

BTeV Computing Project

Rob Kutschke

CD Projects Meeting

March 12, 2003

Goals

- Long term (FY2007/8)
 - Complete offline software suite for BTeV
 - Both infrastructure and physics code.
- Short term (next 6-12 months)
 - Prepare the ground for the long term.
 - Initial mandate was a suite of Tutorial examples
 - Design of these requires infrastructure.

Initial Mandate

- Well documented Tutorials which:
 - Allow physicists with little/no C++ background to quickly do real work.
 - Sell C++.
 - Work on existing files of simulated events.
 - Form an “index” to the existing documentation.
 - Introduce the supported tools.
 - Teach good C++ practice.
- Need modern infrastructure:
 - Framework/Module/Service model.

Infrastructure and Tools

- Crude EDM:
 - Tracks, showers, MC truth info, vertices, hits
 - Links among the above.
 - Includes provenance.
 - No modern persistency yet.
 - Read/write old format files, paying the copy penalty.
 - We are aware of the sorts of constraints which will be imposed when we actually implement modern persistency.
- Automatic management of Root subdirectories.
 - If you do the naïve thing your root objects end up in the “right” place.

Infrastructure and Tools

- Message logger.
- Exception handler.
- Geometry manager.
 - Minimum functionality.
 - Concentrate on the interface seen by physicists.
- Vertex finding package.
- Constrained fitting package.
 - Sequential vertex and mass constraints.
 - In the market for simultaneous constraints.
- Combinatorics engine.

Other Work

- Define interfaces with RTES project.
 - In next few weeks will deliver an executable for them to play with:
 - Consumes cpu and memory.
 - Generates error and warning messages.
- Define interfaces with Trigger/DAQ.
 - L2/3 will be an instance of the offline code.
 - Input to L2 will come from the event builder.

Looking Ahead

- Plan for mid and long term.
 - Including support needed from CD.
- Evaluate GRID tools.
- Find additional people from the collaborating institutions.
- Learn from the experience of CDF/D0, LHC experiments, CLEO, BaBar ...