The History Of UNIX

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Context (Multics and Bell Labs, 1960)

During the mid-1960s, MIT, Bell Labs, and General Electric (GE) were developing Multics, a time-sharing operating system for the GE 645, a mainframe computer of the time. Multics was innovative but slow, so several Bell Labs programmers began leaving the project because of its weight and complexity. The last to leave were Ken Thompson, Dennis Ritchie, Douglas McIlroy, and Joe Ossanna, who decided to implement Multics in a simpler and faster way, in a smaller project. This led to the creation of Unics (later renamed UNIX), a single-tasking system written in Assembly.

70s: UNIX and C

In 1971, the first version of UNIX was released internally at Bell Labs for DEC's PDP-7 computers, serving as an internal research and development system. After the release of the first version, several updates were launched with bug fixes and significant changes (such as version 3, which discontinued support for the PDP-7 and now supported the PDP-11, a much more powerful computer). However, it was with version 5 that UNIX took a completely different direction: they wrote the system (partially!) using the C language, created by Dennis Ritchie in 1972 to try to replace Assembly and B. Version 5 was the first to be licensed to universities, and subsequent versions further expanded the licensing.

80s: BSD, VAX, System V and dissemination

In 1977, the University of Berkeley began modifying UNIX internally, turning it into an independent system that became BSD (Berkeley Software Distribution), whose first version was released in 1978. In 1980, 4BSD was released, adding support for TCP/IP, which was a major differentiator. In 1982, AT&T, the parent company of Bell Labs, created its own version, System III, in an attempt to commercialize UNIX more effectively and in a more structured way (it had previously tried to commercialize it with System I in 1979 and System II in 1982). Shortly after, in 1985, AT&T released System V, which remains the most widely adopted version of UNIX to this day. During this period, the original team released UNIX 8 (now called Research UNIX, due to System V), and this version added support for the VAX, a machine far more powerful than the PDPs.

80s: The fragmentation, SVR4 and X

During the 1980s, UNIX began to fragment. There was the original team, which developed Research UNIX (whose last version was UNIX v10 in 1989, but internal), there was BSD, now at version 4.2, and a bunch of other variations (like Microsoft's Xenix) and Sun Microsystems' SunOS. With all these UNIX "distros," AT&T tried to unify them into a single system: SVR4 (System V Release 4), which merged SunOS, BSD, and AT&T's UNIX. At this point, the focus shifted from Research UNIX (classic UNIX) to SVR4, and graphical interfaces became a priority. This led to the birth of X11 in 1987, a complex and extensive system for displaying graphics on the screen, as well as for many other things (such as printers).

90s: Plan 9, Linux and split

It turns out that SVR4 was the last version made by AT&T, which caused another split. After it, HP-UX (by Hewlett Packard), AIX (by IBM), Solaris (by Sun Microsystems), and UnixWare (by SCO), among others, emerged. As a result, some members of the original Research UNIX team began developing Plan 9, a derivative system that shares much of UNIX's philosophy, but now everything is treated as a file. During all this, in 1991, Linus Torvalds announced on a forum that he was developing a kernel, which didn't have a name at the time, and it became Linux. Together with GNU (GNU's Not UNIX, an implementation of UNIX tools), they formed GNU/Linux, a Unix-like operating system still in use today.

In the end...

By the late 1990s, UNIX was in decline. People were increasingly moving to Linux and other Unix-like systems because of UNIX's licensed nature. Today, UNIX survives through its philosophy: rather than having one large program that does many things, it's better to have several small programs that each do one thing well and efficiently. The BSD team was sued by AT&T for 'stealing UNIX source code' and had to rewrite and abandon parts of it. BSD lives on in projects like FreeBSD, OpenBSD, NetBSD, and DragonFlyBSD. Nowadays, the most widely used system in the world is Linux, and for home use, Android (which has a Linux-based kernel!). Additionally, modern macOS is also UNIX.