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IBM, Sony, Toshiba, Georgia Tech focus Cell BE work on sensor networks, bioinformatics, signal processing kernel for oil and gas exploration

By Suzanne Deffree, Managing Editor, News -- 7/9/2008
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The **Georgia Tech College of Computing** will continue its work on the Cell Broadband Engine, developed by **IBM**, **Sony**, and **Toshiba**, as it today announced several future projects and a two-day processor workshop focused on the Cell architecture.

While the Cell BE (pictured right) is best known for its **place in the Playstation 3 gaming system**, Georgia Tech's work leans more toward the medical, military/aerospace, and security verticals than it does toward consumer electronics.



Indeed, one key project highlighted by Georgia Tech concerns new capabilities to monitor the structural safety in commercial and military airplanes. Researchers will develop new software that will accurately monitor structural components in flight by measuring and recording an aircraft's vibrations through a distributed network of sensors, Georgia Tech said.

Additional projects include developing financial services applications for consolidated debt optimization and for European and American options pricing; bioinformatics research for DNA sequence alignment and comparison; studying a signal processing kernel needed for oil and gas exploration and seismic monitoring; work on data compression, on encryption libraries, and on high-speed multimedia codecs; and the development of software productivity enhancement tools that involve a cross-platform profiler, performance estimation, and tuning system with IDE type features.



"We anticipate a paradigm shift in computing and our collaboration with the Georgia Tech College of Computing will create innovative applications for Cell BE processors," said Yasu Yokote, general manager, Cell Application Development Center, Sony, in the statement.

Georgia Tech does its work on the Cell BE through the Sony-Toshiba-IBM Center of Competence (STI Center), which was **established about a year ago** to test the boundaries of the Cell architecture. So far, in part through Georgia Tech's efforts, the STI Center has been responsible for creating and disseminating software optimized for Cell BE systems and for performing research on the design of Cell BE systems, algorithms, and applications.

"Today, we are carrying out the vision we always intended - to generate breakthrough innovations using Cell BE technologies working hand-in-hand with researchers at Sony Group, Toshiba, and IBM," said David A Bader, professor and executive director of high-performance computing in the Georgia Tech College of Computing, in a statement. "We are very encouraged that our initial research results are showing the multi-faceted applicability of this technology."

In addition to the research projects, Georgia Tech also announced today that it will host the second annual **Cell BE processor workshop** this Thursday and Friday. The IBM-Sony-Toshiba-sponsored workshop will focus on software, tools, and applications for the Cell BE processor, including high performance computing applications and programmability tools.

IBM, Sony, and Toshiba first **unveiled the Cell** in 2005.

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