

Science

Free operating system turns 10 years old

Linux develops into only clear alternative to Microsoft monopoly

It was 10 years ago this week that Linus Torvalds sent an email that marked the start of a revolution.

A 21-year old computing student at the University of Helsinki in Finland, Torvalds was discontent with DOS and other operating systems for IBM-style personal computers. So he started writing his own. Looking for ideas on how best to develop his new system—called Linux—he sent a message to a group working with an existing project called minux.

It read, in part, "Hello everybody out there using minux—I'm doing a (free) operating system (just a hobby, won't be big and professional like GNU) for 386 (486) AT clones. This has been brewing since April, and is starting to get ready. I'd like any feedback on things people like/dislike in minux, as my OS resembles it somewhat."

Since then, Linux has gone far beyond its creator's starting expectations to become the world's foremost free software operating system.

The "free" in free software means "free" as in free speech, not as in free beer. The open source movement is based on the ideology that technological information should be free, a common property of the entire human race. It is the absolute antithesis of capitalist computer enterprise. With open source software, it is legal to charge a fee for distribution, but not for the programs themselves.

There are two essential steps to writing a program and getting it to run. First, a

programmer or team of programmers write the program "source code"—a series of instructions in a programming language, such as C+ or Perl. The source code is then compiled: run through a special program to translate the program code humans can understand into machine code that computers can understand and execute.

Free software like Linux is "open source." The original source code in the original programming language is available to all. With proprietary systems, like Windows or Macintosh, the code remains the intellectual property of the creator, and only the compiled version is available for purchase.

Open source code makes Linux much more of a programmer's environment—they can rewrite, expand, improve, or adapt original programs any way they want. So Linux has attracted the efforts of countless professional and amateur programmers. Since Linux is distributed under the GNU software license, they are free to publish the source code for their work on the internet, or to email it to friends around the globe.

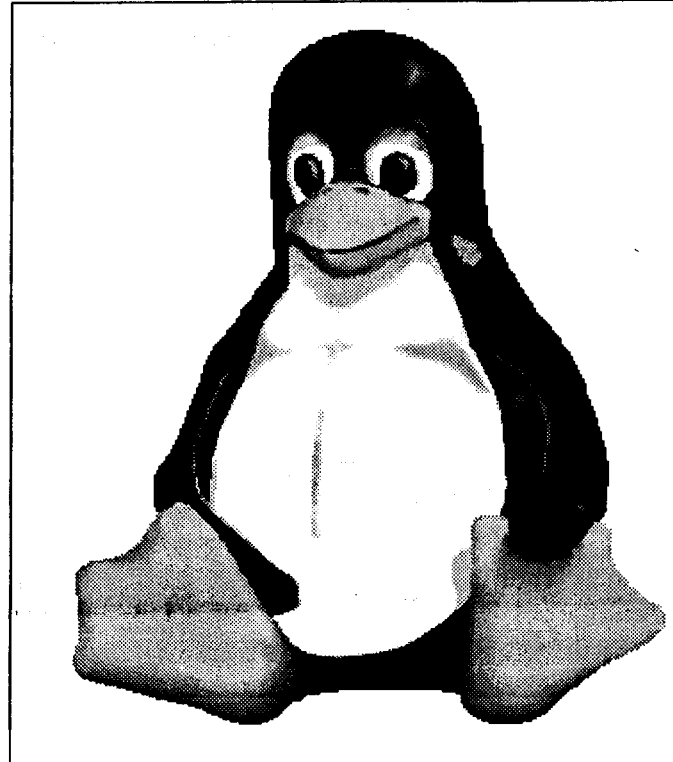
Linux is the product of a cooperative, collective effort of a worldwide community of tinkerers. Users can not only report bugs as they find them, they can fix them and publish the fixes to the rest of the Linux community. Versions of Linux that will run on older computers will always be available, so hardware that might be obsolete under Windows will be perfectly serviceable.

Microsoft, however, in its ongoing effort to accumulate profit, continually produces new versions of its Windows operating system before all the bugs in the previous ones are fixed. Microsoft then uses the leverage of its massive market share to crowbar computer-users into switching to the newest version.

They stop sales of the older one, and gradually make the newer software products incompatible with older operating systems. This is a deliberate strategy of planned obsolescence, but unlike automobiles and other consumer goods, the excuse of mechanical wear is unavailable.

So Windows is pretty much guaranteed to always be loaded with unresolved bugs. There's more money to be made by pushing people to throw out the old and buy something new than there is to be made perfecting the old and then making the improvements available to all. The result is an operating system that crashes, and crashes quite a bit.

Linux is a more stable, "robust" operating system, sometimes staying up for hundreds of days, while it is



Official penguin logo of Linux

routine to have to reboot Windows regularly.

Ironically, this has attracted corporate and business computer users to the Linux environment. They can't afford the episodic chaos of Windows system crashes, so are increasingly adopting Linux—a straight business decision, not an ideological one. It's estimated Linux is approaching 40% of the business-server market.

In a new development in the open source story, the civil administration of Mexico City decided in March 2001 to switch to Linux as the operating sys-

tem for all its computers. This is expected to save dozens of millions of dollars compared to spending on proprietary software—money that left-leaning mayor Manuel Lopez Obrador pledges will go to anti-poverty programs as part of a sweeping plan of social reform.

If this city of some 30 million people sets the example, what began as a hobby for a Finnish computer programmer may turn into a crucial tool, taking developing nations into the modern age.

Gordon Young