Vol. 14 No. 8

April 2002

$2.50

MUUGlines

The Manitoba UNIX User Group's Red Hat-Free Newsletter

April 9, 2002: LTSP - Linux Terminal Server Project

The Linux Terminal Server Project (LTSP) is a set of packages that allows you to turn older Intel-based hardware into thin-client X Window stations, with support for local devices. LTSP supports most Unix or Linux based servers, and hardware for the terminals ranging from 486-level boxes with 8 megabytes of RAM on up. Scott Balneaves, who's been working with the LTSP for a while, will describe and demonstrate an LTSP setup in action.

Upcoming Meetings

May 14, 2002: BSD Installation (details TBA)

June 11, 2002: BSD Network Security and VPN (details TBA)

Meetings are held at the IBM offices at 400 Ellice Ave. (between Edmonton and Kennedy). When you arrive, you will have to sign in at the reception desk, and then wait for someone to take you (in groups) to the meeting room. Please try to arrive by about 7:15 PM, so the meeting can start promptly at 7:30 PM. Don't be late, or you may not get in.

Limited parking is available for free on the street, or in a lot across Ellice from IBM, for $1.00 for the evening. Indoor parking is also available nearby, at Portage Place, for $2.00 for the evening.

Way Out

Microsoft and Unisys have teamed up to produce www.wehavethewayout.com, part of Microsoft's renewed marketing and advertising campaign to undermine Unix.

Unisys is spending $25 million on the campaign. Microsoft is adding funding of its own but has declined to say how much.

The "We have the way out" campaign describes Unix as an expensive trap. One ad reads: "No wonder Unix makes you feel boxed in. It ties you to an inflexible system. It requires you to pay for expensive experts. It makes you struggle daily with a server environment that's more complex than ever."

The same ad depicts a scene in which a computer user has painted himself into a corner with purple paint. Sun's servers are manufactured in a shade of purple similar to that in the ad.

As of this writing, the web site is running Apache on FreeBSD.

Pay More For Blank CDs

An increase in the Canadian levy on blank CDs from 21 cents to 59 cents per CD has been proposed. This would appear to raise to cost of a 50-CD spindle from around $30 to nearly $50. The levy is intended to compensate music artists for lost royalties due to the copying of music by individuals. The levy is paid by the Manufacturers and Importers of Blank media in Canada to the CPCC (Canadian Private Copying Collective, www.cpcc.ca). The CPCC then distributes the monies collected (minus administration fees) to registered artists.

The levy also covers other blank media (at various rates), including flash memory, cassette tapes, MP3 players and DVD-R/RW. There are more details and a petition protesting the levy increase at http://www.sycorp.com/levy/index.htm.

To The Internet

by Kevin McGregor

Two years ago I was browsing the web and encountered one of those sites that suggests checking out anything you type in as a candidate for an Internet domain name. I've had the nickname 'Kevster' for some time, so I immediately tried "kevster.com". That domain name was taken, as was kevster.net, but the site took care to point out that kevster.org was not taken. Since I am the degenerate case of an organization (an organization of one person, not what you were thinking) and the cost was around $30 per year, I immediately signed up.

The registrar I used, EasyHosting.com, automatically provided 'domain parking', meaning they hosted a default 'under construction' placeholder page for my newly registered domain name. In a trivial sense, I now had a web presence! The hosting company also offered space to maintain an actual web site on their hosts, but I thought the price was too high at the time. For two years, kevster.org languished.

I had always been meaning to 'do something' with the domain, but I never seemed to get around to it. It seemed like a lot of work, and while creating a web site isn't all that hard, the process of getting my domain name pointed to the web site wasn't at all clear. In addition, putting up a web site on someone's host seemed to cost too much or provide too little flexibility and control.

Early this year, all of that started to change. MUUG member Shawn Wallbridge (shawn@synack-hosting.com) determined that for a reasonable cost, he could get some office space and lease an Internet connection from a local communications company. He would then offer to provide a portion of the space and the connection's bandwidth to anyone who wanted a permanent Internet presence in exchange for paying part of the fees.

I have a cable modem, but the IP address is provided by DHCP, meaning that the address can change from time to time. If I had my domain name pointed at that address, I would have to be careful to track any IP change and arrange to update the domain name servers that pointed to my site. The updates would be rare, but the site could be unavailable for a few days while the changed address propagated through the Internet. Also, there may be a fee associated with each change.

Taking advantage of Shawn's offer and setting up my own system at his site solved two main problems. The IP address would be stable, and I would have as much control and flexibility as I wanted. The only remaining issue was how to point the domain name at the right IP address.

DNS Options

I knew I would have to arrange for a DNS server somewhere to be configured to provide authoritative replies to requests for my domain name. A second DNS server (a 'slave') is strongly recommended, if not required, for redundancy. You can have as many as you want - the more the merrier. I found there are several sites that offer free DNS services. Granitecanyon.com, secondary.com, zoneedit.com and gratisdns.de all provide some level of free service.

That's all well and good, but who do I tell that there is a different authority for my domain? And how do I do it? When I originally signed up for the domain name, I poked around the support portion of EasyHosting's web site, but I couldn't find anything that didn't suggest simply putting my web site on their hosts. So I put it off for a while.

My original domain name registration was for a two-year period. When the renewal was approaching, my registrar e-mailed a notice. I looked at their web site again, and lo and behold, they have a very convenient web interface for managing your registration's information, including which DNS servers maintain your domain's IP address. Even better, this do-it-yourself method is free!

All of the pieces of the puzzle were falling together. A bit more work and I'm done, right? I had already designated one of my older PCs to the job of hosting my site. I made arrangements with Shawn to install the system at his co-location facility. Now to get a system ready.

The Server

I had decided to use my most basic spare PC. It was a 486DX2/66 with 20 MB of RAM, a 402 MB (or 420,000,000 byte) hard drive, a basic VGA card, and a 10 Mb/s ISA network card. Clearly, Windows 2000 with IIS 5.0 was not an option for this application! Since I had been hearing about the strengths of OpenBSD, I chose to go that route. Again, Shawn came to the rescue, and provided me with a copy of the latest version, 3.0.

I had no prior experience with OpenBSD. I have been using Linux for some years now, but I really didn't feel confident that I had enough knowledge to secure a Linux server to the degree required. After all, this system would be completely exposed to the wilds of the Internet. OpenBSD seemed to be the best route, given their boast "no remote exploits in four years", and the motto "secure by default".

It turns out installation is quite straightforward, with far fewer options than most Linux distributions. I did a trial installation, and the most challenging part was determining a good partitioning scheme. I was hoping the 402 MB hard drive would be sufficient for a small site. Finding the total installation was 107 MB (plus swap space) was a pleasant surprise!

May's MUUG presentation will cover the details of a complete OpenBSD install, so I will only mention a few things about my installation. The only package I installed, aside from the four package groups that form the BSD base, was one called "misc" - I didn't install the games or anything related to the X Window System. I felt 40 MB of swap was sufficient for a system with 20 MB of RAM. After looking at a sample partitioning scheme I started with:

/	40 MB
swap	40 MB
/tmp	25 MB
/var	40 MB
/usr	257 MB
/home	10 MB

That's when I learned that the total space used by the install was 107 MB (plus swap) of the 402 MB (via 'df'), and that my web stuff would probably go in /var/www. I left it that way anyway, since this was sort of a first draft. SSH and the Apache web server were installed by default, as was sendmail. I wanted to set up remote access for e-mail, so my first thought was to use IMP, but then Gilbert Detillieux pointed out that Squirrel Mail provided similar functionality but was much simpler to install.

I also learned that IMP required PHP (the 'Personal Home Pages' scripting language) version 4.1, but I could only locate PHP 4.0.6 binaries for OpenBSD. IMP needs version 4.1, which is the first version to have IMAP support built in. This is one of the drawbacks to OpenBSD - the versions of the software ports are not always as current as the various Linux distributions. At any rate, Squirrel Mail has its own IMAP routines, and 4.0.6 works just fine.

So far I have installed OpenBSD, enabled SSH and Apache, and installed PHP4, Squirrel Mail, and of course the NTP client. Hey - if you're connected to the Internet, you have no excuse for not having the right time on your system! I ran some tests, and while it worked, it was somewhat slower than I preferred, to put it mildly. I decided to upgrade and run the server on my second-slowest 'spare' PC, a 486DX4/120, with 32 MB of RAM, and since I was going to do a complete reinstall anyway, a 1.2 GB hard drive.

This time I ended up with a little more space for '/var':

/	40 MB
swap	64 MB
/tmp	50 MB
/usr	250 MB
/home	100 MB

and the remaining 700 MB for /var. Now, I had intended to put some additional RAM in to bring the total up to 64 MB, but there seemed to be something wrong with the motherboard - only two of the four SIMM sockets seemed to work. Any time I put something into the other two sockets, the system would crash during or shortly after booting.

I was going to stick with the 486, but after reflecting, I took the hard drive out and put it in a Pentium 90, and brought it up to 64 MB RAM. At this point, after all these changes, I didn't want to reinstall everything to increase the swap space, so I just left it. As it is, the system currently has 36 MB of RAM free and isn't using any swap space.

And DNS Again

Now, at last, the final piece: DNS. The first thing I did was go back to the secondary.com site and register. I could then set up some slave DNS servers, but they needed a primary DNS server from which to transfer the zone files. I had planned to install BIND 9.1 on my new server for that purpose, so I went ahead and entered its address as the primary. Then I returned to the EasyHosting site to enter ns1.secondary.com and ns2.secondary.com as the primary and secondary DNS servers for my domain.

As a side note, the servers you specify here can both be secondary (or 'slave') DNS servers. Primary and secondary servers look the same from that perspective. This is what's called an 'unpublished primary', where the actual primary DNS server is not listed anywhere in the DNS registry.

Oops - the secondaries went into effect immediately (no 'enable' button), and the status came up as 'running, but unable to transfer zone files'.

Then came a few hours devoted to running out to Copperfield's book store to pick up O'Reilly's DNS and BIND book, fourth edition (which now covers BIND 9), reading parts of it to refresh my memory, and setting up the configuration. Oh, and installing BIND itself, from an OpenBSD ports package. Finally, I forced the secondaries to reload the zone files (again from the secondary.com site), and tried it out.

Presto! There was the Apache placeholder web page, accessed through my very own domain name. It was live!

Executive Summary

Here's what I did, short form:

- Register a domain name with EasyHosting.com
- Install a server on the Internet with SSH, Apache, NTP, PHP, Squirrel Mail and BIND
- Register at secondary.com and point them at my server
- Change the DNS authority for my domain at EasyHosting to the secondary.com servers

Four easy steps! I hope you've learned something from my experience. I certainly have. As for hardware, I'd say the original 486/66 would have been fine for a site with only static content, but I'd recommend starting with at least a Pentium with 64 MB of RAM for one with dynamic content (i.e. server-based scripting/CGI). After this month's presentation, maybe I can use my 486s as X-terminals...

Migration To FreeBSD

OS News (www.osnews.com) has an article giving an overview of how to migrate from Linux to FreeBSD.

'By now, anyone who is even remotely related to an IT-type position has heard about Linux, and has most likely used it, if only to see what all the hype is about. However, GNU/Linux is not the only "free" Unix type OS available. FreeBSD (www.freebsd.org) and its cousins, NetBSD (www.netbsd.org) and OpenBSD (www.openbsd.org) are all offshoots of BSD UNIX, a commercial UNIX also known as Berkeley Software Distribution. This article will help you learn more about FreeBSD, its differences from Linux, and it will ease a potential migration process.'

Read the full article at http://www.osnews.com/story.php?news_id=580.

Building A Bootable CD Firewall

Over at BSD Today (www.bsdtoday.com) is a new How-To article. Etienne de Bruin details his approach to setting up a FreeBSD-based firewall.

'This document covers the basic steps I took in building a bootable CD containing a live FreeBSD filesystem with a couple of security features enabled and configured. With this CD, it is possible to transform a PC from a mediocre workstation into a VPN Gateway or firewall or both without touching the hard drive. Why would you want to do this? Read on.'

Get the whole story at http://www.bsdtoday.com/2002/March/Features646.html.

Join Our (E-)Mailing Lists

Nearly every MUUG meeting includes a "round table", an open question–and–answer period in which every attendee can ask about something they would like help with or information about. In addition, there is a corresponding MUUG-managed mailing list where more questions can be asked and follow-ups posted. It seems that not everyone has been made aware of the existence of the latter.

Some of you have already signed up at http://www.muug.mb.ca/mailman/listinfo/roundtable. The more people there are on the list, the more valuable it becomes. Even if you don't currently have questions or answers, sign up today and join in when you see an opening!

While you're there, sign up at an additional cost of nothing to the MUUG-Announce list, which is used to notify list-members of upcoming meetings, other events and last-minute changes. Traffic on this list is low, so don't worry about your Inbox filling up on account of this one!

Sending Us E-Mail?

Due to the amount of e-mail MUUG receives, we've set up an auto-reply to give you immediate feedback, and redirect some of the e-mail to the appropriate places. Why not look at http://www.muug.mb.ca/about.html#contacts first?

We Like To Hear From You

So e-mail us with your comments on the newsletter, whether it's criticisms or commendations, and continue to send in some ideas for articles. We will happily accept complete articles, too. If you have a How-To or other idea, and aren't ready to give a presentation at MUUG, an article is a great alternative! If you can write better than the editor, that's terrific; if you can't, submit it anyway and we'll get it into shape for publication. We know that many of you have some great ideas and lots of knowledge. Why not share? Mailto: editor@muug.mb.ca.