Internet Appliances

The Possibilities are Limitless

With the advent of JTAG test circuitry, In-System Programming, and Internet Reconfigurable Logic, we are witnessing the dawn of the Internet Appliance era.

by Jesse Jenkins, CPLD Applications Manager, Xilinx, jesse@xilinx.com

As Xilinx celebrates its 15th anniversary, many new applications for programmable logic are emerging while traditional ways of designing and developing systems are quickly fading away. Many new systems are being designed to allow continuous hardware upgrade capability, over the Internet, giving them unique new capabilities and a longer life span. It's easy to envision "universal" systems that can easily change functions to become anything you can imagine.

Examples of Internet Appliances

An Internet Appliance is any hardware device that relies upon either an Internet connection or upon access to Internet information files to achieve its functionality. The "Rocket eBook," "Rio," and "PalmPilot," and are good examples:

- The Rocket eBook is one of several hardware devices that display downloadable text. Packaged in a book size format, it's basically a retrieval, storage, and display device relying on dense, low power electronic memory.

- Rio is the musical version of Rocket Book. In a package the size of a telephone pager, you can pack MP3 audio files for playing CD quality sound with no moving parts, and therefore no skipping tracks. The key to its success is FLASH EPROM memory, very similar to that used in Xilinx FastFLASH XC9000 family CPLDs.

- The PalmPilot continues to be the leading Personal Digital Assistant (PDA), using access to Netscape and the Web to collect software and files and then use them when needed at some future time.

It's easy to imagine a single, FPGA-based device that can perform any of these functions, as well as functions that have not been thought of yet, easily adapting to entirely new applications, downloaded from the Web. The universal Internet Appliance is not only possible, it's inevitable.

Important PLD Features

Xilinx FPGAs and CPLDs are primed to play a key role in this market, and many are already used in a variety in Internet Appliances. The key attributes that make this possible, include:

- Low power for battery powered applications.

- Internet software support for Internet Reconfigurable Logic (IRL) applications.

- Reliable In-System Programming, with over 10K cycles guaranteed, for repeated updating.

- Physical connection download capability.

- JTAG test capability.

- Imagination – what you bring to the party.
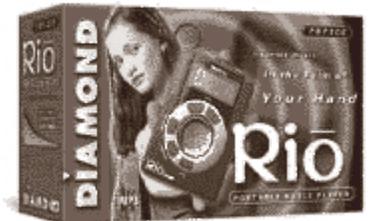
Conclusion

With today's programmable logic devices and enabling technologies such as Internet Reconfigurable logic, the possibilities for unique new Internet appliances are limited only by your imagination. Now you can create universal products that allow you to continually implement new creative ideas, adding features and complete new functions, at your customer's location. Σ

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