TECH TOOLS

Professional users are always searching for an edge. Whether you work with Linux as a webmaster, programmer, system administrator, or security consultant, you know the best solution depends on finding the right tool for the job. We thought you might be interested in the following new products and updates.

Linux Now Operates on HRP-4C Robot

Japan's National Institute of Advanced Industrial Science and Technology (AIST) recently demonstrated the HRP-4C, a humanoid robot type designed to imitate the movements of a fashion model, bow in a traditionally Japanese way, and speak. HRP-4C's operating system is a robotics-focused, hard real-time ART-Linux distro that was recently released for Linux 2.6xx under the GPL.

Mechanically, the HRP-4C operates with about 30 motors for walking and moving its arms and an additional eight facial motors to make expressions. Currently, it is not "Three Laws Safe," which means it's not yet approved to interact directly with people. Also, it can't make a decent cup of coffee or walk the dog.

On the software side, the Linux 2.6xx version of ART-Linux is available with pre-built binaries for Ubuntu 8.04 and Debian 4.0. SourceForge has them at *http://sourceforge.net/projects/art-linux*.

Although not available for purchase as of this writing, a basic kit sans face and coverings will soon be offered at the cost of 20 million yen (about US$ 200,000). See more on this at *http://www.is.aist. go.jp/humanoid/*.

Gnome Adds Native Exchange Support

Gnome 2.26 advances the cause of Linux on the desktop with its version of the Evolution mail client. Although not a Microsoft Windows killer, the version 2.26 support of Exchange goes a long way toward solving a fundamental speed bump in the race for the desktop: email. Evolution communicates with Microsoft Exchange servers through webDAV and HTML + RPC. Like it or not, Microsoft Exchange is here to stay in the email server space, and using Exchange, up until now, meant using Outlook. That's no longer true.

The shining star of Gnome 2.26 is support for Microsoft Exchange Server's native MAPI protocol and the ability to directly import Outlook Personal Folders. A lack of MAPI support had significantly inhibited widespread adoption of any flavor of Linux on the enterprise desktop because MAPI is the protocol used to communicate with Exchange.

Although this is all good news, Gnome has yet to offer support for RPC/http, otherwise known as Outlook Anywhere. Mobile Microsoft users employ this protocol to communicate with Exchange over SSL-encrypted http connections, bypassing the requirement of using VPN. Gnome doesn't extend its reach into this realm, and if you need mobile email functionality using Exchange, you will still need Windows.

Many other new goodies are offered in this release of Gnome. For full details, visit *http://www.gnome.org/* and *http://projects.gnome.org/evolution/*.

Jaiku is now JaikuEngine

Jaiku, a Google service aimed at providing a communication platform for web, IM, and SMS, is now running on Google App Engine, a necessary first step toward making it a customizable, open source, microblogging platform. True to the heritage of open source, JaikuEngine is maintained by a volunteer staff of Google engineers. However, this is still a work in progress; according to the Jaikido blog, "issues" with SMS and the IM bot are still being worked through. One immediately apparent advantage, though, is that developers can use the JaikuEngine API to create clients able to take advantage of such features as presence, which lets users add location details to posts on their mobile devices.

Keep current with all the changes at *http://jaikido.blogspot.com/2009/03/jaiku-is-now-served-from-app-engine.html*.

AMD Display Library for Linux

AMD regularly releases Catalyst drivers for Windows, complete with ADL or the AMD display library. The same support for Linux, however, came as a surprise. The Catalyst 9.3 driver for Linux was made available in March, several weeks after the same support was offered for Windows.

The AMD Display Library SDK is compatible with both Windows and Linux. Additionally, the API is supported on all FireGL, FirePro, and Radeon platforms.

Linux-only users can take advantage of some unique opportunities. To find out more, visit *http://developer.amd. com/gpu/ADLSDK/Pages/default.aspx*.
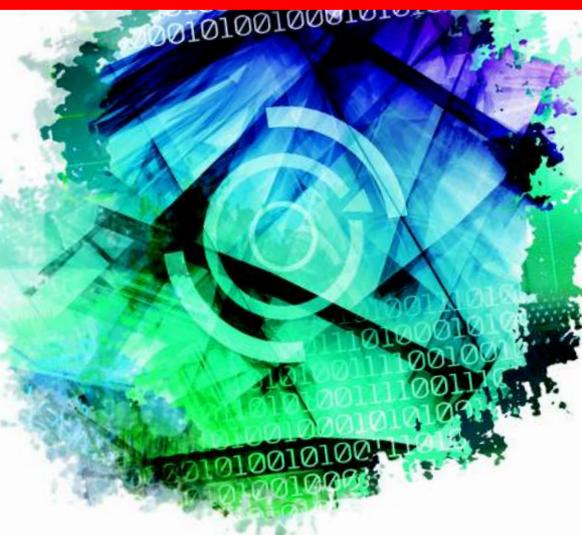
Tin Hat Provides Physical PC Security

The bad news is that Tin Hat Linux takes about five minutes to load, but the good news is that the amount of boot time is necessary because the entire file system is being decrypted and loaded from an optical drive onto a RAM disk. After booting is complete, this distro zips along at lightning-fast speeds. The speed boost is because the OS launches programs directly from RAM rather than a hard drive, so its speed seems almost magical, even compared with the tiniest Linux distros.

Tin Hat Linux was created with the specific purpose of preventing data from being compromised should the physical computer fall into the wrong hands. The idea is that, should a hacker gain physical access to your computer, he or she shouldn't even be able to tell that a file system, encrypted or otherwise, exists. Currently, the reality is that the project is still in its infancy.

Although this distro isn't ready for prime time, it is intriguing nonetheless. To try it out for yourself, download it from *http://opensource.dyc.edu/tinhat-downloads*.

VIA Releases In-Vehicle Platform

The power-efficient x86 processor maker, VIA Technologies, announced the release of the first in a series of dedicated x86 in-vehicle platforms for developers of car PCs and intelligent transportation devices. VIA's IVP-7500 board is the first in a line of processor platforms that bring PC technology to the road. In-vehicle PCs include access to intelligent GPS services for location tracking, route planning, and navigation. No operating system or application software information is available, so although the in-vehicle PC might or might not involve open source, it is just incredibly cool.

To learn more, visit *http://www.via.com.tw/en/index.jsp*.

Marvell Plug Computer Runs Linux

No, not "Marvel," as in the company that brought you the X-Men and Iron Man – Marvell, as in the company that has produced a Linux server device that not only plugs into an electrical wall socket but is about the size of a wall plug. OK, it's about the size of an AC-to-DC–converting wall plug, but that's only marginally larger. Believe it or not, this tiny platform is actually a full SoC (system-on-a-chip), offering a 1,200MHz CPU, built-in 512MB Flash, 512MB DRAM, gigabit Ethernet, and USB 2.0 support, and to top it all off, it runs on only 5 watts. The key to the plug computer is its remote access support. Potential uses are as a remote print server, or as a web or proxy server, used to redirect traffic from external sources to forward IP addresses. Given its low power requirements, I'm sure you can think of other uses for an Intranet-accessible remote storage device that allows immediate data access and doesn't tie up a desktop PC or server device.

The heart of the system is the 1.2GHz Sheeva CPU built into the Kirkwood SoC, which provides the plug computer's core framework – Debian on a 2.6 kernel – allowing a wide range of software compatibility.

For more information, go to *http://www.marvell.com/featured/plugcomputing.jsp*.

GE Fanuc's Linux-Based PCI Express Cards

GE Fanuc offers two separate PCI Express cards capable of guarding and securing networks with features such as firewalls, NAT (Network Address Translation), secure access (IPsec), and session border controllers. The WANic 5651x series packet processors target commercial, defense, and telecommunications applications that require secure IP communications and high-bandwidth packet processing based on the PCI Express specification.

The WANic 56511 and 56512, the first in this PCI Express packet processor series, include a Cavium Octeon Plus CN5650 12-core processor running at 750MHz, with 2MB of shared L2 cache and up to 4GB of high-speed DDR2 SDRAM packet memory using VLP Mini-RDIMMs, all running with a Cavium/Debian Linux operating system.

Other features offered include DPI (Deep Packet Inspection), "Lawful" Intercept, router and switch operations, and traffic management. Availability and pricing information is limited, although the WANic 56511 and 56512 are expected to come on the market sometime this year. For more information, visit *http://www.gefanuc.com/*.