

# **MEDIA RELEASE**

**NEWS FROM THE UNIVERSITY OF TASMANIA**

DATE: THURSDAY 10 SEPTEMBER 2009

ATTENTION: Chiefs of Staff, News Directors

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## **New super computer for UTAS helps forecast world climate**

Complex science problems are being solved faster than ever before with the installation of a \$1 million super-computing facility at UTAS by the Tasmanian Partnership for Advanced Computing.

Complex modelling of the Tasmania's future climate, the Southern Ocean's currents, and Antarctic ice sheet melting are now all possible with the new super-fast computer.

The high performance computer, nick-named Katabatic after blizzard-speed winds found in Antarctica, will enable super-fast processing and calculations of large research data sets, which would otherwise take a desktop computer many years to complete.

Partnership director, Professor Nathan Bindoff, said Katabatic will be used for ocean, atmosphere, Antarctic ice sheet and climate modelling, as well as computational chemistry, fluid dynamics and other projects requiring above average compute and/or memory capacity.

"This facility is used for simulations, storage of data and the re-use of data by researchers," he said.

Prof. Bindoff said the new super-computing facility maintains UTAS's position as a centre for high performance computing and the hosting of data in Australia in the marine and climate areas.

"The projects it will enable and support are of national and state significance."

Researchers from various parts of the university, including the Antarctic Climate and Ecosystems Cooperative Research Centre (ACE CRC), the Australian Integrated Marine Observing System (IMOS), UTAS School of Chemistry and School of Maths and Physics, and the Menzies Research Institute have already booked in to use Katabatic.

There are about 30 direct users of the computing facility and through the hosted data sets, more than a 100 users on a daily basis – equivalent to more than 30,000 users annually.

*For interviews and visual footage of the new computing facility, please contact TPAC director, Professor Nathan Bindoff, on (03) 6226 2986.*

## **Background**

Katabatic is almost 3000 times more powerful than the average desktop computer – a common desktop computer has 200GB of hard drive space, while Katabatic has 71,680GB of hard drive space and an additional 524,288GB of mirrored tape storage.

Four times faster than the HPC it replaced, Katabatic, is not one computer – but is a “high performance compute cluster” and incorporates 64 clustered blade servers, (or 512 processors and a terabyte of RAM) which enables super-fast processing and calculations.

TPAC bought its first machine in 1992. Back then the facility had just 12 processors running, 2.4 gigaflops and no online storage. Now TPAC has 512 processors, each capable of 5 gigaflops for about 2 terraflops of peak compute power.

TPAC is a partnership between the University of Tasmania, CSIRO Marine & Atmospheric Research, the Australian Antarctic Division, Antarctic Climate & Ecosystems Cooperative Research Centre (ACE CRC), Bureau of Meteorology Research Centre and the Australian Maritime College.

TPAC is a member of the Australian Research Collaboration Service (ARCS). ARCS enables and enhances Australian research through the provision of collaboration, interoperability and authorisation services, in addition to providing national grid computing and the national data fabric.

ARCS supports research collaboration on a national level, in addition to providing grid computing and data services to Australian researchers.

### **Katabatic Machine Specifications**

SGI Altix ICE 8200 Compute Cluster

64 nodes w/ 8x 2.8GHz cores and 12-96 GB RAM total of 512 cores and 1 terabyte RAM

½ petabyte(500TB) mirrored data store

1072GB (1.07TB) RAM

72Tb SATA SAN

20Tb SAS SAN

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