MUUGLines

The Manitoba UNIX User Group Newsletter

Volume 30 No. 7, March 2018 Editor: Katherine Scrupa

Next Meeting: March 13th, 2018

PostgreSQL: Who, What, Where, When, Why

Adam Thompson will talk about the PostgreSQL open-source relational database: who should use it, what's it all about, where do you find it, a little bit of its history, and the rationale behind its current existence. PostgreSQL is the leading OSS RDBMS for non-trivial applications, scales to enterprise and beyond (petascale), and has features that let it compete directly with Oracle. In fact, there's a commercial edition that you can buy specifically to replace Oracle!

RTFM: ulimit/limit

Gilbert Detillieux will be discussing hard and soft user limits for files, memory, and processes.

The latest meeting details are always at:
https://muug.ca/meetings/

Help us promote this month's meeting, by putting this poster up on your workplace bulletin board or other suitable public message board:

https://muug.ca/meetings/MUUGmeeting.pdf

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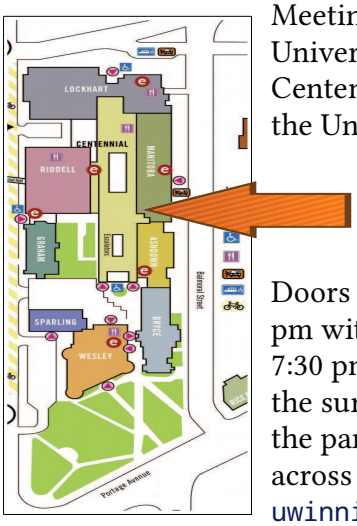
Where to Find the Meeting

University of Winnipeg, Room 1C16A



Meetings are held in the University of Winnipeg's Centennial Hall, in the middle of the University Complex.

We can be found in room 1C16A.

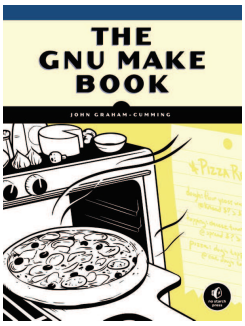
Doors are usually open by 7:00 pm with the meeting starting at 7:30 pm. Parking is available on the surrounding streets and in the parkade above the bus depot across Balmoral Street. See uwinnipeg.ca/maps for further information about parking and access to the campus.

Step Right Up, Get Yer Door Prizes!

Along with our usual e-book give away this month, we will be giving away a physical book, in all its dead-tree glory, like this one from last month:

The GNU Make Book

Publisher: No Starch Press Release Date: 2015 256 pages



"The GNU Make Book demystifies GNU make and shows you how to use its best features. You'll find a fast, thorough rundown of the basics of variables, rules, targets, and makefiles. Learn how to fix common problems, and gain insight into more advanced capabilities. With this utterly pragmatic manual and cookbook, you'll make rapid progress toward becoming a more effective user."

EFF Founder John Barlow Passes Away

John Perry Barlow, Grateful Dead lyricist and digital rights activist, has recently passed away.

Barlow started the EFF in 1990 to ensure a non-profit organization would advocate for freedom of speech and liberties.

He believed in Net Neutrality and the internet should be a place where people can speak openly, without fear or coercion.

He let people bootleg concerts of the Grateful Dead, recognizing more people would be exposed to their work and become fans.

He believed in the need for secure communication methods.

John's work is a major reason why we have free access and new entertainment models that we use today.

Some of John's writing is at this link:

`https://www.eff.org/john-perry-barlow`

`https://www.vpnmentor.com/blog/5-lessons-john-barlow-taught-world/`

LibreOffice 6.0 New Features

The new release of LibreOffice has several new features, including:

- the ability to save as .epub for ebook readers
- support for QuarkExpress v3 and v4 files
- OOXML support has been improved
- Many parts of the UI have been re-organized and re-designed to look cleaner and be more user friendly
- menu has a quick dropdown button to easily add special characters
- embedded images can be saved from the document with their original specifications or their edited ones
- integrated ability to use OpenPGP keys to sign ODF documents
- many Noto family fonts included, mostly because of their large Unicode support
- mail merge can use cells in a table of the LibreOffice document itself
- easier to make interactive forms
- images can now be rotated to any angle (not just 90, 180, 270)
- new selection options for protected and unprotected cells
- ability to find and replace text based on byte position
- new presentation template, default aspect ration 16:9

`https://wiki.documentfoundation.org/Release-Notes/6.0`

Fox Hunting with a Raspberry Pi

Conservation officers in Germany needed help checking on live traps for foxes and martens in remote areas where they were trying to conserve endangered birds. Enter a Raspberry Pi to the rescue. Being Conservation officers, there was also a need to ensure the solution was very robust and failed well – no one wants a dead fox in a live trap.

The Pi was outfitted with a UMTS stick so the device could make use of the 3G network for communication (which is a previous article from Linux Magazine).

A RTC (clock) had to be included to ensure the Pi can timestamp the log messages correctly.

A PIC16F690 microcontroller uses a ball switch or magnetic contact to monitor the state of the trap. The PIC internal analog-to-digital converter monitors the state of the battery. The controller then signals the Pi when to send a text message over the stick.

After a successful transmission, the PIC remains inactive until a supervisor explicitly resets it.

The PIC controller was selected because of its low power usage (1-1.5µA). The PIC is also instructed to go to sleep when it can. As a result, the system can operate about half a year on a battery.

More details at the link:

http://www.linux-magazine.com/Issues/2018/207/Rasp-Pi-Fox-Trap?utm_source=LMI+preview&utm_campaign=Issue+207+%2F+February+2018_2018-01-09&utm_medium=email

Meltdown Fix Mitigation Added in OpenBSD

Philip Guenther and Mike Larkin implemented a mitigation that separates the page tables for kernel and userland. This fixes the Meltdown problems that affect most CPUs from Intel.

The diff was fully tested on February 22, and as of February 27 a syspatch is available. The patch has been backported to 6.1 and 6.2 releases.

http://undeadly.org/cgi?action=article;sid=20180221201856

Upcoming Release Dates

March 13 – Tails 3.6

April 26 – Ubuntu 18.04

May 5 – Fedora 28

Teaching a XFS Dog New Tricks

At linux.conf.au, Dave Chinner discussed ideas for a new type of subvolume that removes the requirement that filesystems must use block devices; with his changes, they can now use files directly. It acts the same as the subvolumes CoW filesystems have, but the kernel could be changed so that it can directly mount image files, rather than via the loopback device. A device space-management API could be added. If a filesystem implements both sides of that API, image files of the same filesystem type can be used as subvolumes. The API can be used to get the mapping information, which will allow the subvolume to do its I/O directly to the host filesystem's block device.

He is also brainstorming additional changes to caching and offsets (page vs buffer), changes to the way shared files on disk don't get shared in page cache (maybe containers would help?), among others.

XFS could offer "encrypted, snapshottable, cloned subvolumes with these mechanisms". There is still a lot of work to do to get there, but it has potential.

https://lwn.net/Articles/747633/

Fedora Package Download Security

An article on "Attacks against GPG signed APT repositories" prompted Patrick Uiterwijkl, to share his insight about Fedora packaging and how the distribution works to ensure its users get valid updates. Patrick is a member of the Fedora Infrastructure Team. Packages are signed, but repository metadata is not (yet), but there are other mechanisms in place to keep users from getting outdated updates (or to not get important security updates).

> *"However, when a significant security issue is announced and we have repositories that include fixes for this issue, we have an 'Emergency' button. When we press that button, we tell our servers to immediately regard every older repomd.xml checksum as outdated. This means that when we press this button, every mirror that does not have the very latest repository data will be regarded as outdated, so that our users get the security patches as soon as possible. This does mean that for a period of time only the master mirrors are trusted until other mirrors sync their data, but we prefer this solution over delaying getting important fixes out to our users and making them vulnerable to attackers in the meantime."*

https://blog.packagecloud.io/eng/2018/02/21/attacks-against-secure-apt-repositories

https://patrick.uiterwijk.org/blog/2018/2/23/fedora-package-delivery-security

Two Can Play That Game

On January 29th, Mobile Syrup reported a group of more than 25 organizations (including Bell, Rogers, Quebecor and the CBC) formed a coalition to urge the CRTC to create an anti-piracy website blocking system.

Named "FairPlay Canada", the site is asking the CRTC to create an independent agency called the Independent Piracy Review Agency (IPRA) to identify and shut down sites that are "blatantly engaged" in content theft and that both the CRTC and the IPRA would be subject to oversight by the Federal Court of Appeal. The FairPlay coalition claims this is needed to "the jobs of hundreds of thousands of Canadians who work in the creative sector".

University of Ottawa law professor Michael Geist stated:

> *the lack of court review prior to issuing a block order is "enormously problematic and raises serious due process concerns."*

and also:

> *"there's a real threat that this will gradually expand into demands for blocking of a wide range of other content, which raises obvious Charter of Rights and Freedoms concerns."*

The current law only permits blocking in "exceptional circumstances" and Geist doesn't believe this initiative meets that standard.

Brenda McPhail, director of privacy, technology and surveillance project at Canadian Civil Liberties Association a solution already exists: going to court. "The problem is that it's time consuming and, though they don't say it, it's expensive to go through the courts. But the benefit of that is we're sure it's being given due consideration by individuals who are qualified to apply the law and who have no personal interest in the outcome."

On Feb 25th, Mobile Syrup reported that Bell Media has been encouraging its own employees to submit pro-FairPlay commentary to the CRTC. A copy of the letter is in the link below.

OpenMedia has expressed its objection to the coalition's agenda by registering unfair-play.ca , where they ask Canadians to actively tweet and demand the coaltion partners withdraw from FairPlay. UnfairPlay has also posted a tool to write to the CRTC with suggested language and talking points.

The CRTC has extended the commenting deadline to March 29th, 2018.

https://mobilesyrup.com/2018/01/29/bell-rogers-and-more-come-together-to-urge-crtc-for-anti-piracy-website-blocking-system/

https://mobilesyrup.com/2018/02/21/company-email-shows-bell-is-encouraging-employees-to-file-pro-fairplay-submissions-to-the-crtc/

https://mobilesyrup.com/2018/02/28/openmedia-launches-day-action-protest-fairplay-canada-anti-piracy-coalition/