

# Baseline Services Working Group

Ian Bird

1<sup>st</sup> Meeting  
23<sup>rd</sup> February 2005  
CERN

## Group Membership

- ALICE: Latchezar Betev
- ATLAS: Miguel Branco, Alessandro de Salvo
- CMS: Peter Elmer, Stefano Lacaprara
- LHCb: Philippe Charpentier, Andrei Tsaragorodtsev
- ARDA: Julia Andreeva
- Apps Area: Dirk Düllmann
- Sites: Flavia Donno (It), Anders Waananen (Nordic), Steve Traylen (UK), Razvan Popescu (US)
  
- Chair: Ian Bird
- Secretary: Markus Schulz

## Goals

- Experiments and regional centres agree on baseline services to be provided to support the computing models for the initial period of LHC running,
  - Thus must be in operation by September 2006.
- The services concerned are those that supplement the basic services for which there is already general agreement and understanding (e.g. provision of operating system services, local cluster scheduling, compilers, ...) and which are not already covered by other LCG groups such as the *Tier-0/1 Networking Group* or the *3D Project*.
- The agreement is needed as input to the LCG TDR, and so the group should complete its work before the end of April 2005. The report should define services with targets for functionality together with scalability/performance metrics. It must take account of the feasibility of putting the services in place during the next twelve months in order that they can be included in the "service phase" of Service Challenge 4 that begins in May 2006 (see outline timeline diagram).
- Where software development is necessary to support the services this must be checked for feasibility with the developers. Where there are any doubts about achieving the targets, fall-back solutions must be defined.
- When the report is available the project must negotiate, where necessary, work programmes with the software providers.
- Expose experiment plans and ideas

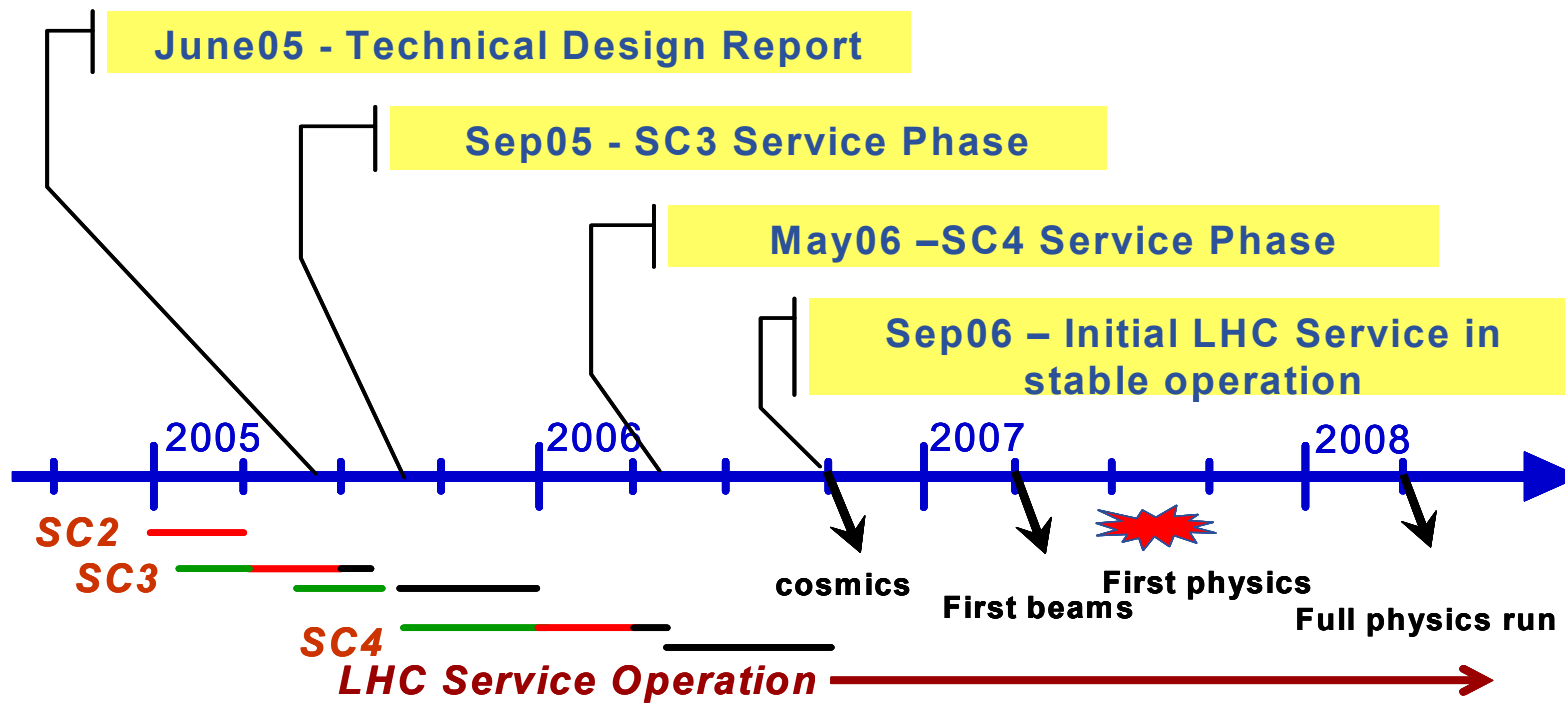
## Guidelines

- The working group must identify the services and associated software that must be provided by the project, and the areas where these will be provided by the experiments.
- Where relevant an agreed fall-back solution should be specified - but this should be a solution that will already be available for the SC3 service in 2005.
- Wherever possible, metrics should be defined for scalability and performance.
- This should not be a design exercise - rather it should draw on existing software, practice and experience - and propose only developments that are achievable within the next 12 months and which have been agreed in principle by the teams that would undertake any such developments.
- Account must be taken of the resources available for any required development, and also the resources available to ensure long-term maintenance.
- Full account must be taken of the implications on regional centres, and grid operations infrastructure.

# Scope & Timescale

- **Scope**
  - Not a middleware group
  - Understand what services and functionality needs to be provided by the project and what will be provided by the experiments
  
- **Timescale**
  - Report quickly - end April 2005
    - **Intermediate report end March**

# Service challenges



LCG Phase 2 Planning - Outline Service Timeline

# Meetings

- **Frequency - needs to be often**
  - Weekly or every 2 weeks?
  
- **Topics:**
  - Presentation of experiment plans - around agreed set of services
  
- **Use:**
  - Data management workshop - what would we like to get from that?
  - Other focussed discussions - triggered by us, with relevant experts (SRM, etc.)
  - Service challenge activities
  - Etc.

# Communications

- Mailing list:
  - [Project-lcg-baseline-services@cern.ch](mailto:Project-lcg-baseline-services@cern.ch)
- Web site:
  - <http://cern.ch/lcg/peb/BS>
- Agendas: (under PEB):
  - <http://agenda.cern.ch/displayLevel.php?fid=31132>
- Minutes and reports will be public and attached to the agenda pages



## Baseline services

- Storage management services
- Reliable file transfer service
- File placement service
- Grid catalogue services
- Workload management
- Grid monitoring tools and services
- VO management services
- Applications software installation service
  
- Missing essential services?

# Storage management

- Storage management services
  - SRM interface - agree on subset of SRM options
  - Specify MSS implementation to be provided at named key sites
  - Availability of base disk pool manager for other sites
  
  - SRM Status
    - <http://agenda.cern.ch/askArchive.php?base=agenda&category=a045318&id=a045318s0t15/transparenties>
  
- Storage management workshop: April 9-10
  - SRM functionality
  - We should state questions we need answering

# Reliable file transfer

- **Reliable file transfer service**
  - Low-level service that underlies data placement services
  - Network aware, MSS implementation aware
  - Implementation of gLite/LCG being tested for SC's
  - Understand what interfaces/functionality is needed
- **File placement service**
  - Selects "best" site as destination of data
  - Are generalised algorithms realistic? - or should this be an experiment specific service?
  - E.g. CMS PhedEx; gLite FPS

# Grid catalogues

- **Grid catalogue services**
  - Global and local functionality
  - Minimum distribution/synchronisation requirements
  - Performance and scaling metrics
  - Meta-data requirements
  - Relationship of the grid catalogue to application-specific catalogues
  
- **What do experiments see as their needs**
  - What mappings should a "Grid catalogue" provide?
  - Flat or hierarchical, collections, ...
  - Where is metadata
  - What interfaces are needed?
  
- **Interfaces**
  - Standard: DLI, SI?
  - Interface to file transfer system - set of information needed

# Workload management

- Workload management
  - Essential improvements required
  - Is this a baseline service? - alternatives
  - What are interfaces to experiment sw?

# Grid monitoring

- Grid monitoring tools and services
  - Job status and tracking
  - Resource usage
  - Accounting

# VO Management

- VO management services
  - What are requirements?
    - ACL's, Roles, etc?

# Application software installation

- Applications software installation service
  - See GAG document - what are essential functional requirements? Priorities?
  - [http://project-lcg-gag.web.cern.ch/project-lcg-gag/LCG\\_GAG\\_Docs/SoftInst.pdf](http://project-lcg-gag.web.cern.ch/project-lcg-gag/LCG_GAG_Docs/SoftInst.pdf)



## How to proceed?

- Experiment presentations on requirements around each of these services
- Work through them one by one
  - Bring in experts to describe situation, implementations etc.
  - Try and agree essential functions required
- Priorities:
  - File transfer, Storage management, catalogues, WLM, VO management, Monitoring, sw installation