US court case: Renewed attack on open source software

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On March 6 this year, the US software company SCO Group filed a $1 billion civil lawsuit against IBM, claiming the latter had stolen proprietary code from the Unix operating system for use in the current version of Linux, the free open source operating system.

The case, of huge significance for the software industry as a whole, raises important issues about who owns Unix and Linux. More fundamentally though, it has again highlighted the ever-widening contradiction between so-called intellectual property (IP) rights and the development of science and technology in general, under conditions of far-reaching changes in the software production process over the last quarter century.

In a subsequent court filing on June 16, SCO Group claims to own the copyrights and licensing rights to the Unix operating system. SCO charges that IBM not only misappropriated Unix source code, but that it was moreover part of an attempt by IBM to "destroy the economic value of Unix anywhere and everywhere in the world". IBM had paid licensing fees to SCO as part of the development of its own version of Unix (AIX).

At the heart of the matter, in SCO's own words, is IBM's bid to destroy SCO's "rights to fully exploit and benefit from its ownership rights" of Unix so that SCO can "thereby seize the value of [Unix] directly for its own benefit."

In May, SCO sent a letter to around 1,500 companies internationally, warning their Linux installations might be illegal and that license fees could be payable, to the tune of $699 per server CPU. Their web site threatens any organisation not willing to pay with legal action.

In spite of these threats and allegations, SCO has yet to provide any evidence to back them up. It refuses to publicly show the alleged stolen code.

IBM has responded by categorically denying all the charges and has accused SCO with "improperly seeking to assert proprietary rights over important, widely used technology and impeding the use of that technology by the open source community."

Novell, which bought the licensing rights to an AT&T derivative of Unix and later sold them to SCO, asserted in May that SCO holds neither the patents nor the copyrights to Unix. The court hearing should begin sometime in 2004.

The issue of who, if anyone, "owns" Unix is problematical, as a glance at its historical development shows.

Unix was initially conceived and developed by AT&T's Bell Laboratories in 1969. In the following three decades, Unix experienced rapid growth and development as different organisations produced and sold their own versions. It became by far the most dominant operating system used by large enterprises. Companies such as IBM, Sun Microsystems, Hewlett Packard, SCO as well as the University of California, each played major roles in this process.

These companies, however, each laid a proprietary claim against their version of Unix, an action that was in stark contrast to the initial development of Unix and indeed computer software in general.

The Microsoft WSWS suit, article—software and the capitalist market"— made the following point:

"In the late 1960s and the 1970s it was common practice for programmers to share the products of their labour with no restrictions. At that time companies and individuals were more interested in the development of the technology as a whole than safeguarding 'trade secrets'.

"Not only academic institutions such as the Berkeley campus of the University of California and the Massachusetts Institute of Technology (MIT), but also commercial research centres such as Bell Labs and Xerox's Palo Alto Research Center (PARC) operated an open policy in which computer source code was freely exchanged between organisations....

"In these early years cooperation was of a highly informal character. There was, in fact, no real effort to delineate property rights or restrict the use of software until the early 1980s. With the rapid growth of the commercial use of computer systems, AT&T began laying claim to intellectual property rights relating to Unix, despite the fact that hundreds of programmers at other institutions had contributed to its development."

The proprietary versions of Unix continued, to one degree or another, to use parts of the underlying source code found in other versions. This occurred not only as a result of continued, if limited, collaboration, but also due to formal joint ventures, mergers and takeovers.

The very concept of intellectual property rights over Unix, or for that matter any other significant computing and scientific development is a misnomer. That one body can stake claim to what is the product of hundreds of man-years of research and development is absurd. As such, the legal question of who "owns" Unix is anything but clear. At present, Novell owns the patents to Unix, and in 1994 transferred the Unix trademark to The Open Group, a technical standards organisation. As for the actual copyrights to Unix, both SCO and Novell claim them.

Eric Raymond, a veteran Unix and Linux developer and president of the Open Source Initiative (OSI), stated in an August interview with LinuxWorld.com: "The rights picture is so tangled that *nobody's* theory of ownership would stand close scrutiny of the source code's history. The law of intellectual property doesn't handle this kind of situation well. The equitable thing to do would be to just give up, throw it open, and admit it belongs to the hackers." (Emphasis in original)

(A comprehensive technical analysis and rebuttal of SCO's allegations, including the legal question of Unix ownership, is to be found in a paper written by Eric Raymond and Rob Landley, entitled "OSI Position Paper on the SCO-vs.-IBM Complaint", available at http://www.opensource.org/sco-vs-ibm.html.)

The method by which Unix developed—as the active collaborative effort of thousands—was necessary to tackle the growing complexities of computer hardware and networking. Its initial open and collective development was one of the starting points for what is today known as open source forms of software production.

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The early development of Unix occurred amid revolutionary changes in the computing and telecommunications industries in general. Along with Unix, 1969 witnessed the birth of another milestone—ARPANET, the precursor to the Internet, at universities in the United States. During the 1970s and 80s, computing capacity was developing extremely quickly, more so than at any other time in its short history.

Hardware capacity and processing speeds were doubling every one-and-a-half to two years. The increasing complexity of computer hardware placed greater demands on the software required to run it. Software developers were compelled to rapidly rework solutions they had worked out for a set of problems in order to solve new problems arising from the fast-moving changes.

Traditional commercial methods of software development were (and still are) based on "closed source" software—software produced internally by companies where the source code is typically kept secret and/or has restrictive licenses attached to its distribution and development. Above all, the software is sold for profit.

However, difficulties in software engineering arise from this method of production. The field's ever augmenting intricacies necessitate bringing a vast amount of human experience and brainpower to bear in order to understand them, resolve problems and produce new applications. Not only can the resources of individual companies be insufficient, in terms of manpower and financial capital, but the very way in which production is organised within the capitalist market is detrimental to the development of software.

Each firm is engaged in a ferocious struggle against its rivals. No sooner are inventions and advances pioneered than they are patented and copyrighted, restricting their distribution and further advancement. So-called intellectual property rights are not the rights of developers over their own work, but, as stipulated in their contracts, belong to their employers. Many companies even forbid workers to engage in any outside employment, paid or unpaid, lest their ideas presently "owned" by the company make their way outside.

Software engineering is a large and complicated science. And like all sciences, its development remains stunted while carried out independently and secretly, all the while dominated by corporate interests. Improving existing software and making fresh advances calls for a much broader and deeper integration of cooperative work on a global basis—not small-scale, isolated working groups rushing to get the latest version out the door.

Software bugs are a case in point. It is a known fact and an accepted practice that companies release products onto the market that contain hundreds and even thousands of bugs or malfunctions, many of which seriously compromise the functioning and security of the software. The various releases of Microsoft Windows over the years are just the most notorious examples. Microsoft now releases software patches every month to deal with the security holes in its programs being exposed by new viruses.

The open source and free software movement arose as a reaction against the increasing corporate hold over software. Contained within it was recognition that open source forms of production were necessary in the attempt to resolve these major computing barriers. The source code for applications was thrown open for anybody, not only to access, but to change and distribute. This principle instantly created the basis for thousands of people all around the world to contribute to different software projects.

The concept was started by the University of California, which released its own strand of Unix (BSD) for free and open development in 1981. It incorporated code from hundreds of developers around the world. In 1982 the GNU Project, basing itself explicitly on open source, was founded. Although Linux is today the most recognised open source product, other major open source applications and languages like Apache, Perl, Mozilla and PHP all play a significant role in modern computing.

The open source programmer community is currently estimated at more than 200,000 worldwide. More than 10,000 have contributed to Linux, which is maintained by a core of around 200. Companies such as IBM are now also devoting substantial financial and human resources to its development. In 2002 they reportedly poured around $1 billion into Linux.

Under enormous economic pressure to cut costs, growing numbers of companies and government agencies are turning toward open source software as a cheaper and more reliable alternative to proprietary applications. Indeed, Linux and open source in general are now being backed by some of the biggest players in the industry. Last month Novell announced its intention to buy the German firm Suse, the world's second largest Linux distributor.

A string of major companies are lining up behind open source in the firm belief of its commercial potential. Those, like IBM, who are backing open source are not doing so out of a devotion to the free development and exchange of ideas, but because they consider them expedient products which can give them a competitive advantage over their rivals.

A sharp struggle for market share and profits is taking place. The US market for computer servers decreased 8 percent in 2002, to $43 billion. Unix-based servers were particularly hard hit, declining 11 percent to $17 billion. Cheaper Linux servers, however, increased 63 percent to $2 billion, of which IBM took the lion's share with $759 million. With regard to the actual number of server operating system licenses shipped, Linux last year held approximately 23 percent of the market, compared with 55 percent for Microsoft.

Companies like SCO (which plays a relatively minor role in the server market) and Microsoft are clearly threatened by the rise of Linux. Microsoft CEO Steve Balmer remarked earlier in the year that the general weakness in the world economy and Linux posed the greatest threats to Microsoft's profitability. In 2001 he went so far as to label Linux a "cancer that attaches itself in an intellectual property sense to everything it touches".

For its part, SCO, has launched a broader attack on the basis of open source programming, claiming in its October court filing, that the General Public License, which ensures that open source software remains freely available, violated the US Constitution. The company's CEO Darl McBride repeated the charge in an open letter last week, arguing that a section of the constitution protecting the rights of authors and investors, "inherently includes a profit motive". "We believe that the 'progress of science' is best advanced by vigorously protecting the right of authors and inventors to earn a profit from their work," he declared.

In their defence of open source programming, Raymond and Landley argue that "SCO/Caldera's complaint, in all its brazen mendacity, is the last gasp of proprietary Unix. We in the open-source community (and our allies) are more than competent to carry forward the Unix tradition we founded so many years ago. We pray that all assertions of exclusive corporate ownership over this tradition be given a swift and definitive end."

SCO's move against IBM has emerged from the latest round in the battle for market dominance in the computer industry. More fundamentally, however, as SCO's claim about the unconstitutionality of the General Public Licence shows, sections of corporate America have concluded that the entire concept of open source is an intolerable attack on their right to accumulate profit based on intellectual property.

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