

Porting Android

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Hardware

- Arm v5
 - ARM 926-EJS, ARM 11
 - PXA, IXP, OMAP3, i.MX 31 and so on
 - RAM 64MB or more
 - ROM 64MB or more
 - Display Frame Buffer
 - double buffering is not mandatory
- Beagleboard

Kernel

- Linux Kernel 2.6.24 - 2.6.30
- Cross Compiler
 - Code Sourcery
- Android Patch
 - `diff -urN vanilla android > android.patch`
 - `patch target < android.patch`
 - `make config`
 - Documentations/android.txt - except pmem
- Android Drivers
 - ashmem / binder / yaffs2
- Staging Driver (2.6.29 -)

User Land

- Debian ARM
 - debootstrap --arch armel
- Angstrom
 - Build tools, Toolchain, Kernel, User Land
 - The World
 - Pre-configured for various platforms
 - Zaurus, Beagleboard, OMAP3EVM
- Busybox
- BSP

Android

- source.android.com
 - master / cupcake / donut
- make
 - out/target/product/generic
 - root/
 - system/ --> root/system
- Boot
 - \$ chroot android/ /init
 - Kernel option - init=/init

Troubleshooting

- `strace`

- `$ strace -ff -o log chroot android/ /init`

- `adb`

- `$ export ADBHOST=<target IP>`

- `$ android-sdk/tools/adb kill-server`

- `$ android-sdk/tools/adb start-server`

- `$ android-sdk/tools/adb shell logcat`

Drawback

- Open Source Version lacks...
 - Google Map
 - Google Talk
 - Gmail
 - You Tube
 - Market

Points of Interest

- android-embedded-japan
 - Android Group Japan - Embedded Working Group
- android-porting
 - Official discussion on porting Android
- labs.embinux.org
- ブリリアントサービス
 - Android on Beagleboard

Thanks!

Any Questions?