

IBM Mainframes Go 3-D

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By integrating its Cell processors with the mainframe, the company hopes to create virtual worlds on the Web that benefit gamers as well as the enterprise.

IBM's System z mainframes are about to get a microprocessor makeover.

The company is announcing April 25 that it will begin integrating its Cell Broadband Engine Architecture microprocessors into the company's line of mainframe servers.

The Cell processor, which IBM began developing in 2001 along with Toshiba and Sony, has been mainly used to power game consoles, notably Sony's own PlayStation 3. However, when it was first introduced in 2005, IBM's engineers had more in mind for this 64-bit PowerPC-derived multicore processor that offered a clock speed greater than

4GHz.

At first, those ideas were to integrate the Cell processor into high-definition TVs and workstations. Now, IBM wants to build the chip into its line of System z mainframes, which will give the systems additional capability to handle graphics-intensive applications that can be used to create three-dimensional Internet environments and "virtual worlds."

While this development of the mainframe holds obvious benefits for businesses that deal in online gaming, the addition of the Cell chip has implications for enterprises, such as Web-based retail companies, looking to create "virtual" showrooms to allow customers to experience the look and feel of products, said David Gelardi, vice president of industry solutions for IBM, in Armonk, N.Y.

"The way to think about it is just look at the way the Web has evolved over time," Gelardi said. "More banking is done online. More shopping and people's hobbies are online. In that context, the next step is to offer 3-D capabilities, and what we are doing is starting with online gaming and then moving into a Web-based commercial world."

The first company that will work with IBM and a mainframe integrated with a Cell processor is a Brazilian online gaming company called Hoplon Infotainment, which is now developing the software and the SOA (service-oriented architecture) for a virtual world and online gaming community.

IBM, Gelardi said, will handle the infrastructure and design a System z mainframe with the computing power to handle a completely virtual, 3-D environment. What the Cell processor won't do is replace the other processors that handle functions such as the I/O, cryptography and memory control.

Instead, IBM will build System z mainframes toward customer specifications and use the Cell chips as offload processors, and the system designers can add as many of these microprocessors as needed to support various applications.

IBM and Hoplon should deliver the final online gaming environment by the end of 2007, Gelardi said.

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