

2001 ROOT Workshop



The Summary



Content

- Most Requested
- Request already satisfied
- Build and Distribution
- Web Page
- Information and Documentation



Content (cont.)

- CINT and ROOTCINT
- GUI
- Data storage
- Miscellaneous New Features
- Comments



Most Requested

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- An area where good examples, add-on, libraries can be collected and distributed and searchable.

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- Using cvs-branch to distribute patches to previous versions.
- Cross branches pointer reference.
- ROOT and STL container?
- Geometry package.



Most Requested (cont.)



- More test of backward compatibility.
- Improvement in template and namespace support (ClassDef, LinkDef).
- Better information about change in interfaces.
- Documentation of the GUI classes and widget.
- Need a better search engine for ROOT web pages.
- Improve the (online) documentation for inlined functions.



Request already satisfied

- Needs STL I/O support.
- Fix colors in X3DC on 16 bits displays.
- Fix OpenGL color indices greater than 10.
- Data only in TTreeView.
- Issue with the scope rules with files and canvas.
- Need TClass for interpreted class.



Build and Distribution



- Cvs-branching



- Backward compatibility test

- Using autoconf-automake



Web Page

4

- Need a repository of contributed code

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- Need a better search engine for ROOT web site

- Need a search engine for the release notes

- Fermilab documentation pages should be more prominent



Information and Documentation



- Better documentation for GUI.



- Better announcement of interface changes.
- Better documentation of inline functions.
- More documentation on using gdb.
- Community should write more how-to.



Information Documentation (cont.)

- Show inherited methods.
- Compress postscript files.
- Index page per directory/package.
- Cross reference in auto-documentation from multiple directories.
- Auto-documentation without dictionary.
- Generate documentation for A class described in several source files.



CINT and ROOTCINT



- Template and namespace support in ROOTCINT (and ROOT I/O).
 - LinkDef is very sensitive to template order.
 - ClassDef explosion.
- Separating I/O and non I/O part of dictionary to reduce coupling.
- Generate executable version of history files.
- Customized error logging in CINT.
- Ability to use templates in signal/slot.



CINT and ROOTCINT (Cont.)

- Possibility to rewind/undo ROOT actions.
- Garbage collection and leakage control.
- Possibility to execute C++ macro from memory buffer.
- Need to make the system robust enough against crashes.
- Unloading code does not work well.
- Bugs: function with more than 10 arguments, zero pointer casting, #include behavior.



GUI



- Produce gif file in batch mode
- Current design confusing/not professional.
- Need more widgets.
- Need tie low (see Brett Viren).
- Need to stay open to QtROOT style contrib.
- Access to several displays from one process.
- Option to preserve TCanvas aspect ratio.
- Improve OpenGL support.



GUI (cont.)

- Speed of graphics with 8 bits display and with Netscape is running.
- Problem with overdrawing contents on a canvas; (Core dump when overlapping 2 pads).
- Could use a canvas design tools and/or more guidance.
- A better way to list objects that does not include all ROOT functions, classes, etc.
- Windows support (GUI).
- Have a way to develop web version of the GUI classes.



Data storage



- Cross branches pointer reference.
- Support for Block I/O.
- Fine-tuning in I/O error handling.
- Namespace support.



Miscellaneous New Features



- ROOT container vs. STL container.
- Container for non-TObject.
- Want PROOF.
- Poll select functionality in TSocket.
- Root/Cint quiet for purify.
- Generic interface for IDL.
- Upgrade of obscure interfaces (SetOptStat...).
- TObject::print and ostream.
- Eigen-value and Eigen-vector algorithm (D0).
- H2root lose message of fitted parameters.



Comments

- Using CINT inside compiled code result in hidden dependencies.
- Gaudi should move towards using more realistic ROOT interface.
- Upgrading ROOT frequently breaks template and namespace support.
- Would like recommendation or review of developer tools that work well with ROOT.
- ROOT should be more used in DAQ and slow controls software.
- TMapFile has a lot of problems.