

Foreword

At some point during nearly every interview I give, as well as in question periods after talks, I get asked some variant of the same question: “Did you expect Unix to last for so long?” And of course the answer is always the same: No, we didn’t quite anticipate what has happened. Even the observation that the system, in some form, has been around for well more than half the lifetime of the commercial computing industry is now dated.

The course of developments has been turbulent and complicated. Computer technology has changed greatly since the early 1970s, most notably in universal networking, ubiquitous graphics, and readily available personal computing, but the system has somehow managed to accommodate all of these phenomena. The commercial environment, although today dominated on the desktop by Microsoft and Intel, has in some ways moved from single-supplier to multiple sources and, in recent years, to increasing reliance on public standards and on freely available source.

Fortunately, Unix, considered as a phenomenon and not just a brand, has been able to move with and even lead this wave. AT&T in the 1970s and 1980s was protective of the actual Unix source code, but encouraged standardization efforts based on the system’s interfaces and languages. For example, the SVID—the System V Interface Definition—was published by AT&T, and it became the basis for the POSIX work and its follow-ons. As it happened, Unix was able to adapt rather gracefully to a networked environment and, perhaps less elegantly, but still adequately, to a graphical one. And as it also happened, the basic Unix kernel interface and many of its characteristic user-level tools were incorporated into the technological foundations of the open-source movement.

It is important that papers and writings about the Unix system were always encouraged, even while the software of the system itself was proprietary, for example Maurice Bach’s book, *The Design of the Unix Operating System*. In fact, I would claim that

a central reason for the system's longevity has been that it has attracted remarkably talented writers to explain its beauties and mysteries. Brian Kernighan is one of these; Rich Stevens is certainly another. The first edition of this book, along with his series of books about networking, are rightfully regarded as remarkably well-crafted works of exposition, and became hugely popular.

However, the first edition of this book was published before Linux and the several open-source renditions of the Unix interface that stemmed from the Berkeley CSRG became widespread, and also at a time when many people's networking consisted of a serial modem. Steve Rago has carefully updated this book to account for the technology changes, as well as developments in various ISO and IEEE standards since its first publication. Thus his examples are fresh, and freshly tested.

It's a most worthy second edition of a classic.

Murray Hill, New Jersey
March 2005

Dennis Ritchie