

1. (망고210 S5PV210) Marvell(SD8787) Linux Filesystem Porting

베이스 소스

U-boot: mango210-uboot-marvell-2011-0523.tgz

Kernel: m210_ginger233_mrvl8787_SrcAll_111108_btoc_hdmi.tgz

에 커널 소스

Filesystem:

<http://crztech.ipstime.org:8080/Release/mango210/filesystem/mango210-linuxfs-2011-02-24.tgz>

marvell ko:

m210_ginger233_mrvl8787_SrcAll_111108_btoc_hdmi.tgz

에 marvell8787 driver lib

1.1. 컴파일하기

1.1.1. Firmware 커널에 추가하기

m210_simplefs_mrvl8787_111110 파일시스템에서 제공하는 sd8787_uapsta.bin을 커널 소스에 firmware디렉토리 밑에 mrvl디렉토리를 만들어서 copy를 합니다.

```
$ cp sd8787_uapsta.bin ../kernel/firmware/mrvl/
```

커널 소스로 이동하여 "make menuconfig" 명령으로 아래와 같이 컴파일시 포함 되도록 합니다.

```
(mrvl/sd8787_uapsta.bin) External firmware blobs to build into the kernel binary
```

"mrvl/sd8787_uapsta.bin"을 입력합니다.

이유는 Marvell 드라이버 소스에서 펌웨어를 load할 때 자동으로 경로를 포함된 이름으로 펌웨어를 request합니다.

Device Drivers->Generic Driver Options --->

```
|aaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaa<
x      () path to uevent helper x
x      [ ] Maintain a devtmpfs filesystem to mount at /dev x
x      [*] Select only drivers that don't need compile-time external firmware x
x      [x] Prevent firmware from being built x
x      -- Userspace firmware loading support x
x      [ ] Include in-kernel firmware blobs in kernel binary x
x      (mrvl/sd8787_uapsta.bin) External firmware blobs to build into the kernel binary x
x      (firmware) Firmware blobs root directory x
x      [ ] Driver Core verbose debug messages x
x      [ ] Managed device resources verbose debug messages x
x x
x x
x x
```

1.1.2. 모듈 실행하기

"nfs"로 부팅결과 아래와 같습니다.

```
root@Mango:~/bin_sd8787# insmod mlan-dbg.ko
root@Mango:~/bin_sd8787# insmod sd8787-dbg.ko
```

1.1.3. 리눅스에서 WiFi 실행하기

NFS로 했습니다.

```
#ifconfig mlan0 up
#iwlist mlan0 scanning
#iwconfig mlan0 any
#udhcpc -imlan0
```

2011.11.16

```
setenv bootcmd "nand read 20008000 100000 500000;bootm 20008000"
setenv bootargs root=/dev/mtdblock2 rootfstype=yaffs2 init=/sbin/init console=ttySAC1,115200
```

u-boot소스에서

```
Creating 3 MTD partitions on "s5pv210-nand":
0x000000000000-0x000000100000 : "bootloader"
0x000000100000-0x000000600000 : "kernel"
0x000000600000-0x000010000000 : "linuxfs"
```

u-boot에서
fastboot실행

```
Fastboot 명령으로 Write하기
fastboot flash bootloader mango210_uboot.bin
fastboot flash kernel zImage
fastboot flash linuxfs m210_simplefs_mrvl8787_111110.yaffs2
```

소스 및 이미지

http://crztech.iptime.org:8080/Release/mango210/linuxfs_wifi/mrvl8787_wifilinux_rel/

U-Boot 1.3.4 (Nov 11 2011 - 01:11:17) for MANGO210

```
CPU: S5PV210@800MHz(OK)
APLL = 800MHz, HclkMsys = 200MHz, PclkMsys = 100MHz
MPLL = 667MHz, EPLL = 80MHz
HclkDsys = 166MHz, PclkDsys = 83MHz
```

```

HclkPsys = 133MHz, PclkPsys = 66MHz
SCLKA2M = 200MHz

Serial = CLKUART
Board: MANGO210
DRAM: 512 MB
SD/MMC: Card init fail!
0 MB
NAND: 256 MB
In: serial
Out: serial
Err: serial
checking mode for fastboot ...
Hit any key to stop autoboot: 0
MANGO210 # fastboot
Fastboot: employ default partition information
[Partition table on NAND]
ptn 0 name='bootloader' start=0x0 len=0x100000(~1024KB)
ptn 1 name='kernel' start=0x100000 len=0x500000(~5120KB)
ptn 2 name='linuxfs' start=0x600000 len=N/A (Yaffs)
Received 17 bytes: download:02ac3c00
Starting download of 44841984 bytes
.....
downloading of 44841984 bytes finished
Received 13 bytes: flash:linuxfs
flashing 'linuxfs'

NAND erase: device 0 offset 0x600000, size 0xfa00000
Skipping bad block at 0x01180000
Skipping bad block at 0x01260000
Skipping bad block at 0x0a360000
Skipping bad block at 0x0f4e0000
Erasing at 0xffe0000 -- 100% complete.
OK

NAND write: device 0 offset 0x600000, size 0x2ac3c00

Bad block at 0x1180000 in erase block from 0x1180000 will be skipped
Bad block at 0x1260000 in erase block from 0x1260000 will be skipped
Writing data at 0x2fb7800 -- 100% complete.
44841984 bytes written: OK
partition 'linuxfs' flashed

아래가 wifi접속 스크립트
#!/bin/bash
TEMPDIR=/tmp/eth
insmod /lib/modules/mlan.ko >/dev/null 2>&1 3>&1
sleep 10
insmod /lib/modules/sd8xxx.ko >/dev/null 2>&1 3>&1
sleep 1
ifconfig -a > $TEMPDIR
ETH1=`cat /tmp/eth | grep mlan0 | awk {'print $1'}^`
# if[ $ETH1 -ne "mlan0" ]
# then
# echo "WiFi Module Error"
# fi
ifconfig mlan0 up >/dev/null 2>&1
sleep 1

```

```
iwlist wlan0 scanning | grep ESSID > /tmp/ssid
ssidlist=`cat /tmp/ssid | sed 's/ESSID: "/"' | sed 's/" / ^`
for i in $ssidlist; do
    iwconfig wlan0 essid $i
    udhcpc -i wlan0 >/dev/null 2>&1 &
    sleep 5
    PID=`ps |grep udhcpc |grep -v grep | awk '{ print $1 }'^
    sleep 1
    kill $PID
    wlan0ip=`route | grep wlan0`
    if test -n "$wlan0ip"
    then
        break
    fi
done
```