Contribution ID: **97** Type: **Poster**

Saving Deprecated Infrastructure: GNU/Linux-enabled Reuse of macOS Workstations

Introduction:

Product life span is an important aspect to consider when we design computing infrastructure. Short release and support life-cycles constitutes a business strategy of many hardware manufacturers to incentivize buying new products, while the hardware is still functional. Additionally, due to the restrictive terms of proprietary software licenses, it is often impossible to find independent support, which could render the system unusable.

Methods:

We faced this issue after the drop of support for macOS on ten desktop Apple computers used as students workstations. By analyzing the load of the hardware we found that the system has sufficient safety margin for the computing load of the machine. Since computationally expensive tasks are performed on HPCs, the computers will likely be used for prototyping and office work, for which their hardware is still sufficient.

Results:

Hence we decided to replace the original operating system by Ubuntu, a free and open source software (FOSS) GNU/Linux distribution. A dual-boot setup was chosen and Ubuntu was installed alongside macOS. The system was configured to work with network infrastructure similar to the previous setup (e.g. Active Directory login, shared network drives). Further, installing a free and open source software (FOSS) system enabled the usage of up-to-date security updates with an auditable code without vendor lock-in.

Conclusion:

In conclusion we succeeded to place the base for the extension of the lifetime of the computers by several years, saving considerable amount of money, but more importantly lowering the ecological impact that purchasing a new computers would have. However, this was only possible because the computer firmware was not locked by the manufacturer and we could find appropriate drivers for the hardware peripherals. Those prerequisites might not be granted in other electronic devices and so it is important to consider this aspect when purchasing new hardware. At the same time, it is also necessary to provide support for users unfamiliar with GNU/Linux environments. We therefore plan to organize demonstrations and workshops for the users and evaluate its acceptance at a later stage.

Slot length

Primary authors: STARY, Tomas (Karlsruhe Institute of Technology); SCHAUFELBERGER, Matthias (Karlsruhe Institute of Technology); HOUILLON, Marie (Karlsruhe Institute of Technology); LOEWE, Axel (Karlsruhe Institute of Technology)

Presenter: STARY, Tomas (Karlsruhe Institute of Technology)

Session Classification: Poster Session

Track Classification: Research Software (legacy): Legacy Software