

CSIRO Chooses XENON® For Supercomputing Upgrade

~ XENON delivers Australia's first Intel® Xeon® E5-2600 GPU HPC Cluster for scientific research advances ~

Melbourne, April 19, 2012 – CSIRO, one of the world's largest and most diverse scientific organisations, has chosen XENON Systems, an Australia provider of high-performance computing solutions, to upgrade its GPU cluster based on the new Intel Xeon processor E5-2600 product family, to give its researchers significant productivity gains, help speed up scientific discovery and be more internationally competitive. XENON previously worked with CSIRO to deliver the world's 11th greenest supercomputer in November 2010.

CSIRO went to tender and chose XENON on account of its ability to best meet highly specific technology requirements, while helping CSIRO to minimise its impact on the environment, remotely manage the system and extract the highest performance possible from its investment in scientific and engineering computational technology.

CSIRO's head of Computational and Simulation Sciences, Dr John A Taylor, leads the CSIRO's research team to develop new methodologies for analysing and exploiting large and complex data sets and data streams. The new GPU HPC cluster helps CSIRO scientists increase productivity by performing computations in a single morning that used to take weeks. It also helps them create considerable scientific opportunity by giving the ability to perform tasks that were once computationally infeasible.

"We're in the business of turning information into knowledge and quantifying uncertainty to help people make better decisions, whether that's in bio-chemical marine models, climate modelling or for medical imaging," said Dr Taylor. "The faster we can process data, the faster we can get solutions to market – and that's in Australia's best interests. We chose XENON due to a combination of its expertise in delivering the project according to our very specific requirements, and our history of knowing the quality of work the team delivers."

"It's incredibly exciting to work at the forefront of research and development, both from an Australian and global perspective," said Dragan Dimitrovici, Managing Director at XENON Systems. "We're proud to work with one of the world's leading scientific research organisations and one of the world's most innovative technology companies to deliver one of Australia's first Intel Xeon projects and the most advanced GPU technology. When people say 'leading edge and innovation' – that's exactly what we do."

"Intel worked very closely with Xenon Systems to provide the most innovative processor and platform in the market for this project. We are very pleased with the solution Xenon Systems has offered CSIRO and are confident the Intel Xeon processor E5-2600 product family will deliver leadership performance, energy efficiency and scalability," said Kamil Gurgen, Channel Platform Manager at Intel.

XENON's brand new HPC Cluster solutions are optimised for performance, power, and density while offering substantial headroom for future upgrades. The all-new XENON Nitro G16 3GPU 1U Compute Node is based on the latest Intel architecture and powered by Intel's new generation E5-2600 series Xeon "Sandy Bridge-EP" 8-core processors.

The prime factor in the GPU cluster upgrade for CSIRO is moving to the new Intel platform architecture, opening space for variety of latest and forthcoming GPU cards and enhancing a number of important capacities such as:

- (a) Higher GPU density - with up to 4 GPU cards per 1U of rack space
- (b) Effectively removing a current bottleneck by doubling I/O bandwidth to up to 8GT/s with the next generation PCIe 3.0 bus technology.
- (c) Significantly faster and more efficient CPU architecture with up to 8 cores and integrated quad-channel memory controller, providing an additional performance improvement, whilst lowering the power consumption.
- (d) Brand new FDR10 InfiniBand high-speed interconnect solution with high-efficiency data handling and utilising latest "GPUDirect" and "CORE-direct" technologies.

The new CSIRO GPU HPC Cluster is made of 134 Compute Nodes powered by 268 x Intel Xeon E5-2650 processors (2144 CPU cores) and featuring 390 NVidia Tesla 2050 GPU cards (174,720 GPU cores).

For more information, please visit www.csiro.au , www.xenon.com.au and www.intel.com .