

Deployment And Operation Of SAMgrid On Many Sites Including Our Local Campus Grid FermiGrid

SAMGrid is a GRID framework designed to be performant for experiments with large (petabyte-sized) datasets and widely distributed production and analysis facilities. Its focus is on high energy physics experiments and it is deployed at the CDF, DZero and Minos experiment. Therefore the user community addressed by this GRID system is quite homogenous though for every experiment special adaptations were made. The GRID system can be roughly divided into two sections, the data handling system SAM and the GRID extension SAMGrid. SAM provides a set of services for data transfer, data storage and process bookkeeping on distributed systems. SAMGrid enhances SAM incorporating standard Grid tools and protocols and developing a Grid/Fabric interface for DZero and CDF. The data handling system SAM has been successfully deployed for DZero and for CDF. SAMGrid has been deployed and used for DZero. For the future of SAMGrid it is vitale to interface to other GRID systems. There is a program on the way to integrate SAMGrid with other GRID systems. A test bed for LCG is developed.

FermiGrid serves as a campus grid at Fermilab providing common grid services including a site wide globus gateway, a virtual organization membership service (VOMS), a grid user management system (GUMS) and a site authorization service (SAZ). It is a meta-facility composed of a number of existing resources, many of which dedicated to the use of a particular stakeholder. FermiGrid provides a open science grid (OSG) interface to enable opportunistic use of Fermilab compute elements and therefore optimizes the use of resources at Fermilab. DZero is one of the VOs participating in FermiGrid as well as using SAMGrid for job/data handling and environment preparation. Therefore SAMGrid will be interfacing to FermiGrid.