CUBIEBOARD
http://cubie.cc

Cubieboard Cubieez-Cubiescreen build introduce

Cubietech Limited

Website:http://cubieboard.org/
Support: support@cubietech.com

Version	Author	Modification	Check
V-0.1-20150116	Sam	Init version	

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1. Overview

Cubieboards is a series of open source hardware.Cubiescreen is a mini touchscreen that can be connect with cubieboard. Cubieez is a linux distro based debian wheezy known in cubieboard community. This document mainly describle how to build Cubieez distro for Cubiescreen.

It is recommended to use a better tf card(class 10 suggested).on the one hand, it will make building and installing systerm in TF card more faster .on the other one hand, it will impove the fluency of linux systerm and shoten boot time. This is 8G tf-card (class 10).

2. Hareware request

- Tf card >=4G ,class 10 suggested
- Tf-card reader
- Of course,you need a Cubieboard
- A computer host,the recommended configuration: Intel® Core™ i5-3470 CPU @ 3.20GHz × 4 ，Memory 8G

3. Software requirements

- The host operating system： Ubuntu12.04 64-bit operating system, Otherwise, there will be a unknown compile errors
- Cross-compilation environment，install the necessary in the Ubuntu12.04 host cross-compilation toolchain and packages

4. Cross-compilation environment setting

4.1. Insall some package

$sudo apt-get update

$sudo apt-get upgrade

$sudo apt-get install ia32-libs

$sudo apt-get install ncurses-dev

$sudo apt-get install build-essential git u-boot-tools

$sudo apt-get install texinfo texlive ccache zlib1g-dev gawk bison flex gettext uuid-dev

$sudo apt-get install build-essential u-boot-tools uboot-mkimage

$sudo apt-get install binutils-arm-linux-gnueabihf gcc-arm-linux-gnueabi

$sudo apt-get install gcc-arm-linux-gnueabihf cpp-arm-linux-gnueabihf

$ sudo apt-get install libusb-1.0-0 libusb-1.0-0-dev

$sudo apt-get install git wget fakeroot kernel-package zlib1g-dev libncurses5-dev

4.2. Build and install fex2bin and bin2fex

$ git clone https://github.com/cubieboard/sunxi-tools

$ cd sunxi-tools

$ make

$ sudo cp fex2bin bin2fex /usr/bin

5. Get source code

Downloading the SDK source in github.this is a guide.

building a work space

$ mkdir linux-sdk-card

$ cd linux-sdk-card

1) kernel-source:

$ git clone https://github.com/cubieboard/linux-sdk-kernel-source.git

$ mv linux-sdk-kernel-source linux-sunxi

2) tools:

$ git clone https://github.com/cubieboard/linux-sdk-card-tools.git

$ mv linux-sdk-card-tools tools

3) products:

$ git clone https://github.com/cubieboard/linux-sdk-card-products.git

$ mv linux-sdk-card-products products

4) rootfs&u-boot:

$ git clone https://github.com/cubieboard/linux-sdk-binaries.git

$ mv linux-sdk-binaries binaries

Get file from:

http://dl.cubieboard.org/model/commom/linux-sdk-binaries

binaries-list (20141125):

u-boot-a20.tar.gz | a20 U-boot , please extract to linux-sdk-card/binaries

u-boot-v10.tar.gz | a10 U-boot , please extract to linux-sdk-card/binaries

cubieez-cb-20140827.tar.gz | Cubieboard1/2 cubieez-rootfs , do not need extract

cubieez-ct-20140916.tar.gz | Cubietruck Cubieez-rootfs,do not need extract

debian-server-rootfs-20140923.tar.gz | debian-sever-v1.0 ,do not need extract

6. Build

6.1. Insert tf-card into PC by Card-reader

Please backup your TF data, the following building will format your TF card

After insert TF card, ubuntu will automatically mount, please manually uninstalled into the card :

$ sudo umount /dev/sdx

Please make sure that the host has arrived in TF card, generated the drive equipment, and is in the unloading state,check your tf card status:

$ sudo fdisk -l

6.2. Check repo

Linux-sunxi need to check out to 3.4.79-cs repo . The repo make some driver change specially for cubiescreen. Others keep default repo.

repo	linux-sunxi	products	tools	binaries
function	kernel source	configuration	Packaging scripts	rootfs and u-boot
branch	3.4.79-cs	master	master	no branch

$ cd linux-sdk-card/linux-sunxi

$ git checkout -b 3.4.79-cs origin/3.4.79-cs

6.3. Start building

This we make buliding cubieboard2 Cubieez Cubiescreen tfcard systerm as a example

$ source tools/scripts/envsetup.sh

and type “1” “1” in turn, choose “cb2” and “cb2-cubieez-cs”

```
Products
   0 - cb
   1 - cb2
   2 - ct
please select a board:1
   0 - cb2-cubieez
   1 - cb2-cubieez-cs
   2 - cb2-debian-server
please select a system:1
Creating working dirs
```

after than see a compilation README

More building process can be found on tools/scripts/boardenvsetup.sh.

```
1. tf card boot
(1)cb_build_card_image (compile code to prepare cb_install_tfcard)
(2)cb_install_tfcard  storage_medium dev_label [pack]
        storage_medium: nand tsd tfx2
        dev_label:      sdb sdc sdd ...
        pack:           the parameter mean we will make a img for dd or win32writer
        cmd for example: cb_install_tfcard tsd sdb

2. tsd or nand card boot
(1)cb_build_flash_card_image(compile code to prepare cb_install_flash_card)
(2)cb_install_flash_card storage_medium dev_label [pack]
        (install TF card to flash img to tsd/emmc sdx is your sdcard label pc)
        storage_medium: nand tsd (tfx2 don`t need this mode)
        dev_label:      sdb sdc sdd ...
        pack:           the parameter mean we will make a img for dd or win32writer
        cmd for example: cb_install_flash_card tsd sdb
```

And run command in turn:

$ cb_build_card_image

$ cb_install_tfcard nand sdb pack

7. Get the firmware

1）After several steps ,your tf card is a bootable card, can boot from tf card or flash nand / tsd

2）If you added [pack] ,you can find backup/relased card firmware on linux-sdk-card/output

8. Building Issue

1）If you are fail to compile ,please check build toolchain and packages

2）Clean sdk can slove some unknow problem

$ cd linux-sdk-card

$ cd linux-sunxi

$ make mrproper

$ cd ..

$ sudo rm -rf output build

3)More system to fit the document and compile the document, please visit:

http://cubieboard.org/model/

4) Any problem about document and building. Please mail me : support@cubietech.com