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 Afred

- >= 512MB works great
- < 128MB 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