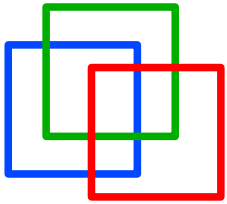


Computing report

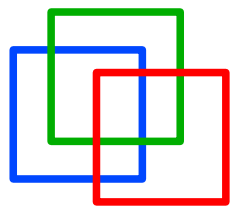
M. Morandin - INFN Pd

for the Computing group



A bit of history

- one year ago (SuperB Workshop at SLAC):
 - still exploring options on what to do to provide a fast simulation tool for SuperB
 - still discussing basic issues about full simulation, like how to describe the detector geometry
 - starting to think about tools to support code development



Now Fast Sim is delivering

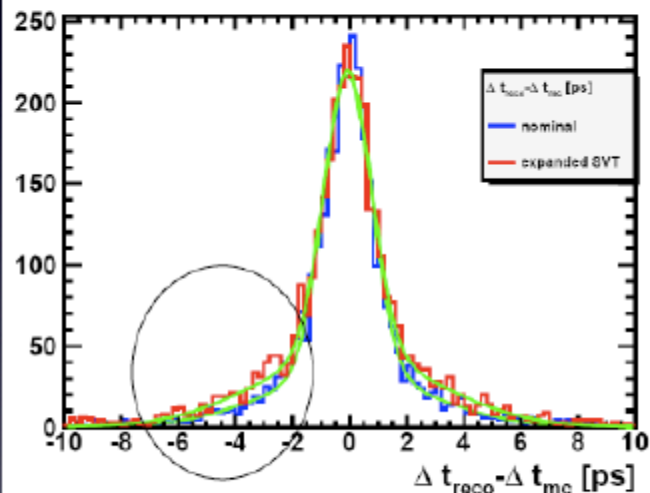
Δt resolution Gabriele Simi

$B \rightarrow K_s \pi^0$: K_s f.l. resolution vs. SVT geometry

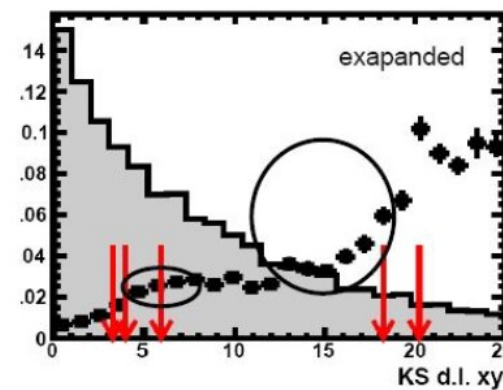
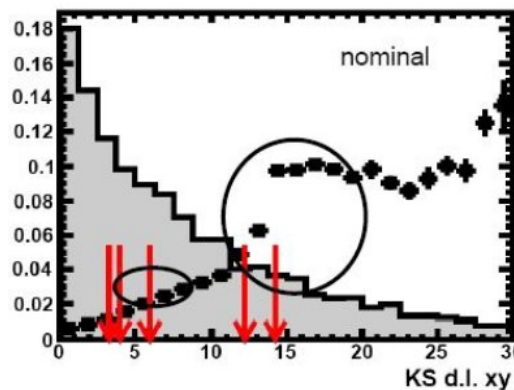
G. Simi

Filling the gap between SVT and DCH

- Expand L4 and L5 up to maximum allowed:
 - Layer 4: 12.2 \rightarrow 17.4
 - Layer 5: 14.2 \rightarrow 20.2 (DCH S.T. is at 21.3cm)

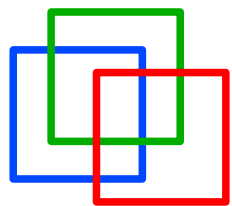


- most of the additional e mainly the tails of the re



16/Feb/09

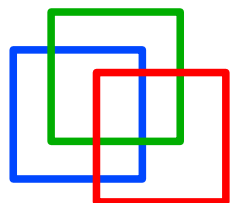
G. Simi - Super



missing features are being implemented

Status of some important items

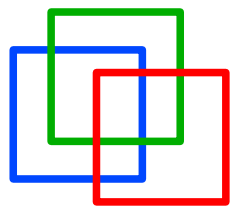
name	description	status
hit confusion	parametrization of effects given by pattern recognition	covered, work in progress
dE/dx	energy loss is simulated in FastSim, but not its measurement	not covered, but 1 person from next week!
tagging	need to setup it in FastSim and possibly implement new features	now 1 person!
PID selectors	needed to do analysis and optimization studies	work started, need complete set of PID info
tag vertex	see if we can exploit better vertex resolution	
Vertex and kinematic fits		ok
tuning of EMC response		work in progress
IFR response	need to find a way to improve IFR response	work in progress
forw. PID	implement response	work started



outlook is very promising

Conclusions

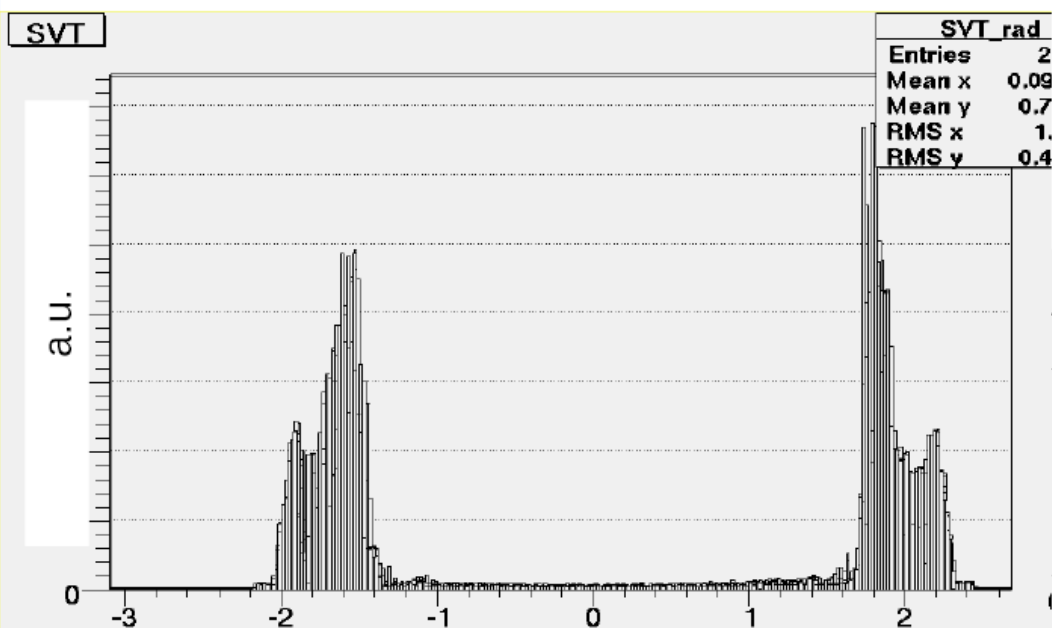
- SuperB FastSim V0.0.2 is ready
 - Useful studies already possible
- Remaining features needed for TDR under development
 - Hope to make progress on key issues here
 - Aim for full functionality by April 2009 Physics Workshop
- Users and contributors are welcome!



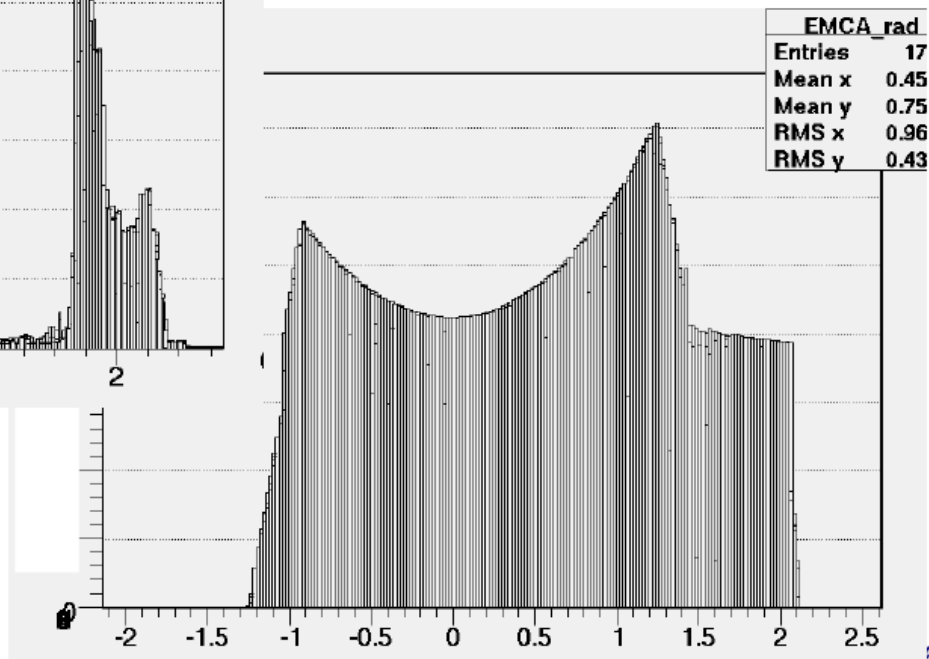
full sim is delivering too

Example results

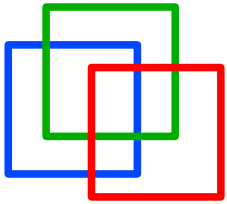
Of course plots are preliminary and unvalidated: axis units hidden on purpose



SVT rad. Length vs eta

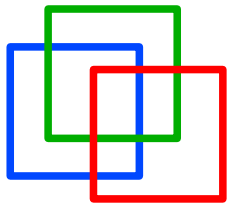


EMCA rad. Length vs eta



background production

- goal set in December (bkg production by Feb. WS) not achieved
 - MC truth, generators, physics list, farm in Padova: OK
 - but geometry not ready
- new goal dictated by next Mini-Mac meeting
 - second half of April
- bkg production done by end of March
 - new IR elements will be inserted
 - requires migration to new GDML release to handle elliptical shapes



Full Sim: short term plan

- Migration to latest G4/GDML
(Roberto + Eugenio)
 - Insert Mike P4 IR design (Eugenio)

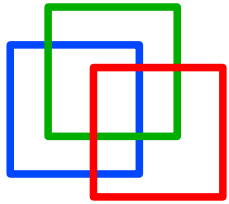
2 weeks from now

- Final checks on geometry
consistency (Andrea + subdetectors
experts)

3 weeks from now

- Release of Bruno V00-00-01
- Run background production @PD
(Roberto+Giuliano)
 - evaluation at CNAF (Armando)

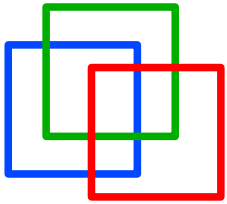
5 weeks from now



Full Sim: longer term plan

- Code clean-up & splitting in packages (Andrea + Eugenio + Roberto) **2.5 months from now**
- Parallel geometries and scoring volumes (Andrea) **3.5 months from now**
- Review configurability and Python interface evaluation (Andrea + ??) **4.5 months from now**
- Q/A policy and tools: Physics, computing, geometry, code. (only with new people + Subdetectors Experts)

Sub-detectors digitizers can be contributed any time from this point on by **Subdetectors Experts**



Input from subdetectors

- The subdetector groups will be asked soon:
 - what are the use cases of Full Sim for the TDR production ?
 - besides the ones already known, like bkg studies or IFR optimization
 - what detectors need digitization ?
 - what additional functionality is needed ?
- A questionnaire, with a description of the current plans of the full sim group, will be circulated asking for feedback
 - we miss a contact person from the PID group
 - we would at least like to have the material budget OK

Computing groups activities so far

- main current effort: provide tools and support for the successful production of the detector (and machine) TDR
 - Fast simulation
 - Full simulation
 - Collaborative tools
 - Code developments tools
- longer term effort: preparation of the computing TDR
 - current activity: SuperB Computing planning group

Baseline time profile

- **Phase 0:** [now --> mid-2009]
 - definition of R&D plan; report to an all-hands SuperB workshop mid-2009; continued development of simulation tools
- **Phase 1:** [mid-2009 --> mid-2011]
 - major R&D program for SuperB computing; invitation to **new people/ideas**; continued support and development of simulation tools
 - at the end, computing TDR complete or largely so
- **Phase 2:** [mid-2011 --> end-2013]
 - integration of R&D program results into a complete SuperB software system; major online software development gets under way; series of data challenges; retirement (?) of phase 0 tools
- **Phase 3:** [end-2013 --> 2015]
 - scaling tests and development; converging on final full-scale system; acquisition of hardware
- **First beams**

What's new since December

- much will be presented in the following talks
- let me just mention some good news
- first of all we have tried to:
 - boost the effort on collaborative and administrative tools
 - start setting up a computer core SuperB team at LNF
- made good progress on both aspects with the involvement of a new group led by Fabrizio Murtas
 - Fabrizio has been already collaborating with SuperB for the luminosity measurements at Dafne
 - he is the person in charge of the INFN Data Web group which manages several central services (INFN Web portal and associated services, scientific databases, outreach, Indico, etc.)

Description of structure

This is for example what we have done for INFN Administration description



INFN
Istituto Nazionale
di Fisica Nucleare

Strutture dei Laboratori e Sezioni INFN

MURTAS FABRIZIO

VISUALIZZAZIONE
STRUTTURE

GESTIONE
SCHEMA GENERALE
STRUTTURE

DataWeb

W3C HTML 4.01

Alessandro Grandinetti

- Consiglio
 - Consiglio
- Direzione
 - Affari Amministrativi
 - Approvvigionamenti E Patrimonio
 - Centralizzazione Della Spesa
 - Elaborazione Dati
 - Programmazione della spesa
 - Ragioneria
 - Segreteria
 - Segreteria Commissioni Scientifiche Nazionali E Commissione Calcolo
 - Affari Contrattuali E Patrimoniali
 - Gestione Attività Contrattuale
 - Informatizzazione Dell'Attività Contrattuale E Per Le Gare Pubbliche
 - Normativa Contrattuale
 - Patrimonio Mobiliare E Immobiliare
 - Segreteria
 - Affari del Personale
 - Borse Di Studio E Assegni Di Ricerca
 - Elaborazione Dati
 - Formazione
 - Gestione
 - Liquidazione Trattamento Economico
 - Reclutamento
 - Segreteria
 - Affari Generali E Ordinamento
 - Affari Assicurativi E Sociali
 - Affari Generali E Incarichi
 - Convenzioni E Rapporti Con Organi Vigilanti
 - Ordinamento

Struttura

- Amministrazione Centrale
- Seleziona una Sezione o Laboratorio INFN
- Amministrazione Centrale**
- Sezione di Bari
- Sezione di Bologna
- Sezione di Cagliari
- Sezione di Catania
- Sezione di Ferrara
- Sezione di Firenze
- Sezione di Genova
- Sezione di Lecce
- Sezione di Milano
- Sezione di Milano Bicocca
- Sezione di Napoli
- Sezione di Padova
- Sezione di Pavia
- Sezione di Perugia
- Sezione di Pisa
- Sezione di Roma
- Sezione di Roma Tor Vergata

Assignments of roles

This is for example what we have done for INFN roles assignments

MURTAS FABRIZIO

VISUALIZZAZIONE NOMINE

- LOCALI ▶
- IN SCADENZA ▶

RICERCA NOMINE

- IN CORSO ▶
- FUORI CORSO ▶
- STORICO ▶


AGGIUNGI NOMINA ▶

ANAGRAFICA ESTERNI ▶

LOG-OUT ▶

NB

Il Sistema memorizza i criteri di ricerca inseriti e li ripropone
 Per effettuare una Ricerca con criteri Differenti necessario cliccare su Azzera
 La Paginazione presente solo se il numero di Record Visualizzati è tale da richiederla

DataWeb 

A.G.

Ricerca Nomine

Cognome	<input type="text"/>	Nome	<input type="text"/>
Struttura	Selezionare una Struttura ▼	Incarico	Visualizza Incarichi

Selezionare un elemento dell'albero

- Commissione
- Comitato
- Comitato Scientifico Nazionale
- Direttivo

Visualizzazione Nomine

Struttura	Cognome	Nome	Incarico	Dec.	Scad.	Man.	Note	
AC	Delco	Giulio	Direttore Direzione Affari del Personale	01-01-2007	31-12-2009			✘
AC	Pellegrini	Roberto	Direttore Direzione Affari Generali E Ordinamento	01-01-2007	31-12-2009			✘
AC	Pellegrini	Roberto	Direttore Servizio Amministrazione Affari Internazionali	01-01-2007	31-12-2009			✘
AC	Murtas	Fabrizio	Direttore Servizio Amministrazione Coordinamento Banche Dati Ricerca	19-07-2007	18-07-2010			✘
AC	Antonelli	Antonella	Direttore Servizio Amministrazione Coordinamento Programmi Unione Europea	19-07-2007	18-07-2010			✘
AC	Padroni	Vito	Direttore Servizio Amministrazione Ispettivo	01-01-2008	31-12-2010			✘
AC	Esposito	Adolfo	Direttore Servizio Amministrazione Protezione dalle Radiazioni	01-10-2007	30-09-2010			✘
CT	Barna'	Calogero renato	Responsabile Gruppo Collegato Messina	28-06-2007	27-06-2010	I		✘
NFN	Esposito	Adolfo	Presidente Commissione Individuazione Personale Esposto A Rischio Radiazioni In Modo Discontinuo	20-11-2007	30-09-2010			✘
NFN	Candiglioti	Fausta	Membro Commissione Nazionale Formazione	28-07-2006	27-07-2009			✘
NFN	Deleo	Giulio	Membro Commissione Nazionale Formazione	28-07-2006	27-07-2009			✘
NFN	Dicarlo	Oretta	Membro Commissione Nazionale Formazione	28-07-2006	27-07-2009			✘
NFN	Di fiore	Luciano	Membro Commissione Nazionale Formazione	02-06-2007	01-06-2010			✘

Azzera

F.Murtas

SuperB Workshop Paris 17 February 2009

10

User registration database

Gestione Ospiti

Comandi Funzioni Info

Lista Anagrafica Ospiti

Nominativo	Istituzione	Azienda	Data di nascita	Scadenza Documento
A Beccara Silvio				
Aad Georges				
Abrescia Marcello				
Abdelaim Ahmed				
Abdikamalov Ernazar				
Abe Hiroyuki				
Abel Steven				
Abenda Simonetta				
Ableev Vladimir				
Abraham José Amado				
Abud Mario				
Acciari Roberto				
Aceró Ortega Mario Andrés				
Achsov Nikolay				
Achilli Andrea				
Adametz Aleksandra				
Adamus Marek				
Ademollo Marco				
Adesso Gerardo				
Adriani Oscar				
Adriani Oscar				
Afanaciev Andrei				
Afanasyev Andrey				
Afonin Sergey				
Agileita Marco				
Aglietti Ugo				
Agnello Michelangelo				

Gestione Anagrafica

Azioni

Nome: Cognome:

email(p): Sesso: M F

Username: Password:

Stato: Attivo Titolo: Data di nascita:

Utente ultima modifica: IA1 - admin ID: 8040
Data Creazione: 02-02-2009 Data Modifica: 02-02-2009

Documenti(1) Amministrazione(2) Generalità(3) Istituzione(4) Accessi(5) Note(6)

Dal	Al	Sede	Tipo Rapporto	Qualifica	Gruppo	Stato
08-08-2008	31-10-2009	Trieste	Associato	dottoato	DG5 1	A
01-01-2007	31-10-2007	Trieste	Associato	dottoato	DG5 1	A

Ricerca

Chiave di ricerca:

Motivazione:

Istituzione:

Sede:

Accesso dal: al:


Ricerca Successivo Precedente Inizio Ultima

Pagine: 175
Trovati: 4718
P. Corrente: 1

The SuperB collaboration members will be registered in the same INFN user database structure

GRID and distributed computing

- more good news
 - a new team formed with colleagues from :
 - Ferrara, consolidated Grid expertise (E. Luppi, L. Tomassetti)
 - at CNAF - Tier1 (A. Fella)
 - short term goals (months):
 - provide access to standard SuperB simulation tools
 - to have a site (CNAF) where any SuperB user can login and run simulation jobs
 - exploit in parasitic mode CNAF Tier1 resources
 - start exploiting the INFN and worldwide GRID
 - be ready for possible very large full simulation production
 - investigate why not using the GRID to run also SuperB machine simulations



Computing WBS

- two identified so far:
 - Computing support
 - structure at level 3 established; responsibilities assigned
 - no time before the WS for the coordinators to fill it
 - our commitment: produce the first version in a week from now
 - requires in many cases expansion at least one level deeper
 - Computing TDR
 - we may provide the structure and a first version with educated guesses in a couple of weeks
 - the real exercise will require a longer time scale (and more people involved)
- TDR for Computing facilities and services ?
 - good opportunity to cooperate with experts from computing centers outside Italy



Current structure (V 1.2)

Management (Morandin)

- computing coordination
- operation management
- offline coordination
- (online coordination)

Fast-full coordination (Di Simone, Brown)

- full simulation background into fast simulation
- enforce consistency the fast and full simulations

Fast simulation (Rama)

- Coordination
- Core development
- Sub-detector simulation code dev. & maint.

Geant4 simulation (Bianchi, Paoloni)

- Coordination
- Core dev. & maint.
- Sub-detector simulation code dev. & maint.

Operation (Stroili)

- Validation and quality assurance tools developme
- Validation and quality assurance operation
- Periodic build and release distribution
- Simulation production

Offline infrastructure (Brown)

- Software release tools dev. & maint.
- Development of infrastructure packages
- BaBar code migration

Distributed computing (Fella, Luppi)


- GRID software management
- GRID services deployment
- Data distribution
- Bookkeeping information service
- R&D developments

Administrative tools and central AAI (Gianoli, Mur

- Collaboration DB dev. & manag.
- AAI system (LDAP) dev. & maint.
- User support / documentation

Collaborative tools (Gianoli, Murtas)

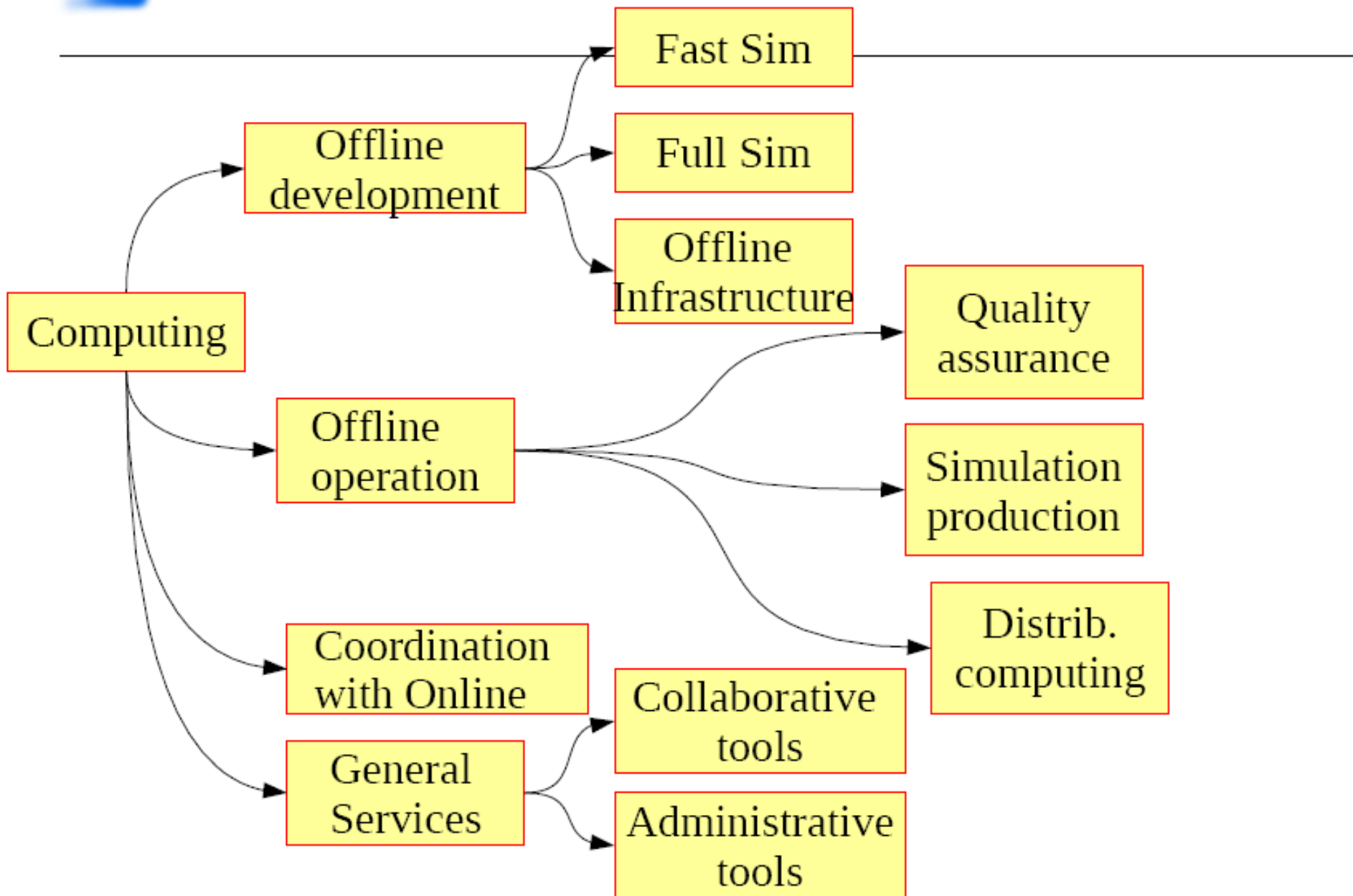
- Web site
- Tools configuration and maintenance
- Tools developement
- Tools AAI integration

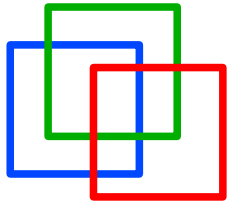


Computing support activities '09-'10

- developments mainly taking place in 2009
 - decreasing in 2010, but maintenance will continue
 - we expect computing professionals to partially shift to R&D for the computing TDR when developments are over
- what planning tools do we foresee for comp. support activities ?
 - WBS sheet: Yes, the minimum
 - complemented by documents describing in more detail the deliverables; first one on simulation tools
 - Gantt chart: desirable, maintenance requires real work

New computing structure ?





Summary

- A lot has happened in the SuperB computing field in the last months to prepare the tools needed for detector and physics studies
 - new people and groups have joined the effort with enthusiasm
 - for a collaboration that doesn't exist yet, we are already in a pretty good shape
- Computing support is entering a "production" phase
 - we will need more people and **dedicated computing professionals do deliver the services that SuperB needs**
- There is a lot we have to digest and to act upon after this meeting that we'll keep up busy in the near future
- Join the excitement!