

# **The Philosophy of TeraGrid: Building an Open, Extensible, Distributed TeraScale Facility**

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The TeraGrid is a \$50 M collaborative project involving Argonne National Laboratory, the California Institute of Technology, the National Center for Supercomputing Applications, and the San Diego Supercomputer Center, funded by the U.S. National Science Foundation. Using Linux clusters at the four sites, interconnected with a 40 Gb/s wide area optical backplane, TeraGrid will provide a unique distributed resource with over 13 Teraflops of computing capability, nearly 1 Petabyte of online storage, and dedicated Teraflops clusters for visualization and data collection analysis. TeraGrid will be integrated using a suite of grid and middleware software technologies anchored by the Globus Toolkit, with a design objective toward an open, extensible architecture that can be expanded or duplicated, based on protocols and standards to promote interoperability. Catlett will provide an overview of the TeraGrid architecture, key technologies including the software, clusters and optical network, and plans for ensuring that TeraGrid reinforces and supports the global grid community.