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March 31, 2001

National Science Foundation
Director, Office of Integrative Activities
4201 Wilson Boulevard
Arlington, Virginia 22230

Dear Dr. Pitts:

As Director of the GriPhyN Project, I wholeheartedly support the proposal "Center for Grid Application Development Software (CGrADS)," being submitted to the NSF Science and Technology Center (STC) program by Rice University. It is vitally important that the US seize the opportunity now to make fundamental and broad-based investments in Grid research, development and infrastructure. This university-based Center, with its long-term emphasis on developing Grid software technologies and training, will provide a key ingredient in this investment.

As you may know, GriPhyN is already deeply involved in the development of Grid infrastructure for four frontier experiments in high-energy physics, gravitational wave research and full-sky digital astronomy. These experiments will produce prodigious volumes of experimental and simulated data, with data sizes reaching 500 TB in 2001 and 100 PB by 2010. The collections, which will be nationally and even globally distributed for technical and political reasons, must be archived, processed, and analyzed by collaborations consisting of thousands of researchers at laboratories, universities and small colleges and institutes spread across the world. To meet these challenges, GriPhyN has embarked on an R&D program to develop Petascale Virtual-Data Grids (PVDGs) and plan to implement such Grids by the middle of the decade. We are also partnering with the US Particle Physics Data Grid Project and the EU DataGrid Project, as well as national efforts in the UK, France and Italy, in creating the international Virtual-Data Grid Laboratory (iVDGL), which aims to build a common global infrastructure that will support data intensive sciences.

GriPhyN is very interested in partnering with CGrADS since our projects have a lot to offer one another. Our application experiments can provide the CGrADS software research program with "real-world" environments and can offer its research teams valuable feedback and advice. Our computer science teams are also researching virtual data, job planning and scheduling, performance monitoring, and execution environments, areas which should complement and extend the CGrADS R&D program. GriPhyN's Virtual Data Toolkit, which we will export to other scientific disciplines, would also benefit greatly from collaboration and joint development with this Center. Finally, the iVDGL provides a common infrastructure and sufficient size to conduct the experiments at the scale necessary to exercise Grid tools to their fullest extent.

The CGrADS proposal is extremely timely and exciting, and I am pleased to offer the commitment to work with Dr. Ken Kennedy and his colleagues in developing Grid tools and technology for the benefit of both our endeavors.

Sincerely,

A handwritten signature in black ink that reads "Paul Avery". The signature is written in a cursive style with a large, prominent initial "P".

Paul Avery
Professor, Physics
Director, GriPhyN Project
University of Florida