Cubieboard Docs

Lubuntu Desktop/Server SD Card Installation for Cubietruck

Abstract

We may want to install lubuntu desktop/server to SD card, here is a guide for you. This guide is for Linux platform only. We take Desktop as a example in this guide. If you are interested in Server, just replace the images with server one [http://dl.cubieboard.org/software/a20-cubietruck/lubuntu/ct-lubuntu-card0-v1.00/server/].

Prerequisites

- Any Linux environment, we want fdisk, dd, tar, wget commands
- An SD Card(at least 2GB)

Installation

We assume card=/dev/sdd here

Get Images

Name	Desc	URL
u-boot	u-boot with spl	download [http://dl.cubieboard.org/software/a20-cubietruck/lubuntu/ct-lubuntu-card0-v1.00/u-boot-sunxi-with-spl-ct-20131102.bin]
bootfs	uImage, uEnv.txt, script.bin	download [http://dl.cubieboard.org/software/a20-cubietruck/lubuntu/ct-lubuntu-card0-v1.00/desktop/bootfs-part1.tar.gz]
rootfs	rootfs	download [http://dl.cubieboard.org/software/a20-cubietruck/lubuntu/ct-lubuntu-card0-v1.00/desktop/rootfs-part2.tar.gz]

Cleaning SD Card

```
$card=/dev/sdd
$sudo dd if=/dev/zero of=${card} bs=1024 seek=544 count=128
```

Make Bootable SD Card

```
$sudo dd if=u-boot-sunxi-with-spl-ct-20131102.bin of=$card bs=1024 seek=8
```

Partitioning

```
$ sudo fdisk $card
```

Using the fdisk command to create 2 partitions on the SD Card, e.g.

- 1st partitions start from 2048 sectors, 64MB in size
- 2nd partitions just keep it all default

Show bellow

```
 Device Boot      Start         End      Blocks   Id  System
```

```
/dev/sdd1            2048      133119       65536   83  Linux
/dev/sdd2          133120    15278079     7572480   83  Linux
```

Also we recommend you to look at Bootable_SD_card [http://linux-sunxi.org/Bootable_SD_card]

```
$sudo mkfs.ext2 ${card}1
$sudo mkfs.ext4 ${card}2
```

Copying

```
$mkdir /tmp/sdd1 /tmp/sdd2
$sudo mount -t ext2 ${card}1 /tmp/sdd1
$sudo mount -t ext4 ${card}2 /tmp/sdd2
$sudo tar -C /tmp/sdd1 -xvf bootfs-part1.tar.gz
$sudo tar -C /tmp/sdd2 -xvf rootfs-part2.tar.gz
$sync
$sudo umount /tmp/sdd1
$sudo umount /tmp/sdd2
```

Customizing (optional)

Change your own kernel

Move Rootfs to Hard Drive

- Mount rootfs partitions

After login to lubuntu system on Cubietruck with linaro,

```
$sudo su - root   --> change to root user
#mkdir /tmp/1 /tmp/target
#mount /dev/mmcblk0p2 /tmp/1
#mkfs.ext4 /dev/sda1
#mount /dev/sda1 /tmp/target
```

- Moving rootfs

```
#(cd /tmp/1; tar --backup -c *) |tar -C /tmp/target -xv
```

- Changing Kernel Parameters

```
#mount /dev/mmcblk0p1 /mnt/
#vi /mnt/uEnv.txt
(Change root=/dev/sda1)
```

So the file's content would like bellow

```
cat /mnt/uEnv.txt
root=/dev/sda1
extraargs=console=tty0 hdmi.audio=EDID:0 disp.screen0_output_mode=EDID:1280x720p50 rootwait panic=10 rootfstype=ext4 rootflags=discard
```

- Sync to disk, and reboot to your hard drive

```
#sync
#umount /mnt
#reboot
```

After installing rootfs to SSD, we will get much more better experience.

- Performance (R:106MB/s, W: 148MB/s)

```
root@cubietruck:~# cat /sys/block/sda/device/model
SAMSUNG SSD 830
```

```
root@cubietruck:~# dd if=/dev/sda2 of=/dev/null bs=1M count=10000
10000+0 records in
10000+0 records out
10485760000 bytes (10 GB) copied, 98.9637 s, 106 MB/s
```

```
root@cubietruck:~# dd if=/dev/zero of=/dev/sdb2 bs=1M count=5000
dd: writing `/dev/sdb2': No space left on device
913+0 records in
912+0 records out
956919808 bytes (957 MB) copied, 6.45456 s, 148 MB/s
```

Tips

VGA output

If we want to change to VGA output default, we need to modify the script.bin at the 1st partition

```
$bin2fex script.bin 1.fex
$vim 1.fex (and change screen0_output_type to 4)
$fex2bin 1.fex script.bin
```

Kernel Source

- http://github.com/cubieboard/linux-sunxi [http://github.com/cubieboard/linux-sunxi] (cubie/sunxi-3.4 branch)

Wifi Module

Cubietruck have AP6210 wifi/bt module combo on board, to load the module,

```
#modprobe bcmdhd
```

Default User/Password

```
linaro/linaro
```
