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Design "Runtime" is the Key to Your Success

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With today's advanced development tools, you can complete your design in less time than ever before. That's the good news. The bad news is that you must complete your designs in less time to remain competitive; everyone is feeling the need to increase productivity. Because of this tight market pressure, you don't have the time to wait around for your design to finish compiling, how to use and maintain multiple development environments to do the job that can be handled in a single design environment. This week, Craig Willert, Product Line Manager at Xilinx, discusses Xilinx Integrated Synthesis Environment (ISE) and its support for fast runtimes and high-performance push-button results for all Xilinx programmable logic devices.

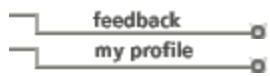
Q: What is Xilinx ISE? The Xilinx Integrated Synthesis Environment (ISE) is our next generation environment providing comprehensive support for the design, synthesis, verification, and programming of all Xilinx leading devices. The embedded integration of a variety of leading tools like Synplicity Synplify and Synplify Pro, and Synopsys FPGA Express (support for Xilinx Leonardo Spectrum to be released later this summer) make it easy to get optimal performance from your HDL design. And because the ISE environment supports all Xilinx leading-edge device architectures, programmable logic designs (whether CPLD or FPGA based) can readily be handled within a single design environment.

Q: What makes software runtime so important? With the advent of highly integrated logic devices, the bottleneck in system development has become design verification. ASIC design methods require extensive pre- and post-fabrication verification, while SRAM-based programmable logic devices simplify the verification process by enabling a more time-efficient in-system debug checkpoint. To ensure fast and efficient debug of your design in the lab, fast runtimes are a requirement. Xilinx runtimes allow you to "spin" your design several times a day — at least ten times faster, and typically five times faster, than runtimes achievable in any other software.

Q: Do I have to sacrifice performance for runtime? No. Xilinx creates its programmable logic devices with the design tools in mind. As such, our optimization, mapping, place, and route algorithms deliver the required system performance quickly and easily — with the push of a button.

However, if you are pushing the performance or density limits of a device, Xilinx developers have a set of interactive design tools that allow you to take full advantage of our devices. Xilinx has long been known as the programmable logic company that provides engineering tools and control over the physical silicon; for the highest performance designs, this can mean the difference between a successful product launch, and going back to the drawing board. This is just an advantage of choosing Xilinx as your preferred logic supplier — high-performance development systems that deliver "All the speed you need."

For more information on the Xilinx ISE software, see: [ISE software](#).



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