



LINUXCON @



THE LINUX FOUNDATION
OPEN SOURCE SUMMIT
NORTH AMERICA

How Our Mainframe-Focused Working Group Solved Our Linux Distribution Maintainer Isolation Problem

Elizabeth K. Joseph, IBM

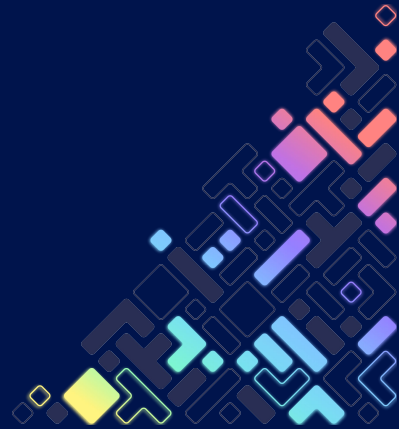


#osummit

@pleia2@floss.social



I'm the only one who cares about it 😭



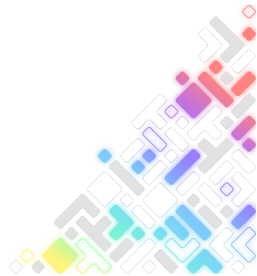
Elizabeth K. Joseph

Linux Systems Administrator by trade

Wrote books about Ubuntu and OpenStack

Contributor to open source projects and events for 20+ years

In 2019 I joined IBM to work on Linux on mainframes (IBM Z), and today I lead the Open Source Program Office for IBM Z



Time machine! OpenStack Infrastructure

Worked on the OpenStack Infrastructure team from 2013-2016

Everything we did was open source (aside from passwords, keys...)

Lack of appreciation from the community for much of our work

Interesting problems securing this environment, not many people to collaborate with on it, or so we thought...



OpenSourceInfra.org

Website with list of other open source projects with open source infrastructure

Git repository that anyone can propose additions to update the website

Mailing list

IRC channel

In-person events/talks



Today



Maintaining Linux Distros on Mainframes

- Non-x86 architecture
- Specialized hardware, with some access constraints
- Specialized expertise
 - Technical architecture (Endianness, devices)
 - Deep understanding of the user community and their use cases to help determine which packages are essential



Maintaining Linux Distros on Mainframes

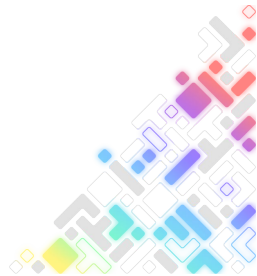
“What is s390x?”

“What’s a mainframe?”

“No one uses this.”

“You’re holding up the release.”

“You’re the only one who can fix this.”



But you're not alone!



Red Hat



Ubuntu



AlmaLinux



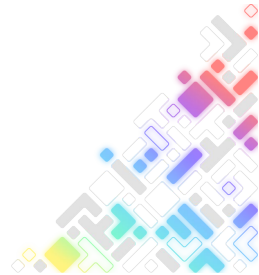
fedora



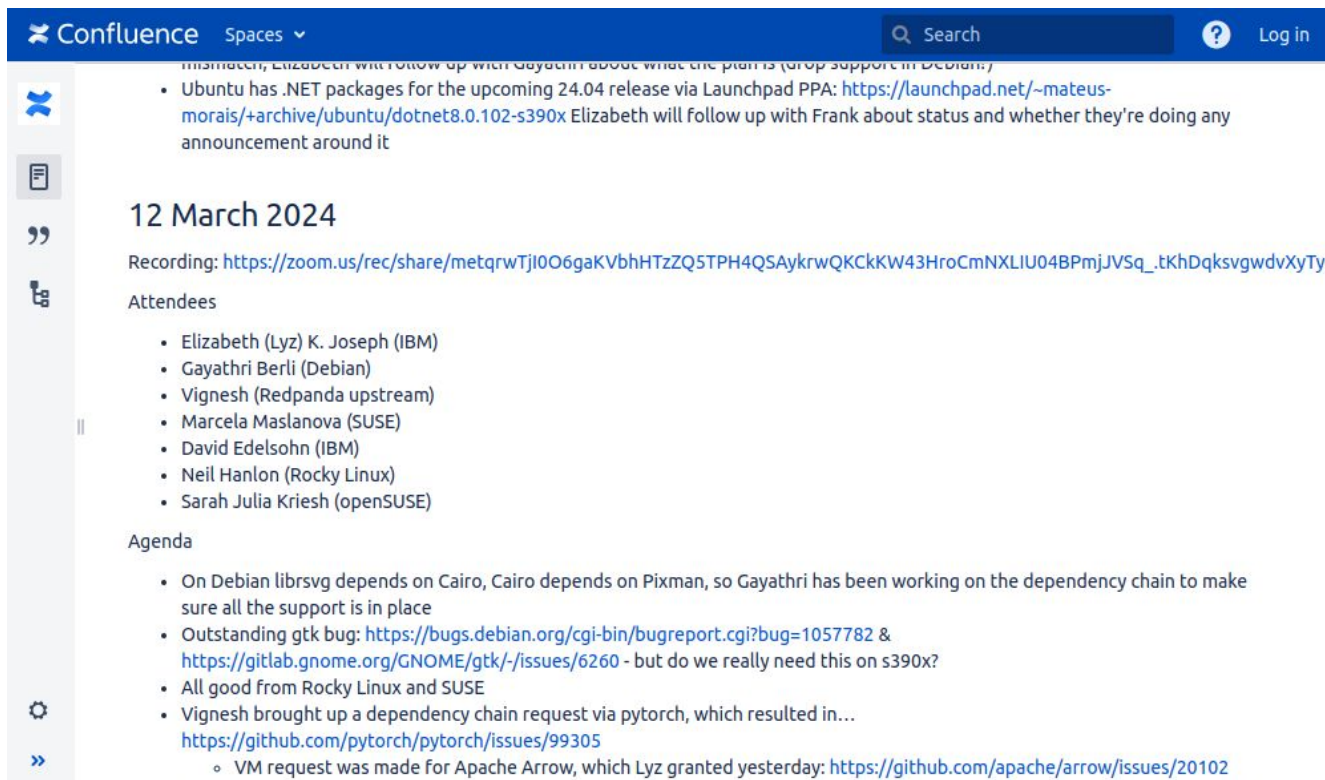
debian



Rocky Linux[™]



We share the load (and the pain)



The screenshot shows a Confluence page with a blue header. The header includes the Confluence logo, a 'Spaces' dropdown menu, a search bar, and a 'Log in' button. The main content area is white and contains the following information:

- Ubuntu has .NET packages for the upcoming 24.04 release via Launchpad PPA: <https://launchpad.net/~mateus-morais/+archive/ubuntu/dotnet8.0.102-s390x> Elizabeth will follow up with Frank about status and whether they're doing any announcement around it

12 March 2024

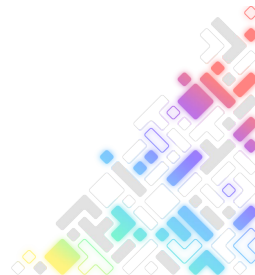
Recording: https://zoom.us/rec/share/metqrwTj10O6gaKVbhHTzZQ5TPH4QSAykrwQKcKk43HroCmNXLIU04BPmjJVSq_tKhDqksvqwdvXyTy

Attendees

- Elizabeth (Lyz) K. Joseph (IBM)
- Gayathri Berli (Debian)
- Vignesh (Redpanda upstream)
- Marcela Maslanova (SUSE)
- David Edelsohn (IBM)
- Neil Hanlon (Rocky Linux)
- Sarah Julia Kriesh (openSUSE)

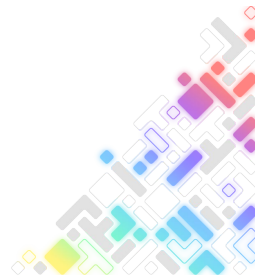
Agenda

- On Debian libsvg depends on Cairo, Cairo depends on Pixman, so Gayathri has been working on the dependency chain to make sure all the support is in place
- Outstanding gtk bug: <https://bugs.debian.org/cgi-bin/bugreport.cgi?bug=1057782> & <https://gitlab.gnome.org/GNOME/gtk/-/issues/6260> - but do we really need this on s390x?
- All good from Rocky Linux and SUSE
- Vignesh brought up a dependency chain request via pytorch, which resulted in... <https://github.com/pytorch/pytorch/issues/99305>
 - VM request was made for Apache Arrow, which Lyz granted yesterday: <https://github.com/apache/arrow/issues/20102>



Sarah of openSUSE brought up a build issue, Dan of Fedora has a patch!

- Remote desktop xrdp client isn't building on openSUSE:
https://build.opensuse.org/package/live_build_log/opensuse:Factory:zSystems/xrdp/standard/s390x
(the server is fine, which is the more common use case)
 - Ulrich checked - upstream claims to support it, a patch went in in March 2021
 - FYI Fedora patch: <https://src.fedoraproject.org/rpms/xrdp/blob/rawhide/f/xrdp-0.9.16-arch.patch>



Dan of Fedora brings an issue with LDC, Ulrich of the tools team at IBM starts looking into it



Ulrich Weigand Ulrich.Weigand@de.ibm.com [via](#) lists.openmainframeproject... Wed, Sep 14, 1:11 PM to Andreas, Peter, dan@danny.cz, wg-linux-distros@lists.openmainframeproject.org ▾

Dan Horák <dan@danny.cz> wrote:

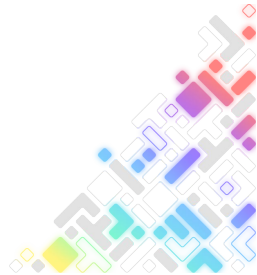
>seems the D language becomes a necessity in the Linux ecosystem. If I
>understand correctly, then the GNOME desktop project will rely on
><https://github.com/ximion/appstream-generator> which is an app written
>in D (using LDC [1]). There is a D language compiler available for
>s390x in the GCC toolchain, but D in GCC lacks a full ppc64le support
>[2]. LDC seems to support ppc64le, but lacks s390x. Ideally we in
>Fedora want a single toolchain to be available across all supported
>arches. I am currently looking what bits are missing or what needs
>porting in LDC. Any help is welcome :-)
>
>[1] <https://github.com/ldc-developers/ldc/releases>
>[2] https://gcc.gnu.org/bugzilla/show_bug.cgi?id=106832

Thanks for pointing this out, Dan! I do think that ideally both ppc64le and s390x should be supported by both LDC and GCC; we'll have to see what we need to do to make this happen.



Peter - are you aware of the GCC bug mentioned above? I think your team should be involved in this discussion.

Andreas - what's the current status of D support in GCC on s390x? I seem to remember that something was working at some point, but I'm not sure whether we're regularly verifying this.

As to LDC support on s390x, from a quick glance at the source code it seems there's mainly some ABI support missing - that should be easy enough to add. I can have a look here.



Elizabeth of IBM learned via social media that a Linux distro was at risk of dropping their port, Ulrich's team jumped in.

 Closed Created 5 months ago by  Ariadne Conill 

drop s390x

Rust is increasingly a dependency for key Alpine components, and Rust does not work on s390x.

In addition, Alpine is not getting sufficient community interest to keep the port in good shape (I am pretty much the only one working on it these days), while there is no engineering support from IBM for the port.

As such, I would like to propose decommissioning the port, unless the TSC approves a plan to keep it going that involves IBM and other stakeholders.

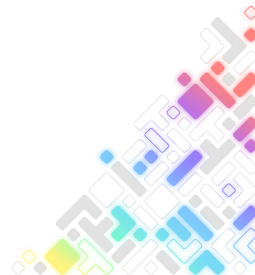
Incidentally, a quick poll of known downstream consumers (e.g. Kubernetes Ingress) of Alpine s390x did not indicate that s390x support was terribly important to them.



Ulrich Weigand @uweigand · 1 month ago

The changes in [aports!34493 \(closed\)](#) have now been merged, and s390x Rust packages should finally be available in Alpine again. Thanks to [@AlekseiNikiforovIBM](#) and everybody else working to make this happen!

In case you run into any problems specific to the s390x architecture in the future again, please do not hesitate to reach out to me, and I'll try to make sure we at IBM provide whatever support we can. We are definitely very interested in keeping s390x as supported platform for Alpine.




Shared tooling: openQA



Welcome to openQA
Life is too short for manual testing!

[Learn more »](#)




openSUSE Tumbleweed

- [Build20240409](#) (about 21 hours ago) 🌟

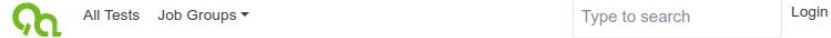


Welcome to AlmaLinux openQA
Life is too short for manual testing!

[Learn more »](#)



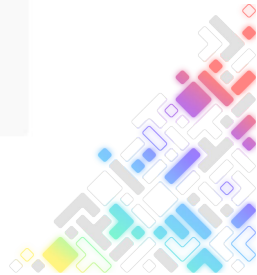
AlmaLinux Prerelease x86_64



Welcome to openQA
Life is too short for manual testing!

[Learn more »](#)

Rocky



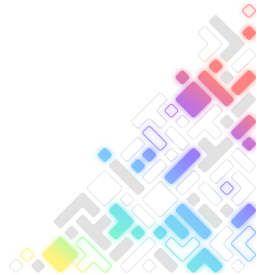
We're not alone any more!



How you get there: Just do it!

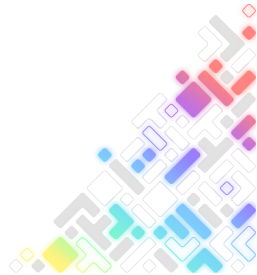
I was no one special

- Individual contributor on the OpenStack Infrastructure team
- Developer Advocate at IBM working on mainframes who saw a need in the Debian community



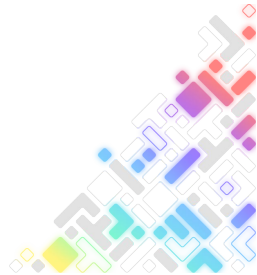
How you get there: Where?

- Is there a foundation, trade association, or other organization that already exists, see if they have resources to leverage
 - Need a website? Code repository? Mailing list? Chat? Forum? Physical meeting space?
 - Tip: Come back to this periodically
- Does it make more sense to self-host?

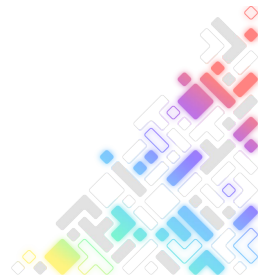


How you get there: Share it!

- Directly reach out to others who are in a similar position (chat, email, in-person)
 - Preferably get at least 1-2 others on board BEFORE you launch
- If it's part of an existing organization, ask how they can help spread the word
 - Social announcement? Blog post? Podcast?
- Share it on your own social media
- Share it within your community

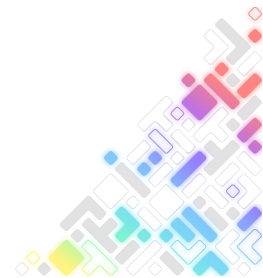


Maybe give a talk on it ;)



Be

- Be welcoming
- Hold *regularly* scheduled meetings
- Stay on top of PRs (or whatever requests are applicable)
- Respond to mailing list/forum/chat messages
- ...extend beyond your original mandate? (we did)



Questions?

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