Case Research Computing Newsletter
12 January 2006

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1. gridMathematica, MATLAB, Gaussian, and R are being installed on the Case pilot HPC cluster

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Several software packages are being installed on the ITS pilot HPC cluster and will be available to all users. The packages are gridMathematica, MATLAB, Gaussian, and R. Please contact Roger.Bielefeld@case.edu if you would like to suggest other software for installation on the cluster. Please see www.case.edu/its/researchcomputing for details.

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2. Microsoft funding opportunity

Microsoft Research anticipates making 15 to 20 awards in the range of $20,000 to $100,000 as part of its $1.2 million "Digital Inclusion through Mobile and Wireless Technologies Research Funding Initiative" announced on October 20. Proposals must be submitted by January 13, 2006. See http://research.microsoft.com/ur/us/fundingopps/RFPs/DigitalInclusion_2005_RFP.aspx for additional details on this opportunity.

For information on the broader set of research funding opportunities at Microsoft Research, see http://research.microsoft.com/ur/us/fundingopps/default.aspx.

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3. U.S. government awards $18.6 million to share health information

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http://www.eweek.com/article2/0,1895,1885698,00.asp

On November 10, the U.S. Department of Health and Human Services awarded four contracts to consortia that will figure out how doctors at different health care sites can share medical information. The four consortia are Accenture, Computer Science Corporation, IBM Corp, and Northrup Grumman. The consortia have a year to come up with a network architecture and prototype network so that medical data can be shared securely among hospitals, laboratories, pharmacies, and physicians.

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4. Howard Hughes Medical Institute awards $10 million for interdisciplinary graduate education

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http://www.supercomputingonline.com/article.php?sid=9938

Howard Hughes Medical Institute is partnering with the National Institutes of Health's National Institute of Biomedical Imaging and Bioengineering (NIBIB) to ensure sustaining support as well as start-up funds for new graduate programs designed to produce a cadre of Ph.D. scientists with the knowledge and skills to conduct research at the interface between the biomedical, physical, and computational sciences. The recipients of the $1 million three-year HHMI awards were

Brandeis University
Quantitative biology: A new curriculum to link the physical and biomedical sciences

Carnegie Mellon University (with collaborator the University of Pittsburgh)
A new comprehensive, inter-university Ph.D. program in computational biology

The Johns Hopkins University
Interdisciplinary graduate research training program in nanotechnology for biology and medicine

New Jersey Institute of Technology, Rutgers-Newark, the University of Medicine and Dentistry of New Jersey-New Jersey Medical School (equal partners)
Development of a quantitative neuroscience doctoral training program

University of California, Irvine
Mathematical, computational and systems biology

University of California, San Diego
Multi-scale analysis of biological structure and function

University of California, San Francisco
Integrated program in complex biological systems

University of Chicago
Graduate program in biophysical dynamics and self-organization

University of New Mexico
Program for interdisciplinary biomedical sciences

University of Pennsylvania
Integrated graduate training program in clinical imaging and informational sciences

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5. “Bolstering U.S. Supercomputing”

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http://www.issues.org/issues/21.4/p_graham.html

In this article, the authors argue that “The nation’s needs for supercomputers to strengthen defense and national security cannot be satisfied with current policies and spending levels.”

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6. Sun grants Princeton University 100,000 CPU hours on the Sun Grid

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http://www.sun.com/smi/Press/sunflash/2005-12/sunflash.20051212.1.html

SANTA CLARA, Calif. -- December 12, 2005 -- Sun Microsystems, Inc. (NASDAQ: SUNW), today announced Princeton University is a recipient of the Sun Grid Education Grant for 100,000 hours of central processing units (CPUs) on the Sun Grid Compute Utility. Sun Grid helps customers and partners derive immediate benefits from an open, grid-based computing infrastructure on a utility basis by giving them more choice and control over how they purchase and leverage IT. To date, Princeton, a leading research institution and undergraduate college, has used nearly 11,000 CPU hours on the Sun Grid Compute Utility.

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7. WSCG 2006 Call for Papers and Participation

W S C G ' 2006 (formerly the Winter School of Computer Graphics)

14th International Conference in Central Europe on Computer Graphics, Visualization and Computer Vision 2006 in co-operation with EUROGRAPHICS. University of West Bohemia, Plzen, Czech Republic, January 30 - February 3, 2006

Topics include computer graphics and visualization, computer vision, image processing and pattern recognition, fundamental algorithms, graphical human computer interfaces, geometric modeling and computer aided geometric design, computational geometry, rendering and virtual reality, animation and multimedia, medical imaging, graphical interaction, object_oriented graphics, parallel and distributed graphics, WWW technologies, CAD/CAM, DTP and GIS systems and others.

for more information contact Prof. Vaclav Skala, c/o University of West Bohemia, Univerzitni 8, Box 314, CZ 306 14 Plzen, Czech Republic. Email: skala@kiv.zcu.cz with Subject: INFO WSCG 2006. Tel/Fax: +420-37-763-2457. Feel free to visit http://wscg.zcu.cz where on-line papers are available (no access restriction) since 1992.

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8. IEEE International Symposium on High Performance Distributed Computing – June 2006 – Paris, France – Call for Papers

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HPDC'15 - The 15th IEEE International Symposium on High Performance Distributed Computing June 19-23 2006 Paris, France → www.hpdc.org

The Fifteenth IEEE International Symposium on High-Performance Distributed Computing (HPDC) will be a forum for presenting the latest

research findings on the design and use of parallel and distributed systems for high end computing, collaboration, data analysis, and other innovative applications. Submissions are welcomed covering all aspects of high- performance distributed computing, Grids, and global computing ensembles. New scholarly research emphasizing empirical and reproducible results as well as investigative expositions of successful application and deployment efforts are particularly encouraged.

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9. Announcement and call for papers for the HPCS 2006 meeting

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http://www.ace-net.ca/events/hpcs2006/

The 20th International Symposium on High Performance Computing Systems and Applications will be held May 14-17, 2006 at Memorial University of Newfoundland in conjunction with OSCAR'06. See http://www.ace-net.ca/events/hpcs2006 for more information. See http://www.csm.ornl.gov/oscar06/ for information on OSCAR'06.

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10. O'Reilly Emerging Technology Conference - San Diego, California - March 6-9, 2006

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http://conferences.oreillynet.com/etech/

Alpha geeks--hackers and other lead users--are a great early warning system for anyone who's watching the future of technology. The O'Reilly Emerging Technology Conference frames the ideas, projects, and technologies that the alpha geeks are thinking about, hacking on, and inventing right now into a coherent picture from which to extrapolate and upon which to start building.

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11. JavaOne 2006 - San Francisco, California - May 16-19, 2006

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http://java.sun.com/javaone/sf/

The premier conference for Java developers.

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12. The Twelfth International Conference on Parallel and Distributed Systems - Minneapolis, Minnesota - July 12-15, 2006

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http://www.icpads.umn.edu/

ICPADS 2006 provides an international forum to exchange and share experiences, new ideas, and latest research results on all aspects of parallel and distributed systems.

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13. International Conference on Parallel Processing - Columbus, Ohio - August 14-18, 2006

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http://www.cse.ohio-state.edu/~icpp2006/

The conference provides a forum to present the latest research findings in any aspects of parallel and distributed computing.

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14. GridWorld - Boston, Massachusetts - October 3-6, 2006

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http://www.gridworldhome.com/live/42/

GridWorld is designed for business and technology professionals responsible for shaping directions and deploying grid solutions within research, industry and government enterprises.

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15. Australasian Symposium on Grid Computing and e-Research - Hobart, Australia - January 16-19, 2006

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http://www.gridbus.org/ausgrid2006/

The symposium is primarily targeted at researchers from Australia and New Zealand, however in the spirit of grid computing, the organizers encourage papers and participation from international researchers.

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16. Sun HPC Consortium Meeting - University of Aachen, Germany - March 13-17

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http://www.sun.com/products-n-solutions/edu/he/researchandcomputation.html

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17. SAC 2006, Special Track on Distributed Systems and Grid Computing - Dijon, France - April 23-27, 2006

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http://www.cslab.ece.ntua.gr/sac06-dsgc/index.php

This track aims to be a forum for scientists, engineers, and practitioners to share technical ideas, experience and results, and to present their latest findings in any aspects of distributed and grid computing.

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18. First International Conference on Grid and Pervasive Computing – Tunghai University, Taiwan – May 3-5, 2006 in conjunction with Grid Asia

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http://hpc.csie.thu.edu.tw/gpc2006/

Grid and Pervasive Computing (GPC) is an annual international conference on the emerging areas of merging grid computing and

pervasive computing, aimed at providing an exciting platform and paradigm for all the time, everywhere services.

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19. Sun HPC Consortium Meeting – Singapore – May 14-15, 2006

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http://www.sun.com/products-n-solutions/edu/he/researchandcomputation.html

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20. Grid Asia 2006 IEEE International Symposium on Cluster Computing and the Grid – Singapore – May 16-19, 2006

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http://pdcc.ntu.edu.sg/ccgrid2006/

http://www.ngp.org.sg/gridasia/2006/

CCGrid 2006 provides researchers and practitioners with an opportunity to share their research and experience at the cross-roads of Grid Technology.

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21. IEEE International Symposium on High Performance Distributed Computing Paris, France, June 19-23, 2006

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http://hpdc.lri.fr/

The Fifteenth IEEE International Symposium on High-Performance Distributed Computing (HPDC) will be a forum for presenting the latest research findings on the design and use of parallel and distributed systems for high end computing, collaboration, data analysis, and other innovative applications.

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22. International Supercomputing Conference - Dresden, Germany - June 27-30, 2006

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http://www.supercomp.de

The ISC is a premier venue for gaining an international perspective on the field of HPC. Combining a strong lineup of technical experts with exhibits from vendors, ISC presents state-of-the-art applications, architectures and trends in supercomputing.

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23. Americas Conference on Information Systems (AMCIS 2006) – Acapulco, Mexico – August 4-6

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http://amcis2006.aisnet.org/

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24. Workshop on Computational Chemistry Software Applications – Ohio Supercomputer Center, Columbus, Ohio - January 18 & 19, 2006

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http://www.osc.edu/hpc/notices/notice902.html

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25. Big Ben delivers short bursts of turbulence via TeraGrid

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http://www.supercomputingonline.com/article.php?sid=9946

At SC05 in Seattle, Nov. 12-17, the international conference for high-performance computing, networking and storage, University of Minnesota researchers Paul Woodward and David Porter used Big Ben, the 10-teraflop Cray XT3 system at the Pittsburgh Supercomputing Center (PSC), to simulate turbulence in real time. Using the high-performance optical-fiber "backbone" of the TeraGrid, the National Science Foundation's cyberinfrastructure program, the researchers transmitted results from the simulation in Pittsburgh for run-time visualization at the PSC booth.

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26. World Community Grid celebrates its first year with a new project

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http://www.supercomputingonline.com/article.php?sid=9923

On November 16, World Community Grid celebrated its one-year anniversary — and the significant contributions to humanitarian research made possible by volunteers. Since its launch, more than 100,000 people from 157 countries have volunteered their unused computer time to World Community Grid, registering in excess of 170,000 PCs and laptops. This tremendous volunteer force donated more than 20,000 years of computer run time and returned nearly 19 million results — or one result every two seconds! These contributions have made the Human Proteome Folding Project — the first project to run on World Community Grid — a great success. World Community Grid expects equally outstanding results on its new project FightAIDS@Home, which launched today. World Community Grid, an IBM philanthropic initiative, has launched a major research effort to help develop effective therapies for AIDS victims throughout the world. The company will provide the massive computational power needed to develop therapies through World Community Grid, the first virtual supercomputer dedicated to AIDS research.

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27. Brookhaven National Lab celebrates with dedication of new supercomputer

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http://www.supercomputingonline.com/article.php?sid=9942
http://lqcd.fnal.gov/lattice04/proceedings/1_plenary/boyle.pdf

On November 30, 2005, Brookhaven National Laboratory honored the 25th anniversary of a scientific paper first using now-standard computational techniques by dedicating the newest supercomputer devoted to quantum chromodynamics (QCD), the theory that describes the interactions of subatomic particles.

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28. AMD and Sun Microsystems to Build Japan's Largest Supercomputer for Tokyo Institute of Technology

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http://www.supercomputingonline.com/article.php?sid=9845

AMD and Sun Microsystems announced that the Tokyo Institute of Technology is creating Japan's largest supercomputer on a foundation of Sun. The system is based on Sun Fire x64 servers with 10,480 AMD Opteron processor cores [totaling more than 50 trillion floating point operations per second (teraFLOPS)], Sun and NEC storage technologies and NEC's integration expertise as well as ClearSpeed's Advance accelerator boards. Using Sun's N1 System Manager and N1 Grid Engine, the system will be provisioned to support the Solaris 10 Operating System (OS) as well as the Linux operating environment. The grid-based supercomputer plans to expand to more than 100 teraFLOPS by its operation in Spring 2006 and is expected to be one of the five largest supercomputers in the world as ranked by Top 500 (http://www.top500.org) in Summer 2006.

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29. Simulation in drug development helps to reduce animal tests

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http://www.supercomputingonline.com/article.php?sid=9936

Scientists at the Technische Universität Dresden/Germany are significantly involved in a European research project entitled “BioSim“ which aims at utilizing biosimulation as a new tool in drug development. The use of supercomputing simulations will provide more objective data which helps to develop drug compounds more effectively and to reduce investment in drug development drastically. Above all the number of animal tests as well as clinical studies with volunteers will decrease substantially.

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30. Penn research permits first-ever visualization of psychological stress

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http://www.supercomputingonline.com/article.php?sid=9935

Using a novel application of an fMRI (functional magnetic resonance imaging) technique, researchers at the University of Pennsylvania School of Medicine have, for the first time, visualized the effects of everyday psychological stress in a healthy human brain. Their work, performed at Penn's Center for Functional Neuroimaging, provides a neuro-imaging marker of psychological stress -- which will pave the way for the development of improved strategies for preventing or correcting the long-term health consequences of chronic stress. The researchers' study appears in the November 21 online edition of Proceedings of the National Academy of Sciences.

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31. UK e-Science project wins top supercomputing award

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http://www.supercomputingonline.com/article.php?sid=9911

A UK e-Science project has won a top award at SC05, the world's premier supercomputing conference in Seattle this week. SPICE (Simulated Pore Interactive Computing Environment) achieved success in the HPC Analytics Challenge for demonstrating the use of innovative techniques in rigorous data analysis and high-end visualization to solve a complex, real-world problem

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32. MIT gets Blue Gene

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http://www.supercomputingonline.com/article.php?sid=9791

Monday, Nov 14 @ 11:03 PST
By Anne Trafton, MIT News Office -- "Blue Gene," a new computer that will be MIT's most powerful, was dedicated on Thursday, Nov. 10. The computer will be used to explore lattice quantum chromodynamics (QCD) and other extremely demanding computational physics problems. John Negele, the William A. Coolidge Professor of Physics, is the principal investigator for the Blue Gene project.

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33. Internet2 demonstrates optical networking firsts

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http://www.supercomputingonline.com/article.php?sid=9898

For the first time, three radio telescopes distributed around the world will be connected via dynamically provisioned dedicated optical circuits for an electronic Very-Long-Baseline Interferometry (e-VLBI) observation. Internet2 announced this scientific and networking achievement at the first major demonstration of its nationwide Hybrid Optical and Packet Infrastructure (HOPI) testbed, during the SC|05 conference held in Seattle, Washington this week. The demonstration marks a critical milestone in dynamic or "on demand" optical networking that can support even the most extreme applications used by the global research and education community today.

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34. Report to the President "Computational Science: Ensuring America's Competitiveness"

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http://www.nitrd.gov/pitac/reports/20050609_computational/computational.pdf

This June 2005 report was prepared by the President's Information Technology Advisory Committee.

About the newsletter

The Case Research Computing Newsletter is distributed on the last Thursday of each month and is intended to provide information of interest to researchers in the areas of high performance computing, high bandwidth networking, grid computing, visualization, and other uses of computation in research. To manage your subscription to the newsletter (or to unsubscribe), please visit https://lists.case.edu/ and select the "RC-newsletter" mailing list. For comments about the newsletter or more information about research computing at Case in general, please contact Roger.Bielefeld@case.edu or see www.case.edu/its/researchcomputing. Old issues of the newsletter are archived at www.case.edu/its/researchcomputing/newsletter.