Pied piper

Eric Raymond's evangelistic attitude to Linux made corporate America sit up and follow his lead. Clive Akass asked him about Linux and why he thinks Microsoft is on the way down.

Of all the dogs barking at Microsoft's heels, Linux is the most immediately appealing. It promises victory for the small over the large, the individual over the corporate, the geek over the suit. It is driven by the inspiration of Linus Torvalds; but were it not for an oddball coder called Eric Raymond, it might still be the private sport of propeller heads. Raymond's evangelising, particularly in a famous paper called *The Cathedral and the Bazaar*, is generally credited with making corporate America take Linux seriously.

Raymond and Linux both have roots in the counter culture from which computing has drawn much of its energy and ideas. But although Silicon Valley sprouted from San Francisco, mecca of Sixties hippies, we are not talking flower power. Sixties idealism spawned terrorism too, and in some Americans it soured into a paranoid libertarianism. Raymond, gun lover and fierce opponent of gun control, is more Dirty Harry than dippy hippy – though, limping slightly as a result of cerebral palsy, he looks quite vulnerable at first sight.

He sees himself as spokesman, historian and 'loremaster' of the hackers – not the cyber-intruders that make the headlines, but in the older sense of people drawn together on the evolving Internet by a love of programming and a distaste for big organisations. The kind of people who, under Torvalds' direction, built Linux.

Raymond spent his early years in various countries, including 18 months in Britain – his father worked for a multinational. He was seen as something of a prodigy at maths, but dropped out of college after teaching himself

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programming. He spent a year working on an artificial-intelligence project before joining a Philadelphia software house where he got his hands on one of the first IBM PCs. 'For about a year I was actually writing for the Microsoft environment,' he said, as if owning up to robbing a bank.

He moved to Malvern, Pennsylvania, to join a startup called Rabbit Software and published his first book, *Portable C and Systems Programming*, in 1985. He has lived in Malvern ever since, working as a writer, freelance programmer and consultant.

The Cathedral and the Bazaar, posted on the web in 1997, contrasts the formal enterprise of the cathedral builder with the free-for-all coming together of the bazaar; what shook IT companies was its proposition that the apparent anarchy of Linux development, with anyone free to modify source code, is actually more efficient than traditional processes because, in effect, it is parallel processing by the best-equipped brains: those actually using the software. Debugging becomes a continuous process 'not just of code, but also of designs'.

Raymond also pointed out that the method was not new. Hackers had been at it since the Seventies, swapping and modifying each other's programs over a variety of networks that were eventually subsumed into the Internet. 'We didn't have a name for what we were doing. We just did it,' said Raymond, who first used ARPAnet, precursor to the Internet, in 1976. 'It's difficult to put over how unconscious it was back then. We didn't have the well defined identity that we do now.'

One event that helped build that identity was the creation during the 1970s of the Jargon File, which defined some of the language of the new community. Raymond did his bit in 1991 by publishing an updated version as *The New Hacker's Dictionary*.

More important was the emergence in 1984 of the Free Software Foundation, with its GNU software library and public licences, under the brilliant but eccentric ex-MIT student Richard Stallman – someone as far to the left of the counter culture as Raymond is to the right. The two met in the early Eighties at a sci-fi convention and, according to Raymond, remain good friends; but their differences were to lead to public warfare.

Stallman disapproves of intellectual property. 'He tried with some success to redefine the whole community in his own image as a software crusader,' said Raymond. 'But there were a lot of refusniks around and I was one of them. I like intellectual property. I think it is a good idea. There are smart ways to use it and stupid ways to use it. And making your code secret turns out to be one of the stupid ones. I wanted to share code because you get better programs that way.'

Stallman was eclipsed by Torvalds when Linux came along. Raymond got his first Linux distribution in 1993. 'It's hard to describe how shocked I was. What was so effective about what

the Linux people were doing? It was a continuation and intensification of cultural patterns I had been noticing on the Internet since 1976.'

That reaction was nothing to his astonishment at the explosion of interest in *The Cathedral and the Bazaar*. 'It was not as if I had discovered anything in a real sense. I just described what people had been doing all along. But the fact of supplying a language, the fact of supplying a narrative, can really catalyse people's thinking. And that is what I did.'

One result was that Netscape opened the source code of its browser. Another was that Raymond got involved in a meeting on the future of Linux, attended by anybody who was anyone in the hacker community – except Stallman. Raymond says he argued against this exclusion but it was felt that Stallman would 'ideologically disrupt proceedings'. The Stallman and Raymond camps are still bickering.

It was at this meeting that the term 'open source' was adopted as an alternative to free software. 'We realised that we had to market Linux. And we needed a neutral term which would not frighten off the suits.'

Raymond speaks of Torvalds with something close to adulation. 'He's a wonderful human being and I am very proud to count him as a friend as well as a colleague,' he said.

Such allegiance raises the question of how much Linux's success is due to the development method, and how much to Torvalds. Mozilla, the open-source development of Netscape Navigator, has yet to gain serious momentum. Raymond said this is because the old Netscape source code

Raymond: Spokesman, historian and 'loremaster' of hackers

was such a hotchpotch that it has only recently been honed to a point where co-operative development could begin.

He insisted: 'Linux is not a special case. It is not the only open source software. Just about all the core software of the Internet is open source. Apache, which runs one in three web servers in the US, is open source.'

But these are all programs with a narrow focus. Even Linux is making its mark mostly in specialist boxes such as web servers and firewalls Could open-source development really produce a friendly general-purpose operating system matching the features and hardware support of Windows?

Raymond's response was a dissertation on why Microsoft will be a spent force within 18 months. How the anti-trust case will lead to a rush of law suits by people entitled to triple damages; how the company could be done for tax evasion and dubious accounting practices. And did I not know that Windows 2000, set to launch on same day as the latest Linux kernel (see news), was in deep trouble?

'It has 35 million lines of new code. Not modified old code. New code. Do you have any idea how much that is? I'll scale it for you. You remember that flap about the Star Wars system in the 1980s? People said it was so complicated it couldn't be made to work. The code for that was 25 million lines. We are talking about an operating system in which the new code, leave alone the old code, is as third as big again.'

Pointing out that Windows 2000 had been through the hands of tens of thousands of beta testers, whereas the only way to test Star Wars was to start a war raised a laugh, but he replied that: 'Windows 2000 has exceeded the level of complexity at which traditional development is viable.'

He had still not finished his tale of Microsoft woe. Few people, he said, know that the company made 36 per cent of its income from 'playing option games with its own stock prices. If the stock price falls enough to cause a loss of investor confidence it's going to nosedive really fast'.

The PC market is not growing fast enough to generate the income needed to stave off this vicious spiral. So Microsoft is forced to squeeze more money from existing markets, loading more costs onto important customers and cutting the margins of PC builders.

'The trouble is that hardware prices are falling like a rock. Let's say the Microsoft "tax" is $80 to $100 per machine. Doesn't look so bad if your system price is $2,500. But if it is down to $300 you have got a problem... There will come a point when each PC integrator realises: "I can't make any money by partnering with Microsoft".'

Something like this last scenario is certainly generating some of the interest in Linux. But speaking to Raymond, what strikes you is not so much his argument, but the glee with which he speaks of a Microsoft crash. You can't help feeling that, with the US Government's case against Microsoft not affecting its stock price too adversely and Windows 2000 not the disaster that many of its adversaries has hoped, Raymond may be a bit ahead of himself in his predictions on Microsoft's future.

● *The Cathedral and the Bazaar* is now available in updated and expanded form as a book costing £12.95 from O'Reilly (ISBN 1-56592-724-9).