Gleam Simulations at CC-IN2P3

GR v7r3p2 has been installed at CC-IN2P3 to run Gleam simulations: one single GR version in a shared resource rather than several versions at different places.

Output data will be stored in Glast Collaboration disk space at IN2P3 (AFS or HPSS disks, depending on file sizes).

2 particular needs:

- To describe as precisely as possible the simulations conditions (date, GR number, reconstruction sequence used, sources file, random seed conditions, etc.) and unambiguously tie such “metadata” to output data files.

- To make the distribution of simulation data easier and more transparent to the user

Suggested solutions

- Relational “metadata” DB at CC IN2P3
  - Will describe simulations conditions and will allow to easily retrieve output files in the data file system
  - Automatically feed after each simulation run
  - Could be used in the future to automatically generate bash scripts to launch a sequence of several jobs

- WEB interface for data distribution

  1. Multicriteria data sets selection → data sets purchasing
  2. automatic processing of purchase-orders → availability for bbftp transfer

Implementation steps

1. metadata DB structure design and installation at CCIN2P3

2. installation of a user-friendly DB management tool: manual DB feeding after each simulation run (as starting point)

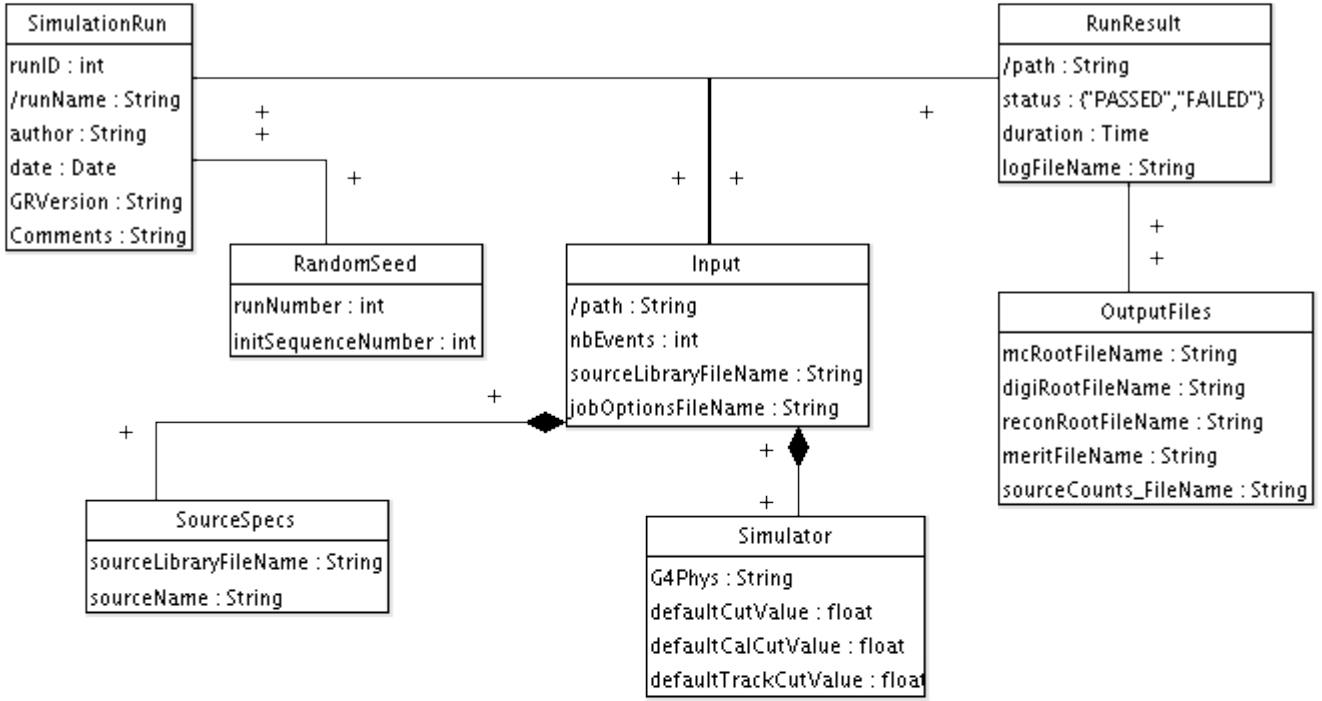
3. automatic DB feeding procedures design and development

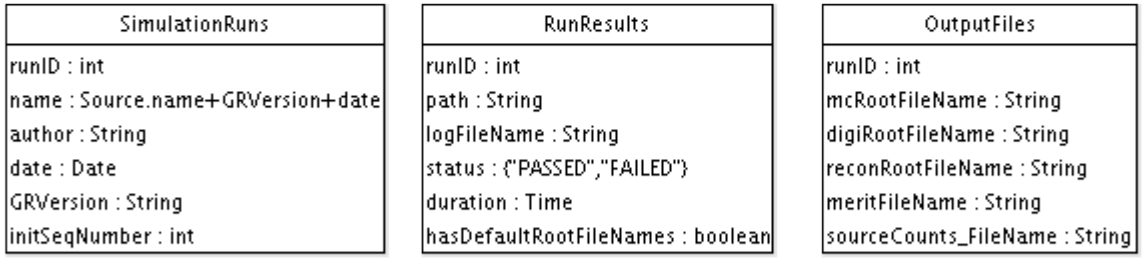
4. specification and implementation of WEB interfaces

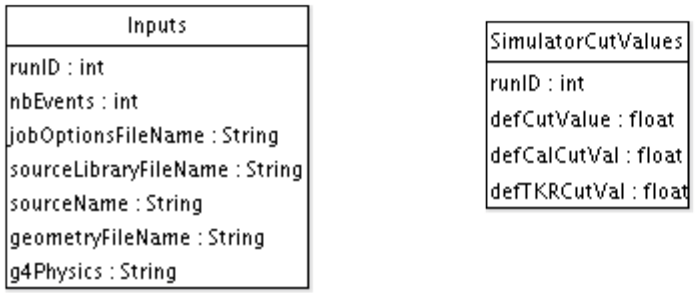
The WEB interfaces

- J2EE architecture, advantages:
  - “splitted” systems: easy system extension and failure-safe automatic procedures if necessary
  - Java: portability, solidness, easy to maintain and to evolve
- Two kinds of WEB interfaces (coded as Java Servlets):
  - data-sets purchasing and loading
  - automatic generation of job launching scripts
- Opensource Java servlets portability will ensure their adaptability to different data-sets distribution-centers of the collaboration.
- An independent Java package leading with every SQL requests will make easier the adaptation of code to different DBMS or different DB structures.

BD relational schème







SimulationName: sourceName + Grversion + date

paths:
./Simulations/date/GRvXXX/simulationName/Input/
...../Output/logFile.txt
...../Output/sourceCountsFile.txt
...../Output/ROOT/mcRootFile.root
...../Output/ROOT/xxxx.root

J2EE Architecture