LCG PEB

Summary of the ARDA Meeting
December 3-4, 2003
Frédéric Hemmer

Partcipants

- Predrag Buncic (Alien)
- Miron Livny (Wisconsin/VDT)
- Francesco Prelz (INFN)
- Torre Wenaus (LCG AA)
- Peter Kunszt (CERN)
- Frederic Hemmer (CERN)
- Erwin Laure (CERN)
- Steve Fisher (CLRC)
- Two days of intense and though discussions

Summary

- Acknowledged the value of Alien as an end to end, simple solution satisfying the needs of at least one LHC experiment
- Better knowledge of how Alien works and what ideas are proposed to enhance it and "refactor" it has been gained.
  - Although not captured in writing
- Participants agree some of the Alien principles and ideas are indeed appealing
  - Although not necessarily new
- Some of these ideas are actually matching work scheduled to take place in other software for which providers have a long standing experience, in particular
  - The model of pulling work out of a "database"
  - The resource allocation mechanism by which "jobs" report back their remaining available time share
  - The subsequent matchmaking allowing for more predictable scheduling
  - Just in time scheduling
  - File transfer queues

Summary (II)

- Provided more knowledge and information is gathered on the *semantics*, methods and interfaces of the proposed "refactored" services
  - Wisconsin (VDT) is ready to commit work on the workload management system
  - INFN is ready to commit work on Resource brokering actually resolving long standing problems with GRAM
  - LCG AA is ready to commit work interfacing POOL to the file cataloging mechanism
  - CERN is ready to commit work on bringing RLS experience in improving the file cataloging mechanisms
  - CLRC is ready to commit work in interfacing Grid Monitoring with R-GMA
  - CERN/CS is ready to validate QA processes and (SPI) tools within this framework

Summary (III)

- This would be done within the context of a 6 months prototype
  - Which would not be a complete solution, rather targeted as a framework for implementing "refactored" services
  - Some aspects will need more work, such as
    - Security model
      - Not ignored, but a critical point
    - Efficiency of unanticipated Event Navigation
  - Identifying clearly which use case are supported, which are not
- The participants are ready to engage their reputation in the ARDA prototype
- The prototype is an opportunity to skim efforts to would otherwise be used to (re)do work on different projects

Summary (IV)

- Additional work is now needed in collecting detailed information on semantics, methods and interfaces so that:
  - Middleware detailed planning and funding can be done
  - the first pass interfaces can be discussed at the January workshop
- An proactive editor of an ARDA Services and Interfaces definitions document is needed, as a prerequisite for building a plan
- A physical prototype needs to be proposed, funded and setup, which might be turned into an EGEE testbed
- OGSA/OGSI is not perceived as being the main argument, rather an envelope of services
- Additional momentum has been gained, it is important not to loose it.

Next steps

- Provide a proactive editor for the services documentation
  - Already the summer version of ARDA provides many of those details
  - Aim to understand where and how different parties can "plug-in" an timescales
  - Clarify issues with the security model in the mean time
- Discuss those services at the Workshop with Experiments (& others) on January 21/22'04
  - Aim at defining the limits of generic Middleware, HEP specific and experiment specific
  - Aim at defining the prototype scope, priorities & timeline
- Detailed work plan should be available by end of January'04
  - Compatible with LCG Internal Review recommendations

OGSA

- Extends Web Services by defining interfaces addressing
  - Discovery
  - Dynamic service creation
  - Lifetime Management
  - Notification
  - Manageability
  - Naming conventions
  - Upgradeability conventions

OGSA (II)

- WSDL name these interfaces as "portTypes"
    - GridService portType
        - Allow sService data discovery and enable lifetime management
    - NotificationSource portType
        - Allow sending of notification messages
    - NotificationSink portType
        - Allow receiving of notification messages
    - NotificationSubscription portType
        - Allow NotificationSource portType to subscribe a set of notification for a period of time
    - Registration portType
        - Allow service instance to regsiter/unregister and to enable/disable service discovery
    - Factory portType
        - Allow creation of a service instances
    - HandleResolver portType
        - Allow a GSH to be converted to a GSR necessary for binding to the service