

FutureGrid: What an Experimental Infrastructure Can Do for You

Rapidly evolving technology landscape creates the need for experimenting with new paradigms, technologies and tools. Domain scientists need a way to try if a “new way of doing things” does indeed satisfy their needs, technology experts need an environment to develop and experiment with new approaches to solving problems in distributed environments, and students need an environment in which to learn, try out new things, and develop solutions. All these activities create a need for an environment that would provide resources in which such experiments and educational activities could take place.

FutureGrid is a scientific instrument designed to support experiment-driven research in all areas of computer science related to parallel, large-scale or distributed computing and networking. This includes providing an environment that is flexible enough to support Computer Science research as well as stable enough to provide paradigm exploration supporting trial runs from domain sciences. The ability to conduct consistent, controlled and repeatable large-scale experiments in all areas of computer science related to parallel, large-scale or distributed computing and networking as well as the availability, repeatability, and open sharing of electronic products are core to the Future Grid mission.

This Birds-of-a-Feather session will provide a forum for users to get informed about the opportunities available on FutureGrid, present success stories describing different ways in which it has been used in the past year, and encourage discussion from the participants on features that they would like to see supported by this infrastructure. The BOF will be organized and moderated by Renato Figueiredo, Kate Keahey and Warren Smith who will also drive the discussion on various aspects of use of FutureGrid.

Initial outline:

FutureGrid from User’s Perspective: Overview of FutureGrid Capabilities, Geoffrey Fox (10 minutes)
HPC and HPC User Stories on FutureGrid, Gregor von Laszewski (10 minutes)
Cloud Computing and Cloud Computing User Stories on FutureGrid, Kate Keahey (10 minutes)
Education Support and User Stories on FutureGrid, Renato Figueiredo (10 minutes)
Experimental Framework Support on FutureGrid, Warren Smith (10 minutes)

Structured Discussion on capabilities required by users.