

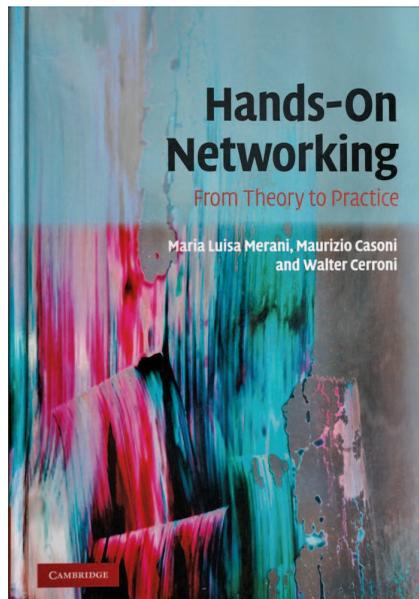
Book/Software Reviews

Real Networks

■ Alfy Riddle

In the past 30 years networks have gone from connecting universities and businesses with dedicated computer rooms to being as close as the smart phone in your pocket. Even grocery stores host Wireless-Fidelity (Wi-Fi) networks these days. Although tutorials on networking abound on the Internet it is still useful to have a book with a well-thought-out overview of networks. *Hands-On Networking* by Merani, Casoni and Cerroni is intended for students and those engineers that need to set up their own networks. This book includes exercises and uses open-source software to give students access to real network experiments.

Hands-On Networking is big on practical exposure to how networks operate and small on mathematics. The initial foundation chapter does describe Fourier transforms and discuss signals but does not contain a course in statistics even though it does discuss quality-of-service (QoS). This chapter is a fast overview of types of networks



Hands-on Networking: From Theory to Practice

by M.L. Merani, M. Casoni, and W. Cerroni

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272 pages, US\$92.00 hardback/eBook

and how everything from personal networks to wide area networks operates. Students get to use “ping” and “traceroute” to learn a bit about their own network connection. The second foundation chapter covers protocols, mainly the Internet Protocol (IP), and

more than you might want to know about addressing. The examples in this chapter clarify how the Open System Interconnection (OSI) layers work. The next two chapters cover the IEEE 802 standards for Ethernet and wireless networks and further illustrate how the OSI layers work. While the Ethernet chapter focuses on twisted pair wiring and the routing implications of twisted pair, the wireless routing chapter covers the increased complexity of wireless service and adds a few more acronyms. The wireless networks examples include a look inside frames and the security issues leading to the Wi-Fi Protected Access (WPA) development.

The remainder of the book is about how the routing of larger networks is done. The simple bridges and switches of local area networks lead into how routers translate addresses and firewalls protect networks. *Hands-On Networking* does an excellent job of describing networks with minimal mathematics, but routing algorithms is one area that gets a bit of mathematics. Finally the book concludes with a chapter on how long distances and wide area networks (WANs) are handled. The history of WANs begins with X.25 networks and the discussion focuses on

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Ambassadors' meeting, from the left: Mike Golio, Jan Machac, Bela Szendrenyi, Shmuel Auster, Daniel Pasquet, Felix Yanovski, and Wojciech Krzysztofik. (Photo courtesy of Shmuel Auster, MTT/AP Chapter chair, Israel.)

care of Austria, Bulgaria, Croatia, Czechoslovakia, Hungary and Romania. Dominique Schreurs will work for Benelux, Germany, France, Switzerland, United Kingdom and Republic of Ireland. Finally, Felix Yanovski will take care of all six Chapters in Ukraine. Then the Chapter representatives reported on major events, such as conferences, seminars, workshops and lectures organized by the Chapter in the most recent period. The representatives from Belarus, Germany, New South Wales, Poland,

Russia Tomsk, Serbia and Montenegro, Ukraine Central, and Ukraine East contributed to this discussion.

CCM was preceded by the first meeting of the Region 8 Chapter Ambassadors. This was attended by four out of the seven Ambassadors: Shmuel Auster, Wojciech Krzysztofik, Jan Machac and Felix Yanovski, together with Region 8 Coordinator Daniel Pasquet, MGA Administrator Mike Golio and MGA Cochair Bela Szendrenyi. This was more or less

brainstorming with the aim to set and to specify in detail the duties of the ambassadors, to show how they can help the Chapters and Region coordinators, and in this way help the MTT-S and, above all, Society members.

CCM was followed by a reception and dinner, which brought participants in CCM and participants in the TCC Meeting together with AdCom Members and EuMA representatives.



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the digital subscriber line (DSL) family of physical layer solutions and increasing routing performance through techniques such as multi-protocol label switching (MPLS).

If you want 250 pages to get a comprehensive overview of networks then this is your book, and it is an enjoyable read if you are a nerd. The one thing I found lacking from this

book is a collected list of acronyms at either the front of the book or as an appendix. Networking people create acronyms at almost the same pace as the military. During a recent online chat with my telephone network provider to troubleshoot my cell phone, the expert went from asking me the standard dumb questions such as "Is your telephone charged" and "Is

your telephone turned on" to "What is your IMEI (International Mobile Equipment Identity) number?" as if all these questions were at the same level of technical competence. It turned out that my service provider had inadvertently dropped me during a system update—but was still happy to keep billing me.

