

FEATURE | UNITED LINUX

United Linux



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Some have called it a bold move which secures the future of the operating system; some have called it an act of desperation; others said it is merely an understandable reaction to the success of Red Hat. But what does United Linux mean for business? **Andy Channele** talks to newly appointed project leader Ransom Love.

Over 30 years ago the computer scientists of Bell Labs began their haphazard endeavour to create a brand new operating system. Through their efforts, Unix – an operating system ‘of unusual simplicity, power and elegance’ – and a computer revolution was born. Since then computer prices have plummeted, while at the same time power has soared, and Microsoft has taken over the world leaving Unix banished to the back room. Of course it didn’t help that Unix became a largely incompatible range of Unices, with IBM, Hewlett Packard, Santa Cruz Organisation (SCO) and many others chasing a diminishing market with their bank-busting proprietary solutions.

Twenty years later Finnish student Linus Torvalds began work on his own ‘Unix-like’ operating system (‘just a hobby, won’t be big and professional like GNU’) that, though it’s taking a little longer, is also having a profound effect on the way people develop, use and sell software. Linux – the kernel – was free, meaning software vendors could take that core, package up their own selection of applications, build a nice installer and sell on their distribution to those without the time, skill or inclination to ‘roll their own’ operating system. Of the many distributions available – over 200 discrete editions at the last count – Red Hat has emerged as a leader to such an extent that for many users and buyers in the corporate world, it is Linux.

Love and unity

In June 2002 four of the biggest Linux distribution vendors joined forces to break down what they had identified as the main barriers to widespread adoption of Linux in enterprise. Caldera, SuSE, Conectiva and

TurboLinux announced that they would collaborate on a common Linux core to create the ‘next generation’ of distributions to make deploying and supporting software easier, and resolve the common problem of binary incompatibility between distributions.

These individual distros and, the partners hope, others will be marketed under their respective brands but will be ‘powered by UnitedLinux’, meaning the user can be confident that software compliant with the published UnitedLinux spec will install and run uniformly across all similarly-branded systems. The UL brand will reduce the number of mainstream distros to a manageable, and well targeted five – Red Hat, Mandrake, United, Debian and Slackware – but most pundits predict that in the enterprise sector Red Hat and UnitedLinux will come to dominate.

“Software compliant with the UnitedLinux spec will install and run on all UL-branded systems”

The first part of the plan was for the four partners to pool their development resources to create the UL core. This is a single CD containing the basics of the operating system, drivers and a ‘state of the art’ installer; it is designed to be an enterprise grade solution and is currently being developed around SuSE’s Enterprise Linux Server product. The core specification itself is based on work already completed by the Linux Standard Base (see below) and will be compliant with many



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of the current standards for things like web services, authentication and file system hierarchy. It is intended, in the first instance, to run on x86-32, IA64 and x86-64 platforms and will be aimed squarely at business users.

On top of this UL-base, participants will include supplementary media which will provide opportunities to configure or brand the distribution's 'look and feel' and install applications and value added services. The obvious point of this – apart from branding – is that each partner could produce task or region specific offerings that still adhere to the UL specification. The first products are due to hit the shelves toward the end of this year or, at the latest, the beginning of 2003.

A month after the official launch of the project Ransom Love, former CEO of Caldera, opted to dedicate himself full-time to its success and assumed the leadership. In his previous incarnation Love was responsible for a number of Caldera acquisitions, including the little brother takeover of 'traditional' Unix maker SCO, the launch of *Volution* and also the controversial imposition of 'per seat' fees for the company's business-focused distribution. This latter position – an attempt to give Caldera's product a premium gloss – raised concerns among some in the open source community that UnitedLinux was heading down a similar path. However, Love says both Caldera and UnitedLinux's stand on Free Software has been misinterpreted: "Neither Caldera nor UL has ever advocated per seat licensing for Linux and open source components. The components on Caldera's

CD fall under multiple licenses," he says. "Some of those components have had more restrictive licensing terms than the other Linux or open source components."

And it will be a similar situation with UnitedLinux?

"As far as we're concerned, there are absolutely no plans to put proprietary components in the common CD of United Linux," Love says. To comply with the GPL the source code to all of the open source components will be made freely available, but "to protect the certification with many different ISVs and IHVs, the binary will not be made freely available.

"There will, however, be developer programs where the developers can get easy access to the binaries." The product price will include a 12-month maintenance agreement that will be tied 'per seat' style to just a single CPU.

As UnitedLinux gets closer to launching actual product, the details of the licensing will be more fully explained, but none of the partners relish the idea of calling in the lawyers to test the strength of the GPL or alienating the open source community. "We have absolutely no intention of violating the GPL or any other open source licence," Love told *LinuxPro*.

The response the initiative has inspired so far from potential partners seems to suggest there was a definite desire for standards, regardless of what other distribution builders may think. Love says companies have not just been supportive of the project, but also genuinely excited. "The concept of bringing

UL genesis The heart of the enterprise

SuSE's Enterprise Linux Server (SELS) forms the basis of the UnitedLinux distributions. It is a business optimised product built to handle a range of services including email, Internet and application services, ERP systems and file/print services on multi-platform networks. Like Red Hat's Active Server, SuSE promise to limit the product to a

one year release cycle and support periods tailored to individual users. It is available for a range of architectures including IA-32, IA-64, S390 and zSeries (31bit), iSeries/pSeries and 64bit zSeries. There is also a maintenance-excluded edition available for Sun's Sparc.

For desktop use, SuSE pointed us

their Professional distribution and Linux Pro-Office solution which will apparently be UL compliant. The Pro-Office package is designed to be installed on top of SuSE 8 and features patches for the core distro and KDE 3.0.1. The main draw though is a full copy of Sun's *StarOffice* productivity suite.

Linux together to simplify certification for independent software vendors (ISV), hardware vendors and users is extremely compelling." At the launch an impressive range of supporters lined up behind the partners including AMD, Borland Software, Computer Associates,

Fujitsu Siemens, Hewlett-Packard, IBM, Intel, NEC and SAP, with many more expected to join as the products become available.

"Vendors spend considerable effort certifying their products and services on individual Linux distributions to ensure compatibility for their customers," Love says. "UnitedLinux will significantly diminish the number of distros that vendors are asked to certify." And the next step, he says, is to give these companies an opportunity to make their voices heard throughout the development of the project, and offer a range of 'membership' levels to encourage the full spectrum of participants.

Have we been here before?

If all this sounds a little familiar, it's because at the heart of UnitedLinux (and other rival development efforts) is the Linux Standard Base (LSB) which was set up to define a common specification for Linux distributions and applications. The LSB has the support of all the major distribution makers. Its stated aim is to 'develop and promote a set of standards that will increase compatibility among Linux distributions and enable software applications to run on any compliant Linux system'.

Sounds like a pretty big overlap with the UnitedLinux project, but Love says UL goes a lot further: "The LSB specification covers the Linux application programming interface and the Linux application binary interface with a view to allowing an ISV or a developer to create an application that can be deployed across all LSB compliant operating system platforms.

"To do so it specifies a minimum set of functionality and the mode of implementation that needs to be shared in common with all Linux compliant platforms." What the LSB doesn't do, he says, is define "how the semantics of installation, administration, and additional functionality should be delivered as a complete customer-oriented solution." Which



Ransom Love.

“Most pundits predict that in the enterprise sector UnitedLinux and Red Hat will come to dominate”

is where UnitedLinux comes in. "We aim to address all of these areas and to provide a mechanism with single point contact by which IHVs and ISVs may get dependent drivers/utilities included into a commercial LSB compliant Linux OS implementation."

According to Mandrake and others, the success of the Linux Standard Base negates the need for additional 'standards' such as UnitedLinux, in fact it just adds an extra layer





of confusion. Love, inevitably, disagrees: "We have been and will continue to be LSB's strongest advocates, but LSB is only a specification. UnitedLinux is a global, united product and service offering." It will succeed, he says, because it offers software makers a cost efficient way of getting their applications

"Neither Caldera nor UL have ever advocated per seat licensing for Linux or open source components"

onto the widest range of systems.

"ISVs cannot afford to test and certify multiple Linux offerings, even if they are LSB compliant. The differences at the driver level, the installer, and hundreds of other areas force the ISV and/or IHV to test each new product on all of the hardware or software out there.

"Take IBM as an example, they have totally

different hardware platforms and many, many different models or offerings of each. Just certifying one Linux product on all of their products is extremely costly. Now, add to that all of their middleware products... Each Linux product that an ISV or IHV certifies is incredibly expensive." The only reason that these companies have certified multiple products in the past is to get global coverage. "With the current economic climate, most companies cannot always afford to go through certification with every application. United Linux provides global coverage with the major market leaders around the world and it is a single product certification." The other advantage is that individual companies can add or remove aspects of their operating systems without forcing hardware or software developers to reapply for certification.

While LSB is a general standard, UnitedLinux is also committed to the LiN18ux internationalisation standard (administered alongside the LSB by the Free Standards Group) which aims to achieve application portability across international boundaries.

The unknown quantity

While most *LXF* readers will have used, or at least evaluated, Linux releases from SuSE, Caldera and TurboLinux, Conectiva is something of an unknown quantity for many, yet in South America it is as synonymous with Linux as Red Hat is elsewhere. Based in Brazil, Conectiva is a Linux distro aimed at a Spanish and Portuguese speaking audience often tied to legacy hardware. This, according to some commentators, will both ease the internationalisation effort (The four partners now effectively cover the globe's major language groups) for UL and ensure a commitment to supporting legacy hardware, as many of Conectiva's

potential users have less that cutting edge computers available to them. This isn't to say Conectiva's current product isn't powerful, in fact like SuSE, the Latin American offering uses the Distributed Replicated Block Device (DRBD), a high availability kernel module (it mirrors a whole block device via a dedicated network thus ensuring the data from one node doesn't get lost if that node falls over) which makes it the perfect distro for mission critical apps. The other novelty of Conectiva is that, even though it has the hallmarks of a typical RPM-based distro, it uses *apt*, Debian's package management tool, to update the OS and apps.

The Mandrake Position

Of course, not everyone is getting behind the UnitedLinux brand. The two highest profile critics are also, as it happens, the project's biggest rivals; the two vendors who have essentially cornered the US Linux market – Red Hat in the expanding enterprise sector and Mandrake on the desktop. While Red Hat rushed out an announcement of a deal with Oracle and Dell to create Unbreakable Linux, Mandrake made a much more direct response and went on the record to tell users why they wouldn't be joining the consortium, why the basic idea is fundamentally flawed and may, ironically, lead to less compatibility.

"A primary concept of United Linux is the false idea that Linux – like Unix in the 1980s – is splintered and diverging. The communication campaign being conducted by UnitedLinux, and even the name itself, implies that this phenomenon is happening within the Linux community! The statement goes on to point out that the Unix industry failed in the fruitless quest for the 'definition of common standards'.

Opinion The ayes and the nays

"This organisation should help in making it easier for Borland to offer our technology running on Linux from more vendors and open up new opportunities and channels." *Simon Thornhill, Borland*

"Customers now have a true international version of Linux. UnitedLinux enables more rapid adoption of Linux in the enterprise sector which, in turn, allows customers to reap the benefits of

Linux with lower risk and cost." *SuSE Linux*

"Today all the commercial packagers of GNU/Linux add non-free software... Several of them develop non-free software to add to GNU/Linux. Caldera has been one of the worst offenders. UnitedLinux carries this regression one step further with its 'per seat' licensing. Users of that distribution will be as restricted as if they were using Unix or Windows." *Richard Stallman*

"We have absolutely no intention of violating the GPL or any other open source licence." *Ransom Love*

"Joining UnitedLinux could destroy many of the features that have made Mandrake Linux so popular, such as our 'easy to install, easy to use' approach. It should be noted that several recent polls indicate that the four UnitedLinux companies currently rank lower than Mandrake Linux in market share." *MandrakeSoft*



UnitedLinux business structure.

The Linux industry, Mandrake suggest, is analogous to the car market: cars compete in a number of areas, but must conform to a certain set of standards in order to make them road legal.

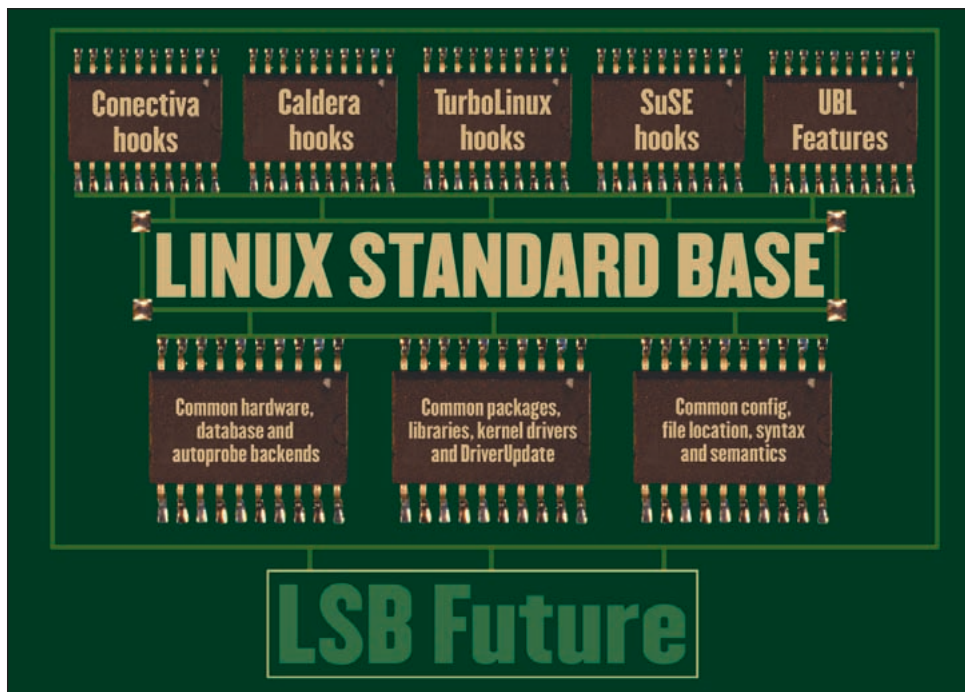
"It's the same with Linux. There are several 'mainstream' Linux distributions (Caldera, SuSE, Debian, Mandrake, Red Hat); others are dedicated to specific needs (firewalls, clusters, embedded...), others are adapted to local languages (Chinese, Finnish, Thai, etc.), and so on. Each version addresses a certain demand."

The irony of Mandrake's argument is that, fundamentally, it's the same as that proposed by Ransom Love and UnitedLinux; it's simply the approach that differs. While Mandrake are happy to work to the spirit of the LSB (which

means applications should be broadly compatible) but continue to use its own – extremely capable – installation routine, UnitedLinux hope to stabilise the specification and, more importantly, reduce confusion for potential new users.

Of course, while Mandrake are the vocal critic, Red Hat aren't going away, but Love claims UnitedLinux is nothing to do with Red Hat – even though "they are and will continue to be welcome in the UnitedLinux camp" – and all about making it easier for sellers to sell and for buyers to buy with confidence. "This is all about ISVs and IHVs and being able to deliver quality Linux based solutions to a global market of business customers who need





quality global support options.

"Red Hat's dominance is more mind share in the US and Europe than market share around the world. They are beginning to gain some acceptance in Japan, but they have almost no market share in China or the rest of Asia. In German speaking countries, SuSE is the number one distribution by far; in Japan and China, Turbo is still the number one distribution by a long way; Caldera has a very strong presence in Korea and Taiwan and other parts of Asia; and Conectiva dominates the market in Latin America. This is not about Red Hat," he said.

Breaking down?

It's a common (and much loved by management guru's) line that any chain is only as strong as its weakest link. So which of the four partners is most likely to be Anne Robinson bait? It didn't take long for one candidate to put its head above the parapet. Hot on the heels of the project launch it

Each UnitedLinux distribution is built on a common core (specifying things such as libraries, file locations and kernel drivers), but the architecture allows for partners to hook their own features into the OS without forcing recertification on the part of software and middleware developers.

was widely reported that TurboLinux had collapsed.

The story started with a number of anonymous sources claiming the company had ceased operating on Monday 15 July after finally exhausting the goodwill of financiers such as Dell and August Capital. Maureen O'Gara, writing in *LinuxGram*, said the collapse, if true, would be a black eye for the UnitedLinux consortium. This closure, O'Gara wrote, was a salient demonstration of "why the revenue-thin, layoff-prone distros had to band together in the first place" and called into question the commercial viability of open source development.

A day later Turbo responded saying that,

though the US arm of its operation was undergoing restructuring and a 'reduction in force' due to the withdrawal of funds from an unnamed investor, the company was still open for business. In a written statement TurboLinux President, Ly-thong Pham, said that despite being in the early stages of a major reorganisation, the company would be able to satisfy US customers' needs for support and future products. Comprehensive details of the restructuring are due to be announced as we go to press.

In response to the rumours, SuSE Linux issued a brief statement saying that the UnitedLinux project wouldn't be derailed by problems experienced by TurboLinux or any other UnitedLinux partner, as "SuSE's development team is responsible for the quality and schedule" of the core distribution.

At the height of the Linux boom TurboLinux was valued at an impressive \$200 million, and over the past few years the company is said to have worked its way through \$100 million of capital investment from the likes of IBM, Novell, Compaq and SGI. The last round of funding saw the company valued at a far more modest/realistic \$7 million.

So what does it all mean?

For buyers or IT managers, at its most simple, standardising on UnitedLinux should make it easier to build and maintain a heterogeneous network. Software that installs on SuSE's Professional distribution, for instance, should work identically on products from Caldera, Conectiva or any other UL branded package. And with so many software developers supporting the project it shouldn't be too long before we start to see the orange UL swoosh on application packaging. In the short term this will mean less headaches for the IT department, while the long-term effect should be a drop in the cost of support licences as migrating or upgrading operating systems will be a far less demanding task, stimulating competition. It also means, of course, that software developers and distributors don't have to test and certify their products on every potential Linux flavour out there which, again in the long term, should reduce costs. Users,

Basic specifications

MAIN COMPONENTS

- Kernel 2.4.18+
- glibc 2.2.5
- gcc 3.1
- Xfree86 4.2
- KDE 3.0

STANDARDS COMPLIANCE

- LSB
- LIN18ux
- GB18030

SUPPORTED LANGUAGES

- English
- Japanese
- Simplified Chinese
- Traditional Chinese
- Korean
- Portuguese
- Spanish
- Italian
- German
- French
- Hungarian

meanwhile, should be able to sit down at a machine and – within reason – find most things where they expect them to be.

Love predicts that in the future there will be just two platforms certified by the major hardware and software sellers – Red Hat and UnitedLinux – and, as both of these entities are publicly committed to the LSB specification, incompatibilities should be pretty much wiped out in the enterprise space.

Despite the occasional contrary voice, most people in the industry have been broadly positive about UnitedLinux, seeing it at the very least as an opportunity to present a united front and reduce the distro jungle for the benefit of potential buyers whose experience of Linux may be limited or non-existent. Whether United Linux can locate a 'holy grail' of compatibility, reliability and lower costs to users is the real test, and we should find out the answers soon. ■

Web links

UnitedLinux – www.unitedlinux.com The latest news from the UL camp.

Free Standards Group –

www.freestandards.org. Home of both the Linux Standard Base and Lin18uk.

SuSE Linux AG – www.suse.com

Caldera – www.caldera.com

Conectiva – www.conectiva.com

TurboLinux – www.turbolinux.com