TCP/IP Lean: Web Servers For Embedded Systems (Book And CD-Rom Edition)
This is a hands-on guide to TCP/IP networking that includes source codes to a simple TCP/IP stack - a lean version that is easier to present and efficient enough to use in embedded applications. Learn about, and experiment with, the simpler aspects of Internetworking, before tackling the TCP protocol itself. The book covers: key networking and multimedia technologies; codes for fully-debugged protocol software; extending professionally-written software; utilities for simulating and testing networks; and tools and utilities for future network development. This book aims to meet the challenge of implementing dynamic Web pages on small-scale embedded systems, providing full C source codes for the PC hardware platform, and a PIC microcontroller. Software provided on the accompanying CD-ROM is compatible with several popular C compilers to simplify desktop development.

**Book Information**

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**Customer Reviews**

I would highly recommend this book to anyone who needs to implement a complete embedded webserver, but has no prior knowledge of ethernet, ip, tcp, or http. There are a few good state diagram pictures, and snippits of C source to walk through every state. It goes above and beyond a raw technical RFC explanation and mentions features and techniques common in other implemenations. This book does not cover HTTP as completely as it does the lower level protocols, but it does cover it well enough to implement a small, simple embedded webserver. Combine this book with UNIX Network Programming / W. Richard Stevens. And you have an ideal combination.
TCP/IP Lean works from the bottom on up (over-the-wire transmissions) and UNIX Network Programming works from the top on down (high-level API). This book also covers SLIP, Ethernet, ARP, and other protocols. If you have to implement your own TCP/IP stack, or only want to learn the guts of what SYN, FIN, ACK, and RST mean in your packet captures, then this is a well written book. This book does not describe BSD Sockets or any APIs. It really only covers the author’s thin "API" which is really a kernel interface. That is why it’s best as a low-level book, as I mentioned before UNIX Network Programming is the book you want if you need a high-level view of TCP/IP and networking in general. Perhaps the most important feature of this book is that it tries to take you from nothing to having a TCP/IP stack in the most direct route possible. It does not try to insert all possible optimization, and infact it recommends ignoring various TCP/IP features for your first pass because they are rarely used. (For example, It mentions that without additional handling, the implementation presented can only handle 4.3Gb of data transfer per connection.

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