

# SALOME 3.2.2

## Maintenance release announcement

September 2006

### General information

OPEN CASCADE is pleased to announce SALOME version 3.2.2. It is maintenance release that contains the results of planned major and minor improvements and bug fixes against SALOME 3.2.1 version released in July 2006.

### New features and general changes

- Salome 3.2.2 has been ported to the latest version of Open CASCADE Technology (OCCT 6.1.1)

*Important remark: Due to some changes in OCT 6.1.1, NETGEN must be recompiled with the patch coming with Installation procedure in NETGENPlugin sources. Binary version of NETGEN in Install Wizard has been already recompiled for all platforms.*

The most important features of the new OCCT version are: implementation of multithread safety in OCCT Kernel and improvement of Exception mechanism:

#### **Exception mechanism improvement**

Implementation of exceptions and signals handling on Linux and UNIX platforms has been changed. Note that the existing code involving try {} statements will be updated (see below).

Now exceptions are raised and handled as normal C++ exceptions, not emulated by C longjumps as before. This provides the following advantages over the previous version:

- Use of OCC library in the program that uses C++ exceptions does not require special work-arounds to provide consistent exception handling
- Generic catch(...) with period can be used without conflicting with OCC code (as it was with some implementations of STL)
- Exception raised after catch() {} but in the same code block will not be erroneously caught by this catch. Two consecutive try{} catch{} blocks are possible within the same code block.
- C++ stack unwinding, with appropriate destruction of objects allocated in the stack, is performed.

However, handling of signals is still performed with longjump functions (on UNIX and Linux systems). To be able to catch a signal as an exception, the macro OCC\_CATCH\_SIGNALS should be inserted in the code. This macro instantiates signal handling object; in case of software signal the execution will return to this point and an appropriate exception will be raised from this macro. It is recommended to insert OCC\_CATCH\_SIGNALS macro as a first statement in every try {} block containing the code which may generate a signal (for instance, generic try {} blocks catching Standard\_Failure).

(See Foundation Classes User's Guide for more details).

Note that this change is controlled by a new compiler option `OCC_CONVERT_SIGNALS`. Old option `NO_CXX_EXCEPTIONS` is kept for compatibility; it still can be used to provide the same behavior as in previous versions of OCCT.

### Multithread safety:

Basic support for multithreading has been provided at the level of TKernel services of OCCT:

- New classes `Standard_Mutex` and `OSD_Thread` provide encapsulation of functions provided by the operating system to manipulate mutexes and manage threads in the uniform way, adapted for the use with Open CASCADE.
- Open CASCADE optimized memory manager has been protected for safe work within multithread applications where different threads can access it simultaneously. Note, however, that this feature is not activated by default (for optimal performance in default, single-thread mode). Environment variable `MMGT_REENTRANT` must be set to 1 to activate this feature. Note that setting variable `MMGT_OPT` to 0 (i.e. using CRT memory heap directly) is also thread safe.

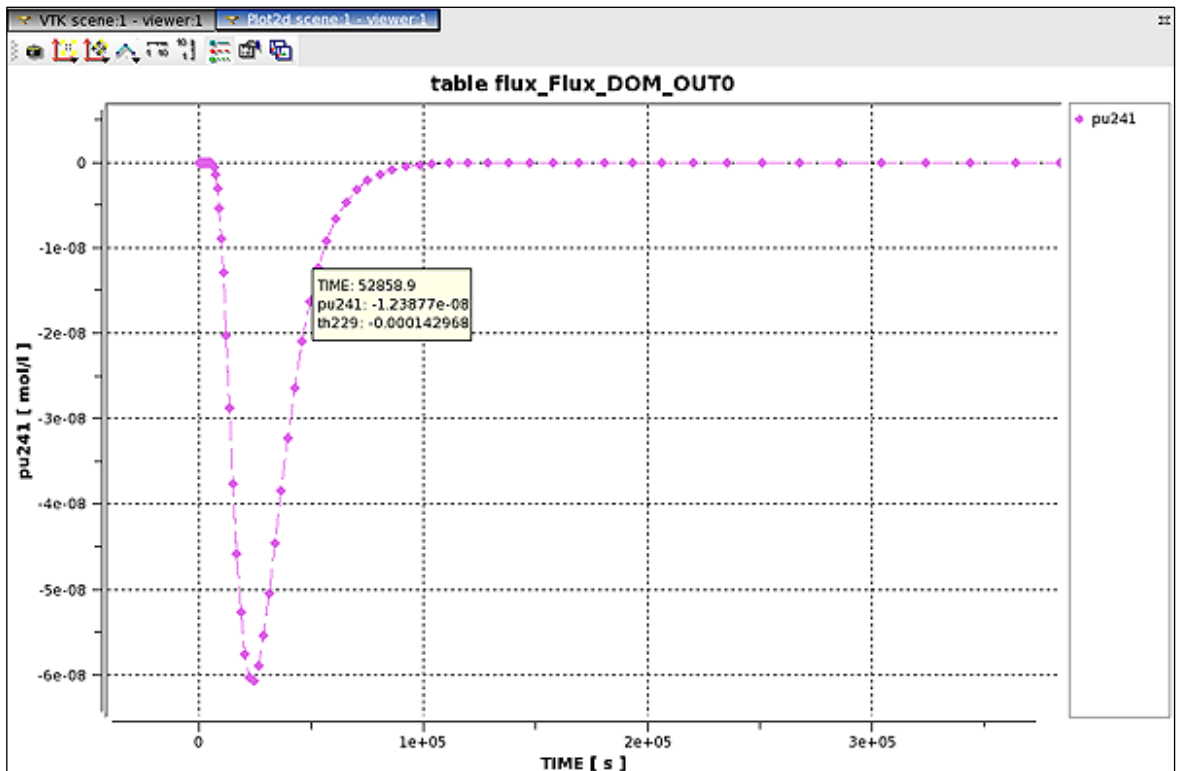
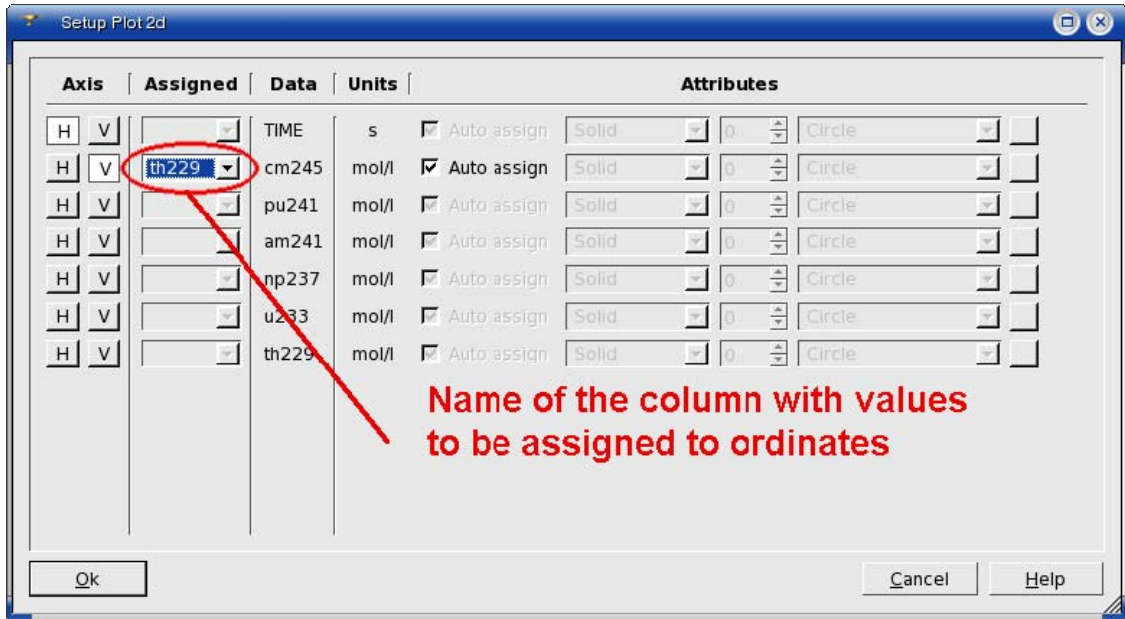
Special note: for applications that heavily use the OCCT memory manager from more than one thread, on multiprocessor hardware execution with option `MMGT_OPT=0` can be more efficient than with option `MMGT_REENTRANT=1`.

- OCCT exceptions and signal handling, type system (RTTI), and some other low-level services are protected to be thread-safe.

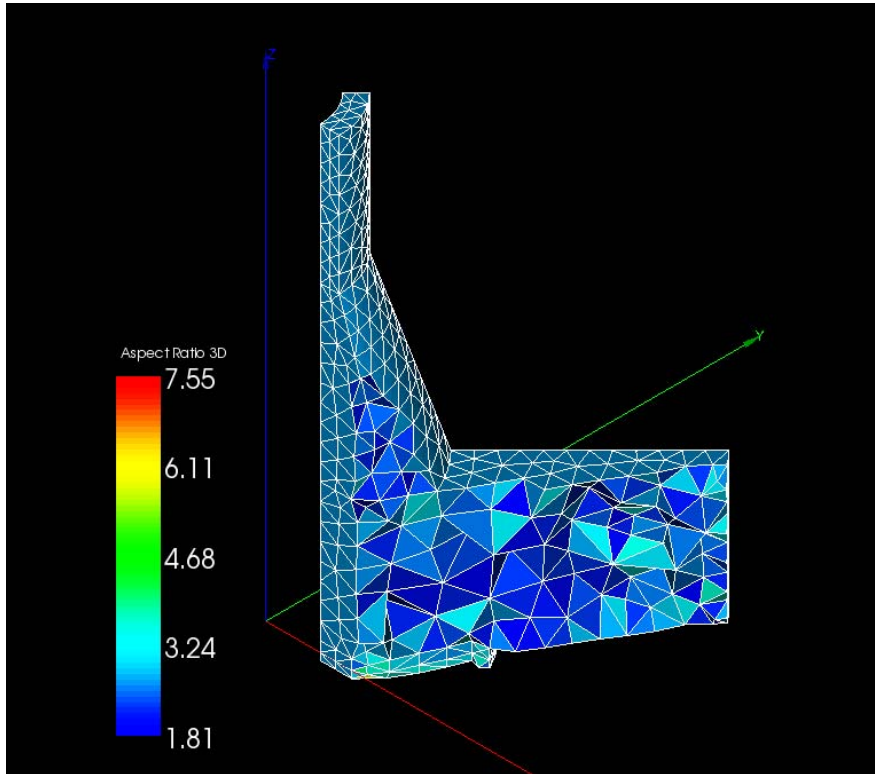
Note that these improvements provide only basic features for using OCCT in multithreaded applications; it is responsibility of such application to ensure safety of access to its own data and not-yet-protected data of OCCT.

- New version of omni 4.0.7 has been implemented for Mandriva platform in order to eliminate the problem of calculation results round-off. OmniORB version 4.0.7 fixes a bug of version 4.0.6 with the loss of precision when passing the floating point values (`CORBA::Double`) via CORBA bus. For example, "4.1" value might become something like "4.9999988802" after transferring from client to server.
- New Plot2D functionality has been implemented to build 2D curves based on 3 values; Now `Plot2d_Curve` allows assigning to point arbitrary text string as a tooltip that is shown over the curve point.

Using this new feature, VISU allows creating curves with assigned third values. The dialog of curve parameters now allows choosing one of table rows as a row with the assigned value (it may coincide with the row of abscissas or ordinates). The tooltip of curve points created with the help of VISU has the same appearance that was required.



- Calculation of AspectRatio for quadratic elements is implemented.



- Support of scientific Linux 4.2 has been implemented.

## Bug corrections

### Environment

13170	<p><i>Summary:</i> EDF251 python-2.3 delivered by Debian Sarge installation from OCC is not complete</p> <p><b>Improvement:</b> Python-2.3.5 has been rebuilt and the archive has been replaced in the Installation Procedure in order to restore the file <code>_bsddb.so</code> in the folder <code>Python-2.3.5/lib/python2.3/lib-dynload</code>.</p> <p><i>Remarks:</i> To be able to built <code>_bsddb</code> extension for Python, Sleepycat DB libraries and devkit should be installed on the computer. Debian Sarge 3.1 distribution includes packages <code>libdb4.2</code> and <code>libdb4.2-dev</code> which contain the required libraries and include files. In this case the default Python 2.3 make procedure includes <code>_bsddb</code> extension in the building process.</p>
13183	<p><i>Summary:</i> EDF182 ENV Bugs in examples</p> <p><b>Improvement:</b> The problem has been corrected for CALCULATOR, HELLO and PYHELLO modules.</p> <ul style="list-style-type: none"> <li>- <code>runAppli</code> scripts have been modified to check if the environment variables have been already set.</li> <li>- installation scripts for SALOME modules have been modified to correct hard-coded environment variables automatically during the installation process</li> </ul>

**Kernel**

12445	<p><i>Summary:</i> No trace when a component is not loaded.</p> <p><b>Improvement:</b> The following cases have been provided with warnings:</p> <ul style="list-style-type: none"> <li>- Library for the module not found.</li> <li>- Python library for the module not found. (It concerns python modules).</li> <li>- The module not found in the resources.</li> <li>- Icon for the module not found.</li> <li>- The list of modules is empty.</li> </ul>
12404	<p><i>Summary:</i> Improvement of batchmode_salome</p> <p><b>Improvement:</b> Some improvements in cycles used for initialization of ORB, LifeCycleCORBA and Study Manager instances have been implemented in batchmode_salome.py.</p>
12956	<p><i>Summary:</i> Error at make install in doc/salome</p> <p><b>Improvement:</b> KERNEL_SRC/doc/salome/version.texi has been removed in order to avoid the problem during compilation of Salome src downloaded from CVS in read-only mode</p>
13386	<p><i>Summary:</i> EDF PAL KERNEL DOC 276 Wrong links in documentation</p> <p><b>Changes :</b> The type of comments, which will be processed by Doxygen, has been changed. Now the format of the comments is – See also &lt;A href="exemple/Example1.html"&gt; an example &lt;/A&gt; instead of – See also &lt;A href=exemple/Example1.html&gt; an example &lt;/A&gt;</p>

**GUI module (IAPP)**

12468	<p><i>Summary:</i> When dumping a VTK view, the dialog box appears in the saved image.</p> <p><b>Improvement:</b> Now "Dump View to File" dialog and 3D viewer popup do not appear in the saved (dumped) image.</p> <p><b>Changes:</b> The viewer is dumped before the popup is shown. The image is saved in myDumpImage variable(..._ViewWindow classes), which is refreshed each time the viewer popup is called.</p>
13009	<p><i>Summary:</i> EDF : SMESH-VISU : Space in Path during import MED</p> <p><b>Improvement:</b> Spaces in the MED file path are available now in Mesh and Post-Pro</p>
13021	<p><i>Summary:</i> EDF233 VISU Wrong orientation of a bar.</p> <p><b>Improvement:</b> Loading of MED files with 1D and 2D meshes into Post-Pro has been improved. Now the names of coordinates are correctly taken into account.</p>
13091	<p><i>Summary:</i> dump study ehec</p> <p><b>Improvement:</b> Removal of a GEOM object from study has been improved: now all its sub-objects are correctly erased and removed from the engine.</p>

13340	<p><i>Summary:</i> EDF-PAL 267 : Launching problem with V3_2_maintainance</p> <p><b>Improvement :</b> Some Python scripts have been modified to correctly set the environment variables for SALOME session on 64-bit Linux platforms, taking into account that the folder for libraries on 64-bit platforms is called "lib64" instead of "lib" (for 32-bit platforms).</p>
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## GEOM module

6826	<p><i>Summary:</i> Incorrect behaviour of the "Import" dialog box in "Geometry" module</p> <p><b>Changes:</b> GEOMToolsGUI::Import() method has been changed.</p>
12405	<p><i>Summary:</i> Improvement of batchmode_geompy.py</p> <p><b>Improvement:</b> Some improvements in the cycle used for initialization of GEOM component have been implemented in batchmode_salome.py.</p>
12471	<p><i>Summary:</i> Can't use the Boolean operations on a revolution of a shell</p> <p><b>Improvement:</b> Boolean operations Cut, Common and Section work now on Compounds and Compsolids</p>
12781	<p><i>Summary:</i> EDF : GEOM bug, different result between Working Plane and LCS</p> <p><b>New Features:</b>  <b>1.</b> A new method void GetPosition(GEOM_Object, 9 doubles) has been added to GEOM_IMeasureOperations IDL interface. This method allows obtaining Origin and OZ and OX axes of LCS from any shape in the same way as it is done in GUI for LCS creation from any selected shape.                  It is wrapped by the corresponding method of geompy python package:                  [Ox,Oy,Oz, Zx,Zy,Zz, Xx,Xy,Xz] GetPosition (GEOM_Object)  <b>2.</b> MakePosition() method now can perform shape transformation from global CS into a selected LCS. For that None (from python) or nil CORBA object has to be passed for its second argument (StartLCS).</p> <p><b>Improvement:</b> The same approach is now used for the creation of Plane, Working Plane, LCS, sketcher, Position from a selected shape: the origin of the new object is situated at the shape's center of mass.</p> <p><b>Changes:</b> Dialogs for Plane and Working Plane construction have been slightly changed to allow LCS selection where FACE is needed. Text labels in dialogs have been changed correspondingly. User documentation has been updated.</p>
12858	<p><i>Summary:</i> EDF210 GEOM Preferences menu of GEOM: color of the wireframe?</p> <p><b>New Features :</b> Now the user can predefine the color of points, edges, wires, free boundaries and other shapes separately. Also, the possibility to change the color of isolines has been added.</p> <p><b>Changes :</b> New items have been added in the preferences (and correspondingly resources) for GEOM:                  "Color of point—" - "point_color"                  "Color of edges, vectors and wire—" - "line_color"                  "Color of free boundarie—" - "free_bound_color"                  "Default wireframe colo—" - "wireframe_color"                  "Color of isoline—" - "isos_color"</p>

12904	<p><i>Summary:</i> slow display with geompy</p> <p><b>New Features:</b> A new method GEOM_Swig::UpdateViewer() has been created. This method allows updating the active viewer.</p>
13107	<p><i>Summary:</i> EDF2-8 - GE-M - UpdateViewer on python functions</p> <p><b>New Features:</b> The optional Boolean parameter isUpdated was added to setDisplayMode(), setColor() and setTransparency() methods of GEOM_Swig class. Now the user can choose whether to update the viewer or not. This parameter is optional and equal to "true" by default.</p>
13117	<p><i>Summary:</i> bug in RemoveObject method</p> <p><b>Improvement:</b> RemoveObject method has been fixed (now it is possible to remove the last object of the group).</p>
13256	<p><i>Summary:</i> EDF255 GEOM-CAS6.1 Infinite loop</p> <p><b>Changes:</b> The direct type coercion (CORBA::Float) and (CORBA::Double) is used now for valid conversion from CORBA::Any to CORBA::Float and CORBA::Double types for float/double ports value instead of usage of CORBA::Any::replace(...) function.</p>
13271	<p><i>Summary:</i> EDF258 GEOM: build of a box with 2 points: operation aborted</p> <p><b>Improvement:</b> GEOM GUI documentation has been updated to provide a better description of box creation from two points</p>
13380	<p><i>Summary:</i> EDF PAL 278 : GEOM : line driver failed but OK via GUI</p> <p><b>Improvement:</b> Improved diagnostic of methods MakeLine and MakeLineTwoPnt for cases of invalid arguments.</p>
13393	<p><i>Summary:</i> GEOM Documentation has no link to python API.</p> <p><b>Improvement:</b> Link to python API has been added to GUI documentation on GEOM module.</p>
13411	<p><i>Summary:</i> EDF285 GEOM V3.2.2pre Error while importing ellipses.py</p> <p><b>Improvement:</b> Regression with a Boolean operation on compounds has been corrected.</p>

## MESH module

6643	<p><i>Summary:</i> SMESH: Set filters - 0 Field threshold value</p> <p><b>Improvement:</b> Now we don't set any threshold value for the filter with "Free borders" as a "Criterion".</p>
10063	<p><i>Summary:</i> Salome is very slow when displaying medium meshes</p> <p><b>Improvement:</b> Time of import and display of meshes in VTK has been reduced in comparison with SALOME_2.2.4 version.</p>
12653	<p><i>Summary:</i> EDF: no aspect ratio values for quadratic tetras</p> <p><b>Improvement:</b> Calculation of AspectRatio for quadratic elements is implemented.</p>

12992	<p><i>Summary:</i> SMESH: Loading time of an hdf is very long</p> <p><b>Improvement:</b> Performance of restoration of a study containing a mesh generated on geometry has been improved by ~2.5 times</p>
13324	<p><i>Summary:</i> EDF263 SMESH: SIGSEGV if changing study in the Create Hypothesis dialog Box</p> <p><b>Improvement:</b> Now the child dialog of the desktop is activated after the desktop has sent "activated()" signal.</p>
13409	<p><i>Summary:</i> EDF282 SMESH: Tetrahedron is added if we specify Mefisto</p> <p><b>Improvement :</b> Behavior of "Create Mesh" dialog has been improved. Now when a lower-dimension meshing algorithm is defined, the algorithms of higher dimensions will not be assigned automatically.</p>

## MED module

10355	<p><i>Summary:</i> "medcorba_test.py" script raise error during execution.</p> <p><b>Improvement :</b> Now createCorbaFieldDouble(SALOME_MED::SUPPORT_ptr, FIELDDOUBLE * , bool) and createCorbaFieldInt (SALOME_MED::SUPPORT_ptr, FIELDINT * , bool) methods defined in libMedCorba_Swig.py of MED module set the support input as argument in the created field</p>
10601	<p><i>Summary:</i> MED: crash during explore med file</p> <p><b>Improvement:</b> Now a med file containing multiple component fields with incorrectly written component names can be read by MED module without crash. Nodal connectivity of polygons of MED_FACE entity can be correctly retrieved from python.</p>
11767	<p><i>Summary:</i> Regression: Impossible to save a study with MED data. Also Salome crashes on some MED files exploration.</p> <p><b>Improvement:</b> Now fra.med file can be loaded by MED module. This file has invalid number of Gauss points, that is now checked and set to 1 for fields on MED_NODES or if the number of Gauss points exceeds 1000</p>
12976	<p><i>Summary:</i> Bug with createCorbaFieldDouble</p> <p><b>Improvement:</b> Now createCorbaFieldDouble(support_corba, field) method, defined in libMedCorba_Swig.py, does not complain "No matching function for overloaded 'createCorbaFieldDouble'" when called with support_corba created using createCorbaSupport()</p>
13000	<p><i>Summary:</i> Crash in MED with "import CALCULATOR_TEST_STUDY_WITHOUTIHM"</p> <p><b>Improvement:</b> Method SALOMEDS_Study::GetObjectNames has been improved. Now it doesn't crash Salome if an invalid context is passed in argument. In this case a SALOMEDS::Study::StudyInvalidContext exception will rise. Scripts from CALCULATOR_SRC/src/CALCULATOR/ have been updated to correspond to the file pointe.med, stored in resources of MED component.</p>
13127	<p><i>Summary:</i> compilation error</p> <p><b>Improvement:</b> Now all constructors of MEDMEM::INTERPOLATION are compilable</p>



13132	<p><i>Summary:</i> MESH copy constructor doesn't not work</p> <p><b>Improvement:</b> Now copy constructor of MEDMEM::FAMILY works without exception if a family has no attributes</p>
13136	<p><i>Summary:</i> Class members initialization in MEDMEM::GRID</p> <p><b>Improvement:</b> Now GRID::GRID(const std::vector&lt;std::vector&lt;double&gt; ...) constructor initializes all fields so that it would be safe to use MEDMEM::GRID constructed this way</p>

## VISU module

13237	<p><i>Summary:</i> CRASH after trying to select a cell for "Selection Info".</p> <p><b>Changes:</b> A series of fixes provides a more correct definition of mapping between MED and VTK both for MED Families and for MED Entities. In case of definition of MED Families mapping it was necessary to increase the VTK index when the Family contains from mesh elements of different geometric type. And MED indexes should be taken from MED not from VISU CONVERTER internal numeration.</p>
13239	<p><i>Summary:</i> Numerations of elements(nodes) for the same mesh in Mesh and Post-Pro modules are different.</p> <p><b>Changes:</b> See Bug 13237.</p>
13244	<p><i>Summary:</i> It is necessary to have possibility to show tooltips over the points in Plot2d viewer</p> <p><b>Improvement:</b> Now Plot2d_Curve allows assigning an arbitrary text string to any point as a tool-tip shown over the curve point. Using this new feature, VISU allows creating curves with assigned third values. The dialog of curve parameters now allows choosing one of table rows as a row with the assigned value (it may coincide with the row of abscissas or ordinates). The tooltip of curve points created with the help of VISU has the same appearance that has been required.</p> <p><b>Changes:</b> Now the interface VISU_Gen possesses an additional method: CreateCurveWithZ( table, theHRow, theVRow, theZRow ), where theHRow is the row for abscissas of points, theVRow – the row for ordinates and theZRow represents the assigned values. Methods Plot2d_Curve::addPoint() and insertPoint() now have a third parameter, that represents a string of point tooltip (by default it is empty). Method setData() has parameter QStringList, representing tool-tips for all points (by default, the list is empty). Also the new methods Plot2d_Curve::setText( int, QString ) and Plot2d_Curve::text() have been added. They make it possible to set/get a tooltip for a certain point.</p>

## SUPERVISOR module

12452	<p><i>Summary:</i> Notification logging doesn't save anything in the log file</p> <p><b>Change :</b> Description of the operation has been changed in the documentation in the file SUPERV_SRC/doc/salome/gui/SUPERV/files/filtering_and_storing_output_messages.htm. The string "In this dialog box you can specify a file, where all output messages will be put, and choose the type of messages for logging by every node composing your graph." Has been replaced with the string "In this dialog box you can specify a file for all output messages sent by the component for notification purposes and choose the type of messages for logging by every node composing your graph."</p>
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12455	<p><i>Summary:</i> REGRESSION: can't transfer a string into a macro-node</p> <p><b>Change:</b> GraphExecutor::InNode::DataWaiting_SomeDataReadyAction() function has been changed (MacroNode : immediately assigns the value to the corresponding graph).</p>
13135	<p><i>Summary:</i> Bug in SUPERVGUI_Service::addFactoryNode with same interface + service</p> <p><b>Changes:</b> Now we take the name of the component by its component user name instead of taking it by the interface name, which is included into this component, since different components can have the same interfaces, while the user name of the component is unique inside the component catalog.</p>
13137	<p><i>Summary:</i> Some modifications to work on 64 bits architectures</p> <p><b>Improvement:</b> Supervisor module has been modified to work better on 64 bits architectures.</p>

## Study

13002	<p><i>Summary:</i> EDF231 Salome ask if we want to save the study even if it was just done</p> <p><b>Improvement:</b> Salome does not ask to save the study if "Store/Restore last GUI state" has been set in the preferences and the study has already been saved.</p>
10141	<p><i>Summary:</i> How to protect against a premature close of a study</p> <p><b>Improvement:</b> Four new methods for SALOMEDS::Study: SetStudyLock, IsStudyLocked, UnlockStudy and GetLockerID have been added. A special notification on closing a locked study has been introduced in GUI: in this situation the user is shown a warning and asked if she chooses to continue closing or to cancel it.</p>

## Other

13075	<p><i>Summary:</i> EDF240 HXX2SALOME cannot be built with native qt</p> <p><b>Improvement:</b></p> <ul style="list-style-type: none"> <li>- check_qt.m4 script has been replaced by a standard file from KERNEL_SRC_x.y.z/salome_adm/unix/config_files and the following files have been added: <ul style="list-style-type: none"> <li>ac_cxx_option.m4</li> <li>ac_linker_options.m4</li> <li>check_opengl.m4</li> </ul> </li> <li>. Makefile.am of HXX2SALOME_3.2.1/src has been corrected.</li> </ul>
13076	<p><i>Summary:</i> EDF241 CAS-6.1 Configure/Build with native Tcl/Tk (Includes)</p> <p><b>Improvement:</b> Open CASCADE make procedure has been updated in order to take into account TCL_INCLUDE_SPEC variable of tclConfig.sh.</p>
13243	<p><i>Summary:</i> HXX2SALOME : generated component don't have SalomeApp.xml file</p> <p><b>Improvement:</b> HXX2SALOME example has been updated in accordance with the last Salome architecture changes: SalomeApp.xml has been added in the template module archive, which is used to generate Salome components</p>
13288	<p><i>Summary:</i> Mandriva porting: a list of problems to be fixed.</p> <p><b>Changes:</b> The problem has been fixed by the usage of omniORB-4.0.7 product</p>

13398	<p><i>Summary:</i> EDF PAL 139 : trihedron_size &lt; 1</p> <p><b>New Features:</b> Now user can define the trihedron size less than 1.0. Minimum value and minimum step are equal to 0.000001.</p>
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## Processed and answered queries

8701	<p><i>Summary:</i> The number of edges of the mesh got via MESH and MED components are different.</p>
13020	<p><i>Summary:</i> EDF237 V3_2_1_pre: environnement is freezed because of the IHM of Salome</p> <p>This problem is not reproduced if Salome has been compiled with OCCT 6.1.1. If Salome has been compiled with an earlier version of OCCT, ContextMenu event is blocked while python script is running (in addition to mouse and keyboards events, blocked in Salome 3.2.1)This permits to avoid blocking of desktop environment by Salome.</p>
13264	<p><i>Summary:</i> EDF257 SUPERV Bad Makefile.in in the developpement unit GraphBase</p>
13375	<p><i>Summary:</i> batch with scripts based upon smesh.py and geompy.py</p>
13384	<p><i>Summary:</i> EDF PAL 275 : GEOM : Crash in the selection of the path in the "Extrusion...path" command.</p>

## Supported Linux distributions and pre-requisites

**SALOME 3.2.2** supports Mandrake 10.1, Debian Sarge, Mandriva 2006, RedHat 8.0, 9.0, RedHat Enterprise 4, Scientific Linux 4.2 and Mandriva 64 bit. Please note that SALOME is not certified on this latter OS.

**SALOME 3.2.2** version has been mainly tested with the following pre-requisite list on Mandrake 10.1 platform.

Following prerequisites are valid for SALOME 3.2.2 version. Please note that we try to use as much as possible of native products.

	Mandriva 2006	Debian Sarge	Mandrake 10.1	RedHat Enterprise 4	RedHat 8	RedHat 9	RedHat Scientific 4.2
<b>gcc</b>	4.0.1	3.3.5	3.4.1	3.4.1	3.2	3.2	3.4.4
<b>Tcltk</b>	8.4.5	8.4.5	8.4.5	8.4.5	8.0	8.0	8.4.5
<b>Python</b>	2.4.1	2.3.5	2.3.4	2.3.4	2.3.4	2.3.4	2.3.4
<b>Qt&amp;msg2qm</b>	3.3.4	3.3.4	3.3.3	3.3.3	3.3.3	3.3.3	3.3.3
<b>Sip</b>	4.2.1	4.1	4.1	4.1	4.1	4.1	4.1
<b>PyQt</b>	3.14.1	3.13	3.13	3.13	3.13	3.13	3.13
<b>Boost</b>	1.32.0	1.32.0	1.31.0	1.31.0	1.31.0	1.31.0	1.31.0
<b>Swig</b>	1.3.24	1.3.24	1.3.24	1.3.24	1.3.24	1.3.24	1.3.24
<b>OpenCascade Technology</b>	6.1,1	6.1.1	6.1.1	6.1.1	6.1.1	6.1.1	6.1.1
<b>Qwt</b>	4.2.0	4.2.0	4.2.0	4.2.0	0.4.1	0.4.1	4.2.0
<b>OmniORB</b>	4.0.7	4.0.5	4.0.5	4.0.5	4.0.5	4.0.5	4.0.7
<b>Hdf</b>	5-1.6.4	5-1.6.3	5-1.6.3	5-1.6.3	5-1.6.3	5-1.6.3	5-1.6.3
<b>Med</b>	2.2.3	2.2.3	2.2.3	2.2.3	2.2.3	2.2.3	2.2.3
<b>Vtk</b>	4.2.6	4.2.6	4.2.6	4.2.6	4.2.2	4.2.2	4.2.6

<b>Numeric</b>	23.7	23.7	23.7	23.7	22.0	22.0	23.7
<b>Graphviz</b>	2.2.1	2.2.1	2.2.1	2.2.1	1.9	1.9	2.2.1
<b>Doxygen</b>	1.4.6	1.4.6	1.4.6	1.4.6	1.4.6	1.4.6	1.4.6
<b>NETGEN</b>	4.5	4.5	4.5	4.5	4.5	4.5	4.5
<b>docutils</b>	0.3.7	0.3.7	0.3.7	0.3.7	0.3.7	0.3.7	0.3.7

However, 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 3.2.2 pre-compiled binaries for Mandrake 10.1, Debian Sarge, Mandriva 2006 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 3.2.0 are available in CVS via tag **V3\_2\_2**

The patch on **NETGEN** is placed inside NETGENPLUGIN sources. During the compilation of a plug-in, the patch is applied automatically to the standard NETGEN installation. 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

- NETGEN has not been ported on Mandriva 64 yet
- 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.
- 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 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.
- Problem of TestVisu20.xml failure in Supervisor still exists in version 3.2.2
- 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
- Due to some opened bugs, some non regression TUI tests fail:
  - MED component
  - SMESH module
  - GEOM module, partition problems
- End user documentation for Supervisor module was 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.