

Xcell journal

PUBLISHER	Forrest Couch forrest.couch@xilinx.com 408-879-5270
EDITOR	Charmaine Cooper Hussain
ART DIRECTOR	Scott Blair
DESIGN/PRODUCTION	Teie, Gelwicks & Associates 1-800-493-5551
ADVERTISING SALES	Dan Teie 1-800-493-5551
TECHNICAL COORDINATOR	Alex Goldhammer
INTERNATIONAL	Dickson Seow, Asia Pacific dickson.seow@xilinx.com Andrea Barnard, Europe/ Middle East/Africa andrea.barnard@xilinx.com Yumi Homura, Japan yumi.homura@xilinx.com
SUBSCRIPTIONS	All Inquiries www.xcellpublications.com
REPRINT ORDERS	1-800-493-5551



www.xilinx.com/xcell/

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

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Can You Hear Me Now?

We've all experienced it with our mobile phones: poor voice quality, dropped calls, not enough "bars" to connect. Although inconvenient, the problem usually goes away by moving around or waiting a few minutes before trying your call again.

But if you're a system designer, connectivity problems launch a multi-dimensional conversation that's quite a bit more complicated to solve. Let's start with your target market. Is your product a solution for the aerospace/defense, automotive, broadcast, consumer, server/storage, industrial/scientific/medical, wired, or wireless market? What are the design challenges in that market, such as signal integrity, power management, area, and performance? In addition to these decisions, you must select the proper protocol for the unique components of your system hierarchy, such as the ubiquitous PCI Express at one end and Gigabit Ethernet at the other.

Connectivity, in its myriad of forms, is an increasingly important factor in successful system design. Whether designing chip-to-chip, board-to-board, or box-to-box, Xilinx has a connectivity solution that helps you differentiate your product within your target market, bring it to market as early as possible and at the lowest cost. With our connectivity hard blocks, you get the benefits of an ASSP as well as the flexibility of an FPGA.

This issue of *Xcell Journal* focuses on connectivity and brings light to some of the key issues, as well as presenting implementation examples. Additionally, Xilinx offers a variety of resources to help with your connectivity design challenges. Here are a few connectivity resources that may help.

Connectivity Central

(www.xilinx.com/products/design_resources/conn_central/)

Xilinx provides end-to-end connectivity solutions supporting serial and parallel protocols. Design for success with Virtex™ and Spartan™ series FPGAs, IP cores, tools, and development kits.

Virtex-5 LXT FPGA Development Kit for PCI Express

(www.xilinx.com/xlnx/xebiz/designResources/ip_product_details.jsp?key=HW-V5-ML555-G)

The Virtex-5 LXT FPGA Development kit for PCI Express supports PCIe/PCI-X/PCI. This complete development kit passed PCI-SIG compliance for PCI Express v1.1 and enables you to rapidly create and evaluate designs using PCI Express, PCI-X, and PCI interfaces.

Spartan-3 PCI Express Starter Kit

(www.xilinx.com/onlinestorespartan_boards.htm)

This complete development board solution gives you instant access to the capabilities of the Spartan-3 family and the Xilinx® PCI Express core.

IP Evaluation

(www.xilinx.com/ipcenter/lpevaluation/index.htm)

Take advantage of Xilinx evaluation IP to "try before you buy." Visit the Xilinx IP Evaluation Lounge and download the evaluation libraries using the links under the "Related Products" tab on the right side of the page. The IP on this site is covered by the Xilinx LogiCORE™ Evaluation License Agreement.

On-Site Help

(www.xilinx.com/xlnx/xebiz/designResources/ip_product_details.jsp?key=xgs_ss_titanium)

For help with your connectivity designs, Titanium Technical Service provides a dedicated application engineer, either on-site or at Xilinx, who can help with system architecture optimization, tool coaching, and back-end optimization.



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