

SDSC to Host 'Gordon' Supercomputer Workshops August 8–11

Potential Users of First Flash Memory-based Supercomputer Asked to Apply by June 24

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The San Diego Supercomputer Center (SDSC) at the University of California, San Diego, will host a special workshop in August as the organized research unit begins deployment of a unique data-intensive, high-performance computing (HPC) system called *Gordon* later this year.

The 'Get Ready for *Gordon* - Summer Institute' will be held August 8-11 at SDSC, at the northwest end of the UC San Diego campus. The four-day workshop is designed to familiarize potential users with *Gordon's* unique capabilities for high-performance, data-intensive computing. *Gordon* is the result of a five-year, \$20 million award from the National Science Foundation (NSF). The team will start accepting allocation requests this fall, with production startup set for January 1, 2012.

Gordon will be the first high-performance supercomputer to use large amounts of flash-based SSD (solid state drive) memory. Flash memory is more common in smaller devices such as mobile phones and laptop computers, but unique for supercomputers, which generally use slower spinning-disk technology. With 250 trillion bytes of flash memory and 64 I/O nodes, *Gordon* will be capable of handling massive databases while providing up to 100 times faster speeds when compared to hard drive disk systems for some queries.

"We are encouraging applications from researchers engaged in data-intensive science and data mining across a diverse range of disciplines, including those who may not previously have considered leveraging supercomputing resources," said SDSC Director Michael Norman. "This includes researchers in astronomy, geosciences, and genomics, as well as economics and linguistics, just to name a few. Those with applications that serve a wide research community, such as through the use of a science gateway, are also encouraged to apply."

Data-intensive computational science that will benefit from *Gordon's* unique configuration includes network analyses for new drug discovery, and converting observed measurements into information about a physical object or system in oceanography, atmospheric science, and oil exploration. The system's large shared-memory system is also able to research modestly scalable codes in quantum chemistry, structural engineering, and computer-aided design/computer-aided manufacturing (CAD/CAM) applications.

Attendee Applications due June 24 Topics covered during the "Get Ready for *Gordon* - Summer Institute" will include:

- An overview of *Gordon's* architecture
- Using flash to improve I/O performance of data-intensive applications
- The use of vSMP (virtual symmetric multiprocessing) for large memory applications
- Application profiling of data intensive applications
- Hands-on sessions using *Gordon* I/O nodes and *Dash*, the prototype for *Gordon*
- Database and data mining applications
- Breakout sessions for researchers who provide support for data-intensive architectures such as *Gordon*

How to write a successful allocation proposal for *Gordon*

Applications to attend the "Get Ready for *Gordon* - Summer Institute" must be submitted by Friday, June 24, 2011. Applicants will receive notification of the status of their application by Friday, July 1, 2011. NSF funding for the event will cover accommodations and meals for attendees from US research and academic institutions. However, attendees are expected to cover their own travel to the UC San Diego campus. Information on submitting applications, as well as full program details, can be found at <http://www.sdsc.edu/Events/summerinstitute2011/index.html>. Specific questions regarding the event may be addressed to gordonevents@sdsc.edu.

The *Gordon* Summer Institute will be held at SDSC the same time as the 8th annual Cyberinfrastructure Summer Institute for Geoscientists (CSIG'11), which will specifically focus on data-intensive computing within the geosciences. The program schedules have been designed to allow for interaction among participants of both events, and will include a common introductory session on the first day. For more information on CSIG'11, please see http://www.geongrid.org/index.php/education/summer_institute/csig_2011

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