Vol. 13 No. 5 January 2001
$2.50

MUUGlines
The Manitoba UNIX User Group Newsletter

January 9, 2001: Network Load Tuning on a UNIX Server

You've just set up a publicly accessible FTP and/or Web server on a UNIX box, and now have a hot commodity that people on the 'Net will want to access. How do you keep the load from killing your poor little server? Are you ready for the "Slashdot Effect" (or the "Red Hat Effect" in our case)?

This month, Gilbert Detillieux will take you through some of the load and usage monitoring utilities that are available for UNIX, such as MRTG, and The Webalizer, as well as some of the parameters that can be used in various server programs to limit access and throughput. The focus will be on settable parameters in WU-FTPD, including a couple useful patches, to fix the throughput feature, and to implement a host-limit feature. Time permitting, we will also include a quick look at Apache, rsync, and the Linux kernel traffic shaper utility, shapecfg, and Class-Based Queuing (CBQ).

Please note our meeting location: IBM Canada's offices in the TD Centre, at the corner of Portage and Main. We gather in the lobby on the main floor – please try to be there by about 7:15 PM. Steve Moffat will then take us up to the meeting room just before the meeting starts at 7:30. Don't be late, or you may not get in.

Parking is available either in the parkade behind the TD building, off Albert Street, or in the ground level lot just north of the TD building. Entrance to the lot is from Albert Street, behind the parkade. Either way, parking is a $1.25 flat rate for the evening. You purchase your ticket from a dispenser, so make sure you've got exact change – a loonie and a quarter, or 5 quarters.

The Year In Review

While we're not going to spend a lot of column inches reviewing the same things everyone else has, we can't resist making a few comments.

UNIX carries on: Despite all the 'hype' and excitement surrounding Linux, the major UNIX vendors – IBM, HP and Sun for example – continue to do a lot of business with their versions of UNIX. Why? We surmise that their businesses are built primarily on (a) the hardware they sell, which can't have its incremental distribution cost reduced to practically zero like software can and (b) services, ditto. It's their people adding value to their hardware that is making them money, not 'software'. This would explain IBM's plans to pour US$1 billion into Linux in the next year.

UNIX carries on, pt. II: Despite Microsoft's best efforts and a NASDAQ dive, the value of implementing UNIX systems hasn't changed, so companies continue to do it.

It's not just hype: Linux, OpenBSD, NetBSD, FreeBSD, etc. all provide significant value for those that understand how to implement it well. The lesson that has been learned over the past few years: It doesn't make sense to try to compete with Microsoft by its rules. So, change the rules; Microsoft can't compete with 'free' when the software they are selling a license to use is only (maybe) a little better than free software. I can't imagine Microsoft converting to Red Hat's business model. Sales would plummet!

There are plenty of year-in-review stories. To start, see the Linux Weekly News 2000 Timeline at http://lwn.net/2000/features/Timeline/ for Linux-related news, or see http://www.daemonnews.org/ for BSD-related commentary.

And version 2.4 of the Linux kernel in 2000? Here's the final word from Linus:

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Date: Sun, 31 Dec 2000 12:24:44 (PST)
From: torvalds@transmeta.com
To: Kernel Mailing List linux-
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kernel@vger.kernel.org
Subject: Happy new year^H^H^H^Hkernel...

Ok. I didn't make 2.4.0 in 2000. Tough. I
tried, but we had some last-minute stuff
that needed fixing (ie the dirty page lists
etc), and the best I can do is make a
prerelease.

There's a 2.4.0-prerelease out there, and
this is basically it. I want people to test
it for a while, and I want to give other
architectures the chance to catch up with
some of the changes, but read my lips: no
more recounts. There is no "prerelease1",
to become "prerelease2" and so on.

One thing other architectures will want to
catch up with is the changes to handle
2GHz+ machines, which due to overflow is-
sues caused "loops_per_sec" to become
"loops_per_jiffy". And some architectures
have not had much chance to synchronize
with me due to other fires to put out.

Give it your worst. After you recover from
being hung-over, of course.

Linus
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AbiWord 0.7.12

AbiWord 0.7.12, the cross-platform open-source word processor being developed by AbiSource, is out. AbiSource Dom Lachowicz spokesman says, "It gives me great joy to announce that our latest and greatest release, 0.7.12, has been released upon the masses. This release represents a huge step forward for the AbiWord team. The new features, Gnome-integration, and bugfixes are too numerous to list here. If you've held off on using AbiWord because you felt that it was 'too unstable' or not well integrated with Gnome, this release might be right for you."

LizardTech Provides Open Source Access to DjVu

LizardTech, who has taken over development of the document-imaging software DjVu, has now developed the DjVu Reference Library v.3.0, making available both encoding and decoding capabilities under the terms of GNU General Public License. DjVu is the scan-to-Web technology that converts documents into the smallest file sizes possible resulting in downloads up to 150 times faster than PDF. The results are crisp, clear documents that retain all the visual quality of the original. With DjVu, legacy documents, catalogs and books – any paper-based item – can be converted into files that can be instantly transmitted and viewed via a standard Web browser. For additional information, visit: http://lizardtech.com/products/djvu/referencelibrary/DjVuRefLib_3.0.html

Jabber Integrated Into PocketLinux

Jabber.com, Inc., a subsidiary of Webb Interactive Services, Inc. announced that Transvirtual Technologies, Inc. has completed their integration of Jabber into the Transvirtual PocketLinux® Platform. Transvirtual demonstrated Jabber integration at Comdex in November 2000. As part of the demonstration, Jabber provided the XML messaging infrastructure for Wireless Instant Messaging using the PocketLinux Platform.

PocketLinux® is a single, open source application development environment for all mobile computing devices that provides an end-to-end solution for building unified, standardized and open information communications infrastructure across the entire spectrum of computer systems. PocketLinux runs on a variety of PDAs, Cellular Phones and SetTopBoxes. "Jabber is much more than just a simple instant messaging system and companies such as Transvirtual are leading the charge in terms of demonstrating how Jabber can provide devices of all kinds with a robust XML messaging infrastructure.

"The integration of Jabber into Transvirtual's PocketLinux platform is further testimony to the growing momentum behind the Jabber open source movement, and is expected to drive increased demand for Jabber.com's commercial servers, clients and professional services and support," said Andre Durand, founder of Jabber.com, Inc. "Jabber provides PocketLinux with a robust and scalable XML transport solution. We are very excited to be leveraging this technology and feel that it has tremendous promise," said Paul Fisher, founder of the GNU Classpath Project and senior developer at Transvirtual.

Nautilus To Be Distributed By Sun

Eazel Inc., the developer of software and services to make computers easier to use, announced that Sun Microsystems will distribute Eazel's Nautilus software on the upcoming GNOME 2.0 desktop user environment for the Solaris™ operating environment. The combination of GNOME and Nautilus will provide Linux and Solaris users with the same, easy-to-use user environment across both platforms. In addition, Eazel and Sun will work together to improve the accessibility, internationalization and documentation of Nautilus. A sneak preview of Nautilus can be downloaded on Linux systems at http://www.eazel.com/download.

The relationship between Sun and Eazel will accelerate the adoption of the Eazel Network User Environment (NUE), a new class of user environment that takes full advantage of the Internet. Unlike previous environments that were designed for standalone desktops and applications, the NUE makes local and remote content, community, commerce, and Internet services a fundamental part of the user experience. Additionally, the NUE promises to create a new standard for ease of use by freeing users from complex and tedious system administration tasks such as system back-ups and software upgrades.

As part of their effort to promote the growth and adoption of a better computing environment Sun and Eazel will:

- Ensure that the GNOME desktop is accessible to people with disabilities.
- Drive internationalization and localization of the GNOME desktop environment. This initiative will accelerate the adoption of the NUE worldwide.
- Create documentation that supports the GNOME environment.

Eazel has also selected StarOffice™ software, Sun's powerful, full-featured, multi-platform office productivity suite, to be the default document viewer for StarOffice and Microsoft Office files in Nautilus. In support of this effort, Sun will develop StarOffice components that can be integrated into the Nautilus software environment.

Sun will also sponsor a section of the Eazel Web site and include Eazel in its sales and marketing training programs. "The Eazel NUE is being designed to meet the needs of the next generation of computing by placing the Internet at the heart of the user experience," said Mike Boich, chief executive officer of Eazel. "Sun's commitment to Eazel and the open source community will clearly drive the development and widespread adoption of the Network User Environment and help us deliver on our mission to make computers easy and more enjoyable to use."

Opera 4.0b4 for Linux

Opera 4.0 beta 4 for Linux is available on Intel x86 platform. PPC is soon to come. Opera for Linux has been tested on RedHat Linux 6.2, Debian Potato 2.2, Slackware 7, NetBSD 1.5_BETA/i386, and Linux Mandrake 7.1. There are now also ports to other platforms working nearly as well as the RedHat Linux 6.2 version is.

Qt 2.2.2 has been used to make this version of Opera for Linux. Note: You don't need to install Qt on your system if you download an Opera package with Qt statically linked. These packages are about twice the size of the packages with Qt dynamically linked. There should be no other dependencies for Opera other than to have an X11R6.3+ implementation (and, as already mentioned, Qt 2.2.2 if you download a package with Opera dynamically linked to Qt) installed on the system.

Here's what Opera for Linux does so far:

- Renders HTML 3.2 and 4.0 Pages
- Executes most EcmaScript 1.1 (Ecma-262 v.3) programs
- Renders CSS 1 and 2 extensions
- Browses FTP Sites
- Handles cookies
- Supports HTTP 1.0 and 1.1
- Displays GIF, PNG and JPEG
- Hot list, bookmarks and bookmark bar
- Imports Netscape, Konqueror and IE bookmarks/favorites
- Support for XML
- Support for WML (WAP)
- Proxy server support
- Communication through SSL and TLS
- HTTP Authorization

- Asynchronous DNS with threading
- Support for browsing local files
- File transfer
- File upload support
- Restore window settings
- Customizable toolbar icons
- Keyboard link navigation

Here's what Opera for Linux doesn't do yet:

- Plug-ins, Java, printing, and some preferences don't work

Some known bugs:

- Inline frames (iframe) don't always look good
- Zooming with frames doesn't work well
- Fixed elements / background scrolling is somewhat slow and ugly
- File transfer problems

Note that this is a timed (30-day) beta. And that the current Windows version is 5.01. Oh, and Opera is now available in four Celtic languages! See http://www.opera.com/ for details and downloads.

Linux Clusters in Science

Linux NetworX, Inc., a provider of large-scale clustered computer solutions for biotechnology, Internet, industry and research fields, announced that Lawrence Berkeley National Laboratory, Berkeley Calif., has selected a Linux NetworX cluster computer system for its Drosophila Genome Project.

Using the Linux NetworX cluster system with 40 processors, Berkeley Lab is analyzing and sequencing the Drosophila (fruit fly) genome, the resulting genome data from these studies can be used for applications in human genome research, such as research into diseases and aging. The Drosophila's 15,000 genes are similar to a human's 100,000 genes and have been used extensively in the past as a model organism for research studies. The massive amount of data computation inherent in genome research requires large supercomputers or cluster systems.

"The Linux NetworX cluster is much more cost efficient than the systems we've used in the past," said Erwin Frise, systems manager and biomedical scientist, Lawrence Berkeley National Laboratory. "Comparing the price/performance of the cluster to supercomputers and other options available on the market made Linux NetworX the obvious choice for our research."

Frise also explains that because clusters are highly scalable, Berkeley Lab will be able to add additional compute modules to the system to keep it up to date, something not feasible with a supercomputer. The ability to add additional compute modules as demands increase also provides long-term cost savings because the Linux NetworX cluster architecture takes advantage of many standard hardware components.

Next Month's Issue: Practical Single-Floppy Linux

Why would anyone use a single-floppy Linux distribution in a production environment? Kevin McGregor explores a very realistic scenario for implementing such a distribution, covering reliability, disaster recovery and more. (What's that sound? Is that the hard drive?)

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. We will try to personally respond to your e-mail promptly, but please note that our group has a very small board of directors, consisting of a few very overworked volunteers. Please make sure you have used the right address, and are requesting information that is not found on our web site (www.muug.mb.ca).

For a full list and description of the addresses, see http://www.muug.mb.ca/pub/muuglines/pdf/muug0004.pdf.

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