Linux – The OTHER Operating System

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Abstract

More and more people today are hearing of this thing called Linux but may or may not know what it is, what it does, or can do. What is Linux? What can I do with Linux? Is it a program I can download for free? Or do I have to pay for it? Is it easy to install? Does it work with Microsoft Windows? Can I run my existing program on Linux? Will it work with my computer? These are just some of the many questions I have heard asked over the years from people who are computer experts and beginners alike.

My goal for this session is to provide as much information about Linux as possible by demonstrating what it can and cannot do. So if you ever wanted to learn about Linux and see for yourself what it is capable of, this session is for you.

Introduction

Linux is the result of one graduate student's idea and the work of many hundreds of thousands of volunteers from the open-source community. Linux was born in 1991 when Linus Torvalds started work on a project to develop a free operating system to run on an Intel x86 family processor. Almost 12 years later, many schools and businesses use it to run web, e-mail and database servers. Some (but to a smaller degree) also use Linux for their desktop operating system rather than using one of the versions of Microsoft Windows or Mac OS. For a more detailed outline of the history of Linux and some of the achievements made so far, please visit http://ragib.hypermart.net/linux/#In%20The%20Beginning..

Linux Basics

First, what makes Linux "Linux" is a single component called the kernel. All operating systems have one and it is the core of the operating system from which all other features are added onto. Over the past decade, many "flavors" of Linux have been developed. The word flavor is used because like ice cream, the core components/ingredients are the same. What makes each one different is the setup/management utilities and software packages that are included with it. So as a person tries the different flavors of Linux, they will find they prefer one better than another, similar to a person liking chocolate ice cream more so than strawberry. Unfortunately this is a real problem for someone new to Linux and has resulted in potential Linux users not adopting it because they chose to try a flavor they did not like. For example, I like to use Slackware when building a server but use Mandrake for desktop systems. Slackware can be used as a desktop operating system just as Mandrake could be used as a server. Here my personal preference of the

software and utilities included affect my decision when I install a version of Linux for a certain use. For list of different flavors of Linux, review the links in the lower portion of Appendix A.

Where can I get it and what does it cost?

So once you have decided which flavor to try, you need to get the software. There are several ways of getting Linux:

- download it from the Internet, (no cost expect for Internet access)
- get a copy from a friend/co-worker, (cost of one of more blank CDs)
- purchase a copy a CD for about $10.00 (with shipping/handling)

There are some versions/flavors of Linux that have a much higher cost. These have been developed by a commercial company and included non open-source/non-free software. These companies use Linux kernel and build their own components to be sold as a package.

Will Linux work on my computer?

It first depends on what you want to do with Linux and what kind of processor your computer has. The first Linux system I setup (1994) had an Intel 80386 SX 16Mhz processor, 4 Mbytes of RAM, and a 120 Mbyte hard drive. There were computers with faster processors, more RAM, and bigger hard drives at that time BUT I was limited to equipment that was not being used at the time. The system was able to provide meet the needs of the computer it had replaced (an AT&T 3B2 400) and was the first web server on that campus.

The primary factor is: Will it be a desktop or a server or both? A desktop system will require more hard drive space and a fairly up-to-date video card to yield an experience equivalent to Microsoft Windows or Mac OS. Today, a computer with 128Mbytes of RAM, 2 Gbyte hard drive, and a processor that isn't more than 2-3 years old will be a good desktop system. A server with the same CPU and memory will do most tasks presented. The amount of hard drive space needed for a server depends on the use of the server. A server that will be used as a router will work fine with hard drive of less than 1 Gbyte whereas a server that will be used as a web, email or database server may need more space.

Installation:

Depending upon the flavor of Linux used, the installation can be just as easy as Windows 98. There are some flavors that have a less than friendly environment for the setup that end up as a wonderful desktop. I believe Mandrake is the easiest, more user-friendly flavor to install. I recommend it for anyone who a) is new to Linux or b) wants to build a Linux based desktop system. It is best to review the website and any web posting concerning the flavor you decide to install. A little time reading upfront can save many hours of frustration later.

What can I do with Linux?

Below is a list of things I am able to do with Linux and the associated software that comes bundled with Mandrake (and other flavors).

- Read e-mail
- Surf the web
- Create document using a word processor
- Create documents (gradebook) using a spreadsheet)
- Develop java-based applications
- Develop web pages
- Chat with friends and colleagues via an Instant messenger
- Listen to CDs and MP3s

So from the list you can see that most common uses/tasks can be accomplished with Linux. You might ask, "Does it work with Microsoft Windows?" and my answer is yes and no. You can share/exchange files between Linux and Microsoft Windows. You can also share printers. Linux is able to view the contents of hard drives and other disks configured by and for Microsoft Windows but Windows is not able to view hard drives and other disks configure for Linux.

Again, my goal of this session is to use a live demonstration of Linux to show what Linux can do (for free), what it cannot do, and answer any questions that may arise relating to it's use and capabilities.

Appendix A

Linux Web Sites

http://www.linuxquestions.org - A great web site for people new to Linux

http://www.desktoplinux.com - News articles and HOWTO articles.

http://www.thelinuxproject.com - Basic information about Linux

http://www.linuxmall.com - Good site to get purchase any flavor of Linux really cheap

Some Flavor/Distribution Specific Sites

http://www.mandrakelinux.com

http://www.slackware.com

http://www.debian.org

http://www.redhat.com

http://www.suse.com