

Speed is the name of the game for researchers

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Cutting-edge computer technology designed for use in game consoles like the PlayStation 3 will power complex research software at The University of Manchester. Academics in several scientific and engineering fields will use IBM's latest powerful hardware to run a range of scientific and engineering programs.

The University is one of a small band of organisations worldwide to adopt the technology at an early stage.

Researchers will use a prototype of IBM's BladeCentre QS20 system, which incorporates super-fast Cell Broadband Engine (Cell BE) processors, to handle complex bioinformatics, molecular modelling and engineering programs.

By employing the IBM system, the University is giving staff and students the opportunity to use world-leading, high-performance computer facilities to drive their research forward.

"We are early adopters of the IBM Cell BE system because it has the potential to give us significantly improved performance, take up less space, and consume less power," said Terry Hewitt, Director of Research Computing at The University of Manchester.

"High performance computing systems built from systems based on the Cell Broadband Engine have the potential to change the economics associated with supercomputing.

"We are currently looking at migrating the range of our scientific applications including bio-informatics, molecular modelling and engineering applications onto the systems to dramatically improve their performance, at the same time as reducing the costs of supercomputing."

The Cell BE chip can also be used to produce high-quality graphics at great speed, and it will be the heart of Sony's forthcoming and eagerly anticipated PlayStation 3 console.

The Cell BE was originally developed by IBM, Sony and Toshiba for use in game consoles. Its architecture and ultra high-speed communications capabilities deliver vastly improved, real-time response, giving it 'supercomputer-like performance'.

The IBM BladeCenter QS20 system relies on the Cell BE processor to accelerate intense workloads associated other specific industry needs, such as 3D animation rendering, compression, encryption, and seismic and medical imaging to help companies create and run highly visual, immersive, real-time applications.

The early adoption of IBM's BladeCentre QS20 system by the University strengthens the existing relationship between the two parties.

On 2 November 2005, The University of Manchester signed an official Memorandum of Understanding (MoU) with IBM, forging a partnership across research, teaching and recruitment.

The signing of the MoU also marked the creation of the IBM-Manchester Partners Programme. The initiative identifies key staff to partner with IBM towards future opportunities for collaborative research. The programme also identifies areas of overlapping strategic importance for course delivery and future outreach activities.

Source: University of Manchester

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