH

GHS3DPRLPLUGIN module

20330	*Summary:* Pb with ghs3d as a submesh Change : Incorrect work of "mesh holes" option of GHS3D mesher has been improved.

NETGENPLUGIN module

20371	*Summary:* remove the creation of `netgen.prof` Improvement: Netgen 4.5 profiler has been patched: if NETGEN_PROF environment variable is set to 1, the Netgen profiler output is printed to the `netgen.prof log` file. Otherwise, the profiler log is printed to the standard output.

YACS module

20276	*Summary:* verifier le python des scripts a l'edition (compiler) Change: Python code in inline nodes is now checked (compilation test) during edition.
20295	*Summary:* Pouvoir créer des noeuds ForEachLoop pour des types quelconques Change: It is now possible to create a ForEachLoop for all the imported data types in a schema. To do that, use the ForEachLoop sub menu for the desired type.
20234	*Summary:* Préference et choix du look par défaut Change: YACS module has now user preferences. It's possible to choose: • python font • link colors • node colors • state colors • component creation mode • 2D viewer options
20334	*Summary:* Scene graphique: Zoom to bloc et Center on Node Change: It is now possible to zoom directly inside a composed node by using the context menu entry : zoom to bloc

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Installation procedure

19993	*Summary:* If error of installation in `InstallWizard`, please stop installation Improvement If an error occurs during the installation via the `InstallWizard` and a new 'Ignore errors' check-box is not checked, the installation process is stopped and an error message appears.

Build procedure

19980	*Summary:* EDF 818 OTHER : Get rid of the RPATH issues in packaging Improvement: The option `--enable-new-dtags` should now be used for building of all libraries and executables to solve the problem with hard-coding of `RPATH` to the executables.
20354	*Summary:* EDF 1031 OTHER warnings with `automake 1.10` Improvement Portability warnings raised by `automake 1.10` have been disabled.

Documentation bugs

20037	*Summary:* EDF 859 SMESH : Mesh Element Info help unavailable Change: Documentation on Mesh Element Info has been updated to reflect recent changes.

🖳 Processed and answered queries

19967	*Summary:* EDF SMESH 806: TUI script example is missing for the `ConcatenateWithGroups` function.
20344	*Summary:* Bug in SALOME
20345	*Summary:* EDF 1028: Recovery of hdf file
20394	*Summary:* [CEA] Wrong version of `graphviz` sources in the InstallWizard
20395	*Summary:* [CEA] xdata is not compiled with Salomé
20405	*Summary:* EDF 1062 GEOM: Different behavior of `GetSubShape`

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Supported Linux distributions and pre-requisites

SALOME 5.1.2 supports Debian 3.1 Sarge, Debian 4.0 Etch 32bit and 64bit, Mandriva 2006 32bit and 64bit, Mandriva 2008 32bit and 64bit.

SALOME 5.1.2 version has been mainly tested with the following pre-requisite list on Mandriva 2008 32bit and Debian 4.0 Etch 64bit platforms.

SALOME 5.1.2 comes with the same prerequisites versions on all supported platforms. 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.

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

	Version	GUI (IAPP)	KERNEL	GEOM	SMESH	VISU	MED	HexoticPLUGIN	GHS3DPRLPLUGIN	RANDOMIZER	SIERPINSKY	BLSURFPLUGIN	GHS3DPLUGIN	PYCALCULATOR	COMPONENT	NETGENPLUGIN	LIGHT	CALCULATOR	HELLO	PYHELLO	YACS	xdata	HXX2SALOME
gcc*	3.3.5**	X	X	X	X	X	X	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	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	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	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	X	X	X	X	X	X
Python	2.4.4	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Qt	4.4.3	X		X	X	X	X	X	X		X	X	X		X	X	X	X	X	X	X	X	X
Sip	4.7.7	X													X								
PyQt	4.4.3	X													X							X	
Boost	1.34.1	X	X	X	X	X	X	X	X		X	X	X		X			X	X				
Swig	1.3.31	X	X	X	X	X	X	X	X		X	X	X		X			X				X	
OpenCASCADE Technology	6.3 sp6	X		X	X	X	X	X	X		X	X	X		X	X	X	X	X			X	
Qwt	5.1.1	X													X								
QScintilla	2.3																					X	
OmniORB OmniORBpy omniNotify	4.1.3 3.3 2.1	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	
Hdf5	1.6.4	X	X	X	X	X	X	X	X		X	X	X		X	X	X	X					
Med	2.3.5				X	X	X		X		X		X	X	X	X	X	X					
Vtk	5.0	X		X	X	X	X	X	X		X	X	X		X	X	X					X	
Numeric	24.2		X																				
Graphviz	2.16.1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X					X		
Doxygen	1.5.6	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X					X		
NETGEN	4.5															X							
docutils	0.4.0	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X					X		
metis	4.0				X																		
scotch	4.0				X																		
libxml2	2.6.27	X	X			X															X		
elementtree	1.2.6																				X		
cElementTree	1.0.5																				X		
blsurf	2.7.12											X											
TetMesh-GHS3D	4.0								X				X										
TclTk	8.4.14																						
Sphinx	0.5																				X		

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

SALOME Platform

SALOME 5.1.2 depends of 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				
Tcltk					for OCCT compilation from source files only
Python	X		X		
Qt	X		X		
sip	X				
PyQt	X		X		
Boost	X		X		
Swig	X				
OpenCASCADE Technology	X		X		
Qwt	X		X		
QScintilla		X		X	
OmniORB	X		X		
Hdf	X		X		
Med	X		X		
Vtk	X		X		
Numeric		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				
elementtree	X				
cElementTree	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

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.csh -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 5.1.2 pre-compiled binaries for Linux Debian 3.1 Sarge, Mandriva 2006 (32bit and 64bit), Mandriva 2008 (32bit and 64bit), Debian 4.0 Etch (32bit and 64bit) can be retrieved from the ftp.opencascade.com site.

Besides it is possible to install Debian 3.1 Sarge Salome universal binaries on the platforms that are not supported officially.

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 (*www.trolltech.com for QT for example*).

Known problems and limitations

- The following modules have not been migrated to Qt series 4 and thus are not included into SALOME 5.1.2 release: MULTIPR, FILTER and SUPERV.
- The store/restore GUI state functionality is not fully supported in SALOME version 5.1.2. There are some bugs with this functionality which are planned to be fixed in the future releases of SALOME platform.
- The following limitations refer to BLSURF plug-in:
    - 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.
    - SIGFPE exception is raised after trying to compute a mesh based on a box with "Patch independent" option checked.
    - 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.

SALOME Platform

- 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.

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