Review November 2003

GTA Achievements

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Technology Tracking

- **PASTA III**
    - During 2002 an updated report on "Processors, Architecture, Storage and Tapes" was created with the help of many external contributors.
    - This was completed in February 2003 and used to create the new costing model for LCG Phase I and Phase II.
    - An LCG Seminar on the results of PASTA III was held in 26 June 2003.

- **UK e-Science**
    - The UK e-Science core project was very active during 2003 and created a comprehensive review of grid technologies. A summary of this was created which was used as an LCG milestone.

Technology Selection

LCG

- **GDB/WG1**
  - Grid Deployment Board mandated a number working groups in November 2002. The Working groups completed their reports in January 2003.
  - The GTA took a leading role in the WG1 which was the technology selection for LCG-1. In particular it recommended:
    - A base supported level of VDT to be used.
    - A number of EDG components in the first release with others as they become ready.
    - That the issue of generalised grid file access to be studied.
- **GFAL**
  - The GDB recognised the file access problem and mandated a solution to be designed. The GTA completed this work in April 2003.
  - The GTA managed the implementation of the first prototype (May 2003) with manpower from the GDA.
  - The GFAL solution is to be in full production by the end of 2003.

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Technology Evolution

LCG

- **OGSA Engineering team**
  - The GTA proposed to the LHCC referees in June 2003 that a serious effort be started to study the viability of the OGSA proposals and the Globus Toolkit 3 release in particular.
  - A team was put together in July 2003 with manpower from the GTA, EDG, MSU, Dubna and the Academia Sinica in Taipei.
  - The intention was to:
    - Report quickly (after 2 months)
    - Create an understanding of:
      - The effectiveness of GT3
      - The problems in creating new services
      - The opportunity to adapt existing software (AliEn)

Technology Evolution

- **OGSA Engineering team**
  - Many interesting results on performance and scalability issues were created and documented. (See GTA web pages)
  - The results were presented in an LCG seminar 24 Sep 2003.
  - The work was extremely well received by the Globus community and has resulted in a new and productive relationship.
    - Globus has changed some priorities based on our work (GRAM)
  - The EGEE middleware activity has supported the work and its continuation as a valuable pre-cursor to the starting of the EGEE project.
  - It will be a valuable resource for the emerging ARDA implementation.

System Design

- **Modeling**
    - Identified issues at three different levels
        1. Experiment Data Models
        2. Middleware architecture and scalability
        3. Fabric solutions
    - Spent much time in understanding the modeling tools and their limitations
    - Currently working with the Monarc tools to understand the scalability issues in the new GT3 information system architecture and the RLS file catalog.

- **RTAGs**
    - The GTA was a contributor to a number of RTAGs but more specifically HEPCAL II and ARDA

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Technology Landscape

- In order to understand:
    - Where we are with the current technology.
    - Where we are likely to be in the medium term (+1 year)
- Two more detailed presentations will be given on the technology is use:
    - The LCG-1 technology and LCG-2 evolution
    - The GT3 technology, results and the OGSA engineering exercise.