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FLE Has A New Office

Finger Lakes Engineering has relocated to Dryden, New York.

Our new address is
Finger Lakes Engineering
15 West Main Street, PO Box 28
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Get Your Free IP at
www.FL-ENG.com

Our new office location provides 2000sq feet of engineering design facilities, along with a fully wired conference system for remote video, white-board, and design file sharing with our clients.

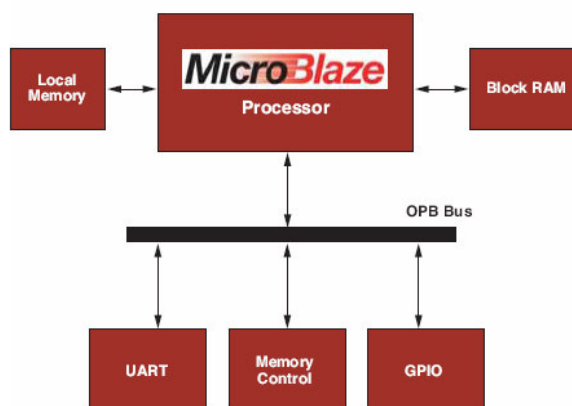
Achieve Performance Increases and Product Differentiation With the Xilinx Microblaze

Are you using the Microblaze in your Xilinx FPGA Designs?
If you aren't – you should be!

The Microblaze is a “soft-processor” core that can be directly added into a Xilinx Microblaze FPGA to provide a 32-bit Microprocessor at clock rates exceeding 200MHz.

Find out ways to maximum your Microblaze performance; read our new article published in the Xilinx Embedded Journal available online at www.FL-ENG.com.

The key advantage in using the MicroBlaze core as an FPGA-based processor lies in the ability to add user-specific IP cores into the architecture. The addition of user-specific IP can provide performance gains and product differentiation by adding a feature that the competition may not have in their silicon processors. Through a proper understanding of the software executing on the MicroBlaze processor and the capabilities of its hardware architecture, it is possible to create simple IP cores that can offer tremendous boosts in overall performance.



Learn More at
WWW.FL-ENG.COM

FLE Releases 10/100 Ethernet MAC for Xilinx Microblaze

Steve Spano, President and Principal Consultant

The FLE Microblaze 10/100 EMAC core is based on the 10/100 EMAC developed by Igor Mohor and popularized on the website www.opencores.org. This core has been used in several production products, ASICs, and has been integrated by vendors such as Flextronix into their custom ASIC/IP programs.

Finger Lakes Engineering has released three versions of the EMAC core, available at www.FL-ENG.com.

- A Free and Unlimited Use 10/100 EMAC available for any commercial/student design project.
- A trial version of the full speed 10/100 EMAC.
- A commercial version to support high speed full bandwidth transfers.

Combined with FLE's *proprietary technology* to allow Wishbone Peripherals to be intergrated on the Microblaze OPB (On-Chip-Peripheral) Bus; FLE has further optimized the EMAC core for synthesis within Xilinx Virtex4, Spartan3, and Spartan3E FPGAs.

The 10/100 EMAC Core provides the following key features

- Direct Integration with Xilinx Microblaze and PowerPC OPB Bus
- FULL DMA transmission/reception of Ethernet Frames for reduced overhead
- Hardware interrupt for status and error detection
- Dual 2048-byte inbound and outbound buffers
- Supports CPU clocks from 50MHz and UP
- Configurable for 10/100 Full-Half Duplex along with MDIO PHY Access
- Operates with uClinux and the Xilinx XMK MicroKernel
- Supports upto 128 off chip RX/TX buffers to high performance data rates
- Full implementation requires ~1500 slices and 6 BlockRams (1/2 the size of other EMAC IP cores!)

10/100 EMAC *FREE* VERSION



- Completely Free and Fully functional, no time limits or other “loss-of-functions
- Reference design provided to show the Xilinx MicroKernel and EMAC on the ML403 Xilinx Eval Board
- The Free EMAC is limited to ~20KB/s through put
- The FRE EMAC must be mapped at 0x1000:0000 – 0x1000:FFFF in the Microblaze Memory Map
- Provided under the F3 License Program and support available on the FLE Developers Forum

10/100 EMAC Commercial Version and Trial Version

- Full 10/100 EMAC implementation
- No timeouts, resets, or bandwidth limits
- Licensed under the “Unlimited IP License” agreement for reuse in all company products
- Provides 30-days of engineering support from Finger Lakes Engineering
- Provided under the FCL License Program

Check Out The Free Xilinx FPGA Cores at WWW.FL-ENG.COM

Finger Lakes Engineering: Vision, Mission, Values

Vision: To be the first choice engineering service provider for the most innovative companies in the world, to provide an ethical and flexible work environment for our staff, and to continually invest in our community.

Mission: To develop relationships with companies who use electronics technology and help them achieve a superior marketplace advantage by providing complete hardware design services from concept through production on a fixed cost quote.

Values:

- Treating each client as if they are our most important customer
- Open and timely communications with our clients and employees
- Maintaining the confidentiality and security of client information
- Treating our employees with fairness, respect, and accountability
- Continued business growth through reinvestment of profits

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Do you have an Idea for a topic that you would like to see FLE discuss?

Email your suggestions to steve@flconsult.com