

Linux Plumbers Conference 2025



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32bit and-or noMMU Linux BoF

Attending : Geert (m68k arch maintainer), D. Jeff Dionne (Coresemi), Rob Landley (ToyBox), John Paul Adrian Glaubitz (SuperH), Ruinland (AndesTech)

It's like the Sword of Damocles every so often, people push to deprecate support for 32-bit architectures, with or without an MMU.

This year, influential voices are saying it again. Yet developers are still manufacturing, working on, and selling 32-bit CPU intellectual property – both as actual silicon and as RTL for FPGAs – so the deprecation would cause a huge debacle.

Just in the past months this years, 32-bit noMMU Linux is configured and runs on newly manufactured RV32 ICs that are available off the shelf :

- HPMicro: hpm6360, hpm6700, hpm6800

There are also fresh hot manufactured RV32 Linux MCUs :

- Allwinner: V821

This is not just hobby work; there is an entire market actively doing business on it.

If the concern is maintenance effort and contributions, Andes and CoreSemiconductor are here with commitment for the RISC-V 32-bit variants and SuperH architectures.

We would like to invite interested developers to discuss this in this BoF and see whether we can work out a path forward together, as a community with diverse needs.

While we suggested that keeping 32bit and noMMU support is a beneficial matter, we still highly value the importance of retro-computing, hobbyist work and moreover - - educational purpose.

For instance, the end-to-end open-sourcelly manufactured kianV-uLinux IC runs RV32 noMMU Linux, showcases the elegance of configuring a Linux mainline down to simplest hardware design.

And several Mackerel boards are still booting Linux and shine the glory of m68k beauty.

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