

IoT from the point of view of view of a generic and enterprise distribution

Linux Plumbers Conf 2019
You, Me, and IoT Mini Conf

September 2019
Lisbon, Portugal

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The Good and Bad of IoT

Lots of good improvements over the last few years in the Linux community for IoT like U-Boot UEFI and a lot of standardisation of things that use to be reinvent for every SoC or device or vendor.

There is one thing “Enterprise” and “Industrial IoT”
is not....

It's NOT a Raspberry Pi!!

Problems resulting from the “everything around IoT is the Raspberry Pi” in kernel and related userspace interfaces we need to fix!

Wireless issues

Is bluetooth unmaintained? No bluez release for ~ 15 months, use to be ~ quarterly releases. 500+ upstream commits, 200+ mesh commits, 130+ with “fixes” in summary. Losing consistency across distros

Wireless and bluetooth firmwares missing or old likely with CVES – Broadcom, (Rpi and friends), TI, QCOM (athXk et el), etc all quite problematic.

GPIO

Everything still uses `/sys/gpio`

libgpiod is a fine solution EXCEPT no one uses it because there's a lack of reasonable docs, no reasonable examples, no one has ported Rpi.GPIO, Adafruit and friends and there's a lack of language bindings

IIO

It's a great interface with a great many drivers but everyone still writes userspace drivers for upm or in Python interfacing via `/sys/gpio` using `RPi.GPIO`

`libiio` exists and seems OK but similarly a lack of docs, users, examples and bindings.

How do we fix these?

How do we fix issues with Vendors as a community around firmwares (also missing media firmwares).

How do we add bindings and getting projects moved to newer interfaces and bindings etc?