OPEN MAINFRAME SUMMIT

Introducing the Linux Distributions Working Group

Elizabeth K. Joseph & Sarah Julia Kriesch

@pleia2 & @sjkriesch

Purpose

To oversee the health and maintenance of the s390x port of various Linux distributions to ensure that the s390x port remains a supported architecture for them all.

To this end, the group will collaborate on shared challenges and successes, work together to nurture new contributors, and make sure they also have the infrastructure they need.

What is a Linux Distribution?

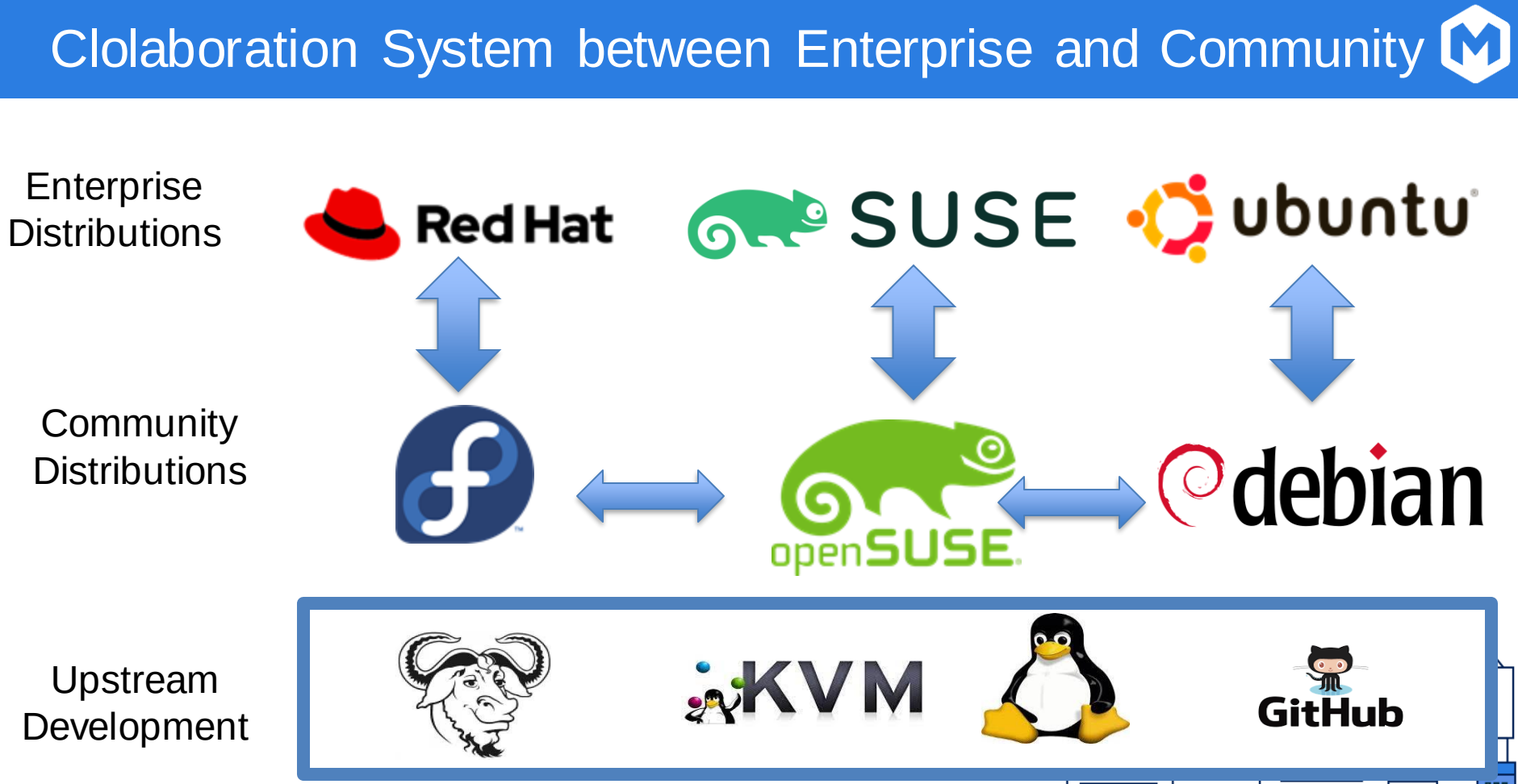
A collection of software, built around the Linux kernel and GNU tools, that comes together to create an operating system that can be used on desktops, servers, embedded devices... mainframes!

Lots of uses means lots of distributions.

How do they usually collaborate?

- Upstream, in software they all include in their distributions
- Shared security disclosure mailing lists
- Knowledge sharing at industry events, SIGs, and WGs

Clolaboration System between Enterprise and Community



Why did we need another place to collaborate?

Architectures tend to have SIGs or WGs, and now we do, too!

OPEN **MAINFRAME** PROJECT

Linux Distributions

Working Group

Who is involved

How the group works

We largely collaborate via mailing list and monthly team meetings to discuss:

- Outstanding issues that may impact others
- Help with infrastructure requirements
- Porting efforts at IBM from the tools teams

Collaboration as a Benefit

- Upstream contributions available for all
- Lowering research & development costs (at IBM and in the community)
- Same solutions for all Linux distributions
- Sharing knowledge between communities
- Increasing innovation (diverse community ideas)

Results of (Cross-)Collaboration

- Better Performance:
  - Cooperative Behavior (one approach for all)
  - Sharing of work and solutions
  - Openness
- Heterogeneity of Participants:
  - Life-giving (maintenance together)
  - Cooperation as interaction

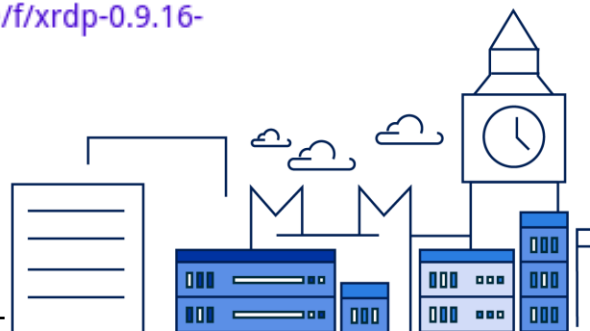
Inclusion

- Bringing communities and companies together
- Do not exclude any Linux distribution!
- Every Linux distribution can join (also Enterprise)
- Creation of open source diversity
- More ideas “how to improve”

Success!

At a meeting, Sarah Julia Kriesch of openSUSE brought up a build issue, Dan Horák 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



Success!

Ulrich Weigand Ulrich.Weigand@de.ibm.com via lists.openmainframeprojec... 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.

Dan Horák of Fedora brings an issue with LDC to the group, and Ulrich of the tools team at IBM starts looking into it.

Success!

Elizabeth K. Joseph of IBM learned via social media that Alpine Linux was at risk of dropping their s390x port due to issues with rustbuild, brought it up at a team meeting, and 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.

Success!

Dan Horák of Fedora brought up a bug with openJDK, it was discussed at a meeting, and Tyler Steele of IBM wrote a patch that fixed it.

[wg-linux-distros] OpenJDK needs some attention External Inbox ×

Dan Horák dan@danny.cz via lists.open... Fri, Jun 10, 12:44 AM
to wg-linux-distros

Hi all,

seems OpenJDK port for s390x needs some attention too, please see https://bugs.openjdk.org/browse/JDK-8288128 for details.

Thanks,

Dan

JDK / JDK-8288128
S390X: Fix crashes after JDK-8284161 (Virtual Threads)

Details

Type:	Bug	Status:	RESOLVED
Priority:	P2	Resolution:	Fixed
Affects Version/s:	19	Fix Version/s:	19
Component/s:	hotspot		
Labels:	loom oraclejdk-na		
Subcomponent:	runtime		
Resolved In Build:	b30		

What's Next?

- Continue doing what we do!
- Recruit more distributions to collaborate

Resources

- Wiki: https://wiki.openmainframeproject.org/display/LinuxDistrosWG
- Mailing list: https://lists.openmainframeproject.org/g/wg-linux-distros
- #linux-distros-wg on OMP Slack

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Questions?

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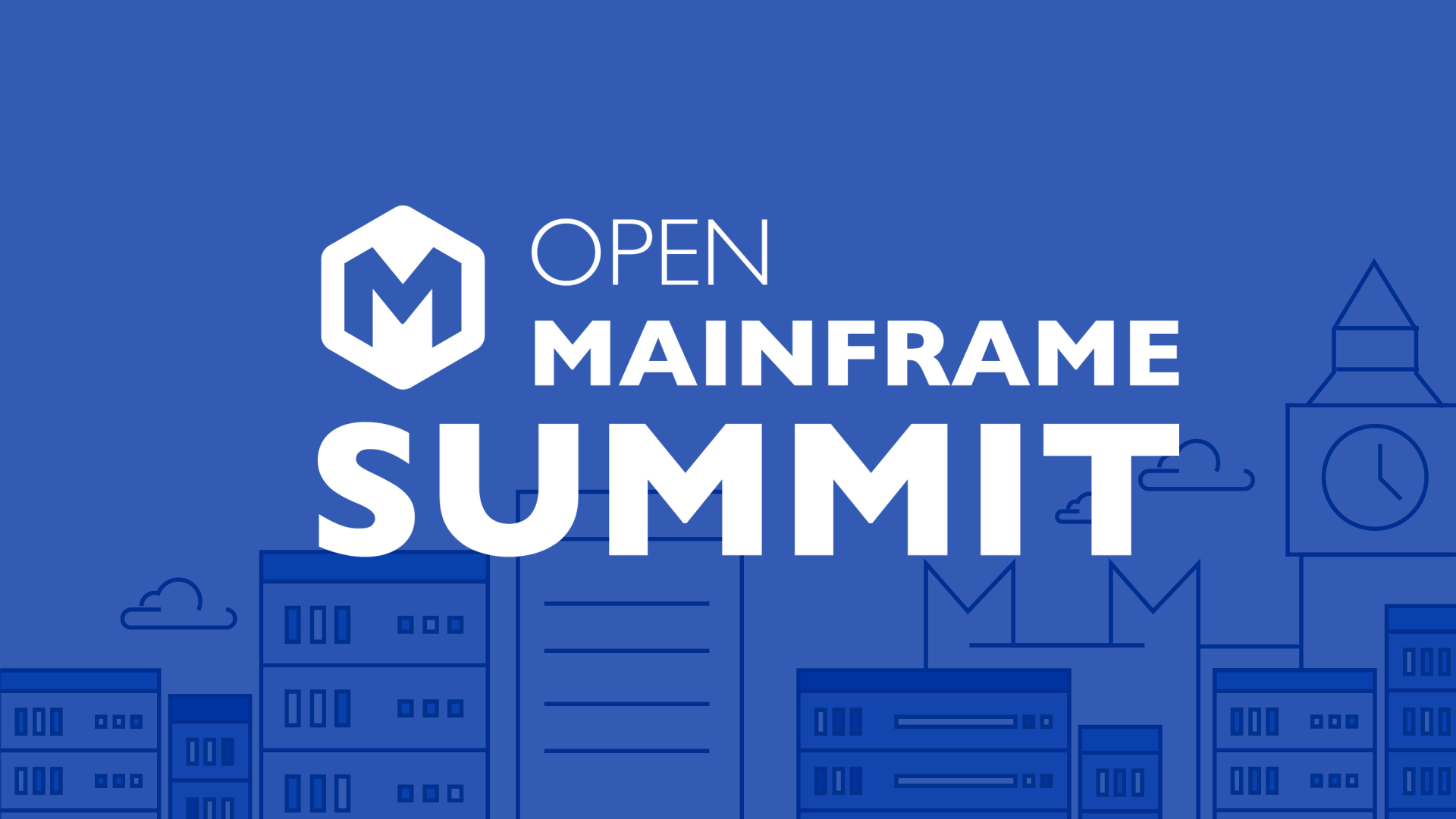
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