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# ROOT Version v5-24-00 Patch Release Notes

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A new production version ROOT v5-24-00b has been released Oct 11, 2009.

Binary tar balls are not available for patch releases.

The AFS version of v5-24-00b for many different platforms and compilers can be found at:

`/afs/cern.ch/sw/lcg/app/releases/ROOT/5.24.00b/`

The complete source tree for all systems (23.5 MB) is available here:

[ftp://root.cern.ch/root/root\\_v5.24.00b.source.tar.gz](ftp://root.cern.ch/root/root_v5.24.00b.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/v5-24-00b [6] root
```

After obtaining the source read the file [README/INSTALL](#) <sup>[7]</sup> (in short just do: `cd root; ./configure; make`).

To get the source of the head of the v5-24-00-patches branch do:

```
svn co http://root.cern.ch/svn/root/branches/v5-24-00-patches [8] root
```

## Changes in the head of the v5-24-00-patches branch

- Core
  - Fix sandbox access violation in Gentoo when running `./configure`.
  - On MacOS X determine correct ROOTSYS in case libCore.so is a symlink (as was already done on Linux systems).
- I/O
  - TDCacheFile: dCap client does not ignore `?filetype=raw` and other options, so remove it. Fixes issue [#57409](#) <sup>[9]</sup>.
  - TDCacheFile: increase readahead size from 8k to 128k and make it settable via `DCACHE_RA_BUFFER` env var.
  - TDCacheFile: fix regression which caused `dcap://host:port/path` to fail.
  - Make long and long long equivalent. Make `vector<long>` and `vector<long long>` equivalent (and hence suppress: `TStreamerInfo::BuildOld:0: RuntimeWarning: Cannot convert DataHeaderElement_p2::m_Hashes from type:vector<unsigned long long> to type:vector<unsigned long>, skip element`)
  - Fix `TStreamerInfo::CompareContent` to properly look at only persistent members and to properly match members.
  - Allow streaming of base classes with an external streamer and Reflex dictionaries (r31300, issue [#59093](#) <sup>[10]</sup>)
  - Avoid spurious warning message when reading file produced by ROOT v5.27 and above.
  - Avoid spurious warning message when reading file with a TTree written with ROOT 5.29/03 or later:

```
Warning in : Counter fNClusterRange should not be skipped from class TTree
```

- CINT
  - CINT's `limits.h` was exposing a CINT-only preprocessor expression to external preprocessors (r30669, issue [#56225](#) <sup>[11]</sup>)
  - Remove the artificial methods `Streamer()` and `StreamerNVirtual()` injected by Cintex. They were causing an overhead for I/O and `Streamer()` was introducing a vtable. (r31078)
  - Flag the artificial method `ShowMembers()` injected by Cintex as virtual only if the class already has a vtable. Otherwise CINT believes there is a vtable where there isn't. (r31078, issue [#58277](#) <sup>[12]</sup>)
  - Allow softlinks when locating `genreflex.py` (r31535 r31544 r31557 r31564, issue [#59896](#) <sup>[13]</sup>)

- Work around warning "cast from pointer-to-function and pointer to object" in some Reflex dictionaries. (r32074 r32091, [bug #61758](#) <sup>[14]</sup>)
- net/krb5auth
  - Explicitly add include path for the openssl headers to avoid problems on some systems (e.g. kubuntu)
- net/globusauth
  - Extend support for Globus installations coming with Debian/Fedora/EPE
- proofd
  - Fix a problem in XrdProofdProofServ::FreeClientID (fix for issue [#57061](#) <sup>[15]</sup>).
- TTree
  - Disable the read and write cache when merging Trees in the "fastclone" mode.
  - Remove serious slow down in some cases of reading TTrees where some of the data member has been 'removed' from the current class layout.
- 
- Xrootd
  - Fix a problem with the xrootd build when running make via 'sudo' (issue [Plugin <em></em> Not Found](#) <sup>[16]</sup>).
  - Fix a problem with the detection of libreadline and lib(n)curses (fixes issue with CentOS on the forum, affecting probably all the distributions of the Red-Hat family installing readline).
  - Add support for OpenSSL 1.0.0 (required by new linux distributions, e.g. Fedora 12).
- PyROOT
  - Fix for issue [Plugin <em></em> Not Found](#) <sup>[16]</sup> and [Plugin <em></em> Not Found](#) <sup>[16]</sup>.

## Changes in version v5-24-00b (Oct 11, 2009)

- Hist
  - Fix a problem in default constructor of TH2 and TH3, issue [#56712](#) <sup>[17]</sup>

## Changes in version v5-24-00a (Oct 8, 2009)

- MacOS X Snow Leopard
  - Support for 32-bit build on 64-bit Snow Leopard.
- gcc 4.4.1
  - Add support for gcc 4.4.1 (gcc guys did not fix issue reported in 4.4.0 for 4.4.1).
- Threads
  - Add support for native recursive mutexes (pthread and Win32) and remove not satisfactory generic recursive implementation.
  - Remove support for older pthread versions (PthreadDraftVersion < 10), all modern systems support version 10 now.
- PROOF
  - Fix a couple of memory leaks showing up when running repeated queries in PROOF-Lite
  - Fix several issues in TProofOutputFile showing up in particular in PROOF-Lite
  - Import workaround r29504. This allows to setup xproofd to serve in optimized way multiple ROOT version independently of the fix in the TTreeCache initialization (patch 29126).
  - Fix a problem with TProofServ::CopyFromCache potentially slowing down session start-up in PROOF-Lite with compiled selectors.
  - In TDataSetManager::ScanDataSet in browse mode, show by default only users' datasets instead of all
  - In TDataSetManagerFile, import fixes 29171:
    - Correctly classify as TTree all TTree derived classes (e.g. TNtuple's)
    - Fix a problem in saving the end-point URL for local files
    - Fix realtime notification during 'verify'
  - In TFileMerger, fix file descriptor leak (bug #54591)
  - In TPacketizerAdaptive and TPacketizer, import change 30574 removing, as default, the limit on the number of workers accessing a given file server
  - In XrdProofdManager, import fix 30573 to fix the behaviour of the xpd.allowedusers directive
- Krb5Auth
  - Fix to detect the correct version of (krb5\_c\_)valid\_cksumtype
- GlobusAuth
  - fix due to TString(int) ctor now being explicit.
- Core
  - Fix tab completion for the case.

```
root [0] .x tutorials/ [TAB]
```

- Add support for skipping the reading of the \$HOME/<name> (e.g. \$HOME/.rootrc) resource file. To do this set the shell variable ROOTENV\_NO\_HOME. This might be useful in case the home directory resides on an automounted remote file system and one wants to avoid this file system from being mounted. Fix for issue

#### Plugin `<em></em>` Not Found <sup>[16]</sup>.

- In `TUnixSystem::GetLinuxProcInfo()`, make sure that the file is valid before using it. Fixes occasional segv observed in PROOF.
- In `TUnixSystem` and `TWinNTSystem`, change the dynamic library search order. First look into `LD_LIBRARY_PATH` (or `PATH` on Windows) and then in what is specified in `Root.DynamicPath`. This allows by changing `LD_LIBRARY_PATH` to search for alternative versions of plugins without changing the `rootrc` file(s).
- Fix in `root-config` a problem with relative symbolic links.
- Change `TExMap` hash, key and values from `(U)Long_t` to `(U)Long64_t`. This makes `TExMap` streamable in a portable way. On 64-bit platforms there is no difference, but on 32-bit platforms all values will now be 64-bit. This fixes a big portability issue with `THnSparse` which uses `TExMap` internally where the versions created on a 32-bit platform could not be read on a 64-bit platform and vice versa.
- CINT
  - Speed up the dictionary initialization: `nlogn` instead of `n^2` (r29296, [issue #52457](#) <sup>[18]</sup>).
  - Fix the implementation of `ShowMembers` in the case where the members of a class with a `genreflex` dictionary are of type with a `rootcint` dictionary and no `genreflex` dictionary.
  - `genreflex`: generate the correct `ClassDef` function implementations for templated classes in namespaces (r29489).
- TTree
  - Insure that the `TTreeCloner` (fast merging) is able to also copy 'uninitialized' `TStreamerInfo` describing abstract classes (This fixed savannah report #52856)
  - Enhance support for reading class (A) stored in a vector where one the member is no longer part of the current class layout (of class A) and the member is a class type .
  - Repair nesting of 'named' `TTreeFormula` ([issue #53994](#) <sup>[19]</sup>).
- I/O
  - Fix the initialization of the checksum information for a `TSchemaRule` (hence fixing the lookup based on checksum)
  - In `TFile`, import fix 30170 to retrieve the correct local file name (inclusive of prefix) in `TFile::Open()`
- Windows
  - Increase the stack size to 4Mb (default is 1Mb) on Windows.
  - ix a problem when generating ROOT resource version from `ROOT_RELEASE` when it contains 00 (e.g. 5.24.00).
- Hist
  - Fix a bug in the projection of `TH3` when calling the method more than one time (issue <https://savannah.cern.ch/bugs/?53038> <sup>[20]</sup>).
- Minuit2
  - Fix the building when using OpenMP (issue <https://savannah.cern.ch/bugs/?52666> <sup>[21]</sup>).
  - Add a protection against very small step sizes which can cause nan values in `InitialGradientCalculator`
  - Fix a compilation error when compiling with `-DDEBUG`
  - Fix a bug when exiting from `MnFunctionCross` when the minimum was invalid
  - Fix a problem in `Minuit2Minimizer` restoring ROOT error level after fitting
- Minuit
  - Fixes in `TMinuitMinimizer`: issue [#54279](#) <sup>[22]</sup> and forcing the use of gradient functions when requested
- PyROOT
  - Fix for issue `Plugin <em></em>` Not Found <sup>[16]</sup>.
- RooFit
  - Fix for persistence of `RooDataHist`
  - Fix in `RooProfileLL`: save and restore values of profiled parameters when finding global minimum
  - Fix in `RooDataHist` in handling of weights in `set()`
  - Fix in `RooRealIntegral` in forwarding of normalization set in `createIntegral()`
  - Fix in import of multiple weighted datasets in `RooDataSet`
  - Fix for correct handling of `nevt=0` cases in `RooMCStudy` of a p.d.f in extended mode
  - Fix in constructor of `RooSimultaneous`
  - Fix in product generator context - Generate uniform distribution of non-dependent observables
  - Fix in copy constructor of `RooDataHist`
- RooStats
  - Fix a bug in the constructor of `FeldmanCousins.cxx`
  - Improve the `LikelihoodInterval::LowerLimit()` and `UpperLimit()`
  - Fix `RooStatUtils::SetParameters` (see <http://root.cern.ch/viewvc?view=rev&revision=29521> <sup>[23]</sup> )
  - Fix a problem in `ProfileLikelihoodCalculator::GetHypoTest()` when there are no nuisance parameters
- Net
  - In `TFileStager`, import fix 30170 introducing a check on the locality of the path when initializing a `TFileStager` implementation; this allows to avoid blocking when testing a local path with "root://" protocol
- Xrootd
  - Fix a problem in `XrdClientAdmin::Prepare` preventing bulk prepare requests to work correctly

- In XrdClient, import fixes in XrdClientVector, bulk prepare, cache handling.
- SMatrix
  - Use static look-up tables for the indices of symmetric matrices
  - Remove a warning observed on some platform in the Cholesky decomposition
- GenVector
  - Fix for issue [#56057](#) <sup>[24]</sup>
  - Add dictionary for functions in VectorUtil.h

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**Source URL:** <http://root.cern.ch/drupal/content/root-version-v5-24-00-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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- [4] [ftp://root.cern.ch/root/root\\_v5.24.00b.source.tar.gz](ftp://root.cern.ch/root/root_v5.24.00b.source.tar.gz)
- [5] <http://root.cern.ch/drupal/content/subversion-howto>
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- [7] <http://root.cern.ch/drupal/content/installing-root-source>
- [8] <http://root.cern.ch/svn/root/branches/v5-24-00-patches>
- [9] <https://savannah.cern.ch/bugs/index.php?57409>
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- [13] <https://savannah.cern.ch/bugs/index.php?59896>
- [14] <https://savannah.cern.ch/bugs/index.php?61758>
- [15] <https://savannah.cern.ch/bugs/index.php?57061>
- [16] <http://root.cern.ch/drupal>
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- [23] <http://root.cern.ch/viewvc?view=rev&revision=29521>
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