



## CENTER FOR ANALYSIS AND PREDICTION OF STORMS

The University of Oklahoma

26 February 2005

Professor Geoffrey Fox  
Pervasive Technology Labs  
Indiana University  
601 East Kirkwood Avenue, Room 116  
Bloomington, IN 47405-1223

Dear Professor Fox:

I am pleased to inform you that our NSF Large Information Technology Research (ITR) grant, titled "Linked Environments for Atmospheric Discovery (LEAD)," is very interested in collaborating with your project titled "Earthquakes, Tsunamis, and the International Solid Earth Research Virtual Observatory", which is being submitted to NSF's Partnerships for International Research and Education program. Your effort addresses critical research on issues of societal importance and is highly synergistic with LEAD, as described below.

In LEAD, we are deploying a service-based Grid that is designed to allow users, as well as technologies such as numerical models, to dynamically steer remote sensors (e.g., radars) to adaptively identify and predict severe mesoscale weather events such as tornadoes and severe storms. Our data architecture is based on many of the metadata standards that you plan to use, and our portal effort is based on work from your NSF NMI Grid Portal project. Consequently, the potential synergy for the co-development of middleware to meet both of our core scientific missions is very high. This collaboration will be made easy given the fact that two of your collaborators, Professors Plale and Gannon, are part of the LEAD team. We feel that LEAD would profit by being part of your international Grid of Grids. In particular, we can share with you some of our know-how for managing middleware for remote sensors and our experience with using instrument data on the Teragrid. Your connection to the China National Simulation Grid and the other international partners brings us much need help and support for building international standards for geophysical data ontologies and grid services.

We also have an extensive plan for education and outreach and we are developing portal-based educational exploration modules that may be of use to your group. Further, your developments in international collaboration and related cyber-infrastructure are extremely important to us.

We wish you the best of luck with your proposal and we look forward to collaborating with you.

Sincerely yours,

Kelvin Droegemeier  
Professor and Director of CAPS

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