# MUUGLines

## The Manitoba UNIX User Group Newsletter

## Next Meeting: March 8th, 2011

### Topic: Distributed Operating Systems

Most people have heard about Cloud Computing; developers may have heard about MPI systems. What about an operating system that was distributed? Robert Keizer takes a look at different distributed operating systems and their uses, with details pertaining to Linux single-system-images such as OpenMosix, Kerrighed, and OpenSSI.

The door-prize this month also includes two 4U fileservers with triple redundant power supplies.

## Where to find the Meeting
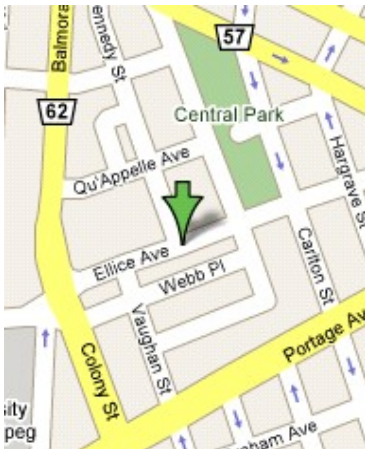
Meetings are held at the IBM offices at 400 Ellice Ave. (between Edmonton and Kennedy Streets). When you arrive, you will have to sign in at the reception desk. Please try to arrive by about 7:15pm, so the meeting can start promptly at 7:30pm.

Limited parking is available for free on the street, either on Ellice Ave. or on some of the intersecting streets. Indoor parking is also available nearby, at Portage Place, for $5.00 for the evening. Bicycle parking is available in a bike rack under video surveillance located behind the building on Webb Place.

## Upcoming Meetings

### April 12th 2011

Details to follow.

### May 10th 2011

Details to follow.

## Debian 6 released

Released February 6th, codenamed "*squeeze*" this version of Debian has mixed reviews online. Notable changes include the dropping of the Alpha and HP/PA architectures while adding support for x86 and x86_64 FreeBSD kernels. Also added was support for the SheevaPlug ARM architecture, along with other Kirkwood Series CPU's.

With over 29,000 packages in the repositories, *squeeze* also takes the prize for the highest number of packages available. Package updates include Apache 2.2.16, OpenSSH 5.5p1, and the glibc to 2.11.2.

## Ksplice Utilities

Ksplice has made some noise in the last year or so, first debuting a "rebootless" Linux kernel for popular distributions in 2009. Ksplice Uptrack provides a subscription based service for enterprise grade systems.

Most people are not aware that Ksplice is open source and available for download from **ksplice.com/software**. Although the company Ksplice encourages users to utilize the subscription

service rather than the utilities, it is possible to implement custom patches to a running system.

## Python 3.2 Released

February 20th marked the 3.2 release of the python programming language.

"Python 3.2 is a continuation of the efforts to improve and stabilize the Python 3.x line. Since the final release of Python 2.7, the 2.x line will only receive bugfixes, and new features are developed for 3.x only."

**http://python.org/download/releases/3.2/**

## FreeBSD 8.2 Release

"*The FreeBSD Release Engineering Team is pleased to announce the availability of FreeBSD 8.2-RELEASE. This is the third release from the 8-STABLE branch which improves on the functionality of FreeBSD 8.1 and introduces some new features.*"

New features include Xen HVM support in FreeBSD/adm64, ZFS on-disk format updated to version 15, BIND and OpenSSL updates, as well as many smaller improvements and bugfixes.

## MTS + Actiontec DSL

Recent months have seen a growing number of MTS users being switched over from SpeedStream modems to Actiontec ones. These newer modems support DSL 2/2+, enabling speeds of up to 24Mbps, whereas the ageing SpeedStream models have a maximum speed of 8Mbps.

The new GT724WG and GT701D modems also include a built-in router with DHCP and NAT, which has been known to cause problems in some situations. There have been some complaints that MTS technicians have ignored existing network topology which results in network spiting. Although rare, it can cause odd problems. Beware.

Based on the Texas Instrument AR7, the GT724WG can run Linux. The device contains 16MB of RAM, and 4MB of flash, along with a wireless interface. Jtag and serial connectivity is possible. This model is functional, but the wireless is not supported. The GT701D has similar specifications, and can run Kamikaze 10.03.

**http://mwne.ws/eYOYgf**

## NodeJS v0.4.1 Released

Gaining popularity quickly, NodeJS is an event driven server side JavaScript engine.

"*Node's goal is to provide an easy way to build scalable network programs. [...] Node tells the operating system ( through epoll, kqueue, /dev/poll, or select) that it should be notified when a new connection is made, and then it goes to sleep. If someone new connects, then it executes the callback. Each connection is only a small heap allocation.*"

NodeJS incorporates a flexible module system, which has allowed developers to write extensions which include GZIP, MySQL, LibPCAP, and many more.

NodeJS allows programmers to write ECMA-262 compliant Javascript, and have the power of server side scripting. NodeJS is a modification and extension of Google's V8 engine. The same one that powers Google Chrome.

**http://nodejs.org**

## Fedora device naming scheme

Fedora made news a couple of times in the last month. Mainly for announcing FC15 will move away from the traditional *ethX* device naming scheme in favour of "*Consistent Network Device Naming*". In this scheme on-board network interfaces are assigned *emX* , while PCI based network interfaces are *pci<slot>#<port>*.

A Fedora contributor with high level clearance to internal infrastructure was also hacked. The attacker did not make changes to Fedora packages or

certificates. A SSH key was found to have been changed.

## Managing disk images

### Overview

In the last month there was some discussion regarding how to best manage disk images. Older solutions are sometimes preferred, such as *Norton Ghost* or just plain **dd**.

*Clonezilla + DRBL* provide a complete open source solution. *Clonezilla* allows for bare metal backups. By netbooting or using a live CD, *clonezilla* makes it trivially easy to backup a full hard drive, and clone it to other machines.

There are packages available for most popular Linux-based distributions, although some require alternative repositories to be used.

*Clonezilla* and *DRBL* install into */opt/drbl/* by default. This is equivalent to a *./configure –prefix* line in the standard compilation process. Most of the configuration, in fact all that is needed to use Clonezilla can be done through scripts in *sbin/* .

### Configuration

Depending on what use you are putting *Clonezilla* to, the configuration will vary. For a network deploy of some kind the script "*/opt/drbl/sbin/drblpush -i*" needs to be run. This sets up the appropriate dhcpd.conf, tftp + pxe files, and specifies interfaces.

Even lacking networking, *clonezilla* can be very useful in backing up and restoring images and devices. This is especially true when used in concert with a livecd and an external USB hard drive.

### Running

Starting all services required for *DRBL* is done with the script "*/opt/drbl/sbin/drbl-all-service*". This script is similar to an init.d script, allowing for starting, stoping, and restarting of all services related to the *DRBL* setup.

At this point in a network configuration you will need to netboot the other machines.

Starting *clonezilla* on it's own can be done by simply running "*/opt/drbl/sbin/clonezilla*". The menu system is intuitive and usable. Options for *image-device* setups include saving a hard disk as an image, and restoring an image onto a hard disk. While *device-device* is handy for simple duplication and backup purposes.

### Conclusion

*Clonezilla + DRBL* provide an easy way to image multiple machines at once over the network. Supporting multicast as well as unicast can keep things running at a decent speed.

Default features such as partition detection, and the fact that only used blocks are transferred helps transfer overhead.

**http://clonezilla.org/**

## SkullSpace Overview

For the hardware inclined, a brief introduction may be beneficial.

"*SkullSpace is a whisper of a hackerspace in Winnipeg. SkullSpace is a place for hackers, builders, programmers, artists and anybody interested in how stuff works to gather in a common place and help focus their knowledge and creativity.*"

As a segway into the next headline SkullSpace has a dedicated room at Winnipeg Code Camp.

**http://skullspace.ca/**

## Winnipeg Code Camp

The 4th annual Winnipeg Code Camp was held at Red River College Princess St. campus on Saturday February 26th. Planned events included "*C# Ninjitsu*", "*WP7 – Dev Foundation*", "*Web Dev for Mobile Devices*", and "*Intro to Nmap Security Scanner*" along with many more.

The camp ran from 8am to 5pm, with breakfast and lunch provided. Registration was free. Here's hoping it will be back again next year!

## Intel & Apple Introduce "Thunderbolt"

Apple recently announced its new line of *MacBook Pro* laptops, which include a new high-speed (10 Gb/s) communication technology called "*Thunderbolt*," developed by Intel, under the code name "*Light Peak*."

According to Intel's site, the technology features the following:

· Dual-channel 10 Gbps per port
· Bi-directional
· Dual-protocol (PCI Express* and DisplayPort*)
· Compatible with existing DisplayPort devices
· Daisy-chained devices
· Electrical or optical cables
· Low latency with highly accurate time synchronization
· Uses native protocol software drivers
· Power over cable for bus-powered devices

Apple's implementation of Thunderbolt on the MacBook Pro "provides 10 watts of power to peripherals," and allows you to "use existing USB and FireWire peripherals – even connect to Gigabit Ethernet and Fibre Channel networks – using simple adapters." In addition, "any Mini DisplayPort display plugs right into the Thunderbolt port. To connect a DisplayPort, DVI, HDMI, or VGA display, just use an existing adapter."

**http://www.apple.com/thunderbolt/**

**http://www.intel.com/technology/io/thunderbolt/**

## Microsoft Bans GPLv3 Software from WP7 Marketplace

In a move that probably suprised nobody, Microsoft excludes GPLv3 and similar licenses in the Application Provider Agreement for its Windows Phone 7 Marketplace. This was reported in Jan Wildeboer's blog, and echoed on Osnews.

**http://www.osnews.com/story/24433/**

According to the Microsoft's APA terms, "Excluded Licenses include, but are not limited to the GPLv3 Licenses. For the purpose of this definition, "GPLv3 Licenses" means the GNU General Public License version 3, the GNU Affero General Public License version 3, the GNU Lesser General Public License version 3, and any equivalents to the foregoing." Pretty clear language for a legal document, you have to admit!

Apple similarly bans GPLv3 software from its App Store, though their language is perhaps not as clear.

## MUUG Online

The internal mechanisms to allow newsletter delivery via e-mail, to members wishing it, are still being worked on. There is however an archive of past issues on the web site. There's also now a blog that has meeting summaries posted, along with audio captures of past meetings available as a podcast.

**https://muug.mb.ca/blog/meetings/**