Tools summary
(startup of activity on fast simulation)

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startup of activity of fast simulation

- The main goal is to setup tools to do fast simulation aimed to the preparation of the Technical Design Report of the Super B project
- The tools should
  - simulate the Super B environment reasonably well
  - generate very large samples of the main physics processes

  to allow good extrapolations of the sensitivities of the main measurements
- A small group has been formed and the activity has just started

What is needed.
Input from subsystems

- The design of the simulation tools depends on the requirements of the subsystems
- example:
  - one detector may require the optimization through a standalone full Geant4 simulation. Then the response may be parameterized and embedded into a fast simulator. This is the case of the PID, for example.
  - another detector may need a fast simulation as part of the optimization process. This is the case of the SVT.
- Discussion with the subsystems has started. We'll have another meeting in 2 weeks.

What is needed.
Input from physics groups

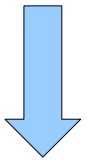
- The other crucial input comes from the physics groups
- Some useful discussions with them during these days
- Need to maintain a close interaction after this meeting

Use of existing fast simulation programs

- A few possibilities have already been identified
  - pravdaMC
  - Lelaps
- There may be other solutions that could be adapted to our needs.
- Time is quite tight and the decisional process cannot take too long
- The decision requires to do work

Use of existing fast simulation programs

- Some discussion already last month at the mini-computing workshop:
  (https://agenda.infn.it/conferenceDisplay.py?confId=213)
  - it was stressed how helpful it would be to exploit the Babar framework as much as possible
  - this is a suggestion to keep in mind



Given the time constraint, we should try to exploit the tools already available as far as possible.

Meetings

- The first meeting was held 2 days ago
- About 10 people attending. Almost every subsystem represented.
- Homeworks were assigned. Among other things:
  - DCH and IFR will look at Lelaps
  - EMC starts working on Geant4(full/fast) simulation possibly investigating the use of GFlash
  - recipe for PravdaMC under preparation
- The CMS fast simulation tools were briefly introduced.
- We'll meet in 2 weeks. Date and connection details are announced in the superb-computing ML. Subscribe to stay tuned.

manpower

System	People (as of today)	FTE
Interaction region/bkg	G. Marchiori, E. Paoloni (G. Calderini)	?
SVT	N. Neri,C. Cheng,...	?
DCH	M. Rama, G. Finocchiaro, S. Pacetti, …	1-1.5
PID	J. Schwiening, …	0.1
EMC	C. Cecchi, S. Germani,…	?
IFR	M. Rotondo, …	?

__ = contact people

The `?` must be replaced with realistic estimates

* in addition G. Simi not assigned to a system yet

backup

A few words on Lelaps/CEPack

- presented by N. Graf at the December workshop
  (home page: http://lelaps.freehep.org/)
- originally conceived as fast simulation for Babar, it was actually almost never used
- Instead it has been developed as standalone package and used by the Linear Collider community till a couple of years ago
- It's worthwhile to understand:
  - its limitations in terms of simulation
  - if it's possible to use it within the current Babar framework
- Started looking at it. More people welcome.