FastSim for TDR

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FastSim in TDR Phase

- For the TDR, FastSim must evolve from a development project to a production tool
    - Used for detector optimization + physics studies
- Today we make a 'wbs' to map out our work
    - Completion schedule of ongoing development
    - Describe known missing essential pieces and (if necessary) find people to work on them
- We also need to encourage and help users by listening to their feedback
    - User packages?

Ongoing Development

- Decays-in-detector (Mike, Gabriele)

  - mostly working code, still chasing leaks

- Hadronic interaction daughter generation (Dave)

- Cluster merging (Chih-hsiang)

- Hadronic showers in Ifr (Marcello)

- Add 'time' to PacSimHit (Nicolas)

- N-agon geometry (Dave)

Missing Pieces

- Track hit confusion (Doug)
- dE/dx simulation
  - Svt and Dch!
- Trigger simulation
- Background mixing
- Forward PID alternative measurements
- PID selectors (Orsay group)
- Tagging for SuperB
- Other?

General Computing Issues

- FastSim will be the prototype system for

  - Code distribution

  - Dependency management

  - BaBar package access

  - Software standards validation

- First standalone release of Fastsim

  - prototype testing at LBL/Padova (R. Stroili)

  - working(?) version almost ready

Configuration

- We must standardize conventions
  - Put configuration files to subsystem packages
  - Create clearly-named alternative configurations
    - ie FwdAerogel.xml
  - Define a baseline via symlink (can be an empty file)
    - ie FwdPid_SuperB.xml -> FwdAerogel.xml
- We must validate the baseline configuration
  - Inspect files for defects (perhaps from BaBar!)
  - verify questionable numbers with detector experts
  - make sure results look reasonable!

Conclusions

- TDR phase-transition is occuring now

  - FastSim development will continue, but we all have other jobs too

  - FastSim use will increase, so we need to improve reliability, usability, etc.

- Top priority is filling in missing pieces (people)

- FastSim will be a test case for SuperB software distribution, validation, standards checking.