

PowerPC Processors in Virtex-II FPGAs

IBM and Xilinx combine cutting edge technologies to create a revolutionary new product.

by Ann Duff

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IBM and Xilinx recently announced a partnership to create a new generation of devices for use in communications, storage, and consumer applications. Under the agreement, we are working together to embed IBM PowerPC processor cores in Xilinx Virtex™-II FPGAs. The pairing of a low-cost, high performance PowerPC processor core with customizable FPGA circuitry allows you to create custom chips for your particular application at reduced cost and



with faster time-to-market. Availability dates for the new chips will be announced later this year by Xilinx.

The new devices will initially be fabricated by IBM for Xilinx using advanced IBM chip manufacturing technologies, including copper interconnects which adds to their performance. This will enable Xilinx to broaden its manufacturing volume and geographic diversity, and leverage common foundry manufacturing processes.

“This joint effort will bring about a new design era combining programmable logic time-to-market advantages with the cost benefits of standard cell technology,” said Andrew Allison, semiconductor industry analyst. “This is a potent combination.”

“IBM and Xilinx are committed to meeting each customer’s unique blend of requirements for cost, design time, and individualized function,” said John Kelly, general manager, IBM Microelectronics Division. “This requires a variety of chip design options, from standard, off-the-shelf parts to FPGAs to ASICs. This agreement creates both a new approach in chip design, as well as a unique collaboration between the world’s leading ASIC and programmable logic providers.”

The complementary marketing and technology agreement will enable customers who choose FPGA solutions from Xilinx to more easily migrate to IBM

ASIC and standard product solutions. Customers will factor performance, cost, time-to-market, and volume requirements in making a determination as to the best option for a given application, while using the same industry standard PowerPC and IBM’s system-on-a-chip CoreConnect bus technology across all solutions.

“The combination of technologies will lead to a new level of performance and flexibility in the semiconductor market,” said Wim

Roelandts, president and CEO of Xilinx. “IBM’s process technology is the most advanced in the industry and the PowerPC architecture has become the standard in communications, enabling us to deliver the highest performance and highest density products into the market at the leading edge of technology.”

Under the multi-year agreement, Xilinx will license IBM’s high-performance PowerPC processor cores and CoreConnect bus for integration into Xilinx FPGAs. IBM and Xilinx will map the resulting designs to IBM’s advanced chip manufacturing processes, keeping Xilinx FPGAs on the leading edge of technology. IBM will license IP from Xilinx to quickly move leadership process technology to the marketplace. We also plan to explore other areas of cooperation that could benefit customers of both companies.

About IBM

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