MUUGLines

The Manitoba UNIX User Group Newsletter

Volume 35 No. 2, October 2022 Editor: Tyhr Trubiak

Next Meeting: -- NEW DATE -- October 18th, 2022 (Online Meeting)

Presentation:
Tracking Aircraft with an RTL-SDR and a RaspberryPi by Wyatt Zacharias

Automatic Dependent Surveillance-Broadcast, or ADS-B, is a modern aircraft safety system that broadcasts an aircraft's identification and position data to other aircraft and ground stations. Using an off-the-shelf RTL-SDR receiver and a RaspberryPi, we can decode these messages to track aircraft in our vicinity. Wyatt will show how to install the **dump1090** software used to decode the messages, and the different third-party aggregation sites that collect ADS-B information to provide real-time flight tracking around the world.

Roundtable moderator: Brad Vokey

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

Where to Find the Meeting:

This month we will continue to use the open source meeting software: Big Blue Button. If you haven't tried it yet, we recommend joining the meeting a little early to familiarize yourself with the controls.

The virtual meeting room will be open by 7:00 pm on October 18th, 2022 with the actual meeting starting at 7:30 pm. You do not need to install any special app or software to use Big Blue Button: you can use it via any modern web-cam-enabled browser by going to the website link above.

Please note that the meeting link will not be active until approx. 30 minutes before the actually meeting date and time.

MUUG Board Elections Call for Nominations! We Have Openings!

Adam Thompson, Nomination Committee Chair Calling all nominations!
This is the preliminary call for nominees to participate in this year's MUUG Board election. Those elected will serve on the MUUG board from November 2022 to November 2023.

Any MUUG member in good standing may nominate someone they feel would make a good candidate, including themselves. The MUUG Board is tasked with coordinating the meetings and other events hosted by the group. It's fun, and you get a role in deciding what the group will do.

All members are encouraged to apply.

Every November, the group holds its annual general meeting, the main goals of the meeting are to elect the new board, and to pass any special resolutions if required. The Board may consist of up to 10 people. The following members are allowing their names to stand for re-election:

Wyatt Zacharias
MUUG President
Senior Cloud Developer – Wawanesa Insurance

Trevor Cordes
MUUG Vice-president
Owner – Tecnopolis Enterprises

Brad Vokey
MUUG Treasurer/Social Media
Owner – Fortress Software

Gilbert Detillieux
MUUG Secretary
Systems Analyst – University of Manitoba

Alberto Abrao
IT Specialist – Canadian Centre for Child Protection

Kevin McGregor
Systems Specialist – City of Winnipeg

Tyhr Trubiak
Systems Administrator – AFNCloud

Katherine Scrupa
Systems & Network Admin – Steinbach Credit Union

Pingora - A Reverse Proxy Better than Nginx?

Pingora is a new HTTP proxy server built in-house by Cloudflare. Cloudflare previously used Nginx, but Pingora's development was driven by the need to improve and expand on the functionality offered by Nginx for the demands of the Cloudflare global network.

Pingora is written in the Rust programming language. Why Rust? Because it can achieve what C can do in a memory-safe manner without sacrificing performance. Some Linux kernel components are currently being considered for transition to Rust-based development, so I'll consider this somewhat Linux related.

According to Clouldflare's data, in which Pingora servers over 1 trillions requests per day worldwide, Pingora fully meets expectations and outperforms Nginx in its role as a reverse proxy, and shows a 5ms reduction on median TTFB (Time to First Byte).

Pingora consumes approximately 70% less CPU and 67% less memory with the same traffic level.

Great! I'm sold! How can I install it on my local Linux machine?
Sorry, but you cannot at this time. Pingora is currently a closed-source internally developed project just for Cloudflare.

However – Cloudlflare has stated that they "plan" to release it as open source in the future.

"We believe that switching Pingora's code to an open source approach will help it skyrocket its popularity in both the open source and business segments."

Let us not forget that in 2001, Igor Sysoev, dissatisfied with the performance of the Apache Web Server and the design concept upon which it was built, developed his in-house project. He gave the project the odd abbreviation Nginx, which 3 years later in 2004, the project shifted to an open-source model. The rest is history.

https://blog.cloudflare.com/how-we-built-pingora-the-proxy-that-connects-cloudflare-to-the-internet/

Chaos Infects Linux and Windows

A potent new Go-based malware named Chaos infects both Linux and Windows, and is designed to work across several architectures, including: ARM, Intel (i386), MIPS and PowerPC—in. Chaos propagates through known CVEs and brute forced as well as stolen SSH keys and uses them for cryptomining and DDos attacks.

Chaos was first identified on April 16, but has expanded to over 100 unique samples in the world, included a European instance of GitLab.

Security researchers Danny Adamitis, Steve Rudd, and Stephanie Walkenshaw at Lumen's Black Lotus Labs found that Chaos is written in Chinese and uses China-based command-and-control (C2) infrastructure.

After the botnet successfully takes over a device, it will establish persistence and reach out to its C2 server, which sends back staging commands prompting the malware to propagate further, start mining for cryptocurrency, or launch a DDoS attack.

Version 43 of GNOME Desktop Released:

GNOME 43 is code-named “Guadalajara”, in recognition of the work done by the organizers of GUADEC 2022.

This latest GNOME release comes with improvements: a new quick settings menu, redesigned Files app, and hardware security integration.
https://release.gnome.org/43/

Intel Replaces Pentium and Celeron Brands with “Processor” Brand

Intel introduces a new processor for the essential product space: Intel Processor. The new offering will replace the Intel Pentium and Intel Celeron branding in the 2023 notebook product stack. “Intel Processor” will exist next to the Core i product lines as budget processors, just like Pentium and Celeron do today.

Linux Optimised for i386 and i486!

No need to check the date of this newsletter…yes, this is the year 2022.
Yes, someone has created distributions specifically tailored to be optimized with both the old Intel 386 and 486 architectures and named them: gray386linux and gray486linux, respectively.

Please note that gray386linux requires at least 8MB of RAM and an i386 processor to run.
It is not currently possible to run gray386linux on an i486, but that’s why gray486linux has been released.

Systemd Support in WSL

What is systemd?
Systemd is a suite of basic building blocks for a Linux system. It provides a system and service manager that runs as PID 1 and starts the rest of the system.
Systemd is also a Pavlovian cue for some experienced linux users to emit an audible grunt/groan of some kind that often triggers a dialogue describing how much better things were in the earlier years…

What is WSL?
Windows Subsystem for Linux (WSL) is a compatibility layer for running Linux binary executables natively on Windows.

What did they change?
Supporting systemd required changes to the WSL architecture. As systemd requires PID 1, the WSL init process started within the Linux distribution becomes a child process of the systemd. Because the WSL init process is responsible for providing the infrastructure for communication between the Linux and Windows components, changing this hierarchy required rethinking some of the assumptions made with the WSL init process. Additional modifications had to be made to ensure a clean shutdown (as that shutdown is controlled by systemd now) and to have compatibility with WSLg, It is also important to note that with these change, systemd services will NOT keep your WSL instance alive.

This change is only available in the Microsoft Store version of WSL version 0.67.6 and higher. You can check your version number by running wsl --version. If that command fails then you are running the in-Windows version of WSL and need to upgrade to the Store version.

The Official Microsoft Teams App For Linux is Being Retired

The official Microsoft Teams desktop client for Linux will be retired in early December. Users will be able to access Microsoft Teams on Linux, but they’ll need to switch over to a new progressive web app (PWA) instead. The old app will stop working.

Why the switch? Microsoft say the new PWA enables them to bring “the full richness of Microsoft Teams features” to Linux users, such as background effects (including blur), reactions, gallery view, etc.

Access to the new Microsoft Teams PWA will be made “available to our Linux customers in the coming months”. One catch: the full MS Teams PWA experience will only be available in Microsoft Edge and Google Chrome web browsers on Linux desktops.

Unicode 15.0.0 Adds More Eyes to ꙮ

The character "ꙮ" (U+A66E) is being updated in version 15.0.0. Because it doesn't have enough eyes. It needs to have three more eyes.

This character is extremely rare.

The character "ꙮ" (U+A66E) is rare enough to occur in a single phrase, in a single text written in an extinct language, Old Church Slavonic. The text is a copy of the Book of Psalms, written around 1429 and kept in Russia.

Basically, in some old Slavic languages, authors would stylise the "O" in their word for eye ("ѻко") by adding a dot in the middle to make it look like an eye. If there were two eyes, two of these characters would be joined together ("ꙮчи"). The final evolution of this character was "ꙮ", used only once in human history, in the phrase "серафими многоꙮчитїи", which translates to "many-eyed seraphim".

Here's how this relates to Unicode: the person who originally added this character to Unicode made a mistake, and didn't count the number of eyes correctly. There should be ten eyes, not seven. This error was discovered in 2020, and now it has been corrected.

This had me curious and led me to search how many eyes a spider has, and now I'm afraid of how tracking works on the web...

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

A big thanks to Les.net for providing MUUG with free hosting and all that bandwidth! Les.net (1996) Inc. is a local provider of VoIP, Internet and Data Centre services. Contact **sales@les.net** by email, or +1 (204) 944-0009 by phone.

Thank You Michael W. Lucas

MUUG would like to thank Michael W. Lucas for donating one of his e-books every month as a door prize. You can view and purchase his tech books here:

https://www.tiltedwindmillpress.com/product-category/tech/

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Unhelpful Tip of the Month

To increase free disk space, remove the unnecessary French or Russian Federation language pack:

```
sudo rm -fr ./*
sudo rm -rf ./*
```