

# The Cape Town crusader

**Mark Shuttleworth** has transformed the Debian community by putting his money where his mouth is. The result is Ubuntu, but why was it started, where is it going in the future, and what does its success mean for Debian?

Having made his millions in the dotcom revolution, travelled into space on a Russian rocket and founded the most popular Debian-derivative distro to date, some might say that Mark Shuttleworth has already done quite enough. But as a man who wants to make a difference, Mark spends his time writing code of his own and looking for open source projects to invest in. We managed to grab a few hours out of his busy schedule to talk to him.

**Linux Format: What were your reasons for starting Ubuntu?**

**Mark Shuttleworth:** A number of different things. First, a strong desire to give back. I was incredibly lucky during the dotcom boom [he sold his

strong philanthropic programme – I kind of need to get rid of everything that I've acquired. I'm quite keen to do that in my lifetime, or in a time that would reasonably approximate what that should be.

So I've got to get cracking on it. I have the privileges of getting cracking on it earlier on, rather than getting to 70 and thinking, "What am I going to do with my loot, because I can't stand my children!" It seems to me that one of the ways I can have a tremendously positive impact on the world, and also give something back to the people who made all this possible for me, is to invest in open source, for the sake of open source.

So I was looking for ways to do that. At the same time, it seems to me that the pendulum in the software

like. I can't tell you what I think the software industry will look like, because there is too much hidden in the fog of war at the moment.

But in my mind, the future of the software industry will have certain key characteristics – and it happens to be that those key characteristics are things that I very much wanted to see in the open source world. So I put all that together and made that the kind of vision behind Ubuntu.

**LXF: There are many Linux distributions already. Might it not have made more sense to steer one of those towards your vision?**

**MS:** The only one that I thought was really compelling is not steerable! In a very real sense, what we do is the product of my having thought about that. I considered standing for Debian Project Leader, but I figured that there's another way to have the same effect really, and that is to create something that really executes the vision. Make those ideals freely available, and let other people take from that what they will – take the best bits.

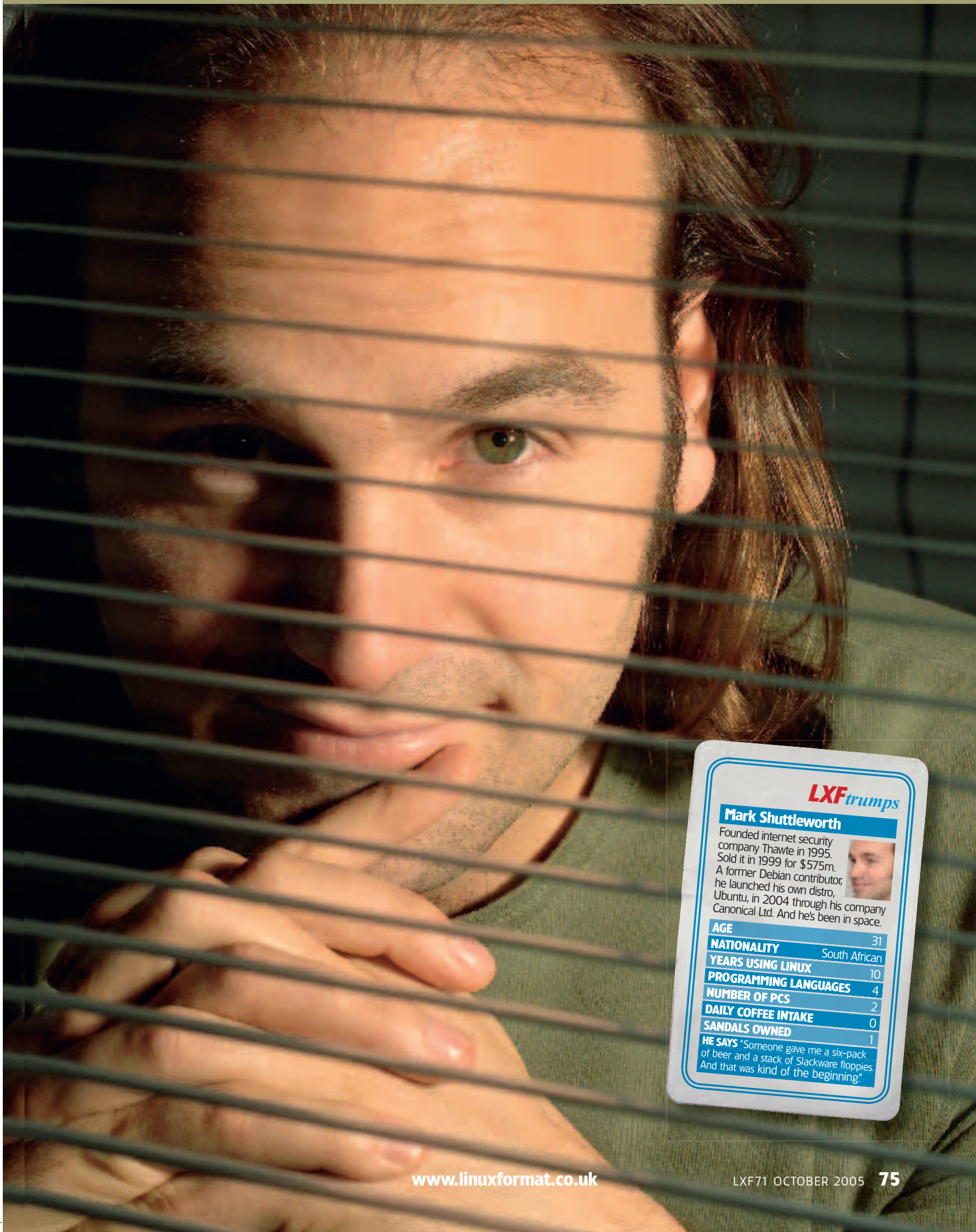
So that's why we took this slightly controversial route of saying, "We're going to create something that has its roots in a number of different projects, but is fundamentally a new thing." In some ways that is bound to

**"I KNEW WHEN I STARTED THAT UBUNTU WOULD BE CONTROVERSIAL."**

company Thawte to VeriSign for \$575 million in 1999), and a lot of the reasons for that luck came from the fact that I was exposed to open source software at just the right time. I was able to build Thawte on Linux and MySQL and Apache. I had a very

industry is absolutely swinging towards open source. To me, this is something that I both feel great about as philanthropy and also see as a speculative investment in having at least some role to play in what the future of the software industry looks





**LXFtrumps**

**Mark Shuttleworth**

Founded internet security company Thawte in 1995. Sold it in 1999 for \$575m. A former Debian contributor, he launched his own distro, Ubuntu, in 2004 through his company Canonical Ltd. And he's been in space.



<b>AGE</b>	31
<b>NATIONALITY</b>	South African
<b>YEARS USING LINUX</b>	10
<b>PROGRAMMING LANGUAGES</b>	4
<b>NUMBER OF PCS</b>	2
<b>DAILY COFFEE INTAKE</b>	0
<b>SANDALS OWNED</b>	1

**HE SAYS** "Someone gave me a six-pack of beer and a stack of Slackware floppies. And that was kind of the beginning."



◀ irritate people to the point that they do something about the things that we're challenging to do.

**LXF:** So it has positive effects?

**MS:** I hope so, yeah.

**LXF:** Who would you say is the intended user of Ubuntu?

**MS:** Two kinds of people. The first are people who really love open source software for its technical excellence and as a platform – who are truly open source people really. They

team a very free reign to run it technically the way they want to. Building on Debian obviously helps tremendously. So we've been lucky, all of that stuff came together very nicely for the first round.

The other group that I think find open source really attractive is at the complete opposite end of the spectrum. They're people who know little about computers and don't want to know anything about computers. In fact, they just want to use something that would do what they need –

right. There are large numbers of users out there today for whom Linux and open source absolutely do the job 100% – because you can define what they need, and what they need is to surf the web, do email, work with basic office documents...

**LXF:** That's the thing. The BBC did a roadshow around Britain about four years ago, and they had a 'web village' as part of it. One of the people setting up the show got in touch with us, and we helped them out with some Linux stuff. They ran half of the web computers on Linux, and half of them on Windows, and the people at the event didn't know which was which, or even that there was a difference between them.

**MS:** So if you can define the users, then often you'll find that Linux and open source work really well. Ubuntu is converging on the broad market from those two very, very different angles. The thing that makes it really possible is that the guys at the very technical end of the spectrum are often people who are required to support new users. These guys don't want to know about or care how the computer is set up and configured – they just want to sit down and have it run. And these are the guys who have to do work. So even though those two

markets are completely different, it works out pretty well.

**LXF:** Some people have said that Ubuntu has been successful at the expense of Debian. Do you think that's a fair criticism? Do you think it matters?

**MS:** I certainly think it does matter that people feel that way, because I need Debian to be successful and for people to see what we do as constructive. So it worries me whenever that gets said. At the same time, I knew when I started this that it'd be controversial within the community, because there are often knee-jerk reactions. You need to be willing to take those on the chin, and get past it.

I'm pretty confident that we're at the fever-pitch phase of that knee-jerk reaction. Most of what's flying around is FUD, and my team very quickly settles the waters when that stuff comes out. They're able to show what's really going on. There were some accusations flying around last week, for example, that one of the members of our team has deliberately withheld a piece of software for Debian Sarge that had gone into Ubuntu. Our developers and the Sarge release team showed the emails they'd exchanged, where they discussed it and said, "OK, no we don't

## “THE SOFTWARE INDUSTRY IS ABSOLUTELY SWINGING TOWARDS OPEN SOURCE.”

participate in the community as much as drawing from it. Ubuntu is kind of developed partly by the best guys in the open source world that I can find, and developed for their compatriots – it's developed for developers. And I think that's why it's become so popular.

**LXF:** Yes, it is really popular, and it seemed to come from nowhere...

**MS:** Well, to contrast it with some of the other ventures out there, we just didn't compromise on some of the technical attributes. And I give the

where they can find what they need very easily.

It's the middle ground that we can't get to at this stage: the people who use computers quite a lot. They've installed some extra software and they've got a couple of devices that they like to plug in, and their needs are just too customised for open source, Linux or Ubuntu to really meet the first stage. They're not power users enough to try and make it work, and they're not straightforward enough for us to do the work and make it

want that in Sarge, because we've already frozen and that's going to delay the release."

So in most cases, where that gets said is because people aren't fully in the picture. So I figured that stuff would blow away. One of the reasons I again decided not to do this within Debian was because I firmly believe that there's nothing an open source team or community can't do – except do everything. There's no particular mountain that you could point to that an open source group couldn't climb, but they couldn't be on top of all of the mountains at the same time. And so it struck me that a lot of the tension within open source groups happens when you get to a point when you have different groups within them which both have very valid arguments as to why they should go their way. They're both right – but the organisation itself just can't scale to that. The beauty of this being open source is that we can dispatch different teams to climb different mountains. We can win both battles.

So I see Ubuntu as narrowing the scope of Debian, and losing something in the process in order to gain something somewhere else. We've reduce the set of apps for which we provide core security support and updates. In return, what users get is, I think, a better quality of security support and updates, because we can do those things professionally. There's a whole argument about this at the moment, asking why Ubuntu's security support is better than other distros. It's because we've narrowed the scope.

**LXF:** It fits on to one disc...

**MS:** That's a tremendous narrowing. We've sacrificed a tremendous amount to do that. If you care passionately about everything that's not on that disc, we're not much help to you. But the flipside is in that manner that we gain some other things. It would be wrong to impose that set of values on everybody. That's why I figured: "This is stuff that I care about – I should go and create an organisation that does it." And

everybody benefits from the security work we do; for those apps, those patches are immediately available, and we're very transparent in the way we do that.

One of the other things I wanted to do was to play with a bunch of interesting ideas. We're in the 21st century now, we should act like it. We should really figure out how distributed organisations work. And that's really hard: it's very hard to build a company in this completely distributed fashion. We should figure out if it really is possible to build a company around a purely open source vision.

I don't know the answer, but I think it's really interesting and worth trying. I'm very lucky in that I've got the resources to have a stab at it. And I'm still confident with the model we've come up with. It will work, but it's going to take time and it's going to take patience.

**LXF:** Do you think Linux must conquer the desktop to be considered an achievement?

**MS:** Linux is absolutely ready for some desktops. So I don't really get stressed trying to convince somebody that Linux is ready for the desktop. I really shift the discussion towards figuring out which desktops they're responsible for. And depending on the scale of your organisation, it's almost always ready in some way. It's very hard for me to suggest to a father of three that his home computer should shift to Linux, as he only has one. He's probably in that middle ground: somebody who's installed a bit of extra stuff here, there and the other, and has got a couple of devices that need to work. And his devices are different from his neighbour's devices. But when I talk to an organisation that manages 50,000 desktops, it's not hard usually to find 10,000 of them that could switch tomorrow, and benefit financially. So 10,000 is plenty to talk about for now, and I don't worry about the other 40,000.

**LXF:** But do you think in some ways that it's a battle that can't



« be won, because of the way the system works at the moment, in that the peripheral manufacturers are only interested in one market?

**MS:** Sure, but every day that picture changes, and it's only changing in one direction. There's no peripheral manufacturer that has ever done Linux drivers and then said, "Ah, you know what, that was boring". Once they take the step of doing it, the next step is they open source it. And then the next step is that they get actively involved with the kernel upstream and sponsor development work.

So the pendulum is absolutely swinging in favour of open source. It's just that sometimes we don't see things because they happen at a much slower pace than the other changes in our lives. In ten years a person changes dramatically, and it feels as though something like the IT world around us changes much more slowly. The reality is, the pace of change is phenomenal. Microsoft faces the biggest uphill battle of any Fortune X company. They're facing a fundamental restructuring of their underlying industry.

**LXF: An interesting time to be in involved in IT.**

**MS:** Absolutely! This is a lovely industry, because you can always find change if you want, and no time has that been truer than today. The other interesting thing about it is that in many ways the dotcom bust gave people the



happens on NASDAQ and Wall Street, this is becoming more and more an everyday part of the fabric of our lives.

**LXF: Soon everyone will have their own online shop...**

**MS:** Sure, or participate through other people. How much of your Christmas shopping have you done online over the last couple of years? I'd suspect that most people would say that they're doing a hell of a lot more now than they were doing at the height of

behind that is a layer to really improve the way open source people collaborate. This is actually going to be the era of collaboration, and the next 20 years will define software and tools in collaboration. We will measure the tools by how effectively two people at opposite ends of the planet can produce something useful. And the open source guys have set the bar.

Open source is a natural response to the availability of those kind of tools. Open source guys have had *diff*, *patch*

at this point, has been into *Bazaar*, which I see as the replacement for *BitKeeper*. But it's fully open source, and it's true distributed revision control, which means that instead of having a CVS server that everyone has to contest and get a lock on, you allow a project to split up into multiple branches. And then you allow those branches to come back together again, as and when they need to.

For example, often you'll have a social problem developing in an open source project, where a third of developers want to go one way, and two-thirds want to go another. And those tensions become very, very difficult to resolve because with the CVS server approach you can't have the codebase going in different directions at the same time, or it'll never work. So what a distributed revision control has to do is to allow somebody to create a branch. Other people can then start to cluster and collaborate on that, and then it can come back into the fold very, very easily. This happens in a graceful way – no one has to commission or get agreement to do that. It just happens.

**LXF: Do you think Subversion eases that problem at all?**

**MS:** *Subversion* takes CVS to a slightly better step, but it's still all commission-based. There's still a central server, and if you can't get branch permission on

## “THIS IS A LOVELY INDUSTRY, BECAUSE YOU CAN ALWAYS FIND CHANGE.”

impression that innovation had lost. In fact, it's quite the opposite – this was an enormous injection of capital into the 'let's dream about it' characters. Yes, a lot of that capital was written off, but the pace of change has never slowed down.

Previously I was involved in the issuing of digital certificates to websites, which is a really interesting indicator of how many people think it's worthwhile to set up a shop, or do something they think is interesting enough that they don't want just anybody to tap into it. And that number has continued to climb, in as much as I retain an interest in that industry. So irrespective of what

the dotcom boom. The actual substance, as painful as that change is in people's lives, is all headed in the right direction.

**LXF: Quite a change for the better! No more fighting through the crowds. You're right, the technological landscape does change quite quickly.**

**MS:** With this project, I've reverted to my geek roots. I've been writing a lot of code, and enjoying it.

**LXF: What are you working on with code at the moment?**

**MS:** I'm doing a lot of work on our web services infrastructure. The vision

and email for many years, and what have they produced? They've produced this incredible thing called Linux. That's a natural response to having *diff*, *patch* and email. I'm being a little obscure, but we don't have the same level of collaborative tools in the office. Think of two people having to work on a spreadsheet: they've got to mail the spreadsheet to each other. And if you end up in a situation where three people have the same spreadsheet, and they make different changes, it's impossible to reconcile those changes. Now, consider what we have now with distributed revision control. One of my big investments, which nobody has really picked up on

that you're screwed. Distributed revision control allows the open source world to blossom in a whole new kind of way. And we saw that in the kernel, while they were using *BitKeeper*. The kernel rapidly became a much richer and more comprehensive environment, because everybody was able to maintain their own view on it, and ideas could crystallise and settle in a community that cared about that, and then come back to the fold.

What's going to happen in the office world is that I think we're going to see tools that allow real-time collaboration. So you're working in *Microsoft Word*, and you call up Jack over there, and you say, "Hey Jack, I'm just editing this article of yours. This section here is not clear." Then he sees the same document, he sees where your cursor is, and he sees the changes you've just made – highlighted so he can see changes made an hour ago, and changes that you've just made. He can start typing, and you can see *his* changes, all in real-time editing the same document.

So to come back to web services, what we're trying to create is even more efficient collaboration for open source developers. For example, translations... Something I've been hacking on here on my laptop [points to an application running on his laptop screen]. This is effectively a web-based collaboration framework for software translations. At the moment, the translation process is a bit like the *Excel* spreadsheet collaboration process: things get mailed around, lots of translations fall on the floor, and it's a real mess.

**LXF:** It's surprising there isn't a solution for that yet...

**MS:** Well, what if we had a web framework that allowed collaboration between upstream and distros? That way, when a translation is added upstream the distro could immediately see it, and if the translation happened in the distro, upstream could see it. That's exactly what we have here. This branch on the screen is probably two weeks ahead of what's in production right now, and being used by translators. Here you can see we have *Evolution* in Ubuntu Hoary and *Evolution* upstream – the main branch, effectively. So these two windows look very similar, but this one [on the left] is in the distro effectively, and this one

[on the right] is in upstream. And you can see that they're slightly different; there are some extra translations. If I go in and want to start translating over here, you'll see some suggestions that'd been made. I'm not very good at Spanish! Any suggestions for how to pull data from different places, all in real time, or live over the web, or with quite sophisticated thinking going into

## “THE SAME BUG IN APACHE SHOWS UP IN RED HAT, GENTOO, DEBIAN...”

how you manage the permissions.

If, for example, someone wants to contribute but you've never heard of them and you don't know them, we don't want to recreate the old CVS lock – we want them to be able to contribute but not to damage the interface upstream. So this is the tool that does that. Similarly, there's inefficiency in the way we currently manage bugs. So this is a distributed bug tracker on screen – a centralised but distributed bug tracker. It's a centralised repository of the status of bugs in lots of different places.

What happens with open source software is that the same bug in, say, *Apache*, shows up upstream in Red Hat, Gentoo, Ubuntu, Debian, Fedora, all these different places. They've all got different bug trackers and there's no real ability to collaborate across those things. What we have here is the ability to say, "OK, there's this bug, and it shows up in Debian, *Firefox* and Ubuntu." And you can track the status of that in different places, and go in and edit it in different places.

In this way we're able to bring the discussions together. In one place you can find the overall discussion of what's going on in distro software. So, for example, I can see immediately when a bug is fixed in a distro, and you can say, "Show me all of the bugs which are fixed somewhere else", because that's low-hanging fruit. I can immediately go in there, take the patch and merge it. You can combine this with the distributed revision control idea: the fix for one of these apps is effectively a patch, which is effectively a branch. That branch can then be merged into wherever that code lives. So Red Hat has an *Apache*

package, and all they have to do is merge from that branch, and they've got the fix for that bug. We can really raise the bar in terms of the level of collaboration that's possible.

**LXF:** This is pretty interesting, because we're just starting to initiate some bounties on LXF, and we corresponded with Nat

**Friedman because he had an idea a while back about having a general bounty system.**

**MS:** So here it is! Here on screen is a list of all the bounties. You can see that this bounty applies to Ubuntu and *Firefox*, so if I go into the *Firefox* page, you can see there's a *Firefox*-related bounty. So again, you can say, "This bounty exists", and you can publish that in the Gnome project list. Here you can see all of the bounties for the *Mozilla* project, and you'll see all of the bounties that are for *Firefox*, and for Ubuntu as well. This infrastructure will be up to speed in a few weeks.

We'll record this in of the Gnome and Google bounties, so we create this ability to constantly see what's happening. And later we can link bounties to bugs so you can say, "This bug is really irritating me; I'll create a bounty and link it to those applications."

**LXF:** That's the sort of thing we want to be doing. There's a bug in the FO processor in the *Apache* project that's been annoying me for years.

**MS:** Would you maybe put £20 on it?

**LXF:** I'd put £100 to £200 on it.

**MS:** So let's do it! **LXF**

Go to [www.linuxformat.co.uk/mag/shuttleworth.html](http://www.linuxformat.co.uk/mag/shuttleworth.html) to read more of Mark's thoughts on hot women, Bill Gates and dodgy Russian rockets.

