

Embedded Topics

- Goals for External Toolchain
 - Using in-tree toolchain to bootstrap native
 - Using current toolchain to bootstrap cross
 - Building a self-hosting system (cross)
 - Works for both gcc and clang (others like intel may work)

Auto Tuning – Thanks Alfred

- $\geq 512\text{MB}$ works great
- $< 128\text{MB}$ horrible
- Needs to be redone to be mix of old and new
- PAE broken
- 32MB MIPS/ARM broken
- I386 128MB works, 80MB fails

ARM

- Goals for 11:
 - 1 armv6 kernel
 - Reaffirmed FDT
 - Desire to enhance uldr support to not need API
 - Stability atmics, weird crashes
 - Armv6hf
 - Armv4/armv5 supported in 11 (be ext tc)
 - SMP (percpugetdata)
 - Rpi / bbb kernel + common userland
 - Packages - Qemu based (needs work)
 - GPU
 - Rpi USB needs love

MIPS

- Getcurthread nonatomic
- Clang
- New linker
- Packages qemu (mostly there mips64)
- Platform code needs polishing

FDT issues

- Some FDT is GPL'd
- Clock domain
- Power domain
- Interrupt domain
- GPIO / pinmux / pinctl
- Multipass probe order / dependencies

Arm64

- Clang – in tree not built
- Linker / as ext tool chain
- Loader
- Ld.so
- Pmap
- Foundation to drive demand