Bill Van Loo

Dr. Copeland

EDMT627

February 1, 2015

<div align="center">Technical Book Report: Operating Systems</div>

For my technical book report, I chose Linux Bible, by Christopher Negus. This

book is designed for beginning users of Linux, the free, open source operating system.

Linux, in its many variations, is less prevalent than either Windows or Mac OS, and the

book is designed to reassure first-time users with its introductory material. Headings in

the first section are titled things like "Understanding the Linux Mystique", "Are You on

Your Own If You Use Linux?", and "Is Linux Only for Geeks?", so obviously the author

thought such warnings and explanations were required before approaching the actual

details of the operating system.

The first chapter gives a good overview of the different reasons why someone

would want to use Linux instead of Windows or Mac OS, and lays out some of the tech-

nical, political and philosophical underpinnings of the operating system. It was some-

what difficult for me to entirely think about how useful this would be to a user who is

brand-new to Linux, since I have been using Unix and Linux variants for 20 years. Re-

gardless, it's good that they tried to anticipate the needs of new users in laying out

these different aspects of the operating system.

Several aspects stand out when looking through the book in its entirety. There

are a number of different variations of the base Linux operating system, including Red

Hat, Debian, Ubuntu, and more. The book spends its first third talking describing topics

that are common across all the variations, such as simple command line tools, basic

administration tasks, installing Linux, and getting around the operating system. The

middle third is concerned with specifics about the different variations of Linux covered; it

devotes one chapter each in chapters 8 through 19 to a different variation. Each of

these chapters is relatively short, and includes specifics to the variation being dis-

cussed; for example, the book spends 18 pages talking about Ubuntu Linux.

Since the version of Linux I have easy access to is based on Debian GNU/Linux,

I spent some time looking through the specifics in that chapter. The Debian chapter

does not include any illustrations, but does include many code snippets and command

line examples. Overall, the book does contain a number of screenshots and illustrations,

all of which are in black-and-white, not color, and it uses command line examples and

code snippets heavily. Because of the heavy focus on command-line tools in Linux, this

seems appropriate.

I am running a version of Debian Linux called Raspbian on the Raspberry Pi

computer. This is a version of Debian optimized for the Raspberry Pi's slower processor

and limited RAM, but many of the commands and tools are the same as in standard

Debian distributions. Because of this variation, some of the 25 questions posed were

easy to find answers to, while others were either difficult or non-existent.

For example, it was easy to find out how to install the system (question 10), get

updates (question 2), partition a hard disk (question 15), and check available disk space

(question 6). The book did a good job of covering these sorts of questions basic system

administration tasks, which makes sense given Linux's common role as a system built

for running servers and back-end tasks.

Tasks that dealt with multimedia, however, tended not to have good answers. The book recommended an application called "xine" for playing back videos (question 9), which was nonexistent on my Raspberry Pi system. Likewise, the program recommended by the text for taking a screenshot, called "ksnapshot", did not exist on my system. Finally, while it mentioned the topic of sound and audio cards (question 4), the information it gave did not cover the topic of actually recording sound from a microphone.

Similarly, information that addresses common user needs like installing printers (question 20), understanding what to do in case of a system freeze (question 22) or even finding out what version of the system software is in place (question 1) is either missing or quite sparse.

I found the following five things that I didn't know how to do previously while browsing this text. First, I didn't know about the "dpkg" utility used for viewing information about a "package" (the Debian term for a piece of software). Secondly, I didn't know about the "apt-cache show" utility that allowed you to find out information about software that is in the repository of packages; this is similar to the Software Update or Windows Update software managers in Mac OS or Windows). A third trick I picked up was the use of the "ksnapshot" utility; even though it did not come installed on my system, I was able to use the Debian "apt-get" utility to install the software and add the ability to take a screenshot of my system. Fourth, I discovered the "Webmin" tool for doing system administration tasks through a Web browser. This is a tool I will have to look into more in the future. Finally, I learned how to use the Samba system to share files across a local

network in Linux. This could be extremely useful as I work to incorporate the Raspberry Pi more into my own home network.

In conclusion, I see this as being a useful book, with some caveats. First, a book that was more specifically related to Debian, or, ideally, to the Raspbian version of Debian, would have been more immediately useful. This book spends a lot of time trying to cover every variation of Linux in one text, and I'm not sure how well this approach works. While all Linux variations share many common traits, the ability to go to a text and find out specifics that are guaranteed to work for your system is really valuable. Reading about tools or software that don't exist, or settings that are incomplete or inappropriate for your system seem like a waste of time.

I could recommend the first third of this book as a way for someone who's never used Linux to get up to speed. I might look for a book that is more heavily illustrated, however, especially if they are completely new to Linux. I would also recommend a book that is specific to the version they're using. I would also supplement this with many of the excellent video tutorials that exist on YouTube and other online resources.

Bibliography

Negus, C. (2005). Linux Bible (2005 ed.). Indianapolis, IN: Wiley.