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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 ^[4]

Alternatively get the source from [Subversion](#) ^[5] using:

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

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

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](#) ^[8].
- 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](#) ^[9])
 - Enable support for array with 3 dimensions and more (Fixes issue [26727](#) ^[10])
- 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](#) ^[11]).
- Hist, IO
 - Fix memory leaks (fixes issue [25371](#) ^[12] and [25373](#) ^[13]).
- IO
 - Fix problem with CollectionProxy for non stl container (fixes issue [25397](#) ^[14]).
- 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](#) ^[15]).
- 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](#) ^[16]).
- 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](#) ^[17]).
 - 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](#) ^[18]).
- 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](#) ^[19]).
- 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](#) ^[20].

- 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](#) ^[21]).
- PyRoot:
 - Only strip namespaces in current class, not in template parameters (issue [23724](#) ^[21]).
 - Fix for handling temporaries by PyROOT/CINT of classes with new/delete operators (issue [23388](#) ^[22]).
 - Fix 32 bit cutoff (Int_t used where Long_t needed) when converting unsigned long (long)s (issue [24100](#) ^[23]).
 - 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](#) ^[24].
- Tree:
 - Fix for [23567](#) ^[25].

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

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

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](#) ^[30], 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](#) ^[31] 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](#) ^[32].
- Pythonize.cxx:
 - Backport of fix for [22599](#) ^[33].
- 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>
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- [4] ftp://root.cern.ch/root/root_v5.14.00i.source.tar.gz
- [5] <http://root.cern.ch/drupal/content/subversion-howto>
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- [8] <https://savannah.cern.ch/bugs/?24227>
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- [15] <http://savannah.cern.ch/bugs/?26200>
- [16] <http://savannah.cern.ch/bugs/?26628>
- [17] <http://savannah.cern.ch/bugs/?24549>
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