

# INSIDERS' GUIDE: FPGAs, TOOLS, AND BOARDS



## FEATURED INTERVIEW:

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## EUREKA TECHNOLOGY: PROVIDING CUSTOMIZED IP FOR FPGA DESIGN

1 October 2008: Providing Customized IP for FPGA Design

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WEB. <http://www.eurekatech.com/>**Q. First of all, tell us a little bit about yourself and your responsibilities at Eureka Technology.**

A. I started Eureka Technology in 1996. I see that customer satisfaction and product quality are my biggest responsibilities. My formal training in engineering and my previous work experience in logic design allow me to see from my customers' perspectives, understand the technical issues and help provide solutions.

**Q. Eureka Technology, as we understand, is a provider of Intellectual Property ("IP") for both the ASIC and FPGA markets. Tell us in a nutshell what types of IP you provide, and your business model for selling this to customers.**

A. Eureka Technology focuses in system connectivity digital IP cores. Most of our IPs are used to connect the CPU to the outside world. For example, we have system memory controllers that support many versions of SDR and DDR SDRAM, Mobile SDRAM and NAND Flash; peripheral controllers such as PCI, PCIE, Security Digital (SD and SDIO), MMC and CompactFlash. Last but not least are the CPU bus interface such as AXI, AHB, PowerPC and bridges between all different buses.

**Q. One of the big questions that surrounds the FPGA ecosystem is why an engineer should "buy" IP or tools when he can (allegedly) get them for "free" from the FPGA vendors like Xilinx or Altera. Help us help our audience by positioning the IP that you sell against the IP that is offered by the big FPGA vendors at no or low cost.**

A. Regardless of who the IP core provider is, our customers (IP users) need to build products that stand out from their competition instead of similar "me-too" products. In some cases they may design around an existing IP core by using features that "happen" to be available from an existing IP. But if the goal is a truly outstanding product, we recognize that no two customers' requirements are identical and Eureka is specialized in providing IP cores that are rich in features and flexible enough to be configured in many different ways to meet customer needs without compromising performances.

**Q. Customization of IP to particular design needs is a huge issue. How do you work with customers who may (or may not) be FPGA / IP experts to help them tailor their IP to their specific design needs? Is this a service / tech support relationship? Do they pay for this?**

A. We achieve this goal by listening to our customers and understanding their needs first. Doing this requires a lot of design expertise, both in communication with our customers to understand the requirement and in implementation of each IP core. Each of our IP core is designed from the

ground up with features and flexibility in mind. We use sound design architecture with module design and careful planning. Eureka also provides free design software in our web site to allow customer to customize the memory controller and system controller IP cores. Instead of paying for a fully customized design, customer actually saves money by using a well-designed IP core.

**Q. Another big issue with IP is IP “integration” as well as verification. Obviously your customers end up taking your IP as well as their own, and sometimes the IP of other third parties. Do you provide any assistance in the integration and/or verification procedures? If so, how?**

A. Integration can be a daunting task if not planned carefully or with no proper support. The philosophy behind our support is that customers should be able to “drop-in” the IP core into the design and be able to use it immediately. This will not be possible by using an IP core that comes out from a cookie cutter. For our customers, smooth integration is a natural result of our approach of listening to them first. Because we already understand our customers’ needs long before we deliver the IP core, we can anticipate all potential issues and come up with solution before problem happens. Our communication channel to customer is open from the pre-sales process all the way to project completion. Customer can just pick up the phone and talk to our engineers directly.

**Q. How is your IP differentiated from vendors like PLDA?**

A. We see each of our IP core products as not just a stand-alone peripheral or memory controller. Instead they are important elements of the customer’s overall design. Not only do we focus on the specific functions and features that the core provides, we focus even more intensely on how the IP core will be integrated with the result of the customer’s design.

**Q. If you could for a moment, put yourself in your customers’ shoes. There are so many claims about IP made on the Web and at trade shows, yet IP is one of those things that you really don’t know what you’ve purchased until after you have actually purchased it. How would you suggest customers “evaluate” IP such as yours BEFORE the sale? Should they insist on NDA trials? Pre-sales meetings or customer service? References? What would you recommend?**

A. Most customers know very well about the basic “kicking the tires” steps such as reviewing the document, evaluating the simulation models or netlist and checking references. These are important steps. However, more importantly, customer should really ask themselves “Is the IP vendor trying to promote their products or trying to listen to what I need?” and “Will I be able to get the IP that fits into my design seamlessly or do I need to design my system around the vendor’s solution?” After all, the purpose of purchasing IP is to save time and money without compromising on results.

**Q. Thank you for this interview.**