

EDITOR IN CHIEF  
Carlis Collins  
editor@xilinx.com  
408-879-4519

MANAGING EDITOR  
Forrest Couch  
forrest.couch@xilinx.com  
408-879-5270

ASSISTANT MANAGING EDITOR  
Charmaine Cooper Hussain

XCELL ONLINE EDITOR  
Tom Pyles  
tom.pyles@xilinx.com  
720-652-3883

ADVERTISING SALES  
Dan Teie  
1-800-493-5551

ART DIRECTOR  
Scott Blair

[www.xilinx.com/xcell/embedded](http://www.xilinx.com/xcell/embedded)



Xilinx, Inc.  
2100 Logic Drive  
San Jose, CA 95124-3400  
Phone: 408-559-7778  
FAX: 408-879-4780

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# Unlock the Power of Xilinx Programmability

Strategic shifts in market dynamics are one of the most important aspects to consider when designing new products. I've experienced a number of situations where our teams were ahead of the curve and able to exploit these shifts to market advantage. One example that comes to mind is the adoption of surface-mount packages. We built surface-mount devices and justified this to management for a number of quarters while waiting for customers to appear. When the shift occurred, it was as though every customer made the change on the same day.

Embedded processing FPGAs are another fundamental strategic shift in market dynamics that will have profound effects for both FPGA and embedded processor vendors, and the basis of major growth for both Xilinx® and our customers.

Three key forces are driving the opportunity for embedded processing in FPGAs. First, customers are increasingly requiring CPU functionality in our offerings. Second, pure-play embedded suppliers are finding that they can no longer serve all of the needs customers have for their products due to rising development costs. Third, processor vendors have realized that performance improvements can no longer come from simply increasing clock rate, and must deploy parallelism, an inherent FPGA capability.

One of the greatest appeals of our FPGA embedded solution is the ability to easily stitch together the CPU, buses, and common-commodity peripherals, creating a "just-what-I-need" processor subsystem that "just works." The customer can then concentrate on the secret sauce that differentiates their products.

To win the hearts and minds of customers and capitalize on the embedded strategic market dynamic, the development tools and complete embedded solution must be closely tied to the typical environment our customers are used to. This includes OSs, compilers, debuggers, development boards, software development kits (SDKs), and board support packages (BSPs), which all must be in a familiar framework.

With that said, in our second issue of *Embedded Magazine* we have included a collection of articles from Xilinx and our partners that provide insight to our progress in the strategic shift of the market dynamics I've discussed. Partners such as Impulse C, Accelerated Technologies, QNX, and Altium highlight the latest advances of both their well-known and new solutions for our embedded platforms. We've also included a discussion of the latest advances with our 32-bit MicroBlaze™ soft processor and its new integrated option for an IEEE-compatible floating-point unit.

The latest application advances with the Virtex™-4 FX FPGA and immersed PowerPC™ are contained in the APU accelerator piece, as well as summaries of two remarkable Xilinx application notes. Multiple articles describe various aspects of the integrated design environment with Xilinx Platform Studio and the Embedded Development Kit (EDK).

Finally, we have aligned the release of *Embedded Magazine* with the Embedded Systems Conference. We have another exciting lineup at the conference, featuring free hands-on workshops for you to get familiar with our Platform Studio tool suite, PowerPC, and MicroBlaze solutions as well as our industry-leading silicon of Spartan™-3 and Virtex-4 families. Be sure to visit us at the Hynes Convention Center, booth 501, in Boston from September 12-14 to meet our embedded experts.

I believe that we are in the midst of the next strategic shift with embedded processing FPGAs. I hope you find our second edition of *Embedded Magazine* informative and inspiring and invite you to unlock the power of Xilinx programmability. The advantages are enormous.



Mark Aaldering

Vice President  
Embedded Processing  
& IP Divisions