

# today's leftovers

By *Roy Schestowitz*

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- [How to Set and List Environment Variables in Linux](#) [2]

- [Hardware hacking basics, Slackel + OSCAR | Choose Linux 17](#) [3]

Getting into hardware hacking with Arduino, and analysing sleep data from CPAP machines.

Plus a glimpse into the past in Distrohoppers.

- [Debian 11 Testing with XFCE 4.14 Run Through](#) [4]

In this video, we are looking at Debian Testing Bullseye with XFCE 4.14.

- [Introducing Glean ? Telemetry for humans](#) [5]

In the last few years, Firefox development has become increasingly data-driven. Mozilla's larger data engineering team builds & maintains most of the technical infrastructure that makes this possible; from the Firefox telemetry code to the Firefox data platform and hosting analysis tools. While data about our products is crucial, Mozilla has a rare approach to data collection, following our privacy principles. This includes requiring data review for every new piece of data collection to ensure we are upholding our principles??even when it makes our jobs harder.

One great success story for us is having the Firefox telemetry data described in machine-readable and clearly structured form. This encourages best practices like mandatory documentation, steering towards lean data practices and enables automatic data processing from generating tables to powering tools like our measurement dashboard or the Firefox probe dictionary.

However, we also learned lessons about what didn't work so well. While the data types we used were flexible, they were hard to interpret. For example, we use plain numbers to store counts, generic histograms to store multiple timespan measures and allow for custom JSON submissions for uncovered use-cases. The flexibility of these data types means it takes work to understand how to use them for different use-cases & leaves room for accidental error on the instrumentation side. Furthermore, it requires manual effort in interpreting & analysing these data points. We noticed that we could benefit from introducing higher-level data types that are closer to what we want to measure like data types for ?counters? and ?timing distributions?.

- [Debugging TypeScript in Firefox DevTools](#) [6]

Firefox Debugger has evolved into a fast and reliable tool chain over the past several months and it's now supporting many cool features. Though primarily used to debug JavaScript, did you know that you can also use Firefox to debug your TypeScript applications?

Before we jump into real world examples, note that today's browsers can't run TypeScript code directly. It's important to understand that TypeScript needs to be compiled into Javascript before it's included in an HTML page.

Also, debugging TypeScript is done through a source-map, and so we need to instruct the compiler to produce a source-map for us as well.

- [Sponsor Article: why open frameworks matter](#) [7]

The use of computers to control buildings was an inevitable consequence of the falling cost of the technology and the huge increase in the complexity of the equipment required to achieve comfort in large modern buildings. As with computers, the nascent BMS market was initially supplied by manufacturers who offered highly-proprietary systems which only they could install and maintain. As the technology matured, so the software to program the required control logic was made easier. As a result, a wider range of people could provide the engineering. Meanwhile, pressure from end users, who didn't want to be tied to only one manufacturer for the life of the building or campus, led to the development of open protocol standards that could enable one manufacturers' system to talk to another.

However, since the way buildings are contracted tends to require a functionally-biased packaging of sub-contracts, each piece of controls equipment in a building developed

separately, and each sub-sector developed its own standards. The result today is a plethora of 'standard' protocols which are used by the various sub-systems in a building; BACnet for HVAC, DALI and KNX for lighting, Modbus for electrical metering and power management, M-Bus for heat metering etc. Some protocols such as LONworks did manage for a while to gain traction in multiple segments, but its adoption has declined in recent years. So, although people still dream of there being 'one standard to rule them all', the reality is much messier, and the challenge of how to get systems talking to one another has not gone away.

- [Free Software Supporter - Issue 137, September 2019](#) [8]

Defective by Design is calling on you to stand up against digital restrictions management and join us in celebration of the International Day Against DRM (IDAD) on October 12th, 2019. Keep an eye on [defectivebydesign.org](http://defectivebydesign.org) for further announcements.

- [Some Intel Firmware Binaries Will Reportedly Be More Liberally Licensed](#) [9]

One interesting nugget of news from this week's Open-Source Firmware Conference is that some Intel firmware binaries pertaining to their Trusted Execution Technology (TXT) will be more liberally licensed under their simpler microcode/firmware license.

Open-source firmware consulting firm 3mdeb shared that Intel will reportedly publish TXT-related binaries like BIOS and SINIT ACMs under a similar license to the Intel FSP and microcode.

## [Misc](#)

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**Source URL:** <http://www.tuxmachines.org/node/127797>

### **Links:**

[1] <http://www.tuxmachines.org/taxonomy/term/78>

[2] <https://www.maketecheasier.com/set-list-environment-variables-linux/>

[3] <https://www.jupiterbroadcasting.com/134077/hardware-hacking-basics-slackel-oscar-choose-linux-17/>

[4] <https://www.youtube.com/watch?v=qWuwj4I-pvc>

[5] <https://medium.com/georg-fritzsche/introducing-glean-telemetry-for-humans-4e8b4788b8ad>

[6] <https://hacks.mozilla.org/2019/09/debugging-typescript-in-firefox-devtools/>

[7] <http://knxtoday.com/2019/09/14158/sponsors-article-why-open-frameworks-matter.html>

[8] <https://www.fsf.org/free-software-supporter/2019/september>

[9] [https://www.phoronix.com/scan.php?page=news\\_item&px=OSFC-2019-Intel-Bins-License](https://www.phoronix.com/scan.php?page=news_item&px=OSFC-2019-Intel-Bins-License)