

Linux is highly regarded and widely implemented as a server operating system, but some claim that's as far as it will go. Others, like the three Linux experts interviewed for this issue's Open Forum, insist Linux is a serious alternative to Microsoft on the business desktop

Desk bound

LinuxUser: Does it matter that Linux supports open standards and non-proprietary formats when the rest of the world is talking Microsoft?

Jono Bacon: Linux is not necessarily in competition with Microsoft. It provides an alternative. Although the world is predominantly using proprietary formats, Linux does already support them to a large extent in applications. For example, KDE's KOffice suite supports a number of Microsoft proprietary formats, but also goes somewhere towards supporting open standards, which seems to be where the new economy is going – it's opening up, making sure everyone can have a slice of the cake.

Tim Stokes: It's about providing a level playing field so everyone can compete on strengths and not create weaknesses. Customers should end up with a greater choice of applications and vendors. The world of Microsoft is controlled by Microsoft and the barriers to entry are significant.

LU: What if a business is considering moving to Linux on the desktop but is worried about not being able to open file formats and interoperate with people?

TS: A friend who's a Web site developer periodically receives PowerPoint presentations that give her a map of the site she's designing for. It's not unusual for her to come to me and say she can't open the presentation, yet she has PowerPoint and I don't; I have StarOffice and I can open it!

Paul Tansom: This is one of the key obstacles, not just for Linux on the desktop, but for non-Microsoft applications on the desktop. The world is talking Microsoft and it's a difficult world to work in if you don't talk that language.

LU: While there are various reasons why the financial controller or systems administrator might want to switch to Linux, do users want to switch and how great is the challenge for switching them over?

TS: Ninety five per cent of users could change tomorrow without any pain because StarOffice is so easy to use. We took a 13-year-old with no training in anything and gave her a presentation to build using StarOffice: she did it in a day. The other five per cent are probably SQL Server users, for example, who take advantage of the OLAP capabilities of SQL Server. There are an awful lot of

SQL Server databases in the corporate world and it would be a pain moving. So the solution for them would be to stick the application on an NT server and access it on Linux clients through Citrix Metaframe.

PT: I don't think it's the users who want to switch on the business desktop. It's going to be driven by IT departments making the decision. Users will probably use what appears best – which to the vast majority in the UK means Windows. I don't think a user is going to turn round and say "I want something different" because they don't see the advantages, disadvantages, costs, or anything along those lines. They just see what they use at home on their desktop, that looks familiar, and they stick with it.

LU: People do get used to the look and feel of things, and there are some issues like anti-aliasing of fonts, which seems quite basic, which aren't necessarily sorted out in Linux. How much of a problem is this?

PT: If you use Netscape browser, sites don't look as good if you haven't got things configured properly. There's definitely a few 'tweaks' that need to be made.

JB: Since I've been working with KDE we've encountered a number of problems – like TrueType fonts. With Linux, there's a lot of passing the buck – we won't fix this problem because it's this organisation's responsibility. But if you look at the pace of the development of the GUI from Microsoft, it's taken it a good ten years to get to the position it's in now. Linux has developed a GUI at pretty much an equal percentage in terms of easiness and usability, in substantially less time. As Linux develops at a rapid pace, the system and applications are going to get easier to use, and StarOffice is a perfect example.

LU: When a business has made a large investment in Microsoft on the desktop, why should it throw that investment away and switch over?

PT: It won't look at switching for the sake of switching, but when you look at changing, upgrading – as Microsoft seems to do on a fairly regular basis – people will realise there is an alternative. Then it's not so much throwing away an investment as not putting more investment into it: it's about putting less investment into equivalent functionality by making a slightly different choice about what they put on the desktop.

Who's who

Jono Bacon is founder of Linux UK and develops software for KDE (the 'K' Desktop Environment), including a WYSIWYG Web editor called Kafka.

Tim Stokes is Chairman of Alphanet Systems, producer of the Alphanet Linux 2000 distribution.

Paul Tansom is an Internet systems specialist with experience in mixed OS/2, NT and *nix networks. He is active in the Hampshire Linux User Group.

Linux will need a wider range of applications support before that gets easy to do. You can't migrate your whole desktop across with people using things like AutoCAD and so on, which you'll undoubtedly have to stick with until there's a viable alternative.

JB: It's more about complementing their existing setup than replacing it. Microsoft provides a better solution in some ways than Linux does. But you're always going to get users and advocates. The advocates will use Linux or Microsoft irrespective of whether it's a better system or not. As Linux progresses and develops and gets a larger application base, users will say: "There's this operating system which does it better than the Microsoft version, so why should we not use it instead of why should we use it?"

TS: The problem with the Microsoft investment is that you have to keep reinvesting in it. Why does Microsoft change the format of Word so often? It's not to add any great benefit to the user – it's to stop you straying off the run. You also get locked into an upgrade cycle in your hardware. Every time there are huge leaps in performance on the PC, another version of Windows comes along and eats it up. You're in a constant upgrade cycle so you have to constantly re-invest. With Linux you don't have to.

LU: What's the impact on the security of one's data and network of switching over to Linux on the desktop?

JB: Linux has obviously got a very well-implemented security model that's taken a lot from the quarter century of Unix. Since I've been using Linux, for about four or five years, I've only had a security infringement once and that's because I didn't install the errata, which was essentially my fault. The errata for Linux is a free download whereas the errata for a Microsoft-based solution or a large corporate-based solution obviously costs.

TS: There are holes that do get plugged with errata but they reappear in later versions of distributions. We're working on a release that's not scheduled until October/November and that's going to be security-audited by a firm whose sole business is to crack sites. We're employing it to go through our code line by line and plug up any holes that are there. I think that's something that needs doing and it's a lead that others will follow.

JB: Even the informal development cycle that Linux has benefited from over the years has proven that security can be implemented in a better way because, when a bug is discovered (because Linux is a free operating system, open source and actively developed on a global scale), the bug is fixed much faster – usually as soon as it's discovered.

I know people who have dealt with NT and found a major problem and it's taken a long time to get the fix.

PT: If you're a large corporation, or you've got the skills, you've always got the skills to fix it yourself, which is something you definitely don't have under Windows. You just ask on a newsgroup or a list and you could end up talking to the person who wrote the code, who will very quickly come back with a fix.

LU: Where are the applications for Linux?

TS: Businesses looking at Microsoft solutions are also looking very hard at Linux solutions and I think most application vendors, if they aren't already planning to, will soon look to provide Linux versions of their software.

PT: There are two sides to this one. There's the wealth of open source free applications – somebody seeing something they want and thinking 'I could do that'. As Linux becomes more popular, there's a phenomenal number of new choices coming onto the download pages on various sites. And then there's the commercial applications which are a lot slower in coming because businesses are facing the cultural change of how to fit their applications into a free operating system ethos, how they can make money out of giving something away, or how they



“Linux is predominantly going into the desktop arena. It's **attacked** the server market and it's succeeded. It's going to **attack** the desktop market and it's going to **succeed**.”

Jono Bacon, KDE

persuade people who are looking at free software that their product is worth paying for.

It's improving, especially if you look at the office suites and the more popular applications, but there's a bit to pick up on the more specialist applications.

JB: One of the things that's prevented many commercial vendors developing for Linux has been the problem of fragmentation. There are about 140 Linux distributions available and a lot of vendors are targeting their products at specific distributions such as Red Hat or SuSE. The problem has been the framework – for example, if you develop for Microsoft Windows, you have a standard API, and a standard widget set which you can use to write your application.

As KDE and GNOME develop as the major desktop environments, we will get standardised practices in terms of development. As Linux's development frameworking and popularity increase, there's no way it can't get more applications. It's just a matter of time. The current Linux enthusiasts are willing to wait and the new users are going to reap the benefit.

LU: Is thin client architecture the way of the future and, if so, will that architecture help Linux?

TS: We were all sold the idea of client/server on the basis that having the PC or client performing part of the task would cut down costs when in fact it hasn't, it's escalated them. Unfortunately, most people use the client/server model. But when you switch to a thin client, you cut down on your bandwidth requirements with no loss of performance – in fact you gain performance. So I think thin clients is something that most corporations will look at and I don't think it's a threat to Linux. Linux is out there and it's got the tools and you then have the choice of running something locally or running it from the server.

PT: I agree. Linux is exceptionally well placed to take advantage of that. The network with Linux is just part of the way it works. It's not a bolt-on like with Windows. You've really got an opportunity to make the best use of both models: put a very low-powered machine in there if you wish to run it as a predominantly thin client, but if you need to run some applications locally then, with a slightly higher powered machine, you can run the mixture.

JB: Over the past few years, Web sites for example have become much more interactive and many use things such as PHP for processing information and data. I can see applications moving into the browser framework where, if you want to access a Word document or edit it, you'll do it within the Web browser so you'll be able to

access your applications and data anywhere in the world. Linux is a particularly network-centric operating system and the X Window System is an example of that. I think it is the future, and thin clients are the way forward.

LU: Many people are now working in remote locations. Is it worth the effort for them to use Linux on what is effectively a standalone machine?

PT: It depends on the user and the support organisation they're connecting into, how they're connecting in and what they're connecting into. I use open standards like ftp and http access for most of my remote work, which fits very nicely with Linux. Even in a Windows environment with Samba there's a pretty straightforward connect in, but it would depend on how technical a user is. But I'm confident that will improve.

JB: Linux has always had great support for remote working. I recently set up VNC (Virtual Network Computing) on my machine so I can access my desktop in a Web browser. Technologies like that are increasing the support for working at home. Thin and thick clients also help the scenario. In many ways tele-networking is a model of business that can really be applied to any operating system: I don't think it's particularly centric towards Linux, although Linux does have an edge in terms of the software and tools available to accommodate it.

TS: I don't think it's an issue at all. It's the same for Microsoft as it is for Linux. Linux is probably better suited. I think the biggest problem for teleworking is what you do when you get a blue screen!

LU: How are you actually going to persuade people to change to Linux on the desktop?

JB: There's the usual spiel about stability and so on, but what it really comes down to is choice. A number of different office suites are available for free, a number of different windowing systems are available, there's a number of different ways of doing your work. Linux has been predominantly a server-based operating system but

“Businesses looking at Microsoft solutions are also looking **very hard** at **Linux solutions** and I think most application vendors... will soon look to provide **Linux versions** of their software.”

Tim Stokes, Alphanet Systems



people are starting to ask why they shouldn't use it as a desktop machine. Linux is future-proof because everything's opening up, it's very cheap and supported technologies and features are pretty good as well.

TS: Somebody asked me that at the Windows 2000 show at Olympia. Coincidentally Microsoft's stand was right behind us and one of their big display screens went blue: it was very nice to turn round and say – that's why! Seriously, it's marketing. Microsoft has got an average product and it takes it to shows and it does crash, and yet it has managed to market it; it's had no real competition and it's managed to sweep the board with it. That's what it is – market it, sell it, stick it on the TV, stick it on the radio and people will start talking about it, start looking to move to it.

PT: It does really come down to choice – you can do with Linux whatever you want to do to a much greater degree than with Microsoft. Stability will always be an issue, and costs. If you can support it in-house, costs come down. It's about paying for a support contract with Microsoft versus the ease of going to a Web site or a newsgroup, asking a question and getting the answer within a few hours.

LU: Which sectors of the economy and what sort of organisations are most likely to benefit from taking the plunge to use Linux on the desktop early?

TS: Banking and stock trading, where you can't afford to lose your machines. Several trading companies in the City use Linux as their backbone because NT is too unreliable. If you lose an hour in a day on a trading floor you lose hundreds of millions of pounds. It's not just cost savings, it's the reliability that's going to benefit the trading organisations and banks.

The next sector that will really benefit is education. They can teach more computing because they have a command line and they can do it cheaply on all kit.

PT: Also in manufacturing-type areas. You can't afford to have your manufacturing lines stopped because something has gone down, and you're not reliant on Microsoft having ported Office across because that's what everyone uses in your company and they can't perceive the

possibility of using anything else. You've got your application that you can do yourself and machines communicating with each other over the network – it's an ideal application for Linux to jump into.

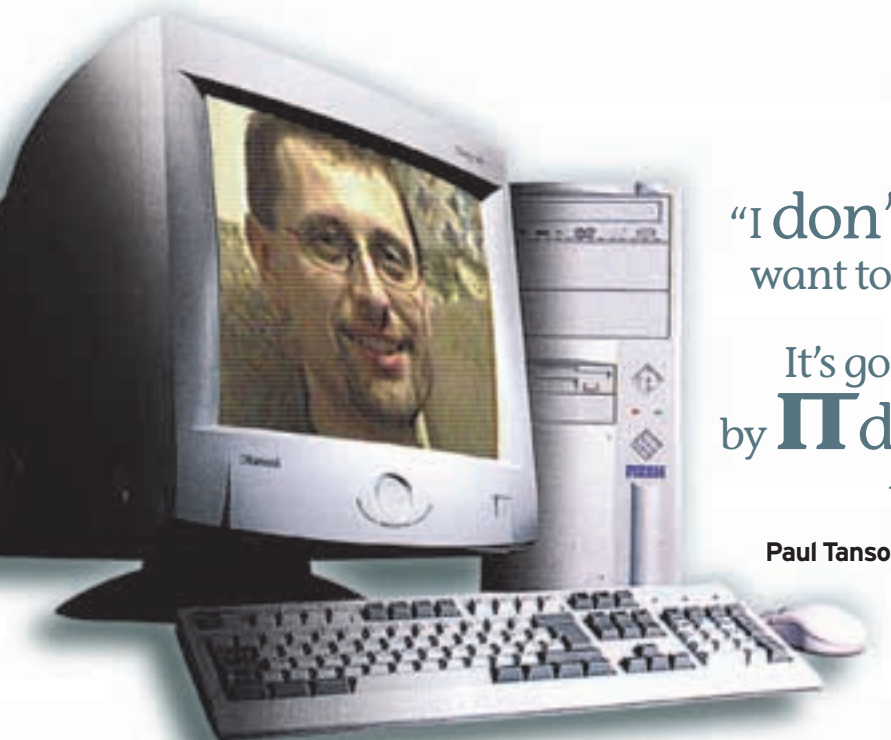
JB: Over the next few years desktop productivity application vendors are going to benefit hugely because Linux is predominantly going into the desktop arena. It's attacked the server market and it's succeeded. It's going to attack the desktop market and it's going to succeed. Because it's free there will always be benefits for charities and voluntary organisations. Everyone can benefit in some way, but it will mainly be users over the next few years because they're going to get the applications they want.

LU: Finally, how would you sum up the viability of Linux on the corporate desktop currently?

PT: Linux is very open in its standards and its support of open standards, but something Microsoft does very well is communication between applications. It would be nice to see some defined open standards for communication between applications – not only across Linux desktops but also across platforms. Data is key to all this, whatever you're running it on, and that is what we're trying to make easy to get at and manipulate. The easier that can be, the better.

JB: I agree that standards need to be defined. We need more things like the Linux file system standard. Although desktops such as GNOME and KDE are endeavouring to provide ingenious ways for applications that are written for that desktop to talk to one another, we do need cross-desktop compatibility. But it's heading in the right direction, and the trouble with many people who use Linux as a hobby is that they see commercialism as a bad thing. If commercialism was a bad thing then Linux wouldn't be the thing it is today. But you have to keep the blue-haired guy sat in his bedroom with the pointy hat on drinking Jolt Cola happy as well!

TS: It's all heading in the right direction and we'll get there in the end. The Linux Standards Base is an excellent idea. Microsoft does have standards, but when you upgrade one of those applications and find the object model doesn't fit any more, is that the kind of standard people are really looking for? I don't think we've got as many problems as Microsoft has.



“I don't think it's the users who want to switch on the business desktop. It's going to be **driven** by **IT** departments making the decision.”

Paul Tansom, desktop Linux user