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Challenges looming for Linux

Utah firm's suit against IBM could deal a blow to operating system

By Hiawatha Bray, Globe Staff, 6/9/2003

Linus Torvalds, receiver of stolen goods? That's the assertion of a Utah software company whose lawsuit against IBM Corp. threatens to cripple the surging popularity of the Linux operating system. You know Linux, the powerful operating system software that anybody can download off the Internet at no charge. Torvalds is the legendary Finnish-born programmer who developed its kernel -- the core software that handles Linux's most basic functions -- and for whom the software is named.

Once scorned as a toy for nerds, Linux is now so powerful and versatile that it can do most of the tasks once reserved for expensive operating systems like Unix. That's why many of the biggest businesses and government agencies in the world use Linux these days, saving billions in the process.

But how did Linux so quickly become a viable substitute for Unix? By stealing the necessary know-how, say executives of SCO Group, a small company in Utah that owns rights to Unix. SCO has licensed its Unix to IBM and many other firms. Now SCO is suing IBM, claiming IBM's been taking SCO's intellectual property and plugging it into Linux -- a sort of binary plagiarism.

If true, it means that Linux has been transformed from an operating system into a computer virus, one with a particularly nasty payload: lawsuits and licensing fees. Already SCO has warned 1,500 corporations that using Linux could mean a costly trip to the courthouse. Even those who didn't get the warning letters are bound to take heed. Executives will wonder if it isn't time to replace Linux with something a bit less controversial -- a traditional Unix, say, or Microsoft Corp.'s Windows XP. And those who haven't made the leap to Linux have just been given a good reason to hold back.

It's a problem that could mushroom into a crisis for Linux, because the way the software is developed lends a certain plausibility to SCO's allegations.

Any competent programmer can put forward a chunk of code for possible addition to the Linux kernel, the system's core software. Torvalds gets the

final say on which contributions will be included.

But where do these code contributions come from? Yes, they're tested for safety and effectiveness. But what about authorship? How does Torvalds determine whether a kernel contribution is original, or simply a bit of stolen code?

"It's not an easy thing to do," Torvalds admitted by e-mail. "For copyright infringement, the best protection is the fact that the code is open. Think of it like stealing a car: as a potential car thief, would you do it in full daylight with a lot of people looking on, or would you prefer to do it when nobody is watching?"

SCO is saying this is precisely what has happened: IBM stole its software in broad daylight, in effect daring SCO to do something about it.

Torvalds doesn't buy it. "Sure, it could be done," he wrote, "but what would be the point? It's not like I pay these people on a `per line written' basis." Indeed, Torvalds doesn't pay Linux kernel developers a penny. But IBM and other companies pay some of their brightest programmers to write Linux code and give it away, for inclusion in the kernel. And with good reason.

One of Unix' strengths is its ability to run on computers with more than one processor inside. Unix boxes with 32 or 64 processor chips are not uncommon. Linux, on the other hand, has been limited to eight-processor machines. IBM and others are working on kernel enhancements to let Linux match its commercial cousins.

Remember that this new, improved Linux will cost exactly the same as today's less muscular version: nothing. Well, of course, end users pay for service and support, but the raw code is free to all comers, including IBM.

If IBM helps add Unix-level performance to Linux, it can stop paying license fees to SCO and simply install Linux across its entire product line. Which is exactly what IBM plans to do. It's no scoop; the company's top executives have said so publicly.

IBM has every right to do what it's doing -- unless the features it's adding to Linux were lifted from SCO's Unix code. IBM says it's innocent; SCO says otherwise. Time, and the lawyers, will tell. But, meanwhile, every major corporate user of Linux is beginning to sweat.

Perhaps it's no coincidence that Microsoft recently agreed to buy a SCO license. In fact, critics grumble that the entire SCO-IBM fight was instigated by Microsoft to hobble Linux, but there's no evidence so far. Buying a license injects some extra cash into SCO's coffers to cover legal expenses, and it gives SCO's case against IBM an extra dose of credibility.

Regardless of who's right, this case could force some changes in the way future versions of Linux are developed. Torvalds and his colleagues must devise ways to verify the legal purity of Linux code. Otherwise, this

admirable community of innovators could be smeared as a den of thieves.

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