SES05-2005-020047

Abstract for an Invited Paper
for the SES05 Meeting of
the American Physical Society

The Emerging Global Cyberinfrastructure: Data Intensive Science in the 21st Century

RICHARD CAVANAUGH, University of Florida

As the volume and complexity of scientific data continue to increase exponentially with time, so does the demand for access to computational resources which are needed to store and analyze that data. The size of scientific collaborations has also increased, growing in many cases to be the "big science" equivalent of a multi-national corporation. Grid Computing, conceived in the late 1990's as a way to seamlessly link computing resources spread across multiple organizations, has emerged as both an infrastructure and a paradigm for enabling large-scale, data-intensive, collaborative science. This talk discusses how Grid Computing is leading the creation of a national and international cyberinfrastructure whose aim is to enable science communities, ranging from bioinformatics to physics and astronomy, to harvest the scientific bounty from the current and next generation of data intensive experiments.