The Microprocessor Research & Development Center of Peking University (MPRC) was established in 1997. Beijing PKUnity Microsystems Technology Co., Ltd. (PKUnity) was derived from MPRC and founded in 2002. Over the past decade, MPRC (includes PKUnity) has been a pioneer innovating the microprocessor (CPU) and computer technology of China. The computer designed by MPRC has been certified by the Chinese government as one of the national independently innovated and developed products in its information technology industry.

As a representing progress of Chinese computer technology, the computer systems using MPRC created CPU (named UniCore) have been widely used all over the nation.

Technology Innovation

At present, with their strengths in economic and human resources, a few developed countries and multinational companies have tight control over the core technology. Moreover, they have become standard manufacturers in the information industry. This hegemony of information technology has led to price barriers on computer products, and has resulted in the widening of the digital gap between developed and developing countries. In order to bridge the digital gap, MPRC is committed to the development of low-cost, secure, and competitive computer products with independently developed microprocessors.
the computer system will be at a very low cost of ¥1000 (US$150) for each. It is one of the very few System-on-Chips in the world that can provide a single-chip solution for personal Computers. The main frequencies of the PKUnity SoC series range from 600 MHz to 1.5GHz according to the performance requirements of application Scenarios.

Sharing the same dream with the OLPC organization, the computer designed by MPRC has a similar form factor and performance. As the hardware and software architecture of OLPC is derived from commercial laptop products, ideal cost control is difficult to realize. MPRC has its overall control of the entire technology chain. Very low cost and performance balance can be enabled with children friendly features.

MPRC also provides x86 CPU and computer products for the MS-Windows compatible market. The CPU technology was transferred from AMD in 2005, and represented the significant technology overseas transfer from the US. With a fully legal architectural license, MPRC has already released its first x86 SoC product with high integration of peripherals and graphics. In 2010, MPRC will bring their commercial x86 compatible computer product to the market as an entry level student laptop with a very low price and adequate performance.

In 2010-2011, MPRC is planning to release a higher integration System-on-Chip of the "Super-K Project", including PKUnity-4 (multi CPU cores) which will be manufactured using the advanced 40nm semiconductor process. The incoming computer using those chips will provide gigahertz clock frequency and a full HD resolution multimedia experience while still having a very low cost and low power features.

**Product & Market**

According to different demands on performance, functionality and power consumption, MPRC will provide PKUnity-3 and PKUnity-4 and other series of SoC based computer products. With these technologies, MPRC is able to embody a more comprehensive solution for different applications, including rural area information technology construction, e-education, e-government, enterprise applications, IPC, home entertainment, and so on. According to the different market applications, MPRC focuses on two general product lines:

**Low-Cost Laptops:** This series of products can effectively support the Internet browser, e-mail client, and instant messaging software. It also enables the smooth playback of multiple standards of video such as MPEG-1/2/4, H.264 encoding, etc. Its built-in H.264 codec can support video conferencing through Internet/Intranet. The hardware-accelerated 2D/3D engine provides 2D/3D animation, gaming, 3D desktop, and other amazing user experiences for courseware. For the important office applications, the computer is compatible with all main-stream document formats such as Word, Excel, Power Point, and PDF. Meanwhile, a multi-language electronic dictionary for English, French, Japanese and German has been provided for children as their learning assistant. To expand the dictionary support, users can further download preferred language packs from an official website.
- All the data is concentrated and stored on the server, to facilitate a centralized security management;
- On the client side, user-authentication is done through an individual USB-KEY;
- After being logged on to the system, all the data transfer on the networks is encrypted to prevent network monitoring;
- The client machine can be powered off at any time, and all the operations are managed from the server.