Changes between Versions 5.1.1 and 5.2.0 of Scilab

The version 5.2.0 provides numerous of major breakthroughs in the evolution of Scilab

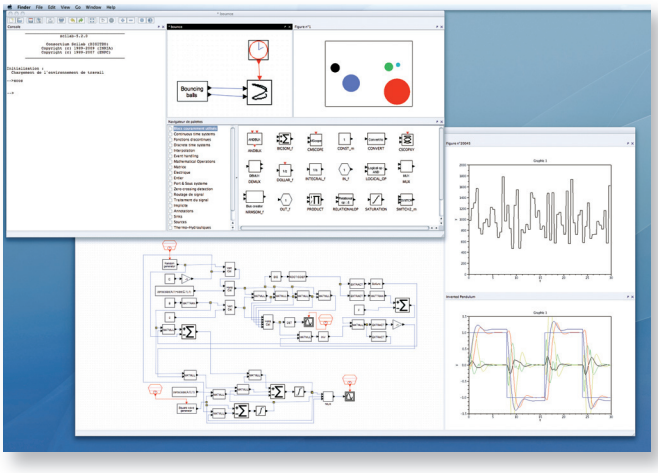
- Xcos provides a new state of the art user interface for Scicos (INRIA) which allows to take all advantages of the powerful simulator.
- ATOMS is an embedded packaging system for Scilab modules (toolboxes). This system allows the user to install modules in few seconds.
- This new version also provides many of top-notch features like LaTeX/MathMl in the Scilab graphics, new optimization functions, a unified and consistent API to extend Scilab, a new text editor, improved graphic exports, advanced scripting capabilities.

Xcos

Xcos is developed simultaneously and together with Scilab, and is included in Scilab distributions. Based on Scicos (INRIA), Xcos provides a new ergonomic and efficient block diagrams editor, with functionalities for modeling mechanical systems and control systems, and is particularly suitable for industrial and academic needs.

This new version provides numerous new features:

- Several diagrams can be edited at the same time
- Scilab can be used during the diagram construction
- Diagram edition is available even during simulation
- Drag and drop from palettes to diagram and between diagrams
- History (Undo/Redo) with a unlimited number of actions memorized
- Viewport to have an overall view of your diagram
- Palette window with new palettes organization
- Improved stability
- Better usability of menus
- Tool tips on block
- Big diagram managements
- Better integration of demonstrations
- Standard shortcuts (Copy/Paste/Undo/Redo/...)

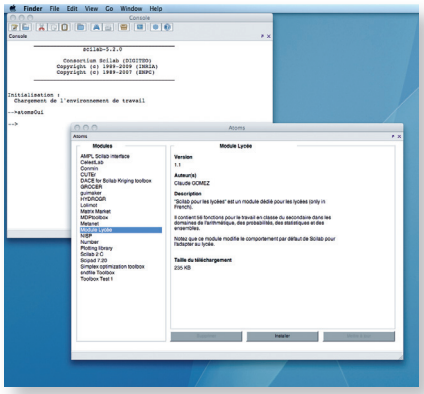


ATOMS

ATOMS is the packaging system for Scilab's modules. Thanks to ATOMS, any user running Scilab on a supported operating system is able to install any modules from Scilab or third-party repositories with only three clicks or with just one Scilab command.For example, the following command will install plotlib: atomsInstall("plotlib")

This command will:

- Download the binary package of plotlib from the Scilab repository
- Unpack the package
- Configure the package
- Load the package



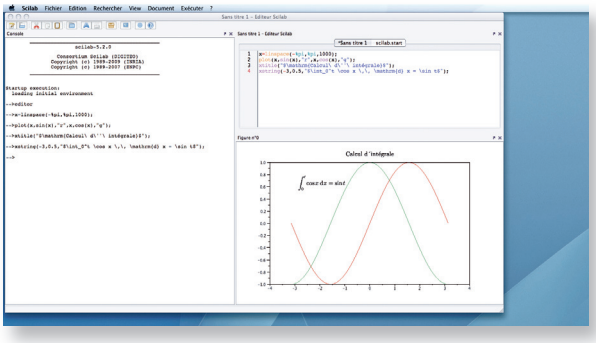
Many packages are already available and more are going to be offered on Scilab's repositories. This system is fully open to contributors. Anyone can manage his own module on Scilab ATOMS website (http://atoms.scilab.org) or run his own repository.
Note that ATOMS website replaces the current toolboxes/modules web interface.

Text Editor

A new text editor is implemented in this version of Scilab. The editor now follows the look and feel of Scilab and is integrated into the docking system.

The following features are available:

- Syntax colorization
- Automatic indentation
- Line numbering
- Execute into Scilab
- Comment/uncomment of blocks
- Go to line
- Help on the selected text



Note: The previous text editor (Scipad) remains available through ATOMS.

Graphics

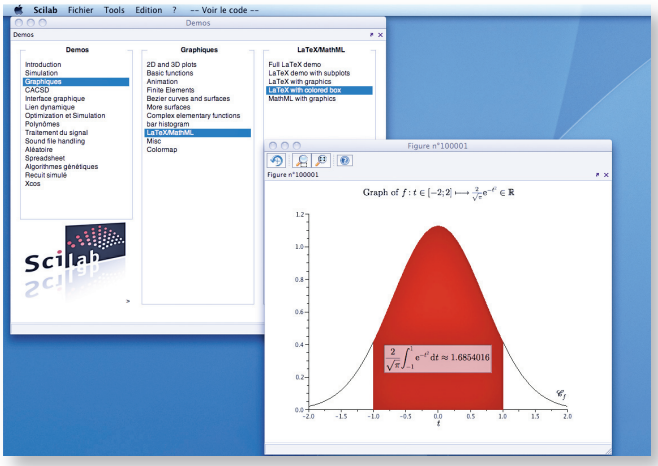
Text Rendering with LaTeX/MathML

The annotation of Scilab's graphics in MathML or LaTeX is now possible. It enables the integration of mathematical equations, greek variables, matrix displays... This is available in any cases where text can be set in the graphic (label, tick, title, xstring...). For example:

```
x = 1:0.25:10;y1 = 1 + sin(4*%pi*x / 10);plot(x,y1,'k-');
xstring(6,1.4,'$\leftarrow f \left( x \right) = 1 + \sin \left( \frac{x \cdot 4 \cdot \pi}{10} \right)$');
```

See demos => Graphics => LaTeX/MathML

Thanks to Calixte Denizet for this feature and the underlying API for LaTeX rendering (project JLaTeXMath).



Antialiasing on graphics

This new feature improves the quality of graphic rendering.
It can be activated with the following commands:

```
df = gdf(); df.anti_aliasing = "8x"; plot3d();
```

The rationnal and performance tests are available in SEP #16 or can be seen in Scilab bugtracker as Bug #2984.

Add transparency to markdrawing

'xbasc' is obsolete. See 'clf'

Text Rendering

New function "prettyprint" added

This function provides the capability to represent a Scilab variable to LaTeX, TeX and Mathml.

See SEP #36 for more information

pol2tex is now obsolete. Please use prettyprint instead

texprint is now obsolete. Please use prettyprint instead

- **Bug #5303 fixed** - pol2tex() cannot be used straightforwardly with the new "$...$" LaTeX feature.

Help Browser

Thanks to right button click, a popup menu shows the following features:

- Execute in Scilab
- Edit in the text editor
- Copy
- Select all
- History
- Help on the selected text

In the console and the text editor, in menu associated to a right button click, the item "Help on the selected text" has been added.

Graphic Export

Refactoring of the graphic export for vectorial files (PDF, EPS, PS & SVG) through FOP/Batik:

- Improved quality of the vectorial export
- Improved size of the PDF (PS & EPS are however bigger but this should be fixed in Scilab > 5.2.0)
- Handles export of graphics with LaTeX/MathML text
- **Bug #4200 fixed** - Export PDF what causing a "bad /BBox" with Acrobat.

Introduction of New Binaries

The goal of these changes is to improve the capabilities to use Scilab in different environments and use cases.

Scilab 5.2 introduces new binaries in the distribution:

- classical - The GUI application (equivalent to Scilab Standard Mode). This program is exactly the same as in the previous version and all arguments are still available
  Name: scilab
- Advanced Command-Line Interpreter (ACLI) - Interpreter in command line with graphic capabilities available (equivalent to Scilab NW Mode)
  Name: scilab-adv-cli
- Command-Line Interpreter (CLI) - Interpreter in command line without graphic or Tcl/Tk capabilities (faster) (equivalent to Scilab NWNI Mode)
  Name: scilab-cli

See SEP #18 for more details

The pipe has been plugged back under all operating systems

It is now possible to do:

- echo "disp(%pi)"|./bin/scilab-adv-cli
- echo "disp(%pi)"|./bin/scilab-cli
- echo "disp(%pi)"|./bin/scilab -nw
- echo "disp(%pi)"|./bin/scilab -nwni

Add error code capability to exit

See SEP #19 and Request #505

Example: echo "if 1<>2 then exit(99) end"|scilab -nwni; echo $? returns 99

Optimization

New features:

- neldermead component for simplex-based direct search optimization
- nmplot component for fast plots of neldermead optimization
- optimbase component to build optimization algorithms
- optimsimplex component to build direct search algorithms
- fminsearch optimization function
- optimget/optimset to configure fminsearch
- optimplotfunccount, optimplotfval, optimplotx as plotting functions for fminsearch

Improvements:

- Added examples in the help of optim for logging feature and optimization based on numerical derivatives

Extension capabilities of Scilab (API Scilab)

In the previous versions of Scilab, there was no clear or easy way to extend Scilab or to use it as an embedded application. Knowing these drawbacks, Scilab 5.2 tackles all those issues by providing a new consistent, documented and easy way to use API

A new API called api_scilab is available

This API provides functions to read/write data from/to Scilab memory. It provides many advantages:

- Management of all Scilab data types
- Consistency over all data types
- Error management
- Fully documented
- Fully tested by unitary tests
- And it will be maintained over future versions of Scilab

Note that all other Scilab API (straight access to the Scilab stack, stack1, stack2 and stack3) will be maintained in the Scilab 5.X family but most of them will be dropped in the 6 family.
Do not hesitate to submit a bug report if you would like to see new features and functions in Scilab API.

In the enum sci_types which lists all Scilab data types, the type "sci_lufact_pointer" has been renamed "sci_pointer"

A define of "sci_lufact_pointer" on "sci_pointer" has been added to backward compatibilities. The rationale is to improve the use in special case of the pointer data type to avoid memory duplication.

Under all operating systems but Windows, all headers are not installed in a single directory in order to simplify the use of Scilab features in the dynamic link

See SEP #32 for more information

From this version of Scilab, only a defined and documented number of headers are installed

Thanks to this change, a module/toolbox developer knows exactly what are the available functions provided by Scilab.
See SEP #35
Do not hesitate to contact us if you have been using a Scilab header which has been removed from Scilab 5.2.

call_scilab module

Call Scilab is the API which allows Scilab to be called as computing engine or embedded into a third-party application. From this version, Call Scilab is based on Scilab API and handles all Scilab data types (in previous versions, Double, Boolean, Complex Matrices and String elements were managed). The Call Scilab function has the same profile as Scilab API with 'Named' into the function name.

CallScilab.h renamed call_scilab.h

See SEP #34
CallScilab.h is still available and points to call_scilab.h

Documentation and examples about call_scilab added

(BooleanManagement
call_scilabcompile_and_run_call_scilab
DisableInteractiveMode GetLastJob
DoubleManagementScilabHaveAGraph SendScilabJobs
SendScilabJob StartScilab
StringManagementTerminateScilab)

Some function profiles in stack3.h provided to manage named variable have been moved in CallScilab.h

Please note that we have not changed the ABI and the symbols remain in the core library.
The goal of this modification is to separate functions dealing with the call_scilab API and the internal API used in the gateways.
Note that all moved functions are considered as obsolete.

In call_scilab, all previous functions available to read/write data from/to the Scilab engine are now obsolete but supported until Scilab 6:

- C2F(readmat) is obsolete. Please use readNamedMatrix in api_double.h
- C2F(readchain) is obsolete. Please use readNamedMatrixOfString or readNamedMatrixOfWideString in api_string.h
- C2F(matptr) is obsolete. Please use readNamedMatrixOfDouble in api_double.h
- C2F(creadmat) is obsolete. Please use readNamedMatrix in api_double.h
- C2F(creadbmat) is obsolete. Please use readNamedMatrixOfBoolean in api_boolean.h
- C2F(creadcmat) is obsolete. Please use readNamedComplexMatrixOfDouble in api_double.h
- C2F(creadchain) is obsolete. Please use readNamedMatrixOfString or readNamedMatrixOfWideString in api_string.h
- C2F(creadchains) is obsolete. Please use readNamedMatrixOfString or readNamedMatrixOfWideString in api_string.h in api_string.h
- C2F(cmatptr) is obsolete. Please use readNamedMatrixOfDouble in api_double.h
- C2F(cmatcptr) is obsolete. Please use readNamedComplexMatrixOfDouble in api_double.h
- C2F(cmatsptr) is obsolete. Please use createNamedMatrixOfString or createNamedMatrixOfWideString in api_string.h

- C2F(cmatbptr) is obsolete. Please use createNamedMatrixOfBoolean in api_boolean.h
- C2F(cwritemat) is obsolete. Please use createNamedMatrixOfDouble in api_double.h
- C2F(cwritecmat) is obsolete. Please use createNamedComplexMatrixOfDouble in api_double.h
- C2F(cwritechain) is obsolete. Please use createNamedMatrixOfString or createNamedMatrixOfWideString in api_string.h
- C2F(cwritebmat) is obsolete. Please use createNamedMatrixOfBoolean in api_boolean.h

"make check" now also builds call_scilab examples

Examples Added:
- An example to call Scilab from C# added
See SCI/modules/call_scilab/examples/call_scilab/NET/C# directory
- An example to call Scilab from VB.NET added
See SCI/modules/call_scilab/examples/call_scilab/NET/VB.NET directory

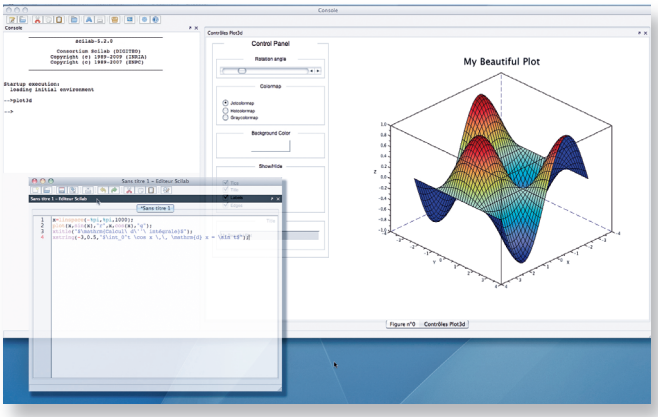
Option Configuration

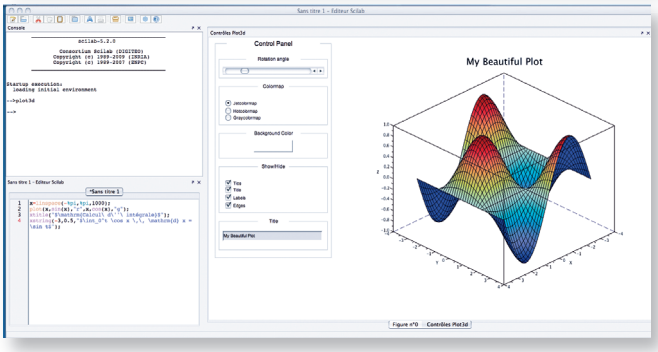
The file jvm_options.xml has been moved into etc/jvm_options.xml in order to facilitate the use of this configuration file.

Mac OS X

Support of Snow Leopard

Docking system enabled:





Bug Fixes:
- **Bug #4087 fixed** - Under Mac OS X, an Apple + C shortcut (Ctrl + C) did not work from the console
- **Bug #4393 fixed** - When launching Scilab from the puffin icon, it did not detect the locale and switched to English
- **Bug #4508 fixed** - When saving / exporting a figure under Mac OS X, a file could not be created
- **Bug #4949 fixed** - Using Xcos / Scicos in the source tree environment, with schema using sundials library, the application had problems to load the dynamic library.

Toolbox Skeleton

The toolbox skeleton is an example of standard toolbox which shows most of the use cases.

Examples of gateways functions (c_sum, f_sum, cpp_find) rewritten with new API

Cleaner added

Input / Output Functions

Input arguments of fprintf are now checked

Rewrite:
- getenv
- diary - SEP #23

Core Functions

Rewrite:
- mode
- predef
- type
- typename
- whereis

sethomedirectory is obsolete
See home

getf is obsolete
See exec

fileio Functions

Input arguments of functions are now checked
mclearerr, mclose, merror, mget, mgetstr, meof, mopen, mput, mputstr, mseek, mtell

fileinfo manages column vector of strings
See SEP #25

basename uses fileparts

pathconvert
If the flagtrail argument is set to FALSE and the trailing separator of the path is removed (if present of course)
See Bug #4468

getcwd is obsolete
See pwd

isfile
Checks if filename is an existing file.

movefile
Moves files or directory.
See Request #661

Rewrite:
- copyfile (primitive)
- fileparts (primitive)
- isdir manages matrix of strings as input argument
- basename (primitive)
- pathconvert (primitive)
- cd, chdir (primitive)

Dynamic Link

Windows: temporary files (objects) are generated in an intermediate subdirectory (Release or Debug)
ilib_for_link and ilib_gen_Make (with Visual studio) use a same makefile template
See SCI/modules/dynamic_link/src/scripts/TEMPLATE_MAKEFILE.VC

ilib_for_link and ilib_gen_Make with lcc-win32 use a same makefile template
See SCI/modules/dynamic_link/src/scripts/TEMPLATE_MAKEFILE.LCC

ilib_verbose Set level of display returned by dynamic link functions
See SEP #17

Add an example to call a Scilab macro from a C interface
See SCI/modules/dynamic_link/examples/interfaces/call_scilab_function directory

a 'cleaner.sce' file is generated by 'ilib_for_link' and 'ilib_build'

addinter: each interface added can manage 999 functions
See Bug #4675

ilib_gen_gateway can generate gateway without PutLhsVar (Managed by user, in this case)
See help of 'ilib_gen_gateway' about this modification and SCI/contrib/toolbox_skeleton/sci_gateway/c/builder_gateway_c.sce (example)

ilib_gen_loader now generates loaders which can be executed outside the loader's directory

Bug Fixes:
- **Bug #4726 fixed** - Under Windows, when the dynamic link was copying the files, in some cases, it was going to copy backup files (for example, sci_luinc.c.bak instead of sci_luinc.c)
- **Bug #4919 fixed** - If the source file was stored in TMPDIR, the dynamic link was removing the content of this file

Online Help

Sub-chapters are now allowed
See SEP #24

xmltochm exports help to chm format (Windows)

add_help_chapter now accepts string array as input argument: consequently, several online help chapters can be added at the same time

add_help_chapter now accepts to add help chapters with the same title

In the documentation, the font size of the equations has been increased for a better readability

Javasci FAQ page added

Online help XML files have been converted into UTF-8

Source Reorganization

Makefile.incl.mak (Windows, dynamic link) moved from SCI directory to SCI/modules/src/scripts

newest, get_absolute_file_path, getrelativefilename moved from io to fileio

printf, msprintf, mprintf, print moved in output_stream module

disp moved in output_stream module

oldsave, oldload functions (only used with macros of Scilab 2.4) are removed
Replaces oldsave, oldload by save and load in your code.

libs/MALLOC/src/malloc.c is no longer build (used to be built for 64 bits archs)
Note that if Scilab is built on a 64 bits and triggers a seg fault on startup, uncomment the related line in libs/MALLOC/Makefile.am and launch autoreconf.

Bug Fixes:
- **Bug #3668 fixed** - lib, deff, getf, exec, execstr moved in functions module
- **Bug #3668 fixed** - formatnumber.f, dmdsp.f, ... moved in output_stream module
- **Bug #3669 fixed** - integrate, intc and intl moved in Differential equations interp1, interp2d and splin2d moved in the Interpolation module

Compilation

Visual studio uses default runtime library/MD (msvcrt.lib) to build all libraries of Scilab

Scilab on Windows built with Intel Fortran 11.0.061 and Intel C++ 11.0.074

Symbols in dlls are explicitly exported on Windows
In previous versions of Scilab, all symbols were exported.

modelicac (Xcos/Scicos) built with Ocaml 3.11.0 on Windows

blas, lapack, arpack libraries moved as pre-requirements (Windows)

blas, lapack libraries moved as pre-requirements (Linux/Unix/Mac OS X)

lapack 3.2 used on Windows

functions module is dynamically loaded by Scilab

--enable-debug-java add two options to the JVM args (-verbose:jni and -Xcheck:jni) in order to provide more feedbacks on debug
Note that this should not be used into a binary since it is expensive.

In some cases, under Windows, the detection of libjogl.* was failing because of a missing explicit link against libGL.*

Updates:
- autoconf updated to version 2.64
- automake updated to version 1.11
- libtool updated from version 1.5.26 to 2.2.7a (Closes Bug #4279) with some patches for Mac OS X/Darwin support
- Rebuild some C++/Java wrappers with a newest version of SWIG
- C++ => Java connector updated
  Using GIWS - http://www.scilab.org/giws/ version 1.0.5
  There was a bug in GIWS: The use of a static method returning an int was not calling the right method. It did not seem to trigger any errors in the past but the latest version of the JDK is now complaining.

Patches applied (see Bugs #4506, #4517 & #4588) by Dan McMahill
They fix some compile time problems under NetBSD which also improve all operating systems but Windows:
- Adds some missing $host to the 64 bit list
- Adds a needed compiler flag for alpha-*-netbsd
- Adds autoconf check for term.h header
- Adds autoconf checks for gettext
- Adds autoconf check for dlopen in -ldl (on some systems, we do not need -ldl because dlopen is in libc).
  Do not hardcode linking with -ldl but rely on this new check
- Adds correct getrlimit() argument for NetBSD and DragonFly
- Avoids pulling in an OSF1 specific header on NetBSD/alpha
- Adds missing newline at the end of a file
- Adds missing XML LIBS and CFLAGS
- Adds LTLIBINTL to the list of common objects needed for linking the top level binary
- Adds checks for term.h and termcap.h headers
- Adds check for -lpthread
- Reworks the checks for curses a little bit to search for curses.h and -lcurses first followed by ncurses.h and -lncurses
- Uses configure results to protect the inclusion of curses.h, ncurses.h, term.h, and termcap.h
- Adds __DragonFly__ to a few conditional lines
- Removes the static declaration of BC to match what was found in a header file
- Adds missing enable_keypad_mode()
- Uses configure results to protect the inclusion of curses.h, ncurses.h, term.h, and termcap.h
- Large amounts of cleanup of the PVM configure code
  (Closes Bug #4151)

Improve detection of build/run environment under GNU/Linux Debian under arm, armel, mips & mipsel

Tree functions

User Interface tree functions added:
uiInsertNode uiGetParentNode uiGetNodePosition uiGetChildrenNode uiFindNode uiEqualsTree uiDumpTree uiDeleteNode uiCreateTree uiCreateNode uiConcatTree uiDisplayTree

Tests

test_run() now accepts Sub-Modules
See SEP #31

Internationalization and Characters Encoding

Portugues do Brazil localization added
Thanks Daniel de Souza Grilo and others

Japanese localization added
Thanks Hiroshi Saito

More help pages translated to Portugues do Brazil
Thanks Daniel de Souza Grilo

Catalan localization added to Scipad
Thanks Oriol Gonzalez

Japanese localization added to Scipad
Thanks Hiroshi Saito

Characters encoding:
- Strings manipulations functions updated to use wide characters. This feature add ability to manipulate any language on any system regardless of the system code page.

- Internal C functions added: readNamedMatrixOfWideString, createNamedMatrixOfWideString, getMatrixOfWideString, createMatrixOfWideString in api_string.h to manage wide characters with scilab API.
- input/output files functions also updated to use wide characters.
- Default file format encoding used by Scilab is UTF-8.

Bugs Fixes:
- **Bug #2627 fixed** - Scilab 5 console retrieved input strings in UTF-8 format and Scilab does not manage this format but ISO-8859
- **Bug #3228 fixed** - ascii function was broken for extended set (example: ascii('È'))
- **Bug #3433 fixed** - Length with a UTF string returned an incorrect size
- **Bug #3472 fixed** - Dropping files into Scilab shell did not work when the path contained accented characters
- **Bug #3666 fixed** - 'input' returned accented characters.
- **Bug #3701 fixed** - "Error during call to UTFToLocale: No such file or directory" on Windows
- **Bug #3839 fixed** - strrev() did not work correctly if the string to be reversed included some accented characters
- **Bug #4003 fixed** - setenv & getenv did not manage utf string on Windows
- **Bug #4012 fixed** - Display of month and week were wrong in sessions starts and ends (history manager)
- **Bug #4019 fixed** - With -nw or -nwni mode on Windows, console returned error about localization
- **Bug #4068 fixed** - Accented names in directories were not supported
- **Bug #4145 fixed** - Simplified Chinese file names were not shown properly
- **Bug #4233 fixed** - exec command with a UTF filename failed
- **Bug #4277 fixed** - strsubst,regexp, strindex, grep returned strange results if accented characters and character class were associated in the pattern to match
- **Bug #4617 fixed** - Some items (Console pull down menu and help browser item) were not translatable
- **Bug #4660 fixed** - Error in the French localization (Edit instead of Edition)
- **Bug #4758 fixed** - Embedded version of autoconf libs.m4 were causing some issues
- **Bug #4768 fixed** - strsplit returned strange results with accented characters
- **Bug #4915 fixed** - The default font in some of the uicontrols applications in Scilab were not handling correctly for the Japanese and others languages. This was happening with m2sci and the demos browser.
- **Bug #5071 fixed** - isletter("È") returned [%F %F] instead of %F
- **Bug #5072 fixed** - strspn("aÈio","Èa") returned 3 instead of 2

String Manipulation

Rewrite:
- strsplit

See SEP #26

'NumTokens' is obsolete

See 'tokens'

Java / Scilab API

Uses api_scilab functions to write & read data (internal for javasci)

SciInteger class added

Functions Removed

lgfft

See Bug #4600

Linear Algebra

Clarified documentation for lu function

Elementary Functions

'sort' is obsolete

See 'gsort'

TCLSCI Interface

'tk_getdir' is obsolete

See 'uigetdir'

'tk_savefile' is obsolete

See 'uiputfile'

GUI Interface

'x_message_modeless' is obsolete

See 'messagebox'

Bug Fixes

- **Bug #336 fixed** - pspect and cspec help pages improved
- **Bug #415 fixed** - Order in the roots of a polynomial fixed
- **Bug #667 fixed** - scilab.start-file caused an initialization error when you used predef('all') in a user startup file
- **Bug #1412 fixed** - A(3,3)=%s,A(:)=%z caused Scilab to hang
- **Bug #1451 fixed** - theta, alpha, leg, flags as optional named arguments for hist3d set
- **Bug #1628 fixed** - With long programs (several hours) a negative value for timer() was got
- **Bug #1776 fixed** - funcprot accepted non-integer arguments
- **Bug #1809 fixed** - Warning message (figure_size) after an invalid graphical script added
- **Bug #1885 fixed** - histplot starts from %eps rather than 0 to avoid logarithmic trouble
- **Bug #2042 fixed** - copy function altered axes properties
- **Bug #2043 fixed** - The function copy applied to an axis handle did not work
- **Bug #2238 fixed** - Function returned a wrong error
- **Bug #2275 fixed** - isvector help page added
- **Bug #2347 fixed** - "fun2string" indentation problem with select/case instruction
- **Bug #2446 fixed** - "while" documentation help page improved to explain that the keywords do or then can be omitted
- **Bug #2453 fixed** - mfscanf and probably the other variants msscanf mscanf could crash Scilab when first argument was -1 (any number of lines)
- **Bug #2509 fixed** - execstr forgot to store the function name and line number in the errcatch mode
- **Bug #2537 fixed** - xstring feature improved
- **Bug #2570 fixed** - LCC did not work with some "stk" ref on some old toolboxes
- **Bug #2588 fixed** - Calling a function with no input argument contained in a mlist generated an error
- **Bug #2649 fixed** - diary() function could not be nested
- **Bug #3131 fixed** - a glibc >= 2.4 was mandatory (causing Scilab to fail under Debian Etch, Centos 4.X and some other old operating systems)
- **Bug #3184 fixed** - Ticks of colorbar had disappeared
- **Bug #3200 fixed** - add_help_chapter returned a boolean result which was not explained in the help page
- **Bug #3201 fixed** - Help page for the function del_help_chapter added
- **Bug #3264 fixed** - More explicit message when too many files have been opened added
- **Bug #3422 fixed** - The keyword for history search was not updatable
- **Bug #3478 fixed** - file function returned a wrong error message when file did not exist
- **Bug #3488 fixed** - Dynamic link functions can now handle Fortran 90 code
- **Bug #3533 fixed** - lib(dir_path) did not work if the final slash was missing in dir_path
- **Bug #3537 fixed** - Problem with examples in French help page for metanet functions. The old graph data structure was used
- **Bug #3543 fixed** - Wrong parenthesize in struct indices (code generated by tree2code)
- **Bug #3580 fixed** - A gateway declaration containing a false primitive ID or gateway ID crashed Scilab
- **Bug #3593 fixed** - macros to read and write csv file format updated
- **Bug #3612 fixed** - History manager did not work at startup
- **Bug #3660 fixed** - font_angle was lost on the axis label when exporting through xs2pdf (Thanks to Paul Griffiths for the patch)
- **Bug #3675 fixed** - Issues when saving/loading gui (uicontrols,figure...) fixed
- **Bug #3772 fixed** - Input argument of 'predef' was not correctly checked
- **Bug #3773 fixed** - 'ans' was protected with predef('all')
- **Bug #3849 fixed** - Path selected for graphics export is now memorized and used as default for next export file selection
- **Bug #3884 fixed** - chdir, getcwd, pwd moved from core to fileio module
- **Bug #3923 fixed** - diary() function produced bad files when it tried to record interactive commands
- **Bug #3953 fixed** - delete() always set the current entity to the parent of the deleted entity
- **Bug #3980 fixed** - Wrong line number in error message
- **Bug #3992 fixed** - Some invalid dependencies on external libraries removed
- **Bug #4030 fixed** - unix_w('dir /s') could display strange matrix on Windows
- **Bug #4090 fixed** - Draw did not work inside drawlater/drawnow scope
- **Bug #4101 fixed** - -ns option was not clearly explaining that it was disabling many Scilab features
- **Bug #4110 fixed** - Demos order was different between Linux and Windows versions
- **Bug #4181 fixed** - AdCommunications help page removed
- **Bug #4183 fixed** - The function readmps has been moved to the optimization folder
- **Bug #4184 fixed** - Style of the examples corrected
- **Bug #4217 fixed** - gsort sorted complex by magnitude only with 'g' and not support 'r', 'c', 'lr', 'lc'
- **Bug #4222 fixed** - Documentation page on fromc and fromjava added
- **Bug #4232 fixed** - Problem in the Java detection with GNU/Linux under PowerPC fixed
- **Bug #4262 fixed** - Lines returned incorrect values
- **Bug #4263 fixed** - Completion cleaned current input line
- **Bug #4267 fixed** - A non-initialization of a lock under Netbsd was causing an error on startup
- **Bug #4277 fixed** - Force UTF8 management in pcre processing
- **Bug #4278 fixed** - typename() called with a wrong number of input arguments returned incoherent errors
- **Bug #4298 fixed** - ilib_for_link failed with lcc-win32 (Windows)
- **Bug #4304 fixed** - Fail to build with ./configure --without-gui

- **Bug #4307 fixed** - Deactivate (in modules.xml) modules if their functionalities are not available
- **Bug #4307 fixed** - Help file for %io added
- **Bug #4330 fixed** - stacksize('max') + stacksize (required_mem) did not work
- **Bug #4347 fixed** - messagebox(): buttons were displayed in reverse order with respect to their order in the vector specifying them (Windows)
- **Bug #4351 fixed** - Test about 'exit' did not work on Linux
- **Bug #4358 fixed** - Changing defaultstacksize in scilab.start did not work
- **Bug #4360 fixed** - The reference of bug_3954.tst was missing
- **Bug #4364 fixed** - stacksize('max') + stacksize (required_mem) did not work
- **Bug #4365 fixed** - Completion failed on a wrong path
- **Bug #4366 fixed** - The test dsaupd.tst was not working
- **Bug #4369 fixed** - Help for text_properties: For the clip_state attribut, the second possible value was 'clipgrf' instead of 'cliprf'
- **Bug #4378 fixed** - The gamma function did not work properly with large numbers under Linux 64 bits
- **Bug #4379 fixed** - If the thickness property (of plot3d for example) was set to 0, the lines / edges could disappear
- **Bug #4380 fixed** - diary(0) without an initialization of diary crashed Scilab
- **Bug #4380 fixed** - Help page of the printf command had a problem
- **Bug #4380 fixed** - Merror error codes documented
- **Bug #4385 fixed** - The param3d_properties page has been removed, but a lot of links to this page remained in the documentation
- **Bug #4386 fixed** - Dynamic link: link('show') displayed only one library if we had only one symbol
- **Bug #4391 fixed** - make install-html (when the option --with-install-help-xml was added to the configure) was not installing MathML sources
- **Bug #4394 fixed** - 'origin' as position for X and Y axes added
- **Bug #4395 fixed** - Incorrect descriptions of the axesflag and nax parameters in the plot2d help page
- **Bug #4396 fixed** - In Plot2d, the nax option could receive -1 for number of ticks, which meant autoticks
- **Bug #4401 fixed** - isnum returned wrong values
- **Bug #4403 fixed** - ieeefp.h was not included under Solaris in evaluate_expr.c isinf was defined (when not provided by the system) with a return
- **Bug #4407 fixed** - Help file scilab_xx_XX_help.jar had another scilab_xx_XX_help.jar embedded and not valid
- **Bug #4409 fixed** - Fortran optim subroutines used fwrite (fortran) and not basout as standard output
- **Bug #4414 fixed** - Complex grayplots were not saved correctly in Scilab 5.1
- **Bug #4421 fixed** - Completion failed on some relative path
- **Bug #4426 fixed** - uigetfile() - File name was cut when one was in the root directory
- **Bug #4428 fixed** - Function compute_initial_temp could not handle functions with several arguments
- **Bug #4429 fixed** - Use hidden_axes instead of hidden_axis
- **Bug #4430 fixed** - Incorrect description of the margins property in the axes_properties help page
- **Bug #4431 fixed** - xsegs() accepted z argument
- **Bug #4433 fixed** - Problem using optim. In some cases, the optim function made Scilab hung
- **Bug #4435 fixed** - bench_run is now documented
- **Bug #4437 fixed** - Exporting an empty figure crashed Scilab
- **Bug #4438 fixed** - Completion did not support insert mode
- **Bug #4439 fixed** - Unexpected complex conjugates when using cat
- **Bug #4459 fixed** - grayplot did not always plot map containing %nan
- **Bug #4461 fixed** - Redefined prompt not displayed in a diary
- **Bug #4463 fixed** - Creating an one-colored Sgrayplot generated some exceptions and did not plot anything
- **Bug #4466 fixed** - .' operator defined for strings and booleans
- **Bug #4467 fixed** - getshortpathname,getlongpathname did not manage string matrix as input
- **Bug #4468 fixed** - pathconvert(<path>,%F) could remove last trailing separator
- **Bug #4469 fixed** - getmd5() & mopen hung if there were called with an existing directory as input argument and not a filename (Linux)
- **Bug #4474 fixed** - Help of 'fort' was obsolete
- **Bug #4474 fixed** - addinter help had no example
- **Bug #4479 fixed** - A few minor bugs were causing the configure to fail under FreeBSD

Thanks to Otacílio de Araújo Ramos Neto

- **Bug #4483 fixed** - Handle FreeBSD Java detection
- **Bug #4486 fixed** - When a file had been opened for execution with "File/Execute..." menu, its pathname was lost
- **Bug #4489 fixed** - oldsave and oldload removed
- **Bug #4491 fixed** - get() with wrong argument causes EXCEPTION_ACCESS_VIOLATION error
- **Bug #4492 fixed** - output_stream_gateway.xml was not included in Windows binary
- **Bug #4495 fixed** - exec did not check second and third input arguments
- **Bug #4496 fixed** - in tbx_build_gateway help page, ismex parameter was not documented
- **Bug #4497 fixed** - xmltoformat got stuck in directories beginning with '.'
- **Bug #4498 fixed** - merror() returned weird strings if called before opening files
- **Bug #4499 fixed** - basename returned a wrong value if a file or a directory started with a dot
- **Bug #4500 fixed** - basename('') returned an error
- **Bug #4501 fixed** - mput() no more allowed integer types as first input argument
- **Bug #4507 fixed** - Depending on the Fortran runtime libraries a dummy main definition was needed
- **Bug #4514 fixed** - valgrind.supp was not installed
- **Bug #4515 fixed** - Linking and loading some external functions already used crashed Scilab
- **Bug #4516 fixed** - ilib_for_link did not use ilib_gen_loader but an internal function

- **Bug #4518 fixed** - ilib_build with a column vector of strings as filenames did not work on Linux
- **Bug #4522 fixed** - The Tcl interpreter initialization code made use of some uninitialized variables
- **Bug #4525 fixed** - scilab.sln and scilab_f2c.sln did not apply the same dependencies on libraries (Windows)
- **Bug #4528 fixed** - makefile (Windows) generated by ilib_for_link forced to rebuild all files each time
- **Bug #4530 fixed** - Leg labels curves were in reverse order
- **Bug #4533 fixed** - Link failed on some path (Windows)
- **Bug #4539 fixed** - Some optional parameters were not set in hist3d
- **Bug #4542 fixed** - Unexpected interpreter warning
- **Bug #4546 fixed** - Error message added for linpro function (moved to an external function)
- **Bug #4547 fixed** - Examples of javasci with graphics were no more interactive
- **Bug #4548 fixed** - With Intel Fortran, file unit opened in an external dll were not shared
- **Bug #4551 fixed** - Menus could return an error in GUI mode (error 2 Invalid factor)
- **Bug #4552 fixed** - C++ comments in stack3.h have been translated into C comments
- **Bug #4564 fixed** - Unable to edit matrices using x_mdialog function
- **Bug #4565 fixed** - getvalue macro was defined twice
- **Bug #4573 fixed** - core.start tried to load add_module_help_chapter even if it did not exist
- **Bug #4574 fixed** - ilib_build did not check if library was already loaded in Scilab
- **Bug #4580 fixed** - rpem documentation made more accurate
- **Bug #4584 fixed** - Under Windows, home value was wrong
- **Bug #4585 fixed** - Scilab failed to build with Intel C++ compiler 11.0.074 on Windows
- **Bug #4586 fixed** - Function fieldnames added for getting tlist, mlist and struct field names (see SEP #28)
- **Bug #4592 fixed** - The ged entity picker produced an error if a menu had been added to the graphic window
- **Bug #4596 fixed** - g_margin failed to return the gain margins in some cases
- **Bug #4600 fixed** - Missing function inside lgfft (lgfft needed to be removed)
- **Bug #4601 fixed** - Hidden functions and missing help for vec2list list2vec aplat and recons
- **Bug #4603 fixed** - Unknown function lst2tree called by function mtlb_eval (+ some other problems fixed in mtlb_eval)
- **Bug #4604 fixed** - rmdir(<dir>,"s") did not work if it contained a hidden file (starting with a dot)
- **Bug #4605 fixed** - basename('') returned an error
- **Bug #4606 fixed** - Example of 'link' in help did not work
- **Bug #4608 fixed** - get_function_path returned a non-consistent path
- **Bug #4611 fixed** - what function did not return a complete list of functions
- **Bug #4612 fixed** - The graphic export used to consider .jpeg as an invalid extension
- **Bug #4614 fixed** - On some (rare) archs/OS, File -> Export on a graphic could led to a crash
- **Bug #4615 fixed** - xs2jpg(0, '/tmp/myplop.jpeg'); was creating a file called /tmp/myplop.jpeg.jpg
  Thanks to Guilherme Kunigami for the fix
- **Bug #4616 fixed** - Text strings in SVG output were not rotated. *Thanks to Paul Griffiths for the patch*
- **Bug #4618 fixed** - buttmag produced a warning because of redefining symbol sample
- **Bug #4620 fixed** - The setenv function made Scilab hung
- **Bug #4626 fixed** - When using the CLI version, completion made Scilab crashed
- **Bug #4627 fixed** - The function matfile2sci did not manage 7.x format
- **Bug #4630 fixed** - Problem with the Xocs/Scicos block display
- **Bug #4634 fixed** - The expression "old graphic" has been removed from the graphics help pages
- **Bug #4635 fixed** - Bad title in the French help of the graphic module
- **Bug #4636 fixed** - Metanet on-line help: an accent was missing on the "e" in the French version
- **Bug #4638 fixed** - This example with optim froze Scilab
- **Bug #4639 fixed** - Some graphics demos did not contain the menu item "show code"
- **Bug #4641 fixed** - The parameter Q of the function derivative was not clear
- **Bug #4645 fixed** - French 'gsort' help had some wrong information
- **Bug #4646 fixed** - Assigning a string to an element of a matrix of numbers did not give an error
- **Bug #4650 fixed** - SCI/modules/graphics/macros/Sfgrayplot.sci had not been modified for localization
- **Bug #4654 fixed** - Max of an empty sparse matrix made Scilab hung
- **Bug #4656 fixed** - part(input_matrix,[]) always returned a single string even if input_matrix had several dimensions
- **Bug #4658 fixed** - For graphics macros from adddcolor to getfont and all colormap
- **Bug #4666 fixed** - SCIHOME was not well defined if Scilab had been launched in another Scilab session
- **Bug #4670 fixed** - ilib_build examples updated with api_scilab
- **Bug #4676 fixed** - diary() removed whitespaces characters from the output of mprintf()
- **Bug #4683 fixed** - There was no example of the use of tlist in the dedicated page
- **Bug #4684 fixed** - printf(), mprintf, msprintf did not properly deal with -%inf
- **Bug #4688 fixed** - listfiles("/") returned an error
- **Bug #4689 fixed** - diary() did not report interactive commands into the output file
- **Bug #4695 fixed** - Some help pages + examples were missing in the arnoldi package
- **Bug #4702 fixed** - On some cases, dos(cmd) did not return results
- **Bug #4707 fixed** - Could not save a Xcos/Scicos diagram to a non-existing file under Mac OS

- **Bug #4709 fixed** - The set function with 2 parameters and no handles made Scilab hung
- **Bug #4710 fixed** - Error with C++ interface which used the function CreateVar
- **Bug #4712 fixed** - By GUI handle affectation produced an error
- **Bug #4719 fixed** - fsolve might failed on some system of equations. An example in the documentation was added
- **Bug #4724 fixed** - When the f variation of a data set was too small, plot hung
- **Bug #4727 fixed** - The function 'length' did not return the same value in Scilab 5.1 and Scilab 4.1.2
- **Bug #4728 fixed** - The function 'strcat' did not return the same value in Scilab 5.1 and Scilab 4.1.2
- **Bug #4732 fixed** - The help page of function ss2ss had some missing part
- **Bug #4737 fixed** - Completion failed on file extension search
- **Bug #4744 fixed** - whereis, librairieslist, libraryinfo primitives moved in "functions" modules
- **Bug #4746 fixed -** Some ID for constraint linkend were missing
- **Bug #4750 fixed** - Error boolean catenation
- **Bug #4752 fixed** - ci2exp produced erroneous code when applied to boolean matrices (; were missing)
- **Bug #4753 fixed** - If you had a module and you launched scilab-cli, you had an error message at startup
- **Bug #4759 fixed** - Better error message in nlev when called with no input argument provided
- **Bug #4767 fixed** - Typo in minreal were causing errors in some cases
- **Bug #4770 fixed** - modules::renderer::utils::ColorMap::isValidScilabIndex test was wrong
- **Bug #4773 fixed** - Using "axes_reverse" produced a switch between the front and back color of a figure
- **Bug #4789 fixed** - Number of input arguments was not checked in ilib_functions (dynamic_link module)
- **Bug #4792 fixed** - Macro name too long
- **Bug #4795 fixed** - CallScilab.h renamed call_scilab.h
- **Bug #4797 fixed** - macro make_help_index.sci (internal) removed (not used in Scilab 5.x)
- **Bug #4798 fixed** - pathconvert macro rewritten as a primitive (many times used and not faster)
- **Bug #4807 fixed** - strsubst did not check if second argument was a valid patter where fourth argument was 'r'
- **Bug #4810 fixed** - gsort did not manage sparse vectors as sort
- **Bug #4811 fixed** - For some figures, it was not possible to save and load the handle of the figure
- **Bug #4812 fixed** - xs2... function did not work if the first argument was a handle
- **Bug #4816 fixed** - plot did not manage autoclear correctly
- **Bug #4817 fixed** - macro savedefaultbrowser (internal) removed (not used in Scilab 5.x)
- **Bug #4820 fixed** - the help page for the function csgn has been added
- **Bug #4826 fixed** - The type of the 'dims' entry of an hypermat was not always the same
- **Bug #4828 fixed** - Completion cleared the content of some completed path
- **Bug #4832 fixed** - wavread returned a non explicit error if RIFF had some 'smpl' chunck
- **Bug #4838 fixed** - Completion returned wrong value with '..'
- **Bug #4844 fixed** - The help page for the deletefile function did not specify the meaning of the output variable
- **Bug #4846 fixed** - mopen("","") crashed on Windows
- **Bug #4853 fixed** - C,C++ dlls generated by Scilab had a dependency on fortran runtime (Windows)
- **Bug #4855 fixed** - Standard error messages added when setting / getting values from graphics handles
- **Bug #4880 fixed** - Query-replace with a regular expression did not work in editor
- **Bug #4904 fixed** - Wrong localized fr_FR message
- **Bug #4917 fixed** - fileinfo(SCI+'/') returned [] (under Windows)
- **Bug #4918 fixed** - Error message returned by 'get_absolute_file_path' was incorrect
- **Bug #4925 fixed** - Verbose option of the optim function crashed on Windows
- **Bug #4926 fixed** - Could not save a structure in a MAT-file using savematfile
- **Bug #4927 fixed** - When the user tried to plot some data in semilogx or semilogy, a blank plot windows was displayed
- **Bug #4928 fixed** - x_mdialog crashed when more default valued than labels
- **Bug #4943 fixed** - execstr did not check input arguments
- **Bug #4944 fixed** - If the extension was not provided, some functions added the extension, some others did not
- **Bug #4961 fixed** - Some fields of an handle were misssing when printing graphics
- **Bug #4964 fixed** - set or get 'format_n' property from an axis crashed Scilab
- **Bug #4966 fixed** - execstr([]) return []
- **Bug #4970 fixed** - Some link ID's were not correct in the doc of the current master
- **Bug #4974 fixed** - exec('') crashed Scilab
- **Bug #4983 fixed** - When Scilab was started in nw mode, the addmenu examples were failing with a weird error message
- **Bug #4991 fixed** - No check if there was modification when doing "Execute Into Scilab" in the editor
- **Bug #5025 fixed** - The Tabbed palette manager must become a Tree palette manager
- **Bug #5033 fixed** - The Demo CACSD / Inverted pendulum was broken
- **Bug #5037 fixed** - The link style menu did not have mnemonics
- **Bug #5042 fixed** - (1|[1,0,1;1,1,0]) returned a wrong result
- **Bug #5074 fixed** - French help star showed mis-encoded characters
- **Bug #5077 fixed** - Demo neldermead/output Command failed on Windows (Release)
- **Bug #5081 fixed** - Demo "Signal Processing" --> "Spectral Estimation" failed (on Windows)

- **Bug #5105 fixed** - Completion: cd "..\L<tab> did not work
- **Bug #5106 fixed** - mopen help page did not contain any example
- **Bug #5107 fixed** - mgetstr help page did not contain any example
- **Bug #5121 fixed** - Gui associated to PDE block has been localized
- **Bug #5138 fixed** - ilib_build: if the "makefile name" argument was an empty matrix, the generated Makefile was ".mak" instead of "Makefile.mak"
- **Bug #5148 fixed** - Setting {x,y,z}_ticks with empty value works
- **Bug #5155 fixed** - Scilab Windows 32 bits version required CPU SSE 2 instructions
- **Bug #5160 fixed** - When a graphic was exported by the 'File -> export' menu, and did not specify any 'filter', Scilab crashed
- **Bug #5163 fixed** - Incorrectly resized text after having performed magnification+demagnification
- **Bug #5190 fixed** - Context menus are now available under MacOS
- **Bug #5195 fixed** - "get" crashed with "Lycée" module
- **Bug #5200 fixed** - Adding a code generation error message when not applicable
- **Bug #5210 fixed** - editor("SCI/etc/scilab.start") froze Scilab
- **Bug #5211 fixed** - A non reg test was failing with the binary of Scilab
- **Bug #5233 fixed** - Bug with the Windows installer in some cases
- **Bug #5235 fixed** - Error message added when launching Scicos
- **Bug #5249 fixed** - Using the help or apropos functions, some words (stop word) were not taken into account during the search
- **Bug #5251 fixed** - getversion help page updated
- **Bug #5258 fixed** - diary help page had some erroneous timestamp prefix formats
- **Bug #5259 fixed** - root_properties help page displayed mis-encoded characters
- **Bug #5263 fixed** - diary returned incorrect path for automatically numbered filenames
- **Bug #5266 fixed** - Modelica demos made available in MacOS binary version
- **Bug #5283 fixed** - Intel Fortran 11 compiler did not require to import some settings in Visual Studio
- **Bug #5284 fixed** - Function "legend" drew line segments in its box in a reverse order
- **Bug #5286 fixed** - Calling the 'lib' function with the wrong path made Scilab hung
- **Bug #5292 fixed** - There was a conflict between bool and Scilab header mex.h (with Visual Studio and mex files)
- **Bug #5293 fixed** - Undocumented features with function string(x)
- **Bug #5294 fixed** - In mex.h, we had a bad type declaration
- **Bug #5295 fixed** - configure: LibGL.so included at link time when linking with libjogl.so
- **Bug #5298 fixed** - Obsolete Makefile in the mexlib module
- **Bug #5307 fixed** - In Neldermead, inconsistent shape for the input argument x of the cost function
- **Bug #5325 fixed** - Wrong default path on FileChooser
- **Bug #5326 fixed** - graphic_export module was not loaded dynamically
- **Bug #5330 fixed** - "help str1 str2" returned an error
- **Bug #5331 fixed** - There were no example in the help page of matfile_* loadmatfile or savematfile
- **Bug #5339 fixed** - Some macros had multiple definitions
- **Bug #5340 fixed** - There was no example in the help of arma
- **Bug #5349 fixed** - the file predator.cos could not be opened
- **Bug #5355 fixed** - There was no automatic indentation in the editor when commands such as "try" or "catch" were entered
- **Bug #5359 fixed** - ATOMS: Path of the non-existing loader file was not well displayed at Scilab startup
- **Bug #5360 fixed** - "sciargs" documentation help page updated
- **Bug #5367 fixed** - Incorrect %nan multiplication with vectors on 64-bit Vista
- **Bug #5368 fixed** - input() behaved weird on carriage return response to prompt on 64-bit
- **Bug #5373 fixed** - isalphanum() did not support non ascii chars
- **Bug #5375 fixed** - isdigit() did not support non ascii chars
- **Bug #5376 fixed** - tool_skeleton.iss was not updated
- **Bug #5384 fixed** - get_absolute_file_path was case sensitive with filename on Windows
- **Bug #5391 fixed** - Bad warning/error messages in ATOMS
- **Bug #5395 fixed** - The Xcos block AFFICH_m was not bothered with the max number of digits
- **Bug #5402 fixed** - Update status bar contents after saving canceled
- **Bug #5413 fixed** - help_from_sci: An error was triggered when < or > was used in the comments
- **Bug #5431 fixed** - When network is unreachable, ATOMS now displays an explicit warning and return softly
- **Bug #5433 fixed** - LCC-Win32 did not work with Scicos
- **Bug #5452 fixed** - legend reversed the order of plotted curves
- **Bug #5453 fixed** - ATOMS: Sizes were displayed with French units
- **Bug #5456 fixed** - TCL_UpVar(source,alias) returns %T even if the TCL variable source did not exist and then aliasing had not been performed
- **Bug #5457 fixed** - Scilab could not start with Korean Win XP
- **Bug #5460 fixed** - added menus 'Close All' and 'Close all but this' in editor
- **Bug #5461 fixed** - The savematfile did not work when a format argument was given
- **Bug #5462 fixed** - savematfile() did not save correctly sparse matrices
- **Bug #5469 fixed** - Force origin presence on axes with location property set to 'origin'

- **Bug #5470 fixed** - the addcolor function help page did not contain example
- **Bug #5484 fixed** - LCC-Win32 failed to generate makefile.lcc with this example
- **Bug #5487 fixed** - help_from_sci was taking the first line of code as author when no empty line was provided
- **Bug #5488 fixed** - When the documentation was extracted from a .sci file using help_from_sci function, the docbook refsynopsisdiv section was not correct
- **Bug #5489 fixed** - When the documentation was extracted from a .sci file using help_from_sci function, the docbook Author refsection section was not correct
- **Bug #5494 fixed** - On Windows 2000, stacksize with the argument 'max' set stack to minimum size if it failed
- **Bug #5499 fixed** - tbx_build_loader() automatically added a test about version in the loader.sce even if the module has been 100% written in Scilab code
- **Bug #5505 fixed** - getdebuginfo() output in French was partially translated, with few errors
- **Bug #5506 fixed** - there were some memory leak with getMatrixOfWideString
- **Bug #5507 fixed** - whereis(bin2dec) returned an error
- **Bug #5511 fixed** - printf_conversion help page was not clear
- **Bug #5513 fixed** - input("message") did not restore the original prompt after the input job was done
- **Bug #5532 fixed** - added a "Save All" menu to save all modified file by editor
- **Bug #5546 fixed** - Initialization trouble of the variable "compilerpath"
- **Bug #5577 fixed** - help_skeleton macros encoded the generated xml file in ISO-8859-1 and not in UTF-8
- **Bug #5585 fixed** - sysdiag(): Both examples were duplicated
- **Bug #5586 fixed** - getscilabkeyworgs was broken
- **Bug #5607 fixed** - 'mtlb_mode' did not work on Windows
- **Bug #5615 fixed** - xls_open failed if there was a trailing space after the file extension