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# ROOT Version v5-14-00 Patch Release Notes

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A new production version ROOT v5.14-00i has been released October 24, 2007.

Binaries are currently not available for patch releases.

The complete source tree for all systems (21.4 MB) is available here:

[ftp://root.cern.ch/root/root\\_v5.14.00i.source.tar.gz](ftp://root.cern.ch/root/root_v5.14.00i.source.tar.gz) <sup>[4]</sup>

Alternatively get the source from [Subversion](#) <sup>[5]</sup> using:

```
svn co http://root.cern.ch/svn/root/tags/v5-14-00i [6] root
```

After obtaining the source read the file [README/INSTALL](#) <sup>[7]</sup>.

## Changes in the head of the v5-14-00-patches branch

- configure:
  - fix location of SQL tutorial; fixes a problem for Windows build only.
- Reflex:
  - Add explicit dependency of genreflex.(bat|sh) on genreflex python files or they won't be copied on windows (due to BUILDPYTHON=no).

## Changes in version v5-14-00i (October 23, 2007)

- RooFit:
  - Roofit tar did not have binary flag and hence did not work on Windows.
- Cintex:
  - Remove limitation on length of type names.
  - Register unknown scopes as 'a', not 'n'. Fixes [24227](#) <sup>[8]</sup>.
- TreePlayer:
  - in MakeSelector() remove limit on file name length and extend branch names from 128 to 1024 (will be completely dynamic too in the future).
- MathCore:
  - Add dictionary for all the coordinates classes based on Double32\_t and for LorentzVector <PtEtaPhiM4D<Double32\_t> >.
- TUnixSystem:
  - Don't return after handling kSigChild in DispatchSignals().

## Changes in version v5-14-00h (September 8, 2007)

- Meta
  - Increase caching of typedef information in TCint and TClass, improving the efficiency of library loading by up to a factor 5.
- TDCacheFile

- ReadBuffers() with vector read is implemented. Dcache version 1.7.0-39 with this functionality has just been released. We've tried with ROOT version 5.14 and 5.16. It's amazing! On some applications we got up to 12 times performance increase!
- TTreeCache
  - Reject request from TTree object other than the one that created the TTreeCache object (Hence preventing a crash is 2 trees are read from the same TFile object and one of them is being cached).
- TTree
  - Set gBranch properly before cloning a TBasket, the TBasket streamer needs it on read.
  - In Fast Merging, allow the input and output trees to have a different number of branches. This allow for dropping branches when doing a fast cloning.
- CINT/Reflex/Cintex
  - Fix for enums used in functions not having any constants once passed through Cintex.
- TXMLSetup.h
  - Fix compiler warning when compiling with gcc in strict mode.
- RooFit
  - fix memory leak in RooProdPdf.cxx.

## Changes in version v5-14-00g (July 9, 2007)

- CINT/Reflex/Cintex
  - Allow interpreter access to variables in namespaces with Reflex dictionary.
- TTree MakeProxy
  - Improve memory usage (Fixes issue [25697](#) <sup>[9]</sup>)
  - Enable support for array with 3 dimensions and more (Fixes issue [26727](#) <sup>[10]</sup>)
- TGFALFile, TRFIOFile
  - Since the GFAL and RFIO URLs can have the form: rfio:///castor?path=FILEPATH we need to use TUrl::GetFileAndOptions() to get the file name to be passed to the GFAL and RFIO API's.
  - Add support for older libshift that do not support the :/// and ?filetype=raw syntax.
- rpm and debian build systems:
  - Remove reference to deprecated package pythia.
- TDCacheFile:
  - Add support for gsidcap protocol.
  - Work around the missing 'vector read' in the DCache protocol by requesting all the needed data in a single sequential read request (aka reading too much data but reducing the number of messages). This improves performances by a factor 20 to 50 depending on network topology.
- mathcore
  - fix a bug in the calculation of eta for the LorentzVector classes
  - add some optimization in the vector classes

## Changes in version v5-14-00f (May 29, 2007)

- Pyroot
  - Add a protection in the case of where a base class is Emulated (fixes issue [25369](#) <sup>[11]</sup>).
- Hist, IO
  - Fix memory leaks (fixes issue [25371](#) <sup>[12]</sup> and [25373](#) <sup>[13]</sup>).
- IO
  - Fix problem with CollectionProxy for non stl container (fixes issue [25397](#) <sup>[14]</sup>).
- CINT/Reflex
  - Fix handling of constness for genreflex generated function call wrappers.
- CINT
  - Work around a compiler bug in gcc 3.2.3 (which lead to crash in rootcint).
  - Improve re-entranceness of G\_\_process\_cmd().

- Base
  - Add protection in error handlers against TROOT not yet being initialized (fixes issue [26200](#) <sup>[15]</sup>).
- Tree
  - In the TBrowser, when drilling through a TTree and clicking on a member function that returns an object, we now also list the data members.
  - Properly handle the case where the return value of a member function is an STL collection.
- GFAL
  - In TGFALFile ctor fStatCached was not initialized causing random SysStat() behaviour (fixes issue [26628](#) <sup>[16]</sup>).
- libGlobusAuth
  - The Globus authentication plugin now links statically all Globus libs to prevent Globus libs (libssl and libcrypto) to be used by other ROOT plugins.
- ACliC
  - Ensure that when a 32-bit binary is run on a 64-bit platform ACliC compiles with the -m32 flag.
- Unuran
  - Add missing dependency that broke parallel make.

## Changes in version v5-14-00e (March 29, 2007)

- Intel icc v10 support
  - Add support for the soon to be released Intel icc v10 compiler.
- make:
  - Fix broken parallel build in case configured with option --enable-explicitlink.
- Cintex:
  - Fix return by reference of integers (fixes issue [24549](#) <sup>[17]</sup>).
  - Fix a bad declaration of the scope of vector<LinkManager::Link\*>::iterator as a namespace when declaring a typedef of LinkManager class (fixes issue [25077](#) <sup>[18]</sup>).
- CINT:
  - Increase G\_\_MAXSTRUCT and G\_\_MAXTYPEDEF to 24000. This has no visible effect on the memory used by CINT.
  - A one-dimensional array of length one was being treated as if it were a scalar. This results in ROOT seeing an incorrect data member name, which makes tree I/O offset calculations fail.
- TTree:
  - Fix memory leak which happens when the content of the basket does not compress well (aka it should be rare).
- TObjArray:
  - Make the TObjArray::operator[] methods out-of-line.
- hadd
  - Dynamically load libTreePlayer to allow support for TTrees build with an index.

## Changes in version v5-14-00d (March 9, 2007)

- SMatrix
  - Fix a bug found by LHCb (W. Hulsbergen) in the += and -= operators for symmetric matrices when using expressions like A += B + C
- Cintex:
  - Fix memory leak when calculating class offsets with instance (from S. Snyder).
  - Making Cintex more robust on dictionary autoloader order (fixes issue [24450](#) <sup>[19]</sup>).
- TStreamerInfo:
  - Add code to allow the schema evolution from a container of doubles to the *same* container of Double32\_t and vice et versa.
- TEnv:
  - don't issue a warning in case of duplicate resources where the resource and value are exactly the same. Fixes issue [24157](#) <sup>[20]</sup>.

- TCint:
  - In LoadLibraryMap() maintain directory order as specified in the LD\_LIBRARY\_PATH.
- Mac OS X:
  - Fix options for gfortran.
- FitPanel:
  - Fix segv when closing panel.
- rootcint:
  - In ShowMember(), std::string no longer need a special case. This fix enables I/O for C-style array of strings (issue [23724](#) <sup>[21]</sup>).
- PyRoot:
  - Only strip namespaces in current class, not in template parameters (issue [23724](#) <sup>[21]</sup>).
  - Fix for handling temporaries by PyROOT/CINT of classes with new/delete operators (issue [23388](#) <sup>[22]</sup>).
  - Fix 32 bit cutoff (Int\_t used where Long\_t needed) when converting unsigned long (long)s (issue [24100](#) <sup>[23]</sup>).
  - Restore void\*& function argument converter.
- TCastorFile, TRFIOFile, rootd and Globus authentication:
  - Disabling of 'chdir(\$HOME)' in 'rootd' when running in Castor mode. This is because \$HOME may point to a directory not available on the servers.
  - A few optimizations in the Globus authentication.
  - Fixes in TCastorFile, TRFIOFile, TAuthenticate already in the head. The possibility to change the authentication mode on the fly is relevant here.
  - A couple of bug fixes in rpduils.cxx found by testing these changes.

## Changes in version v5-14-00c (February 12, 2007)

- Makefile:
  - The gif icons were not copied to the icons directory when doing "make install".
- makestatic.sh:
  - Exclude unuran and gdml modules.
- Cintex:
  - Fix for [23428](#) <sup>[24]</sup>.
- Tree:
  - Fix for [23567](#) <sup>[25]</sup>.

## Changes in version v5-14-00b (January 17, 2007)

- Cintex:
  - Fix for [22866](#) <sup>[26]</sup>.
- Reflex:
  - Fix for [22952](#) <sup>[27]</sup>.
- Fix problem with MacroPath and DynamicPath expansion in case the paths are extended via ~/.rootrc and/or ./rootrc files. Fixes issue [22954](#) <sup>[28]</sup>.
- TEnv:
  - avoid reading ./rootrc twice in case the workingdirectory is ~.
- TFile::Open to xrootd on Mac OS X Intel:
  - fixed issue [22597](#) <sup>[29]</sup>.

## Changes in version v5-14-00a (January 10, 2007)

- genreflex:
  - Ordering of dictionary classes needed for a proper conversion to CINT
  - Remove warning on windows
  - For the ordering patch, remove dependency on python 2.4
- Reflex:

- Fix bug [22339](#) <sup>[30]</sup>, genmap not finding input file going back to a simpler implementation of error reporting. Only dl\* function errors need to be reported for this class.
- ROOTClassEnhancer.cxx:
  - A problem has been detected by Ioannis running the POOL regression tests with the latest ROOT production release. The problem shows up in a rather complex model (CMS inspired I think) involving a vector of pairs containing objects embedding pool::Refs in split mode. The wrong offset is calculated for the pool::Ref producing a core dump when doing a dynamic\_cast.
- THistPainter.cxx:
  - This bug is connected with fixing bug [22317](#) <sup>[31]</sup> which I submitted previously. Unfortunately, I got it only after release 5.14 was published. Due to the fix in THistPainter::PaintBarH the PaintAxis call was moved to the very end of the routine. But, actually, it should come before the X and Y axis pointers being permuted back. As I checked, now it looks like X axis attributes have effect on the Y axis and vice versa.
- v6\_opr.cxx:
  - Move in opr.c G\_\_bstore() function, test to long double before that of double.
- TTreeCache.cxx:
  - Avoid division by zero in entry number estimation.
- TChainIndex.cxx:
  - In TChainIndex::DeleteIndices prevent a double delete. This fixes issue [22722](#) <sup>[32]</sup>.
- Pythonize.cxx:
  - Backport of fix for [22599](#) <sup>[33]</sup>.
- TGFSContainer.cxx:
  - Month was off by one.

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Source URL: <http://root.cern.ch/drupal/content/root-version-v5-14-00-patch-release-notes>

#### Links:

- [1] <http://root.cern.ch/drupal/category/package-context/download>
- [2] <http://root.cern.ch/drupal/category/package-context/patches>
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- [14] <https://savannah.cern.ch/bugs/index.php?25397>
- [15] <http://savannah.cern.ch/bugs/?26200>
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- [17] <http://savannah.cern.ch/bugs/?24549>
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