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Zendex and ZF Micro Devices Join Forces to Market the ZXE-x86 FailSafe Embedded Control Board

Targets Gaming, Security, Information Kiosk, Industrial Control

Dublin, CA, May 16, 2001 --- Zendex Corporation, a 20-year veteran of the embedded control system industry, chose the revolutionary ZF Micro Devices' ZFx86 (formerly MachZ) microprocessor as the core of the Zendex ZXE-x86 embedded controller. Complementing the processor is the robust Linux operating system including web server and 12 x 32-pin DIP memory sockets for 256MB additional EPROM, flash or RAM which can serve as a solid-state disk. The memory can be programmed (uploaded and downloaded) remotely via an Ethernet interface for applications including, industrial control, information kiosks, monitoring, surveillance systems and gaming.

"We chose the ZFx86 chip for several reasons." explained Howard Czapla, President of Zendex. "ZF Micro Devices supports their products for a long time, which is exactly what customers expect from Zendex. In some cases our boards must be available a decade after initial purchase, so that our customers can avoid the cost of redesigning and re-qualifying a new board. Also, ZF' s FailSafe Boot ROM system allows Internet software and data upgrades without the fear of a system crash that would then require the attention of an on-site technician to fix. Finally, the chip's low power consumption eliminates the need for a fan and heat sink, allowing a low physical profile that allows the system to fit limited-height applications such as 1U-high 'pizza boxes' and flat panel displays."

“The integration of the ZFx86 onto the Zendex ZXE-x86 embedded controller provides system crash protection needed for remote embedded applications”, said David Feldman, CEO, President and Founder of ZF Micro Devices. “This will enable Zendex to provide it’s customers with products in a shorter period of time, since the ZFx86 is running the open Linux operating system and supports a wide variety of software programs”.

Remote Industrial or Commercial Applications

The ZXE-x86 controller's unique feature set makes it ideal for remote industrial or commercial applications that require local, real-time control and data storage. Since the Linux operating system includes a web server, local programs can be easily changed by uploading a new version using ordinary ftp (file transfer protocol). Data can also be acquired and stored by the embedded controller and downloaded by the same process. This eliminates the complexity of TCP/IP and allows simple remote operation over the Internet.

Gaming Applications

The removable memory makes the ZXE-x86 ideally suited to gaming applications. State and local government agencies strictly control the parameters (such as payoff) for each game, and the removable 256MB memory (EPROM, Flash, RAM) allows replacement of pre-programmed memory chips to change the game or restricted game parameters. The board also supports a security button, which prevents memory access without first applying a matching multi-bit electronic key. Secure data is thereby protected from unauthorized access.

Security Applications

Larger companies can often afford on-site security, smaller firms cannot. With its large memory and intranet/Internet communications capability, the ZXEx86 is a natural for security firms that need to consolidate human monitoring into a central, remote location in order to economically serve smaller clients. The large memory of the ZXEx86 can record many frames of visual information from a security camera using First In First Out (FIFO) storage. Periodic frames can be sent via Intranet or Internet to a remote-monitoring site. (Sending large numbers of frames in this way is impractical) If security is breached, the operator can freeze the current memory of images for later download and analysis. The memory can also store information such as automatic camera panning plans or personnel after-hours building access data.

Information Kiosk Applications

Large multi-store information kiosks are often located at convenient but remote locations throughout the country. The kiosk information must be continuously updated to remain fresh and current. However, the store manager may be unable to update the information, or update as often as desired by the parent company. Sending a field technician to make daily updates would be too expensive. The ZXE-x86 is ideal for this kind of unattended, remote application. The large on-board memory can store information such as local inventory, pricing, buyer preferences and questions, which can be later downloaded, tabulated and analyzed. The PCMCIA Ethernet adapter or optional on-board Ethernet interface allows up/down loading programs and data via an Intranet or via the Internet from a central location that can be thousands of miles away. ZF's failsafe microprocessor feature virtually insures that, in the event of a software fault, the system will reboot automatically without the benefit of an on-site technician.

Industrial Control Applications

The ZXE-x86 is also well suited for rugged industrial environments. The 256MB memory Disk-on-a-Chip is far more mechanically robust than a rotating disk memory, and will withstand physical abuse found in industrial environments. The board's low power consumption allows it to function from batteries during a power failure or in remote locations powered by a solar cell array. The low power consumption also means no large heat sink or fan, so that the board will fit into low profile enclosures. The ZXE-x86 can also be controlled with programs such as National Instruments' LabVIEW data acquisition software program, which offers an interface to controllers running Linux operating systems.

About the ZXE-x86

The basic ZXE-x86 embedded controller board includes conventional features such as

- ZFMicro Devices' ZFx86 CPU with up to 256MB DRAM
- Floppy interface
- IDE primary/secondary interface
- PS/2 keyboard and mouse interface
- Support for Linux and other Real Time Operating systems

In addition, the ZXE-x86 can be configured with special features such as

- 256MB of EPROM, flash or RAM

- Type I, II or III PCMCIA interface
- Chips & Technology 69000 video controller with RGB output
- Stereo sound circuit delivering 2 watts/channel
- 2 buffered TTL serial ports
- 2 RS-232 serial ports
- 2 RS-422/485 serial ports
- 1 printer port
- 32 digital input ports with transient protection
- 32 digital output ports with transient protection
- Dallas DS1425 security button

Price for the ZXE-x86 embedded controller is $995.00 for single units, and the product is available off-the-shelf. Custom orders are encouraged.

About ZFx86 PC-on-a-Chip

ZF Micro Devices provides the **ZFx86 PC-on-a-Chip,** to enable customers to deliver innovative products faster. A low power consumption device measuring only 35mm by 35mm, the ZFx86 comes bundled with the run-time license for a fully implemented PhoenixBIOS™ from Phoenix Technology. The ZFx86 is fully x86 PC compliant, and has been tested to run with a wide variety of O/S's, including DOS, Linux, Windows 95/98/NT and Windows CE 3.0. Every **ZFx86** Integrated Development System includes Red Hat Linux and LynuxWorks BlueCat™ Linux and the LynuxWorks™ development tools for creating compact custom Linux embedded applications. Including the software with the chip means OEMs no longer have to pay costly license fees or go through the expensive and time-consuming requirement of porting third party software and searching for unique peripheral drivers.

The **ZFx86**, with the FailSafe™ System is the only X86 PC-on-a-Chip that boots autonomously on application of power and can operate even if system DRAM and Flash are unavailable. The patented FailSafe™ System also allows upgrades over the Internet, while eliminating the possibility of irrecoverable crashes. Using its proprietary Z-Tag™ interface, the **ZFx86** can re-program system Flash at a fast 2M-bits per second, rather than the usual 19.6Kbaud, reducing potential downtime dramatically.

With an expanding range of reference design material available from the ZF Micro Devices web site, the **ZFx86** delivers key enabling technologies for embedded applications by providing PC system functionality at a chip-level size and price for innovative companies like Zendex. The **ZFx86** is available from distributor stock on a worldwide basis at around $60 in low volume.

About ZF Micro Devices

ZF Micro Devices has pioneered FailSafe systems since its founding in 1995. ZF Micro Devices enables its customers to bring profitable, innovative, crash-immune systems to market faster than their competitors, by delivering low power (½Watt) PC systems at a chip size and price. The company recently changed its name from ZF Linux Devices. Corporate headquarters are located at 1052 Elwell Court, Palo Alto, CA 94303 USA: toll-free: 800-683-5943; tel: 650-965-3800; fax: 650-965-4050; e-mail: info@zfmicro.com; web: www.zfmicro.com. In Europe, ZF Micro Devices can be reached at +33-(0) 1-41-80-04-10. In South America, call +54-11-4543-0049.

About Zendex

Zendex is a full-service provider of single board computers, embedded processor boards, multi-function boards, Multibus and iSBX modules, industrial enclosures and custom systems. Zendex also specializes in designing system boards for custom applications. Zendex headquarters is 6780A Sierra Court, Dublin, CA 94568-2623. Telephone 925-828-3000, fax 925-828-1574. Website www.zendex.com. Contact Forrest Sass, Zendex, 925-462-5280.