Development of LHCb Computing Model

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Contents

Workplan for developing model (and satisfying demands of Hoffman Review)

Current activities in UK

Current Activities in Germany

Getting the work started

WHY are we worrying NOW about this?

HOFFMAN REVIEW (starting Jan 2000)

- How will the LHC experiments do their computing? Answers in late 2000
  - The basic logical data flow model, patterns of use, resources for task
  - The preferred distributed resource model (CERN,regions,institutes)
- Computing MOUs in 2001

Countries (UK,Germany, …) are planning now for 'development' facilities

Proposed project organisation to do the work

Tasks and Deliverables(1)

Logical data flow model (all data-sets and processing tasks)

- Data Flow Model Specification

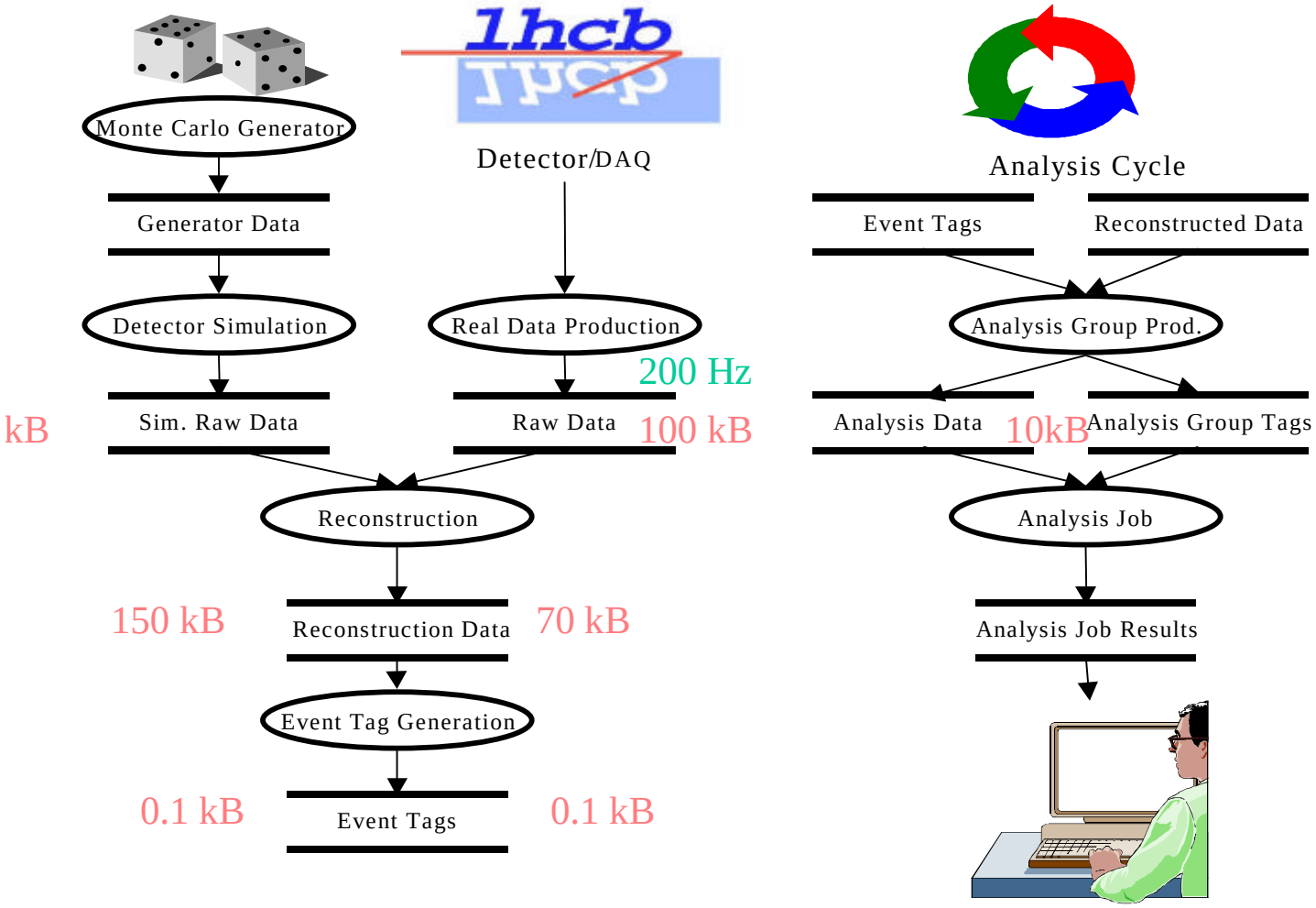
Resource requirements

- Data volumes,rates,CPU needs by task (these are essential parameters for model development) - measure current status and predict the future
- URD giving distributions

Use Cases

- map demands for reconstruction, simulation, analysis, calibration and alignment onto the model (e.g. physics groups working)
- Document 'patterns of usage' and resulting demands on resources - 'workflow specification'

LHCb datasets and processing stages (must upd CPU and store reqts.)



Data Production **Data analysis**

Tasks and Deliverables (2)

Resource distribution

- Produce description of distribution of LHCb institutes, regional centres and resources (equipment and people), and the connectivity
- Resource Map with network connectivity.
- List of people and equipment…

Special requirements for remote working

- (OS platfoms,s/w distribution,videoconferencing..)
- URD on 'Remote working…'

Technology Tracking

- (Follow PASTA. Data Management s/w, GAUDI data management….)
- Technology trend figures
- Capabilities of data management s/w

Tasks and Deliverables(3)

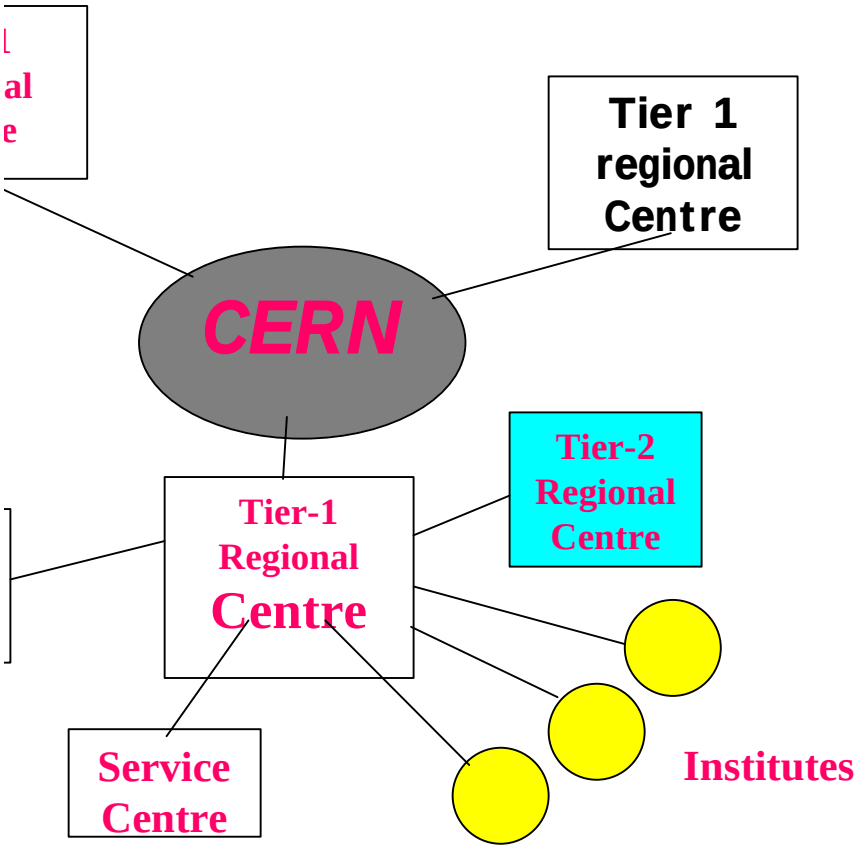
Candidate Computer Models evaluation

- Map data and tasks to facilities (try different scenarios)
  - Develop spreadsheet model with key parameters-get ‘average answers’
  - Develop simulation model with distributions
- Evaluate different models (performance,cost,risk…..)
- Establish a BASELINE MODEL

- >> BASELINE COMPUTING MODEL together with cost, performance,risk analysis

Future “plans” for LHC computing in the UK (A Halley)

the new funding arrangements in the UK, and th
enges facing us with the LHC computing needs:



Submission of an LHC
UK JIF bid for capita
funding for the years
through the LHC star

UK plans to operate a
Tier 1 Regional Centr
based @ RAL, with s
Tier 2 Centres (such
MAP/COMPASS) at t
Universities.

Current status of planning for LHC computing in Germany (M Schmelling)

Summary and Conclusions

- Regional Center in Germany likely to be built
  - ☞ funding to be defined(BMBF/EU)
- LHCb in principle interested to join
  - ☞ funding situation unclear
  - ☞ exact requirements still to be defined
- Alternative Approaches could be interesting
  - ☞ internet databases
  - ☞ joint infrastructure for science and industry

Proposed composition and organisation of working group

Contacts from each country

Contacts from other LHCb projects (can/will have multi-function people..)

- DAQ
- Reconstruction
- Analysis
- MONARC
- IT (PASTA +?)

Project Plan (constraint - timescales to match requests from the review..)

Monthly meetings? (with videoconferencing)

- !st meeting week after LHCb week (first try at planning execution of tasks)

Documentation

- all on WWW (need a WEBMASTER)