



MUUGLines

The Manitoba UNIX User Group Newsletter

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Editor: Kevin McGregor

Next Meeting: June 11th, 2019

Presentation: PDF::Reuse - Reuse and mass produce PDF documents

Brad Vokey will demonstrate a Perl module that specializes in mass producing efficient multi page PDF documents by reusing an original PDF file as a template. This module was the perfect tool to help him create many multi page PDF result forms for his Matchomatics business (with many over 1000 pages each) quickly and easily while at the same time keeping file sizes small and efficient

RTFM: (TBA)

Where to Find the Meeting

University of Winnipeg, Room 1M28

Meetings are held in the University of Winnipeg's Manitoba Hall, on the east side of the University Complex.

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

Agenda

19:30 Announcements

19:40 Round table (General discussions and Q&A)

20:00 RTFM (Overview of a UNIX command)

20:15 Break

20:30 Main Presentation

21:45 Meeting ends

The latest meeting details are always at:

<https://www.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>

Videos, Part I

The openSUSE Conference is the annual openSUSE community event that brings people from around the world together to meet and collaborate. The organized talks, workshops, and BoF sessions

provide a framework around more casual meet ups and hack sessions.

For those of you who couldn't make it, videos of many/most of the talks are now up on YouTube at https://www.youtube.com/playlist?list=PL_AMhvchzBaeJiFMaZ3WsH7wt5ZXchUQ0

The topics range from IoT to Kubernetes, so there is something for almost everyone. There are 40 videos available currently.

Videos, Part II

BSDCan, a BSD conference held in Ottawa, has established itself as *the* technical conference for people working on and with 4.4BSD based operating systems and related projects. The organizers have found a fantastic formula that appeals to a wide range of people from extreme novices to advanced developers.

This year's conference took place from May 15-18. The agenda includes two days of tutorials followed by two days of conference presentations.

While this year's videos are not yet up, past years' are! Check out the BSDCan YouTube channel at https://www.youtube.com/channel/UCuQhwHMJ0yK2z1fyRr1XZ_Q

ZFS on Linux 0.8.0

Released a few days ago, the ZoL (ZFS on Linux) project continues to mature. Some of the latest new features are native encryption, pool checkpoints, pool TRIM (although you won't want this enabled with Linux kernel 5.1, apparently), the Pyzfs API and Python 3 compatibility.

See the details on GitHub at <https://github.com/zfsonlinux/zfs/releases/tag/zfs-0.8.0>

Ubuntu Robots on ISS

NASA has deployed three free-flying "Astrobee" robots on the ISS for house-keeping tasks. The bots run Ubuntu/ROS and Android 7.1 on Snapdragon-based Inforce modules and a Wandboard and feature 3x payload bays, 6x cameras, and a touchscreen.

We haven't heard a news from the IBM Watson

connected CIMON social robot since it debuted with a truly strange video last December in which CIMON accused International Space Station astronaut Alexander Gerst of being "mean." However, NASA has now deployed and tested three somewhat similar "Astrobee" robots on the ISS for assisting the astronauts rather than chatting them up.

Developed at NASA Ames Research Center, the Astrobee bots are named Honey, Queen and Bumble. They currently lack the AI skills, voice response, and facial recognition capabilities of CIMON, which was developed by the German space agency DLR along with Airbus and several European universities. However, they are similarly free-flying and driven by Ubuntu and offer autonomous or remote-controlled navigation.

Fstrim Leads to Data Loss

On Linux 5.1 (tested up to 5.1.3), fstrim may discard too many blocks, leading to data loss.

This issue has been identified and kernel patch bisection has located the commit which caused it. At this point, use a LTS kernel or just turn off your computer until a fix is available.

Anyone with SSD (or ArchLinux as VM/VServer) with TRIM/discard support through dm-crypt/LUKS or device-mapper/LVM is at risk if running Linux 5.1 kernel. Other possible workarounds: disable/mask fstrim.service/timer. delete/rename/chmod-x fstrim binary. remove discard mount flags from fstab. For luks, disable allow-discards, check with dmsetup table that it's gone. rebuild initcpio. All of these do have some risk if you're using the buggy kernel.

AMD Mocks Intel

AMD has only barely avoided directly insulting Intel by pointing out that their processors are not affected by the ZombieLoad flaw and related MDS vulnerabilities.

"At AMD we develop our products and services with security in mind. Based on our analysis and discussions with the researchers, we believe our products are not susceptible to 'Fallout', 'RIDL' or 'ZombieLoad Attack' because of the hardware protection checks in our architecture," an AMD spokesperson told the INQUIRER.

“We have not been able to demonstrate these exploits on AMD products and are unaware of others having done so.”

There’s arguably space for a ‘but’ in that statement, such as, ‘but others might end up finding exploits in time’. However, for the time being, AMD’s chips look safe from the new quadruplet of speculative vulnerability exploits.

To protect Intel CPUs from the MDS exploits, performance-sapping patches need to be applied and in some situations, it’s been recommended that Intel’s Hyper-Threading tech gets switched off until comprehensive fixes are pushed out.

Linux kernel with Windows

Microsoft has announced Windows Subsystem for Linux 2. The first version of this was quite popular, but slow. It did allow a fairly easy way to run Linux software and userlands from Canonical (Ubuntu) and others could be downloaded from the Microsoft store.

However, Microsoft found that some of its own staff were using Mac to develop software. Microsoft never demanded that its own cloud developers use Windows... so they didn’t.

Rather than ban Macs, they decided to make changes so that their developers would choose to switch from Macs to Windows.

WSL2 will be available through the Windows Insider beta-testing program by the end of June, and a wider release after that. This will be a full Linux kernel, and the full source will be available. It will be included standard in future versions of Windows.

Windows Terminal

Maybe this should be titled “Videos, Part III”. Microsoft is launching a new command line app for Windows, dubbed Windows Terminal. It’s designed to be the central location for access to environments like PowerShell, Cmd, and the Windows Subsystem for Linux (WSL). Microsoft is adding multiple tab support alongside theming and customization for developers who want to tweak the Terminal app.

For a slick video of the new app, check it out on YouTube at <https://youtu.be/8gw0rXPMPE>

Windows Terminal will also support emoji and GPU-based text rendering. This text rendering is DirectX-based, and it will display text characters, glyphs, and symbols that are available on your PC including CJK ideograms, emoji, powerline symbols, icons, and programming ligatures. Microsoft unveiled the new Windows Terminal app during the company’s Build developer conference today. The software giant is planning to make it available in mid-June, and it marks Microsoft’s latest efforts to improve the developer environment on Windows 10.

The Windows Terminal will also be fully customizable with profiles. You’ll be able to create multiple profiles for each app, shell, or tool that you import into Windows Terminal. That can be PowerShell, cmd prompt, SSH, or Ubuntu. Each profile can have its own color theme, background blur level, font style, and size. It’s a lot of customization to make the Windows Terminal work for most devs.

Microsoft also previously added the [Linux command line to Windows 10](#) alongside adding native OpenSSH to the operating system and even listing [Ubuntu in the Windows Store](#). While the new Windows Terminal will be available next month, Microsoft has [posted the source code to GitHub](#). That means you can build a copy of Windows Terminal and use the app a little early before it’s available in the Windows Store.

Security Quote

So while the insight that traditional 2FA is really “something you know and something else you know, albeit only very recently,” security keys are “Something you know and something you have, which someone else can have, if they know something you know.”

— Cory Doctorow

S. Korea Govt Switch to Linux

The government will switch the operating system of its computers from Windows to Linux, the Ministry of the Interior and Safety said Thursday.

The Interior Ministry said the ministry will be test-running Linux on its PCs, and if no security issues arise, Linux systems will be introduced more widely within the government.

The decision comes amid concerns about the cost of continuing to maintain Windows, as Microsoft's free technical support for Windows 7 expires in January 2020.

The transition to Linux OS and the purchase of new PCs are expected to cost the government about 780 billion won (\$655 million), the ministry said.

Before the government-wide adoption, the ministry said it would test if the system could be run on private networked devices without security risks and if compatibility could be achieved with existing websites and software which have been built to run on Windows.

The ministry's digital service bureau chief Choi Jang-hyuk said the ministry expects cost reductions through the introduction of the open-source OS and also hopes to avoid building reliance on a single operating system.

Firefox Add-in Outage

By Eric Rescorla, Mozilla

Recently, Firefox had an incident in which most add-ons stopped working. This was due to an error on our end: we let one of the certificates used to sign add-ons expire which had the effect of disabling the vast majority of add-ons. Now that we've fixed the problem for most users and most people's add-ons are restored, I wanted to walk through the details of what happened, why, and how we repaired it.

Although many people use Firefox out of the box, Firefox also supports a powerful extension mechanism called "add-ons". Add-ons allow users to add third party features to Firefox that extend the capabilities we offer by default. Currently there are over 15,000 Firefox add-ons with capabilities ranging from [blocking ads](#) to [managing hundreds of tabs](#).

Firefox requires that all add-ons that are installed be [digitally signed](#). This requirement is intended to protect users from malicious add-ons by requiring some minimal standard of review by Mozilla staff. Before we introduced this requirement in 2015, we had [serious problems](#) with malicious add-ons.

The way that the add-on signing works is that Firefox is configured with a preinstalled "root

certificate". That root is stored offline in a [hardware security module \(HSM\)](#). Every few years it is used to sign a new "intermediate certificate" which is kept online and used as part of the signing process. When an add-on is presented for signature, we generate a new temporary "end-entity certificate" and sign that using the intermediate certificate. The end-entity certificate is then used to sign the add-on itself.

Note that each certificate has a "subject" (to whom the certificate belongs) and an "issuer" (the signer). In the case of the root, these are the same entity, but for other certificates, the issuer of a certificate is the subject of the certificate that signed it.

An important point here is that each add-on is signed by its own end-entity certificate, but nearly all add-ons share the same intermediate certificate. Unfortunately, the intermediate certificate we were using expired just after 1AM UTC on May 4, and immediately every add-on that was signed with that certificate become unverifiable and could not be loaded into Firefox.

June Door Prizes

Along with our usual e-book give away, this month we will also be giving away these printed books:

- [Cooking For Geeks](#) (O'Reilly)
- [Java Enterprise In A Nutshell](#) (O'Reilly)
- [Debugging with GDB](#) (GNU Press)

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