Linux Plumbers Conference 2024



Contribution ID: 177 Type: not specified

The role of C libraries in a modern build system

Wednesday, 18 September 2024 16:05 (20 minutes)

As the landscape of operating systems continues to diversify, there is a growing interest in running multiple operating systems and applications, each with different capabilities and functionalities, on a single device.

However, how may these applications or operating systems vary from one another? The C library plays a crucial role in this. Having the flexibility to choose one C library over another (or none at all) provides a significant design benefit that is sometimes downplayed. This is the motivation behind recently integrating picolibc as a possible C library for systems built using OpenEmbedded.

This topic would fuel discussions on the approaches used or considered by build systems for providing different C libraries and the importance of providing flexibility, while exploring the implementation used by the OpenEmbedded ecosystem, which is now capable of cross-compiling applications using glibc, musl, newlib, and picolibc.

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Session Classification: Build System MC

Track Classification: Build System MC