LINUX FORMAT
Newsdesk

NETBOOKS

Next gen netbooks

New technologies could lead to even more users on Facebook.

Chip manufacturer Freescale has introduced a reference design of its new i.MX515 processor for use in netbooks. It's been created to power devices with screen sizes of up to 8.9 inches and it's built around an ARM Cortex-A8 CPU, Freescale's power management and audio codec systems, Ubuntu and Adobe's Flash Lite.

The processor scales from 600MHz to 1GHz and features a dedicated video block to reduce the need for power hungry fans and bulky heat sinks. This means that systems using the design could retail for less than $200 and offer around eight hours of constant use. The graphics processor is also one of the first to offer both OpenVG and OpenGL cores, while Flash Lite provides support for video sharing sites out of the box.

Lisa Su, Freescale's senior vice president of networking and multimedia, said there were huge opportunities in the netbook market: "We believe the combination of the

i.MX515 processor and related solutions will dramatically accelerate the evolution of this exciting new space."

It doesn't look like the netbook market is showing any signs of slowing down either; data from ABI Research suggests growth to 140 million users by

> ## "Systems using the design could offer eight hours of constant use."

2013. Principal analyst, Philip Solis, said the sector is driven by cost and the demand for devices to access social networking applications and email.

They're on the phone

Elsewhere, two hackers discovered some interesting code when porting Google's mobile phone-based Android operating system to the Asus Eee PC. They uncovered a policy document

› **Google's Android operating system on the (relatively) big screen.**

called android_policy_mid, where MID stands for Mobile Internet Device. The acronym is Intel's name for devices that use its Atom processors, which are most commonly found in netbooks.

Writing up their experiment, the pair said: "Imagine the billion dollar market at stake here if Google can make good on this vision. For a myriad of software companies, it means a well-backed OS that's open and ripe for exploitation."

› **Freescale has traditionally been associated with the embedded market, but it's now seen an opportunity to build power-efficient processors for netbooks.**

More crossovers

While Android looks set to make it on to netbooks, Johnny Shih, CEO of netbook pioneer Asus, told journalists at the annual Consumer Electronics Show (CES) that the company was looking into building its own smartphone based on Google's Android.

GiiNii also made waves at CES 2009, demonstrating an Android-based internet device called the MoveIt Mini. The machine features a 4.3-inch touchscreen, 480x272 resolution, 256MB RAM, a built-in mic and a camera for *Skype* use. The MoveIt Mini will soon be joined on the market by the

Android-running MoveIt, which offers a 7-inch screen of picture frame-like proportions for use around the home.

COMMUNITY
OLPC drops Linux

Negroponte puts laptop on Sugar-free diet.

After years of development effort and advocacy, the One Laptop Per Child (OLPC) project has elected to abandon its commitment to Linux and shed half of its workforce.

OLPC, the brainchild of techno-evangelist Nicholas Negroponte, was intended to create a hardware and software combination that could be sold for under $100, enabling governments in Africa, South America and Asia to provide the devices for school children. So far 500,000 units have been shipped, but the organisation has failed to achieve its intended sub-$100 price point.

Negroponte told the OLPC community that the organisation was facing the same problems as many other non-profit companies in the current economic climate and needed to refocus for the future. "While we're saddened by this development, we remain firmly committed to our mission of getting laptops to children in developing countries," he said. "The future brings with it some uncertainty and difficulty, but also the excitement that comes with the rededication to a cause and a new path that will allow us to realise the moral purpose of OLPC."

> ## "The development of Sugar will be passed over to the community."

The move away from Linux isn't entirely unexpected. The project initially attracted a widespread community of open source developers keen to see it succeed. However, in April 2008 it was announced that the device would become multi-platform and that Microsoft was working on a version of Windows XP that runs the Sugar user interface. An OLPC spokesman said at the time that Linux wasn't being dropped, but that an 'open' platform shouldn't be closed to a particular vendor. The move led to the departure of a number of high-profile contributors who worried that the project had lost

> **The design of the OLPC device has varied over the years, but it's never quite hit the magic $100 price point.**

sight of its aims, demoralising many of the developers who remained.

The smaller team of 32 contributors to the project will now be asked to take pay cuts as they work towards the second generation of the device, while the development of Sugar will be passed over to the community. The latter may mean that Windows will become the only platform officially supported on the device and the commitment to a child-centred user interface will be dropped in favour of the standard XP/Windows 7 UI.

The project also faces competition from manufacturers such as Asus, Acer and Elonex, who are competing with low-cost laptops of their own.

> **Will the focus on a Windows operating system really help OLPC to achieve its laudable moral goals?**

> **The second generation of OLPC machines are expected to feature dual touch screens.**

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Comment

Flash by name

Michael Meeks

"This month I had some fun playing with a drop-in SATA flash drive, kindly donated by SanDisk. Having long been interested in reducing filesystem latency – particularly around my *IOGrind* tool – it was great to experiment with the ultimate answer to reducing seek latency.

It was interesting to see some of the known-slow scattered I/O bottlenecks suddenly vanish. One of these is reading lots of scattered desktop files to build various application menus: previously this involved chasing pointers all over a rotating disk with a 10ms latency each time to read small files. With the flash disk, even with a cold cache, this was almost instantaneous. Also, I was pleased to win a few seconds of boot time on OpenSUSE 11.1 by removing two redundant 'sync' calls, which were writing lots of modified state to disk. While scattered reads perform wonderfully, large linear reads are slow (for now). This means that the previous read-ahead optimisations to avoid seeking on rotating media can now make things slower rather than faster, and should be disabled for flash drives.

Superfly flash

Of course, Linux is leading the way here: prototyping and shipping new features such as Trim/Discard whereby filesystems can tell such devices which data blocks are not in use (eg when you delete a file). This can be used to help inform the internal remapping, and wear-levelling algorithms, further improving lifetime and performance.

With the spot price of flash plummeting to under $1/GB, it seems the world of the flash disk is arriving sooner than anticipated. Is it time to buy a USB caddy for your big, slow internal hard-disk, and buy a smaller, less power hungry, flash disk to use inside your Linux system?"

› Michael is a pseudo engineer, semi-colon lover, Novell *OpenOffice.org* hacker and amateur pundit.

ENTERPRISE

Red Hat bucks the economic trends

The company says belt-tightening in the enterprise market has favoured open source.

Defying the current economic conditions, Red Hat continues to post increasing quarterly results. It shows, the company said, that its focus on low-cost and high-quality has left it in a great position to ride out the economic recession. Red Hat's revenues for the third financial quarter of 2008 were $165.3 million, an increase of 22% from last year's third quarter and 1% over quarter two. Subscriptions have remained flat over the previous quarter, but were up by 17% on the previous year. The company also said that it had suffered due to the weakness of the US dollar, which wiped out almost $7 million of revenue. The net income was $24.3 million.

Jim Whitehurst, president and chief executive officer of Red Hat, said the solid results represented the company's strong position within the sector. "Purchasing decisions for IT have changed dramatically for CIOs," he said. "In this budget-constrained environment, IT professionals are adopting open source and, more specifically, Red Hat to save money and enhance their competitiveness."

Charlie Peters, the company's chief financial officer, said that despite the challenging conditions Red Hat had delivered better-than-expected results in terms of operating income, net income and cash flow. "While significant devaluations in most foreign currencies depressed our reported revenue, a combination of cost management and natural currency hedging enabled the company to deliver a better-than-expected operating margin," he explained. "We also took advantage of unusual market conditions and repurchased some of our convertible bonds and common stock. Our balance sheet remains strong."

Red Hat has also signed a collaboration agreement with Google to support its Google Web Toolkit (GWT). The move will see the toolkit integrated into the JBoss Seam Framework, giving developers additional options when creating rich internet applications (RIA). Craig Muzilla, vice president of Red Hat's middleware business, said the partnership was intended to increase choice. "We believe developers should be able to select technologies such as GWT, Spring Framework and Adobe Flex, while using JBoss to provide the best operational and most flexible platform for running their applications," he said.

Support for GWT will be added to JBoss Enterprise Application Platform subscriptions over the coming months.

› **Google Web Toolkit is being integrated into Red Hat's software stack over the next few months, giving developers more choice.**

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Comment
Monkey magic
David Cartwright

" Regular readers will know that I have a real love-hate relationship with *MySQL*. This thing really is both the best and the worst of open source software. The best aspects of *MySQL* are, of course, that it's really fast, it scales very well, it has excellent query analysis features, and it's free. You get native client libraries for a variety of development platforms such as Java and .NET, and the documentation is plentiful and, on the whole, reasonably helpful.

But to paraphrase Henry Wadsworth Longfellow: "When it was good it was very, very good/But when it was bad it was horrid". The latest "Oh, you've got to be kidding" moment from the magic of *MySQL* relates to replication – which, it should be said, is pretty good most of the time. So I told it: "Replicate the whole of database X, and just tables A and B from database Y". So what did it do? Well, it only did the data from one of the two databases and ignored the other completely. Take out the references to X, and it replicated A and B from Y; take out the latter and it replicated the whole of X. Put 'em both in, and I could wave goodbye to half the data.

Dumb driven cattle
Then I RTFMed. And realised that the letter of the manual states that you can either specify a database or a set of tables, but not both. Replace the reference to database X with a string of references (one for each table in X) and all is well. So it does what it says on the tin, but it's still a dumb way to make it work.

It seems I'm not the only one with mixed experiences of *MySQL*, too. If you want a laugh, you can get some *MySQL* "comments" from the horse's mouth at **http://monty-says. blogspot.com/2008/11/oops-we-did-it-again-mysql-51-released.html**.

❯ David is an IT consultant with a penchant for cross-platform integration, CTI and proper beer.

LAPTOPS
Jump to HyperSpace
New Instant On solution may not be GPL-friendly.

BIOS maker Phoenix Technologies has launched a new Splashtop-like Instant On product designed to give laptop owners the option to perform simple tasks without booting their main operating system. However, unlike Splashtop, HyperSpace can be installed alongside Windows on any laptop and doesn't require embedded software.

Woody Hobbs, the company's president and CEO, said the new software offered network connectivity akin to cell phones, improved battery life and provides rapid access to key applications. "In less than a few seconds, you're up and running," he added. Hobbs also mentioned that Phoenix had been working with service providers including Google and Yahoo! to add new applications to the system.

Analyst Tim Bajarin of Creative Strategies said that the technology could be 2009's big thing. "Laptop and netbook users typically surf the internet 90% of the time," he said. "Instant access to the web, current information and online applications makes their time online more fun and productive."

The package is available in two flavours. Dual allows the users to select between Windows or HyperSpace, while the Hybrid edition gives the option of running both systems simultaneously, switching between the two with a single button press. The former costs $39.99 for an annual subscription, while the latter is $59.99.

One issue remains: the tangly one of the availability of source code for the product. As HyperSpace is based on Linux, it should come under the obligations of the GNU General Public Licence, which stipulates that source code to a production should be freely available in addition to the binaries. Phoenix had yet to make this code available at the time of writing, but this may be rectified soon.

❯ **Will HyperSpace bring the GPL lawyers down on Phoenix?**

Embedded Linux news

❯ Amid the usual storage hardware on Iomega's stand at this year's CES was the Home Media Network Hard Drive – a product that combines 500GB–1TB of storage with network media playback facilities via an embedded Linux distribution. The devices are aimed at home users, offer a centralised storage and print server and can serve up data to PCs based on all three main OSes, games consoles and digital picture frames.

❯ Dedicated users of the Sharp Zaurus now have their own edition of Ubuntu for support. The project, found at **www. omegamoon.com**, is a fully functional port of Ubuntu 8.04 that runs mostly from the Zaurus's internal memory, but requires access to an SD or Compact Flash card. It's been inspired by Nokia's Handheld Mojo project, which is currently attempting to bring Ubuntu to its N8xx range of internet devices.

❯ Nokia N8xx users are in for a shock when the next edition of Maemo is released. The earlier devices are to lose their support as the effort shifts from OMAP2 to OMAP3. However, Nokia says it hopes a community effort will be launched to port the new version of the OS. The next version of Maemo will feature cellular support, so we may see the OS in the next generation of Nokia's mobile phones too.

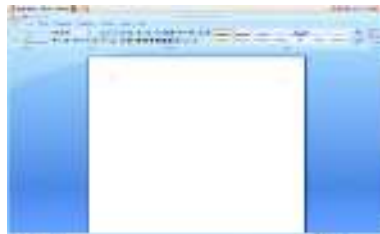## DESKTOP
A new flavour of Wine

Commercial offering adds easy UI to open source emulation.

A new version of *Bordeaux,* a commercial implementation of *Wine*, has been released with support for applications including Microsoft *Office 2007,* Google's Chrome browser and Valve's *Steam* delivery service. In addition to supporting Linux, the application is also available for FreeBSD and PC-BSD.

Similarly to *Crossover Office*, *Bordeaux* adds a simple interface to *Wine* – which itself allows the running of various Windows applications on Linux machines – enabling more casual users to access the technology.

The package is available now and costs $20, but users who purchased the

> **❯ If you need access to the latest edition of *MS Office*, and you don't want to run Windows, install *Wine* or a simple derivative.**

> **❯ Like *Wine*, *Bordeaux* is adept at running *Photoshop CS2*, but makes it easier to install.**

software in the six months before the release of version 1.6 are entitled to a free upgrade. Moreover, the company has said that it intends to release a 'community edition' of the software in the near future, which will be available free of charge.

The main *Wine* project has also seen a significant upgrade recently with the release of *Wine 1.1.12*. Despite the small incremental change in version number, this release now includes support for basic 64-bit applications and subpixel font rendering. Their addition makes a dramatic difference to the look of text rendered in applications such as MS *Word* and *Photoshop*.

ENTERPRISE
Sun's cloudy future

Q-Layer bolsters their profile, but will the company survive?

Sun Microsystems has purchased Q-Layer in an effort to bolster its position in the cloud computing application market. Q-Layer has a range of solutions, including NephOS, and will become part of Sun's newly formed Cloud Computing Business unit.

When announcing the acquisition, David Douglas, senior vice president of cloud computing and chief sustainability officer, said: "Q-layer's technology and expertise will enhance Sun's offerings, simplifying cloud management and speeding up application deployment."

However, despite its history of network computing, Sun has struggled to capitalise on cloud computing and recently posted a $1.7 billion loss for the last financial quarter. In addition to dwindling IT spending in the US economy, the company's share price is under attack with Goldman Sachs changing its status from neutral to sell, citing the availability of more cost-effective solutions in Sun's market.

This position has led to some speculation that Sun may itself be a takeover target, though analysts say few companies would have the resources necessary to pursue it.

> **❯ CEO Jonathan Schwartz has seen Sun's share price nosedive by 80% in a single year.**

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"Being a freelancer, every so often I find I have some unexpected time to fill (otherwise known as a period of unemployment), or I need to put off that pressing deadline, so like to waste my time in a variety of geeky ways. Although the rest of the *Linux Format* team would have you believe that I spend 90% of my waking hours playing *Eve Online*, this is a fallacy. It's actually much closer to 70%, but then I do also seem to spend an inordinate amount of time on other *Eve*-related activities.

Recently I tasked myself with setting up my in-game corporation's killboard, which tracks our ship kills and losses. A simple enough affair, although discovering that my web host only gives me one SQL database was a bit annoying, as it was already being used by something else.

I want more!

Setting up the site though, wasn't enough: I wanted customisation and automation! So, armed with the API data I needed and some lines of code to run a *Cron* job, off I set, only to discover that for reasons best known to my web host, it doesn't support *Cron*. This was a heavy blow, but somehow I managed to pick my way through the cowpats left by the devil's own satanic herd (otherwise known at the world wide web) and found something called *Virtual Cron*, which enables me to run the job remotely, by embedding an image link in another web page, which calls a PHP file to run the *Cron* job for you.

Sure, it's a clunky workaround, but for some reason the fact that it works warms the cockles of my soul. Of course it would have helped if I'd bothered to check just what my web host supported in the first place, but where would be the fun in that?"

❯ Simon is a former PC Answers editor, part-time cider expert and full-time software tinkerer.

ALTERNATIVE OS
FreeBSD updated
New Gnome and KDE, plus OpenSolaris goodies.

The engineers and developers behind the FreeBSD project have released version 7.1 of the operating system, complete with new(ish) versions of the two common desktops, more boot options and support for *DTrace*. The latest release ships with KDE 3.5.10, Gnome 2.22.3 and their core applications. It's also capable of booting from a range of devices including USB drives and GPT-labelled devices. The addition of *DTrace* – used to troubleshoot kernel and application problems – comes courtesy of Sun's recently released OpenSolaris project, added after collaboration between Sun and FreeBSD engineers.

It's part of the build-up to its eighth major release later this year, which will support a virtualised network stack, giving users the option of having per-instance firewalls, VPN and routers. Virtual 802.11 access points should also be added, making it possible for Wi-Fi networks to offer a range of SSIDs via a single access point for the first time.

FreeBSD is one of the family of OSes that grew out of the Berkeley Software Distribution. Unlike Linux, the software isn't released under the GPL, instead having its own licence structure that doesn't put the same obligations on code users to redistribute their changes.

❯ **FreeBSD may live in the shadow of Linux, but it has a strong community of users and developers.**

TELEPHONY
New VoIP rings true
CD quality sound over standard networks.

F*reeSwitch*, an open source VoIP solution, has released a new version of its flagship software alongside an integrated codec that offers CD-quality audio over standard network connections.

The company says that version 1.0.2 will push the boundaries of what is possible with a VoIP system. Their partnership with Polycom gives users access to the Wideband and Ultra-Wideband Siren codecs, while integration of the CELT open source codec offers 48kHz sampling. The CELT module was developed by Jean-Marc Valin, the leader of the CELT project.

Michael Collins, FreeSwitch community volunteer, said that the CELT module offered both quality and bandwidth improvements. "The only bad news here is that you might need to upgrade your headset so that your microphone is sensitive enough to handle such a wide range," he said. "Also, consider bandwidth usage: 48kHz of super high-quality audio requires a mere 48kbps of bandwidth. By comparison, the venerable PCM mu-law codec, G.711u, consumes 64kbps of bandwidth and yields only 8kHz audio quality."

These two additions offer both open source and proprietary routes to CD-sound quality over a telephony network and are perfect alternatives to patent-encumbered formats such as G.729, which is covered by 52 different patents. The company believes that the new codecs place *FreeSwitch* perfectly for the advent of wideband networks and high definition telephony.

In addition to the new codecs, this release includes support for a wide range of technologies including SIP, H.323, IAX2 and GoogleTalk, which make it easy to drop into existing systems. It's currently available for Windows, OS X, BSD, Solaris and various flavours of Linux. **LXF**