Computing for SuperB

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SuperB Workshop

SLAC 14-16 February '08

Summary

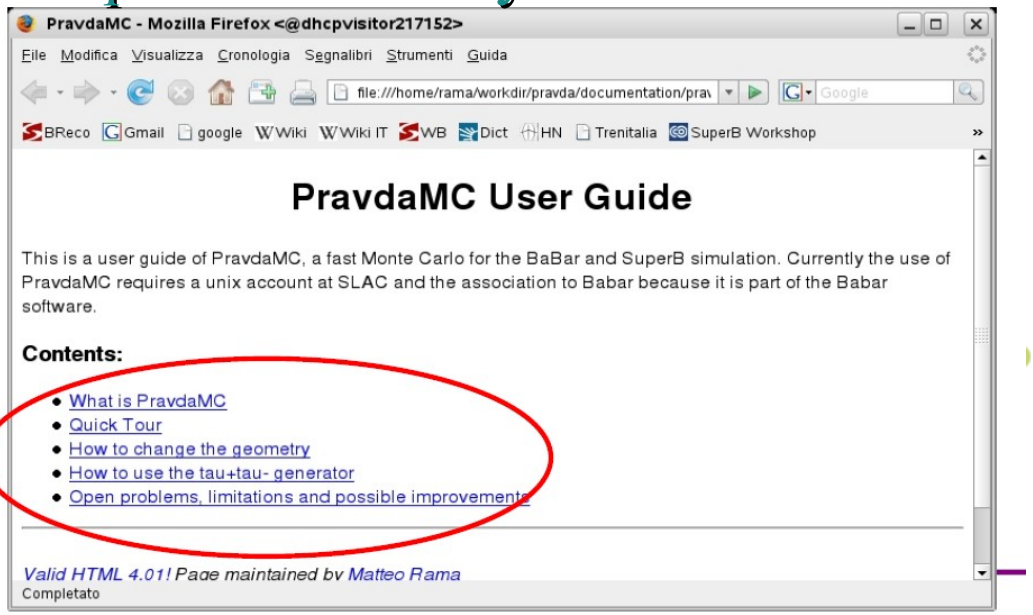
- Progress since last Workshop; ongoing activities
- Access to BaBar code
- Review of short-term goals (Elba meeting)

Areas of (immediate) actions

- Simulation: three tools have emerged (at least in my opinion) as the building blocks of the basic toolkit:
  - BaBar simulation+reconstruction framework
  - Pravda for fast simulation + further developments
  - Geant4 SuperB-specific simulation for background studies and more
- Collaborative tools :
  - a few basic tools (eventually) served by a common Authent./Author. database: Indico, Sympa, etc.
- Development support infrastructure
  - SVN repository, packaged distribution system, etc.

Progress since Dec. '07 (I)

- area where most progress has been made
- we have a Fast Simulation group !
  - coordinated by Matteo Rama
  - with contact people from most sub-detectors
  - making Pravda available to the SuperB community is the first goal of the group
  - but ideas on how to evolve from there towards an improved and more maintainable Fast simulation tool are also being developed



Development of PravdaMC

- Provide a working version of PravdaMC and write a preliminary version of a User Guide [Feb. workshop] ✓
- Identify a few areas where PravdaMC can be improved and organize the work [Feb. workshop] ✓
  - DIRC: maintain the pidmaps, possibly include the parameterization of the Cher. angle - (D. Aston) -
  - EMC: include SuperB Endcap model - (??)
  - IFR: include the parameterization of the IFR output. - (M. Rotondo) -
- Release a complete version of the User Guide [mid March]
- Provide a working version of DIRC and IFR outputs [Elba]
- improve the parameterization of the EMC response [Summer]

Development of an alternative to TRACKERR
tentative plan

- Validate alternative parametrization (CEPack) in Bogus
  [mid March]
- Investigate the replacement of TRACKERR in PravdaMC with the algorithms in CEPack
  [mid April]
- The next steps depend on the outcome of previous points
  - If TRACKERR is replaced by 'CEPack': perform an extensive validation to test if it meets the requirements. In that case release it.
    [Elba(?)]
  - Otherwise design a new tracking software. A detailed operational plan is being defined to be ready in case this scenario occurs. Additional dedicated manpower will be needed.

[first results in Summer]

Progress since Dec. '07 (II)

- the Geant-4 simulation effort is being consolidated with new contribution from sub-detector experts
  - plans already outlined previously by Eugenio P.
- (obvious) message to the detector groups:
  - what you will get (tomorrow) is what you pay for (today)
  - direct contributions, from this early phase, in defining the goals and deriving effective ways of exploiting the simulation tools for each sub-detector are essential

Progress on collaborative tools

- Central Authentication /Authorization database design finalized (LDAP)
- Wiki tool selected (MediaWiki)
- Servers to host the new services have been identified or purchased
- new tools to be made available in the coming weeks:
  - Wiki site
  - Invenio (CERN digital library management system)
    - as an electronic document archive for SuperB notes, etc.
  - Gforge, etc.
- in parallel: tools will be integrated in the AA infrastructure
  -

Development support

- Subversion repository will be made available to the SuperB community in March
  - will be used first to host the SuperB Geant4 package
  - Pravda can be the second tool to be supported
    - but will have to insert the related BaBar packages
- want to explore the possibility of creating RPMs for distributing SuperB SW
  - approach already exploited for BaBar simulation on the GRID
- not clear if we have the manpower for all this.... help welcome!

Access to BaBar code

- formal actions
  - submit a proposal to BaBar Council
    - aimed at obtaining the endorsement of a procedure for officially granting the SuperB community access to BaBar code not considered critical for BaBar analysis competitiveness
    - the procedure essentially should foresee that technical assessment of which parts of the code are critical is delegated BaBar management
  - steps:
    - initiative illustrated to Council next week
    - procedure approved by Council at the Elba meeting

Access to BaBar code (II)

- technical actions
  - pursuing a limited goal: get access to Pravda should be the first step
    - extract the (hopefully not infinite) list of packages it depends on
    - try to clean up the list by identifying possible non-essential dependencies
    - submit a request to BaBar management so that the issue is settled by the time of the Elba meeting

… getting organized

- computing sub-groups are now going to organize their own activities and meetings
- it becomes important to set up a Computing Steering group to guarantee that the all activities are well orchestrated, with representatives from:
  - Fast simulation
  - Geant-4 simulation
    - backgrounds
    - further exploitations
  - Collaboration tools
  - Development support
  - ….

summary of short-term plans

	mid-March	mid-April	Elba meeting
Pravda	**User Guide completed**	**evaluate strategy for a possible evolution from Pravda**	**working version of DIRC and IFR output**
Geant-4		**current geometry in GDML; validation**	**realistic SuperB detector included**
Collab. tools		**Invenio, MediaWiki**	**AA integration of various tools**
Development support		**Geant-4 code in Subversion repository**	**Pravda in SVN, RPM distribution system**

Conclusions

- activities in the computing area are taking momentum, despite the still pretty small amount of manpower available
  - plans are in place for releasing in the coming weeks simulation tools so that they can be effectively used within the SuperB community
- very important to be able to identify soon people that can cooperate in the simulation efforts so that all sub-detectors are represented
- it's also crucial that tools are actually used and feedback is provided to the developers