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**COLORADO STATE AWARDED CIT GRANT TO BOOST COLORADO GRID
COMPUTING INITIATIVE BENEFITING EDUCATION, GOVERNMENT, ECONOMY**

FORT COLLINS - Colorado State University was awarded a Colorado Institute of Technology grant to help further the Colorado Grid Computing Initiative, or COGrid, a statewide computing framework that will ultimately provide high-performance grid computing capabilities to all areas and all citizens of the state. COGrid will enhance Colorado's K-12 and higher education systems, improve Colorado's public and private research capabilities, expand the state's ability to govern and increase Colorado's ability to attract and retain businesses focused on high technology.

"Through COGrid, Colorado State is creating a model of the grid computing infrastructure for the future by forging a public/private partnership to integrate high-performance computers from around the state into a general application grid computing system that will have a wide-ranging impact in all levels of education, research, government and the state's economic development," said Anthony Frank, vice president for research and information technology at Colorado State.

Colorado State received the grant as part of a CIT program that provides computer equipment, services and funds to advance Colorado's efforts in technology education and research and to establish the state as leader in technology innovation. The program includes equipment and services donated by Electronic Data Systems, Hitachi Data Systems, Oracle and Sun Microsystems.

"With the generous support of CIT and corporations such as Sun and Hitachi, COGrid will become the first high-performance grid computing system in the world made available to the general public for the public good," said Ralph Castain, director of the COGrid initiative and a research scientist in the Electrical and Computer Engineering Department at Colorado State. "COGrid's goal is to take high-performance computing from the university computing center to users in industry, the office, the laboratory or even at home."

The COGrid concept revolves around the integration of Colorado's wide range of independent computing resources into a general application network capable of supporting a correspondingly broad group of users. COGrid represents a much different grid computing system than has previously been built in the United States. Current U.S. grid systems have been constructed for specific scientific purposes such as high-energy physics or earthquake engineering and are not available to the public. In

contrast, COGrid will be built for a wide range of users and applications, and will be accessible to all Coloradoans.

The COGrid computing initiative was conceived by a joint group of Colorado State faculty, industry and government representatives, and its activity has been supported by the university's Information Science and Technology Center, or ISTeC. COGrid was formed to address three major objectives:

- enhancing Colorado's educational system, including its scientific research capacities;
- enhancing the state's high-tech industry; and
- improving the state's ability to govern by use of advanced computing capabilities.

"We are excited by the great positive impact Colorado State University will have in raising the level of information technology capability throughout so many different sectors of the state with the COGrid effort," said H.J. Seigel, director of ISTeC and the Abell Distinguished Professor of Electrical and Computer Engineering at Colorado State.

COGrid will enhance Colorado's educational system by providing access to high-performance computing for academic institutions across the state, including universities and K-12 schools. Students in Colorado schools can benefit from access to a statewide grid computing system in several ways, including:

- opportunities to make advances in scientific research;
- knowledge gained in the use of high-performance computing in a wide range of applications; and
- hands-on experience that will help position students for high-skilled jobs in the future economy.

Additionally, an increased level of student interest in science and engineering could be fostered through direct experience with advanced software such as global climate change modeling and other applications.

Beneficial scientific and engineering applications provided by COGrid are numerous, spanning fields from physics to material science, biology, veterinary science and many others. Several applications have been identified for immediate pursuit, including:

- modeling global climate change and atmospheric turbulence;
- biomechanical modeling, automated x-ray analysis and circulatory system modeling for veterinary and medical applications;
- modeling of both agricultural and human-borne diseases;
- analysis of high-energy physics experiments; and
- development of large scale connectivity analysis techniques for homeland security applications.

Through COGrid, Colorado scientists will have access to high-performance computing resources, giving them a competitive edge in obtaining research grants.

COGrid will enhance the state's ability to attract and retain high-tech industry, especially in new areas such as bioinformatics and genomic design, by offering free access to a high-performance computing grid. According to Castain, many of these emerging areas depend strongly upon access to a combination of high-performance computing resources and a pool of skilled labor knowledgeable in the use of such systems, both currently lacking in Colorado.

COGrid will improve the state's ability to govern through the development and implementation of advanced modeling capabilities that are enabled by access to grid computing resources. Many government applications, such as transportation planning, hydrology modeling, wildfire modeling and crisis response simulations, require massive computing resources for short time periods. This load spike represents a significant cost to government agencies and results in many departments being unable to pursue advanced applications that would significantly improve forecasting and modeling capabilities.

For more information about the Colorado Grid Computing Initiative, go online to <http://cogrid.colostate.edu>. For more information about the Colorado Institute of Technology, go online to www.coloradoit.org.