$80 Tiny Computer Runs Linux, Development Tools, Controls, and Servers

US embedded hardware OEM KwikByte is shipping a low-cost, tiny embedded system designed for general purpose computing, embedded controls, and database/web servers. KwikByte demonstrated the system running open-source packages such as Apache, MySQL, and PostgreSQL within a Debian environment.

(Tempe, AZ) March 12, 2008 – US embedded hardware OEM KwikByte demonstrated a complete, embedded Debian environment and applications running on a power-conscious, microcontroller-based system. The system is designed for general purpose computing, embedded controls, remote monitoring, and server applications.
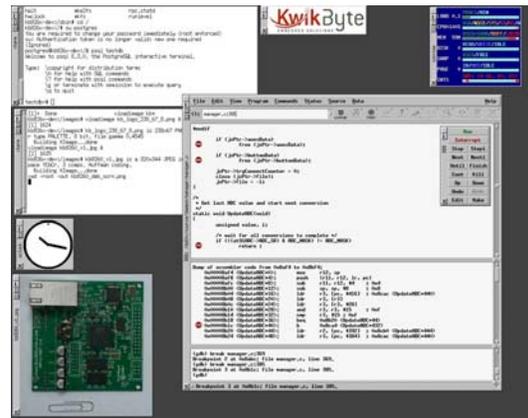
The board used for the demonstration, KwikByte's KB9260, is based on the AT91SAM9260 microcontroller. The controller's small footprint reduces system size while the low power consumption allows the board to be powered by Power over Ethernet – PoE also known as IEEE 802.3af. By using PoE, a single Ethernet connection to the board can provide power as well as network connectivity. This minimizes facility installation costs.

The board supports minimal configurations like BusyBox and uClibc as well as larger installations like Debian. The Debian development kit was shown running a controls application built and debugged on the board (screen shot). No tools were required on a host PC as the system exports a virtual display over Ethernet. This configuration resides entirely within on-board Flash. The dev kit includes schematics and the board ships with recent Linux kernel, currently 2.6.24.

The number of general purpose I/O (GPIO) combined with programmable clocks, serial channels, analog input channels, and timer/counter/PWM channels make it ideal for embedded controls applications. Additionally, the USB host power supply was designed to provide extra power for most USB hard drives. Applications that require very large storage space are only limited by the size of an external hard disk and the entire system can be powered over the Ethernet cable.

System Details
· AT91SAM9260, ARM926EJ-S 200MHz
· 32/64 MB SDRAM
· 8 MB boot Flash
· 256 MB – 2 GB NAND Flash
· 10/100 Ethernet
· 1 x USB 2.0 host port
· 35 x GPIO, max
· 3 x serial channels including debug serial
· 2 x programmable clocks
· 3 x timer/counter/PWM channels
· 4 x analog input ADC channels
· Power options: Power over Ethernet, on-board
  voltage regulator, or external power supply
· Size: 3.1" x 3.1"

Availability
The KB9260 is shipping now with volume pricing of $79.99. A WinCE port is also available.

About KwikByte
KwikByte designs and manufactures embedded hardware systems. Founded in 2003, KwikByte is located in Tempe, AZ.
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