

mx53 uboot 编译步骤

1、解压源代码

```
tar zxvf uboot-imx.tar.bz2
```

2、修改平台和交叉编译工具链的环境变量

```
export ARCH=arm
```

```
export CROSS_COMPILE=/home/zhangshaoyan/i.mx53/arm-eabi-4.4.0/bin/arm-eabi-
```

3、修改 uboot 的默认环境变量

针对于 mx53 平台，默认的环境变量定义在 include/configs/mx53_smd.h 中，如下：

```
111
112 #define CONFIG_BOOTDELAY      3
113
114 #define CONFIG_PRIME          "FEC0"
115
116 #define CONFIG_LOADADDR       0x70800000 /* loadaddr env var */
117 #define CONFIG_RD_LOADADDR    (CONFIG_LOADADDR + 0x300000)
118
119 #define CONFIG_EXTRA_ENV_SETTINGS
120     "netdev=eth0\0"
121     "ethprime=FEC0\0"
122     "uboot=u-boot.bin\0"
123     "kernel=uImage\0"
124     "nfsroot=/opt/eldk/arm\0"
125     "bootargs_base=setenv bootargs console=ttyMxc0,115200\0"
126     "bootargs_nfs=setenv bootargs ${bootargs} root=/dev/nfs \"
127         ip=dhcp nfsroot=${serverip}:${nfsroot},v3,tcp\0"
128     "bootcmd_net=run bootargs_base bootargs_nfs; "
129         "tftpboot ${loadaddr} ${kernel}; bootm\0"
130     "bootargs_mmc=setenv bootargs ${bootargs} ip=dhcp "
131         "root=/dev/mmcblk0p1 rootwait rw\0"
132     "bootcmd_mmc=run bootargs_base bootargs_mmc; "
133         "mmc read 0 ${loadaddr} 0x800 0x1800; bootm\0"
134     "bootcmd=run bootcmd_mmc\0"
135
136
137
138 #define CONFIG_ARP_TIMEOUT    200UL
```

为了配置我们的电路板，实现烧写成功后，自动从 Nand Flash 中启动，我们将这个宏定义注释掉，自己定一下，如下：

```

"ethprime=FEC0\0"
"uboot=u-boot.bin\0"
"kernel=uImage\0"
"nfsroot=/opt/eldk/arm\0"
"bootargs_base=setenv bootargs console=ttymx0,115200\0"
"bootargs_nfs=setenv bootargs ${bootargs} root=/dev/nfs "\
    "ip=dhcp nfsroot=${serverip}:${nfsroot},v3,tcp\0"
"bootcmd net=run bootargs_base bootargs_nfs; "
    "tftpboot ${loadaddr} ${kernel}; bootm\0"
"bootargs_mmc=setenv bootargs ${bootargs} ip=dhcp "
    "root=/dev/mmcblk0p1 rootwait rw\0"
"bootcmd mmc=run bootargs_base bootargs_mmc; "
    "mmc read 0 ${loadaddr} 0x800 0x1800; bootm\0"
"bootcmd=run bootcmd_mmc\0"

*/
#define CONFIG_EXTRA_ENV_SETTINGS
    "netdev=eth0\0"
    "ethprime=FEC0\0"
    "bootargs_base=setenv bootargs console=ttymx0,115200\0"
    "bootargs_mmc=setenv bootargs ${bootargs} ip=dhcp "
    "root=/dev/mmcblk0p1 rootwait rw\0"
    "bootcmd_mmc=run bootargs_base bootargs_mmc; "
    "mmc read 1 ${loadaddr} 0x800 0x1800;bootm\0"
    "bootcmd=run bootcmd_mmc\0"

#define CONFIG_ARP_TIMEOUT    200UL

```

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注意：每一条语句以 \0 结束！

4、执行配置命令 make mx53_smd_config

```

zhangshaoyan@ubuntu:~/i.mx53/uboot-imx$ make mx53_smd_config
/home/zhangshaoyan/i.mx53/uboot-imx/mkconfig mx53_smd arm arm_cortexa8 mx53_smd freescale mx53
Configuring for mx53_smd board...
zhangshaoyan@ubuntu:~/i.mx53/uboot-imx$

```

5、执行编译命令 make

```

zhangshaoyan@ubuntu:~/i.mx53/uboot-imx$ make
Generating include/autoconf.mk
for dir in tools examples/standalone examples/api ; do make -C $dir depend ; done
make[1]: Entering directory `/home/zhangshaoyan/i.mx53/uboot-imx/tools'
make[1]: Nothing to be done for `depend'.
make[1]: Leaving directory `/home/zhangshaoyan/i.mx53/uboot-imx/tools'
make[1]: Entering directory `/home/zhangshaoyan/i.mx53/uboot-imx/examples/standalone'
make[1]: Nothing to be done for `depend'.
make[1]: Leaving directory `/home/zhangshaoyan/i.mx53/uboot-imx/examples/standalone'
make[1]: Entering directory `/home/zhangshaoyan/i.mx53/uboot-imx/examples/api'
make[1]: Nothing to be done for `depend'.
make[1]: Leaving directory `/home/zhangshaoyan/i.mx53/uboot-imx/examples/api'
make -C tools all
make[1]: Entering directory `/home/zhangshaoyan/i.mx53/uboot-imx/tools'
gcc -g -Wall -idirafter /home/zhangshaoyan/i.mx53/uboot-imx/include -idirafter /home/zhangshaoyan/i.mx53/uboot-imx/include2 -idirafter /home/zhangshaoyan/i.mx53/uboot-imx/include -I /home/zhangshaoyan/i.mx53/uboot-imx/libfdt -I /home/zhangshaoyan/i.mx53/uboot-imx/tools -DTEXT_BASE=0x77800000 -DUSE_HOSTCC -D__KERNEL_STRICT_NAMES -O -c -o mkimage.o /home/zhangshaoyan/i.mx53/u

```


6、编译完成，在当前目录下生成 u-boot.bin

```

c/libmmc.a drivers/mtd/libmtd.a drivers/mtd/nand/libnand.a drivers/mtd/onenand/libonenand.a drivers/mtd/ubi/libubi.a drivers/mtd/spi/libspi_flash.a drivers/net/libnet.a drivers/net/phy/libphy.a drivers/net/sk98lin/libsk98lin.a drivers/pci/libpci.a drivers/pcmcia/libpcmcia.a drivers/power/libpower.a drivers/spi/libspi.a drivers/fastboot/libfastboot.a drivers/rtc/librtc.a drivers/serial/libserial.a drivers/twserial/libtws.a drivers/usb/gadget/libusb_gadget.a drivers/usb/host/libusb_host.a drivers/usb/musb/libusb_musb.a drivers/video/libvideo.a drivers/watchdog/libwatchdog.a common/libcommon.a libfdt/libfdt.a api/libapi.a post/libpost.a board/freescale/mx53_smd/libmx53_smd.a --end-group /home/zhangshaoyan/i.mx53/u-boot-imx/lib_arm/eabi_compat.o -L /home/zhangshaoyan/i.mx53/arm-eabi-4.4.0/bin/./lib/gcc/arm-eabi/4.4.0 -lgcc -Map u-boot.map -o u-boot
/home/zhangshaoyan/i.mx53/arm-eabi-4.4.0/bin/arm-eabi-objcopy -O srec u-boot u-boot.srec
/home/zhangshaoyan/i.mx53/arm-eabi-4.4.0/bin/arm-eabi-objcopy --gap-fill=0xff -O binary u-boot u-boot.bin
zhangshaoyan@ubuntu:~/i.mx53/u-boot-imx$ ls
api                disk                lib_generic        MAINTAINERS        System.map
board              doc                 lib_i386            MAKEALL             tools
CHANGELOG          drivers             lib_m68k            Makefile            u-boot
CHANGELOG-before-U-Boot-1.1.5 examples            lib_microblaze      mkconfig            u-boot.bin
common             fs                  lib_mips             nand_spl            u-boot.lds
config.mk          include             lib_nios             net                  u-boot.map
COPYING            lib_arm             lib_nios2            onenand_ipl         u-boot.srec
cpu                lib_avr32           lib_ppc              post
CREDITS            lib_blackfin        lib_sh               README
CVS                libfdt              lib_sparc            rules.mk
zhangshaoyan@ubuntu:~/i.mx53/u-boot-imx$

```

7、完毕！


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 2012/12/19