As in earlier Addison-Wesley books on the UNIX-based BSD operating system, Kirk McKusick and George Neville-Neil deliver here the most comprehensive, up-to-date, and authoritative technical information on the internal structure of open source FreeBSD. Readers involved in technical and sales support can learn the capabilities and limitations of the system; applications developers can learn effectively and efficiently how to interface to the system; system administrators can learn how to maintain, tune, and configure the system; and systems programmers can learn how to extend, enhance, and interface to the system. The authors provide a concise overview of FreeBSD's design and implementation. Then, while explaining key design decisions, they detail the concepts, data structures, and algorithms used in implementing the systems facilities. As a result, readers can use this book as both a practical reference and an in-depth study of a contemporary, portable, open source operating system. This book:

- Details the many performance improvements in the virtual memory system
- Describes the new symmetric multiprocessor support
- Includes new sections on threads and their scheduling
- Introduces the new jail facility to ease the hosting of multiple domains
- Updates information on networking and interprocess communication

Already widely used for Internet services and firewalls, high-availability servers, and general timesharing systems, the lean quality of FreeBSD also suits the growing area of embedded systems. Unlike Linux, FreeBSD does not require users to publicize any changes they make to the source code.

My Personal Review:
First of all you should be warned that this is not an introduction to get started with UNIX kernel programming. The Design of the UNIX Operating System by M.J. Bach provides a good general introduction to UNIX kernel programming. The design and implementation of the FreeBSD operating system is an excellent book to deepen knowledge of the UNIX kernel by
looking how a current UNIX is implemented in practice. Even if you plan to write code for another kernel, working through the FreeBSD kernel with this book as a guide is a good exercise to become conscious of the fundamental problems and solutions in kernel design. FreeBSD (or any of the other BSDs) is a good starting point, because the BSDs have relatively stable kernel subsystems and APIs due to the long cycles in BSD development.

The writing style of the authors is to the point (don't expect a novel) and clear. The troff typesetting of the book gives it a consistent style and simple, but clear diagrams (though I heard that some diagrams were hand-drawn). The book doesn't just drop the reader in a kernel subsystem. The second chapter gives a detailed explanation of the various kernel subsystems, and the relation between the subsystems. The third chapter gives a summary of what is expected from a kernel from the user level. Combined these two chapters give the reader the necessary conception of the FreeBSD kernel to start looking at individual parts of the kernel in detail. Most remaining chapters are logically ordered, in that subsystems are ordered from parts with less dependencies to parts with more dependencies (e.g. memory management and I/O are covered before filesystems).

If you are interested in UNIX programming, you should have this book on your bookshelf (as well as a CVS checkout of the FreeBSD kernel tree to read the implementation).

For More 5 Star Customer Reviews and Lowest Price:
The Design and Implementation of the FreeBSD Operating System by George V. Neville-Neil - 5 Star Customer Reviews and Lowest Price!