# MUUGLines

The Manitoba UNIX User Group Newsletter

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## Next Meeting: February 11th, 2020

**Feature Presentation:**
**Performance Tuning the MUUG Server**

Adam Thompson will talk about the recent Debian updates to the MUUG server that triggered a wave of unexpected upgrades and performance tweaks. Special attention will be paid to the ZFS filesystem and Apache-to-Nginx conversion. Other collaborators will be introduced and their roles in this work described.

**Daemon-Dash: Bare Minimum Samba**

Kevin McGregor will show you how to setup Samba file sharing in 5 minutes: for when you need files shared in a hurry and don't care about much else.

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

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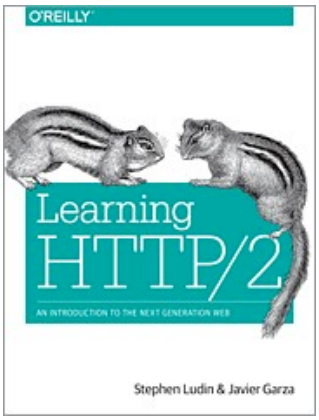
## Door Prizes




Come on down for your chance to win a fairly new admin book from 2017: Learning HTTP/2 by Ludin and Garza on O'Reilly. It'll inform you as to why HTTP/2 (h2) was created, what problems it solves, when to use it, how to use it, and how it works. Even better, you'll learn how to optimize your site and pages to make use of all the new features; and how to "unoptimize" your HTTP/1.1 kludges.

If you admin a web server, you need to read this book. It's only 156 pages. No, Gracy, it's not as simple as just turning it on and hoping for the best. Well, not if you you want the best out of h2!

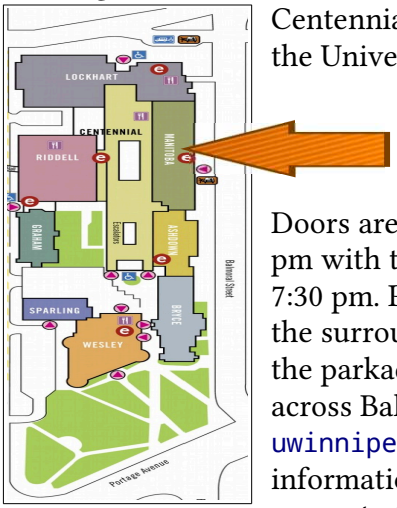
We'll also have our usual assortment of e-books, as well as the occasional odd miscellanea.

Remember, door prize entry is free to all who show up, but only those who stay until the draw can win. Members get an extra initial members-only draw. Good luck to all!

## Where to Find the Meeting

**University of Winnipeg, Room 1M28**

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




We can be found in room 1M28.

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.

## MUUG Mirror Server Improving

The muug.ca mirror server continues to receive buckets of TLC and is functioning much better. If

you had disabled it as your mirror, it's probably safe to re-enable it. A 1TB NVMe ZFS cache has massively increased its ability to handle the load. Some issues remain and your MUUG board continues to work on them diligently.

https://muug.ca/mona6.html

## Linux Kernel 5.5 Arrives

Kleptomaniac Octopus, 5.5's codename, brings us more RAID options to btrfs, direct iomap to ext4, and the ability to use SMB as a root filesystem. Kernel internals geeks will like the main branch debut of the KUnit testing framework.

NFS users may appreciate the new cross-device offloaded copy feature. It allows a copy command issued on a client between two different NFS servers to occur without the data ever travelling through the client.

In a "huh, say what?" moment, 5.5 also adds support for "alternative names for network interfaces". This author thought that all disappeared when best practices said to let the kernel name your interfaces like "enp5s0". However, this feature appears to allow you to assign aliases to interfaces so you can refer to a single interface by multiple different names. That would be handy: think enp5s0⟶internal, enp6s0⟶external.

## Wine 5.0 Released

You can now run your Windows programs on Linux (and macOS) even better! The new version adds multi-monitor support, a reimplementation of XAudio2, and Vulkan 1.1 support. 7,400 bugs were fixed, and improvements to graphics and audio will enhance performance.

The new version also hopes the switch in the format of builtin modules from ELF to PE will make it harder for programs to detect that they are being run under Wine. Some programs (especially games) would fail their copy-protection or anti-cheat tests under the old format.

https://www.winehq.org/news/2020012101

## Thunderbird Changes Owners

In a move that won't affect you in any way whatsoever, Mozilla has spun off Thunderbird into a wholly-owned subsidiary called MZLA Technologies Corporation. There has been talk for a few years regarding the future of Thunderbird at Mozilla and this seems to be the final, and best, result.

Thunderbird managed to avoid being completely kicked out of the Mozilla umbrella because of donations from everyday Thunderbird users. That's a reminder to all open-source users that if their favourite projects face tough times, yet allow donations, it can behoove them to contribute.

https://blog.thunderbird.net/2020/01/thunderbirds-new-home/

## OpenBSD Has Another Oops

OpenBSD, the "we (almost) never have security holes!" outfit had yet another horrific exploit revealed January 28. This one affects its OpenSMTPD, which, ironically, was created because they thought other MTAs weren't secure enough.

OpenSMTPD in the default configuration (double oops!) will allow execution of arbitrary shell code as root. That includes via remote vectors if one used the default external mail configuration example simply by uncommenting it.

The flaw is in its email address cleaning code and is triggered if one passes it an email address with an invalid local part and an empty domain part. In that case the unfiltered local part will be passed to the shell when OpenSMTPD runs the MDA command for that email. As root.

Looks like they also failed at their additional goal of "privilege separation". Needless to say, update your OpenBSD immediately. (Or your Linux if you installed OpenSMTPD on it.)

Funny, that, as it appears, in comparison, that sendmail has had one (1) security CVE in over ten (10) years, and none in the last five. New programs equals new bugs and new holes.

https://lwn.net/Articles/810882/

https://www.cvedetails.com/vulnerability-list/vendor_id-31/Sendmail.html

## FSF Demands Free Windows 7

No, not *NIX-related, but anything the FSF gets really excited about is bound to be interesting. This time FSF has started a petition (with over 10,000 signatures so far) to "demand" Microsoft release Windows 7 source code to give users "the freedom to run, copy, distribute, study, change and improve the software". (And continue to allow those dragging their feet on Windows 10 to receive security updates for free.)

This author's take: good luck with that!

On a related note, Ubuntu is trying to cash in (uh, free in?) on Windows 7's death by releasing a guide geared to Windows users exhorting them to switch to Linux. Hey, Wine supports dual-monitors now: so why not?

https://www.linuxinsider.com/story/Petitioners-Demand-Microsoft-Release-a-Free-Windows-7-86480.html

https://ubuntu.com/blog/how-to-upgrade-from-windows-7-to-ubuntu-hardware-and-software-considerations

## LibreOffice 6.4 Is Here

This release of the ubiquitous office suite gives us performance improvements in spreadsheets and presentations. You also get a builtin QR code generator and unified hyperlink context menus. In addition, Microsoft Office compatibility has been incrementally improved.

https://9to5linux.com/libreoffice-6-4-officially-released-heres-whats-new

## Remember OLPC?

The One Laptop Per Child project is still chugging along. They recently released OLPC OS 13.2.11 which runs on the XO-1, 1.5, 1.75 and 4 computers. It is based on Fedora 18 and Sugar 0.112. It's of note as a reminder of this worthy project and its unique and innovative hardware.

## NVMe For Older Boxen

Your very own MUUG's recent mirror server experience has proven that NVMe drives can be added easily to many/most old computers that support PCI Express (PCIe). Yes, that includes motherboards that lack a modern M.2 slot.

NVMe drives are like SSD drives in that they use flash memory to store data and have no moving parts. Unlike SSD's, which use traditional hard drive protocols, such as SATA, NVMe drives speak directly on the PCIe bus and thus can be orders of magnitude faster. Not only do you gain on throughput: you also benefit from massively lower latency.

*Figure 1: (c) Dmitry Nosachev under CC-SA license*

NVMe drives have become extremely affordable and cost not much more than traditional SSD drives in the same size range. The affordable ones are in the up and coming M.2 format. However, not all M.2 format drives are NVMe! Many are SATA-based. So make sure you buy the correct type for your application.

How do you get an M.2 NVMe to work on your 3 to 10 year old motherboard? Buy a cheap ($20-ish) adapter that converts your PCIe slot (usually x4) to M.2. The adapter does little else than convert the physical traces to the appropriate form factor.

There is one huge caveat: older systems will not be able to boot from your NVMe, as their BIOS/EFI has no idea what that weird device is. So you'll have to retain a normal SATA drive as your boot device. Under Linux that could mean as little as using a cheap $40 SSD just for a boot partition and a MBR (or EFI boot partition). You could put every other partition on the NVMe.

Even some early M.2-NVMe motherboards will fail to boot from NVMe as they were still hammering out the bugs. Newer systems will not have these problems and you can easily and happily run a box with nothing but an NVMe drive for storage. Speed!

## Linux Game Review: Trophy

Want a simple, short, addictive little car racing game to pass the time? Trophy fits the bill. It's a 2D, overhead-view single-player racing game readily available in the repos for most distros. You can start racing immediately, and each race takes only a couple of minutes. It has a built-in campaign mode as each race nets you money you can spend on car upgrades. Get to the top of the standings and you win!

Not only do you race, but you get front-firing machine guns, with limited but refillable ammo. You also get drop-behind time-delayed bombs, as well as a nitro boost. So you can win by either out-racing, or out-blasting the computer-controlled cars. A save game option allows you to save your progress between sessions.

The game play is addictive, and has enough complexity to keep adults interested, yet is simple enough for kids to pick up. The handling characteristics of your car change minutely with each upgrade. Starting at the beginning with the VW beetle car is quite a ride with almost no acceleration, top-speed or grip.

The only complaint is that your keyboard and screen resolution configuration changes are neither saved by default nor in your save games, so you must reconfigure them every time you run the game. The developers say this will be fixed one day.

Easter egg: if you look carefully, you'll see the name of one of your MUUG board in the credits.

## USB4 Is Coming

Just when you were getting used to USB3, the future Linux Kernel version 5.6 adds support for USB4. USB4 is heavily based on Thunderbolt 3, and that aided Linux implementation by leveraging the existing Linux Thunderbolt code.

USB4 increases speed to up to 40Gbps, with optional 10 and 20Gbps modes. It supports simultaneous data and display use, two-lane operation on existing type-C cables, and is still backwards compatible all the way back to USB 2.0.

Intel is to thank for most of this after providing Thunderbolt 3 royalty-free to the USB Promoter Group. Products incorporating USB4 are expected to hit shelves later this year.

https://www.phoronix.com/scan.php?page=news_item&px=USB4-Hits-Linux-5.6

**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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