

Goals: from HENP proposal

Project Goals

Within the broader vision of grid-enabled data management and access for HENP the specific goals of the Particle Physics Data Grid (PPDG) project are to:

- ◆ **Design, develop, and deploy a network and middleware infrastructure** capable of supporting data analysis and data flow patterns common to the many physics experiments represented by the participants
- ◆ **Adapt experiment-specific software** to operate in this wide-area environment and to exploit this infrastructure

To accomplish these goals, the PPDG will deploy two critical services:

- ◆ **High-Speed Site-to-Site File Replication Service**
- ◆ **Multi-Site Cached File Access Service**
(based on deployment of file replica cataloging, transparent cache management, and data movement middleware)

Near-term goals: from work plan

1. **Deploying PPDG Services**

In its first nine months the PPDG has been able to demonstrate multi-site cached file access and will soon have demonstrated high-speed point-to-point file transfer. In keeping with the PPDG's close ties to HENP experiments, these demonstrations will be turned into services to current experiments and to LHC test-beam and simulation activities. The real world of HENP experiments, always very different from that of a demonstration, will yield vital direction-setting insight.

2. **Tests and Demonstrations**

Continued tests of middleware aiming at enhanced capabilities and performance will remain a major activity. Most tests will be able to exploit the networks, storage and computers already available at the participating sites. Instrumentation and monitoring tools are vital in both the testing and deployment phases.

3. **Development of architecture and tools**

The PPDG collaboration includes computer scientists who have developed the tools that will be tested and deployed. Experience from tests and deployment will be used to evolve the architectural design for PPDG software components and to stimulate focused work on new or improved middleware products and monitoring tools for which there is a demonstrated need.