Pacrat in PravdaMC

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What is Pacrat?

- LBL Project to extract BaBar code for reuse
  - Start with a BaBar release + top-level application
  - Trace and prune dependencies
    - single-class level (follow #includes)
  - Extract dependent code into self-contained tarballs
    - maintains internal SRT structure
  - Pilot project: Kalman track fit
    - Extract code needed to run full Kalman Fit
    - Validate/verify fitting using a simple MC (cylindrical geometry)
- Pacrat discontinued in 2007
  - Some parts (SrtDepTools) committed to BaBar CVS

Current Status

- Extraction works in release 20,22
  - A few ‘patches’ are needed to compile tarball
- Tracking test programs
  - Configurable multi-layer cylindrical tracker
    - DetectorModel
    - text-file driven configuration (#layers, resolution, ...)
  - Hits scored with Gaussian smearing
  - No use of BaBar conditions ⇒ no material effects!
  - BaBar Kalman fit of scored hits
  - ~4msec/track generation+fitting

Development Plans

- Re-integration of Pacrat with BaBar
  - Update to R24 (external CLHEP)
  - SVN vs CVS?
- Incorporation of Materials
  - Dedicated materials CDB (root file 60kB!)
  - Scatter trajectory between hit scoring
- ‘GDML’ driven DetectorModel
  - What are requirements?
- Interface to PravdaMC
  - ‘Helix’ interface class (GTrack?)