Technical Book Review 2: Networking

Bill Van Loo

Eastern Michigan University

Author Note

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Text used for this review:

Networking: A Beginner's Guide, Fifth Edition

Bruce A. Hallberg

published by McGraw Hill, 2010

430 pages

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For my technical book report on networking, I chose the book "Networking: A Beginner's Guide" (Fifth Edition), by Bruce A. Hallberg. As the title implies, this book is intended for networking beginners, albeit those with a moderate level of experience in using and maintaining computers. Although I already have experience with networking, I chose this book hoping to find a text that comprehensively covered the basic topics involved in modern networking, including fundamentals of network design, case studies of networks, and suggestions for utilities and programs to make network management easier. I had hoped for this based on the summaries and the reviews, but this book only partially succeeded in meeting those expectations, as I will discuss in greater detail later in this review.

The book is organized into two major sections: networking fundamentals, and hands-on knowledge. The networking fundamentals section is broken into 14 chapters, covering topics such as network cabling, hardware, network types, and network security. The hands-on section is divided into 8 chapters, covering Windows Server, Exchange Server, Linux system administration, and virtualization. It does not have a CD or Web site for updates, so the information is limited to what is presented in the book.

Overall, the book succeeds in presenting the material in a way that would be accessible to beginners to networking who already possess computer management experience. It would not be appropriate for a person who does not already possess some experience maintaining and managing their own computer or those of others, due to the heavy use of technical terms. To the author's credit, terms are defined continually as they are introduced, but little attempt is made to use analogies or simplify technical details. The first section of book operates more as a technical

manual than a tutorial, while the hands-on section takes a tutorial approach. It is not extensively illustrated, though some illustrations are used, especially simple network diagrams indicating how computers in networks are arranged.

As mentioned above, the book presents information in two different ways, depending on the section. The first section, describing network fundamentals, operates as a technical manual. Depending on the person using the book, the level of technical detail presented might be appropriate, or could seem overwhelming. For example, the section on networking protocols presents a sub-section about subnet masks, used to describe the component parts of an IP address. This is a highly technical section that uses binary notation, and might be well past the understanding of less experienced administrators, especially if they don't have any prior networking experience to relate the information to. In my case, however, this was information I had never understood before, and the prior knowledge I had allowed me to better understand this topic thanks to the detailed information presented.

In the introduction, the author describes the purpose of the book as "both to educate and familiarize". The author's expected outcome for the first section is that readers will possess a conceptual understanding of networking technologies and principles. Upon finishing the second, hands-on section, readers are expected to understand how to set up the systems described.

I found a number of interesting and helpful things in this book, especially in the first section. One interesting item was the discussion of different cable types, especially plenum versus non-plenum cables (this refers to the fire rating of cables that run through buildings). This would be important information when specifying cabling for a building project. Another helpful item

was the aforementioned breakdown of subnet masks for IP addresses; this was an interesting look into a topic I had never considered.

The use of Virtual Private Network (VPN) technology to extend a private LAN across the public Internet was interesting, as I can see immediate applications for both home and the educational setting. For example, I could see establishing a VPN connection to a computer that is in control of a 3D printer, allowing remote monitoring of a multi-hour print from afar.

The section on network disaster recovery was fascinating. It is largely composed of a case study from an earthquake that struck Seattle in 2001, which affected city services and forced the city's Emergency Operations Center (EOC) into action. The author carefully walked through the various situations involved in maintaining network connectivity and essential systems during this crisis.

Finally, in the hands-on section, the author describes how to create virtual machines, which has become a more popular topic in recent years, as network administrators begin to use this approach for deploying and testing different configurations and applications. I have not used virtualization myself, with the exception of using Parallels to virtualize Windows inside Mac OS X, and the opportunities to explore this with Unix systems holds great potential.

For readers who have enough background knowledge, the first section will likely prove a useful set of networking knowledge. The second section ("Hands-on Knowledge") might be a good introduction for readers looking for a lightweight way to start using the specific technologies discussed. I don't think it is comprehensive enough to get users going in much depth, however. I would have preferred to see the first half of this book kept, and the second half removed in favor of more practical, hands-on exercises on using networking utilities and scenarios. For

example, nowhere does the book describe how to use common tools such as the PING command, nor does it go into detail about services such as FTP or SCP. These seem like such common tools and techniques that I was surprised not to see them. In conclusion, I believe I would recommend this book, with the reservations described above: read the first half, and feel free to ignore the second half or use it as a jumping-off point for a more comprehensive resource.

References

Hallberg, B. (2010). Networking: A Beginner's Guide, Fifth Edition. New York, NY: McGraw Hill.