Particle and Nuclear Physics Applications Research Group
Global Grid Forum (GGF) Applications Area Workshop
Call for Participation

Saturday 13 March, 2004, Humboldt University, Berlin, Germany, GGF10

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Workshop Objectives:

The inaugural workshop of the Particle and Nuclear Physics Application Research Group (PNPA-RG) will present requirements and experiences for Application Grids from both Particle and Nuclear Physics Experiments and companion scientific domains. As such, the workshop will be an excellent forum for researchers and developers who study data management within grid computing to discuss how Grid standards can be effectively incorporated into the Particle and Nuclear Physics communities. In particular, we hope to provide a broad picture of the status of and the needs for Grid standards within these communities, and to discuss how these standards relate to applications. The workshop aims to encourage better understanding of the contributions and opportunities in the GGF for our community and we hope to stimulate more specific interactions between the community and the GGF as an outcome of the workshop.

Workshop Topics:

Historically, the Particle and Nuclear Physics communities have demonstrated proficiency in handling large datasets. While data storage and access procedures have often traditionally been specific to individual scientific collaborations, work has begun to standardise data access within these communities and is largely due to the greatly amplified data requirements of future experiments. Accordingly, this inaugural workshop will be organised into four topical areas related to data:

1. **Data Storage**: What are the current state of the art technologies used within the different Particle and Nuclear Physics Communities? What are the primary issues in

choosing different storage technologies (robustness, read/write latencies, capacity, and cost)? What are some of the directions that future experiments are contemplating for storing large datasets in the future?

2. **Data Transport**: What are current preferred techniques used in transporting data and how is it envisaged that those will be modified in the future? What are the networking requirements for handling data movement requests corresponding to bulk data transfers versus finely-grained, unstructured data access?
3. **Replica Management**: How have Particle and Nuclear Physics traditionally replicated data and how is this expected to change with the requirements of future, data-intensive experiments with globally distributed collaborators?
4. **Metadata**: What information is typically expressed as metadata in Particle and Nuclear Physics data? As experiments become more complex and data sizes increase, how will the size of the metadata be controlled to allow efficient and complete queries? Where can Grid standards help now and in the future with respect to access control lists on globally distributed data and metadata?

Presentations will be made in each topical area with an aim towards promoting discussion of how Grid standards can assist the scientific application communities in designing and deploying data systems.

There are several work areas in the GGF which are of particular relevance to the needs of the physics community including Storage Management, Security and Data Areas. In addition to the above presentation topics, a draft document which maps current areas of activity in Particle Physics to work areas within the GGF will be presented. A panel discussion is planned with the goal of identifying areas of synergy connecting the Particle Physics community with GGF and accordingly suggesting future directions for the PNPA Research Group.

Workshop Format:

The workshop will run for one day and will consist of a series of presentations and panel discussions. Following presentations on Application Grids we will discuss the first deliverables of the research group, and specific technical areas.

Registration Information:

The Particle and Nuclear Physics Application (PNPA) Workshop is being conducted as part of GGF10 which will be held in Berlin, Germany from 9 March to 13 March, 2004. All interested participants are invited to register using the GGF10 registration web page located at http://www.gridforum.org . We encourage everyone to attend the entire GGF10 conference and in particular, we would like to draw attention to a related GGF10 workshop on the Future of Grid Data Environments on Tuesday, 9 March. However, those who are unable to attend the entire GGF conference may opt to register for only the PNPA workshop on 13 March using the GGF10 registration pages.

Contact Information:

More information on the Particle and Nuclear Physics Application Research Group may be found at http://forge.gridforum.org/projects/pnpa-rg or by sending email to pnpa-rg@gridforum.org .