

SGI Supercomputer to Power the APAC National Facility

APAC and SGI signed an advanced computing agreement with significant benefits for Australian researchers.

The agreement means: * A dramatic ten-fold increase in computing capacity for the APAC National Facility; * A huge boost to Australia's research infrastructure and the uptake of eResearch; * A substantial increase in Australia's world standing in advanced computing and grid capabilities; * Further contributions from SGI to support Australia's research priorities; * Research challenges will be addressed in ways not currently possible in Australia; * New research directions and innovation for users of the APAC National Facility. The Australian Partnership for Advanced Computing (APAC) and SGI Australia today announced an agreement which has significant benefits for Australian researchers. "The agreement will provide a huge boost to Australia's research infrastructure and to the uptake of eResearch in Australia. It will substantially increase Australia's world standing in advanced computing and grid capabilities", said Professor David Beanland, Chair of the APAC Board. Under the agreement, SGI will install an Altix 3700 Bx2 system with a total of 1,680 Intel Itanium 2 processors in the APAC National Facility located at the Australian National University, Canberra. This system will deliver a ten-fold increase in computing capacity for the APAC National Facility. This increased capacity has been made possible by the Australian Government's support for APAC. In April 2004, the Minister for Education, Science and Training, the Hon Dr Brendan Nelson announced funding of \$29m for the next stage of APAC. Professor John O'Callaghan, Executive Director of APAC, said that the SGI supercomputer will provide Australia with world-leading computing environment assisting over 600 Australian researchers to make new discoveries in areas such as the environment, bioinformatics, astronomy, chemistry and high-energy physics. It will allow researchers to address computational challenges not yet possible in Australia. Some of these challenges include: * Modelling the sea-ice interaction in Antarctica, an important component in the understanding of climate change. * Visualising hypersonic astrophysical shocks that underlie the origin of galaxies. * Predicting three-dimensional fluid flow to develop novel bioreactors in the fight against terrorism. * Understanding the migration of salt and contaminants in soil for more efficient extraction of oil. * Designing novel catalysts for the synthesis of pharmaceuticals and drugs. * Simulating how ions move through membranes to assist the understanding of many neurological, muscular and renal disorders. * Modelling the performance of light alloys and material composites to boost innovation in car design and performance. "We selected the SGI Altix system for its outstanding performance and competitive pricing. SGI is an established international company with a proven track record in supporting research with leading-edge high-performance computing and visualisation systems", said O'Callaghan. Mr Bill Trestrail, SGI's Regional Managing Director for South Asia Pacific commended the Australian Government for its support of APAC and the Australian research infrastructure. "The APAC National Facility provides a world-class service for Australian researchers and SGI is proud to be the supplier of the next generation system for the facility. This tremendous record of service delivery has been made possible by the outstanding skills of the staff working in the National Facility", he said. The agreement will strengthen this service through staff exchanges, specialist support from SGI and Intel as well as a fund for cooperative projects between APAC and SGI. Mr Bob Bishop, SGI's Chairman and CEO said "SGI and its partners will supply the computational tools that help drive scientific discovery in Australia to new world-class levels. The nation understands that to out-compete in the 21st Century, Australia must out-compute." The SGI Supercomputer for the APAC National Facility The SGI supercomputer to be installed at the APAC National Facility is an Altix 3700 Bx2 with a total of 1,680 Intel Itanium 2 processors, 3.6TB of memory, 120TB of SGI InfiniteStorage storage, and Brocade 24000 fibre channel switches. The software environment comprises the SuSE Linux operating system with SGI ProPack(tm), SGI CXFS(tm) file sharing software and the Intel range of software development compilers and tools from Intel. The Intel Itanium 2 processors provide the 64 bit computational power needed to deliver new levels of performance required to support the most demanding computing users in this country. "SGI and Intel continue to work together to bring best-in-class computing capabilities to the scientific industry to advance research and development in ways that were never thought possible," said Abhi Talwarkar, vice president and general manager of Intel's Digital Enterprise Group. "Intel Itanium 2 processors provide the 64-bit computational power needed to deliver new levels of performance required to support the most demanding computing users in this country." The SGI supercomputer will be a peak system in a national grid of computing facilities that will provide Australian researchers with a world-leading computing environment. The APAC National Grid is being developed by the 8 APAC partners to provide Australian researchers with seamless access to computing and information management facilities all around Australia. SGI has strong long-term relationships with customers in manufacturing, defence, government as well as science, education and research. Other recent strategic client wins include the National Aeronautics Space Administration (NASA), the Japan Atomic Energy Research Institute (JAERI) and the National Centre for Supercomputer Applications (NCSA) in the USA. APAC The Australian Partnership for Advanced Computing (APAC) was established in June 2000 to strengthen the high-performance computing capabilities for the Australian research community. The APAC partnership has 8 partners, one in each State as well as the ANU and CSIRO. The 6 State-based partners are consortia involving 28 universities around Australia. The mission of APAC is to provide a national advanced computing and grid infrastructure for eResearch. This infrastructure is based on the APAC National Facility and the APAC National Grid. For more details, see www.apac.edu.au. The website has a brochure ('Four Years On: 2000 to 2004') which highlights the research activities of the major users of the APAC National Facility. 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