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MUUGlines

The Manitoba UNIX User Group Newsletter

September 11, 2001: Linux At The Movies

Final Fantasy, Shrek, Pearl Harbor, Titanic, Lord of the Rings, and The Matrix. What do all these movies have in common? Linux. Linux was used in some way during the production of each movie. Some were rendered completely on Linux, some used Linux for specialized tasks. This presentation will cover what software is available for the budding filmmaker running Linux. And we will answer the question: "Can you make a movie entirely under Linux?"

Shawn Wallbridge is the Systems Administrator at Frantic Films (www.franticfilms.com), one of Canada's leading Visual Effects studios. Shawn has covered network security topics under Linux at previous MUUG meetings, and returns for the September meeting with what should be a visually interesting presentation. So, we'll see you... At The Movies!

There are also some door prizes to give away: we have a copy of the current Linux Journal issue plus the latest Ximian Gnome distribution, which includes no less than four CDs!

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.

Linux is 10

In the blast-from-the-past category comes this message:

From: torvalds@klaava.Helsinki.FI (Linus Benedict Torvalds)
Newsgroups: comp.os.minix
Subject: What would you like to see most in minix?
Date: 25 Aug 91 20:57:08 GMT

Hello everybody out there using minix -

I'm doing a (free) operating system (just a hobby, won't be big and professional like gnu) for 386(486) AT clones. This has been brewing since april, and is starting to get ready. I'd like any feedback on things people like/dislike in minix, as my OS resembles it somewhat (same physical layout of the file-system (due to practical reasons) among other things).

I've currently ported bash(1.08) and gcc(1.40), and things seem to work. This implies that I'll get something practical within a few months, and I'd like to know what features most people would want. Any suggestions are welcome, but I won't promise I'll implement them :-)

Linus (torvalds@kruuna.helsinki.fi)

PS. Yes - it's free of any minix code, and it has a multi-threaded fs. It is NOT protable (uses 386 task switching etc), and it probably never will support anything other than AT-harddisks, as that's all I have :-(.

* * *

Yes, that's right, the Linux operating system turns 10 years old this year, right about this time of year. I'm not one to get all sappy about this kind of thing, but I still felt that this milestone deserved mention. If nothing else, marvel at the success of an idea that went from nothing to millions of lines of code and users in ten years just by making the most of the Internet. In other news:

Red Hat Linux 7.2 Soon?

Bill Nottingham at Red Hat posted this note early in August:

It has come to our attention that rumors are floating regarding the appearance of a Red Hat Linux beta release, named ROSWELL. We would like to reassure you that there is nothing of the sort.

No other object has been misidentified as a Red Hat Linux beta release more often than Rawhide. Rawhide was updated just recently. Reporters probably thought they saw something on an FTP site other than Rawhide, but we assure you, it was Rawhide.

Reports cite that this supposed ROSWELL beta included 4 CDs of software, with such things as a 2.4.6 Linux kernel, XFree86 4.1.0, KDE 2.2pre, GNOME 1.4, and journaling file system support, and included support for both x86 and ia64.

Were any such Red Hat Linux beta release to exist, it would not be recommended for use on mission-critical hardware, and any casualties due to data loss, mutation, swamp gas, radiation, or strange glowing lights with such a release would be scoffed at. Any problems or bugs with such a release would most likely be the effect of passing weather balloons.

* * *

A second "sighting" has occurred with (we're told) many changes from the first. We may see an official 7.2 by our October meeting (but I'm not holding my breath).

Good news: Journaling

Michael K. Johnson of Red Hat recently posted (at http://linuxtoday.com/news_story.php3?ltsn=2001-08-22-004-20-NW-RH) the reasons for Red Hat's support for ext3 as their first journaling file system.

Chief among these is the fact that an ext2 file system can be upgraded *in place* to ext3, and the ext3 file system can even still be mounted as ext2 if necessary. He writes:

ext3 is forwards and backwards compatible with ext2, allowing users to keep existing file systems while very simply adding journaling capability. Any user who wishes to un-journal a file system can do so easily. (Not that we expect many to do so...) Furthermore, an ext3 file system can be mounted as ext2 without even removing the journal, as long as a recent version of e2fsprogs (such as the one shipped in this release) is installed.

There is also the issue of ease of integration. As Michael puts it:

ext3 does not require extensive core kernel changes and requires no new system calls, thus presenting Linus no challenges to integrating ext3 into his official Linux kernel releases; ext3 is already integrated into Alan Cox's -ac kernels, slated for migration to Linus's official kernel soon.

While there are other journaling file systems available, ext3 will likely be broadly used before most others. SGI's XFS (http://oss.sgi.com/projects/xfs/) and IBM's JFS (http://oss.software.ibm.com/developerworks/opensource/jfs/) are currently available only as source patches to the kernel. ReiserFS (http://www.namesys.com/) is readily available to those who purchase SuSE Linux, but while kernel maintainer Linus Torvalds has said it will be integrated soon, it hasn't officially happened yet.

Groupware on Linux

In late August, the City of Largo announced deployment of an "All-Linux" groupware solution for the west Florida community. The City chose Bynari's Insight solution (www.bynari.net) for messaging and collaboration, to replace their existing system running Novell's GroupWise product. This announcement follows the July disclosure by Dave Richards, Systems Administrator for the City that they had gone live with the KDE Linux desktop.

The Insight solution enables Largo's city government to run messaging and collaboration on a Linux-based thin client network in a Windows-free environment. The move saves taxpayers millions of dollars in hardware, software, support, and upgrade costs. According to Adelstein, "Largo has become a model network environment for governments. In the future, we'll view this as a major milestone in information technology."

"When Largo says they have saved the local taxpayers millions, they aren't being cavalier or flip in any way," says Tom Adelstein. "They did an exhaustive search for solutions, sent out Requests for Proposals (RFPs), demanded extensive documentation, ran proofs of concept, and negotiated our contract aggressively. They put my team through an exhaustive sales cycle and specified an extensive set of features."

"We went with Insight for three reasons," says Mr. Schumaker. "One, it works on Linux. Two, it offered all the features we were looking for. Finally it offered us a significant cost savings."

Although many publications herald the potential of the Linux desktop, they often cite the lack of a Microsoft Outlook solution for its failure to enter the enterprise space. Bynari's Insight Groupware removes that barrier with a world-class solution that can match any offering, including Redmond's. The Insight Groupware provides seamless interoperability between Outlook and Linux users.

"The day will come when political candidates will face budgetary questions about using Windows instead of Linux," Adelstein observed. "Largo provides the proof needed to create such a political agenda. When you project their open source solutions to other municipal, state, and Federal agencies throughout the United States, the potential savings run into hundreds of billions of dollars."

While Bynari's solutions have been adopted by IBM's eServers, they are equally at home on the highly scaled Intel system built by the City of Largo. "It doesn't matter what platform a customer runs, Linux saves money regardless of the type of enterprise. In Bynari's opinion," Adelstein adds, "in these economic times, Bynari provides the cost effective solutions that clients are looking for."

Have Good Time

By Kevin McGregor

While integrating Samba into a Windows NT domain recently, I was beset by a problem. No, not what you're thinking. Rather, the NT workstations kept insisting that there was a slow network connection between them and the server they were logging into.

I spent a lot of time optimizing various aspects of the system and wracking my brains over why nothing would make those messages go away. In the end, it boiled down to this: Commonly, Windows NT user profiles are stored on the same server that the user logs on to. As it happens, Windows NT checks the progress of the profile transfer, and if the delay is determined to be too large, up pops the annoying message.

Rather than actually time anything, it seems the programmers at Microsoft decided to somehow involve the difference in timestamps of the local copy of the profile and the one on the server. Alas, if the two computers' clocks were different by more than the delay guideline buried in the code or registry, the message appeared regardless of how fast the transfer really was.

Thus was born my quest to synchronise time on all of the computers I was allowed to. Rather than bore you with all the details of my search, I'll boil this down to the essentials. You need the NTP program for Unix/Linux/*BSD (included in most distributions or from the NTP site at http://www.eecis.udel.edu/~ntp/), and the NTPTime client (for Windows NT, from http://home.att.net/~Tom.Horsley/ntptime.html). The server is currently version 4.1.0 as of August 1st.

I won't go into detail about installing NTP. If you are installing from source, you don't need my help. Otherwise, it's easy enough to include in the installation process of a distribution of BSD or Linux, or later via one of the package installers for .deb or .rpm files or the like. After installation, you'll typically find you have a file called /etc/ntp.conf and a directory /etc/ntp, where a file called "driftfile" will be kept.

Assuming the simplest case of one time server synchronized to itself for all of your clients, a sample ntp.conf might consist of:

```
server 127.127.1.0 # local clock
fudge 127.127.1.0 stratum 10
driftfile /etc/ntp/driftfile
authentication no
```

That's it! Make sure you set the server's clock accurately to begin with, and set up your server to automatically start on boot, then start it up. Note: the current version is called “ntpd” but certain previous versions are called “xntpd”.

For anything more complex than this, there is a great deal of documentation on the very large number of options to this program. For example, it supports a hierarchy of time servers in different “stratums” or tiers, and each level can have several parents to poll for time updates. Depending on how you configure yours, it will evaluate the parents according to a sophisticated formula to determine which ones are the most reliable on an ongoing basis and use those, discarding the rest. It can also cooperate with peers in the same stratum to provide redundancy.

The NTPClient program for Windows NT is much simpler. Download and decompress the program; copy the files ntptime.exe and ntptime.cpl to C:\WINNT\system32, and run “ntptime --install” at a command prompt. You can then use the NTP control panel to change the various settings (I set my workstations to synchronize every hour or two). You can use the Services control panel to start the NTPTime service or reboot, in which case it will start automatically.

Much more can be said on this topic. Later on, we plan to cover this in more detail in a regular meeting presentation. In the meantime, you now have no excuse for having to set your computer’s clock again!

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