<https://wiki.linaro.org/Platform/QA/BBBtftpboot>

Najprv odporucam rozbehat zakladne ubuntu na SD karte podla tohto navodu

<http://www.armhf.com/boards/beaglebone-black/bbb-sd-install/>

Potom do neho natiahnut vlastny kernel

<https://bianchirick.wordpress.com/2015/04/02/beagle-bone-black-bbb-build-custom-kernel/>

a ket ti toto bude fungovat tak podla tohto navodu nastavit TFTP a NFS

<http://wiki.beyondlogic.org/index.php/BeagleBoneBlack_Building_Kernel>

Debug serial parts:

Board Wire Function  
 Pin 1.....Blue......Ground

Pin 4.....Red.....Transmit

Pin 5.....Green.......Receive

circuite beaglebone black connection

ssh root@192.168.7.2

ssh-keygen -R 192.168.7.2

ssh root@192.168.7.2

shutdown -h now

sudo screen /dev/ttyUSB0 115200

microsd hc s adapterom

so not put beagle into back usb 3.0

BBB micro sd installation

armhf.com

sdkarta

create sdcard boot

/dev/mmcblk0

BBB micro sd installation

armhf.com

mkfs.ext4 /dev/mmcblk0p2 -E nodiscard

Update iptables

$ sudo iptables --table nat --append POSTROUTING --out-interface eth0 -j MASQUERADE

$ sudo iptables --append FORWARD --in-interface eth1 -j ACCEPT

$iptables-save

# Generated by iptables-save v1.4.14 on Sun Mar 1 21:11:51 2015

\*filter

:INPUT ACCEPT [547:41068]

:FORWARD ACCEPT [0:0]

:OUTPUT ACCEPT [340:37968]

-A FORWARD -i eth1 -j ACCEPT

COMMIT

# Completed on Sun Mar 1 21:11:51 2015

# Generated by iptables-save v1.4.14 on Sun Mar 1 21:11:51 2015

\*nat

:PREROUTING ACCEPT [0:0]

:INPUT ACCEPT [0:0]

:OUTPUT ACCEPT [1:116]

:POSTROUTING ACCEPT [1:116]

-A POSTROUTING -o eth0 -j MASQUERADE

COMMIT

# Completed on Sun Mar 1 21:11:51 2015

To remove -A FORWARD -i eth1 -j ACCEPT

$ iptables -D FORWARD -i eth1 -j ACCEPT

Turn on ip forwarding

$ sudo sh ‐c "echo 1 > /proc/sys/net/ipv4/ip\_forward"

On BBB:

echo “nameserver 8.8.8.8” > /etc/resolv.conf

All of the settings described above are lost on reboot. You can use nano to edit your

.profile fi le (e.g., type nano ~/.profile ) and add the following two lines to the

end of your .profile fi le:

$ /sbin/route add default gw 192.168.7.1

$ /usr/sbin/ntpdate -b -s -u ie.pool.ntp.org

This addition will slow down the login process. Alternatively, you can use a script

such as the internetOverUSB script that is in the /chp02 directory of the GitHub

repository. It must be executed using the sudo command. The latter approach is pref-

erable if you are switching between “regular” Ethernet and Internet‐over‐USB.

$ ping 8.8.8.8

$ ping [www.google.com](http://www.google.com)

shutdown

$ /sbin/shutdown -h now

users on debian

root, no password

debian, debian

find sd card on computer

fdisk -l

copy files in boot directory

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

On linux machine

$ vim /etc/xinetd.d/tftp

# description: The tftp server serves files using the trivial file transfer

# protocol. The tftp protocol is often used to boot diskless

# workstations, download configuration files to network-aware printers,

# and to start the installation process for some operating systems.

**service tftp**

**{**

**socket\_type = dgram**

**protocol = udp**

**wait = yes**

**user = root**

**server = /usr/sbin/in.tftpd**

**server\_args = -s /home/erik/Beaglebone/root**

**# disable = yes**

**per\_source = 11**

**cps = 100 2**

**}**

$ ls -la root

drwxrwxrwx 2 root root 4096 jan 18 11:02 root

In directory export directory /home/erik/Beaglebone/root

$ ls -ls

-rw-rw-r-- 1 root erik 31547 jan 18 10:20 am335x-boneblack.dtb

lrwxrwxrwx 1 root erik 55 jan 15 09:17 copy1 -> ../kernel/kernel/arch/arm/boot/dts/am335x-boneblack.dtb

lrwxrwxrwx 1 root erik 37 jan 15 09:16 copy2 -> ../kernel/kernel/arch/arm/boot/uImage

-rw-rw-r-- 1 root root 18 jan 18 11:02 test

-rw-rw-r-- 1 root erik 3818976 jan 18 10:22 uImage-BBB-3.12.1

erik@erik-Latitude-E6440:~$ **sudo tailf /var/log/syslog | grep tftp**

[sudo] password for erik:

Jan 18 14:49:12 erik-Latitude-E6440 tftpd[12333]: tftpd: serving file from /srv/tftp

Jan 18 14:56:45 erik-Latitude-E6440 in.tftpd[12535]: connect from 192.168.0.250 (192.168.0.250)

Jan 18 14:56:45 erik-Latitude-E6440 tftpd[12536]: tftpd: trying to get file: am335x-boneblack.dtb

Jan 18 14:56:45 erik-Latitude-E6440 tftpd[12536]: tftpd: serving file from /srv/tftp

Jan 18 14:56:51 erik-Latitude-E6440 in.tftpd[12537]: connect from 192.168.0.250 (192.168.0.250)

Jan 18 14:56:51 erik-Latitude-E6440 tftpd[12538]: tftpd: trying to get file: am335x-boneblack.dtb

Jan 18 14:56:51 erik-Latitude-E6440 tftpd[12538]: tftpd: serving file from /srv/tftp

The tftpboot service seems to not follow the configuration file /etc/xinetd.d/tftp.

To solve problem temporarly, we can make a symbolic link in /srv directory :

**cd /srv  
sudo ln -s /tftpboot tftp**

### XXX) Ubuntu magic

Launch tftp manually :

**sudo in.tftpd -l -s /srv/tftp/**

On Beaglebone

setenv ipaddr 192.168.0.250;

setenv serverip 192.168.0.251;

tftpboot 0x88000000 am335x-boneblack.dtb;

tftpboot 0x82000000 uImage-BBB-3.12.1;

setenv bootargs console=ttyO0,115200n8 quiet root=/dev/mmcblk0p2 ro rootfstype=ext4 rootwait

setenv bootargs console=ttyO0,115200n8 root=/dev/nfs rw nfsroot=192.168.0.251:/home/erik/Beaglebone/root/rootfs ip=192.168.0.250:::::eth0

bootm 0x82000000 - 0x88000000

Net: <ethaddr> not set. Validating first E-fuse MAC

cpsw

Hit any key to stop autoboot: 0

U-Boot# **setenv ipaddr 192.168.0.250**

U-Boot# **setenv serverip 192.168.0.251**

U-Boot# **tftpboot 0x88000000 am335x-boneblack.dtb**

link up on port 0, speed 100, full duplex

Using cpsw device

TFTP from server 192.168.0.251; our IP address is 192.168.0.250

Filename 'am335x-boneblack.dtb'.

Load address: 0x88000000

Loading: #######

1.3 MiB/s

done

Bytes transferred = 31547 (7b3b hex)

U-Boot# **tftpboot 0x82000000 uImage-BBB-3.12.1**

link up on port 0, speed 100, full duplex

Using cpsw device

TFTP from server 192.168.0.251; our IP address is 192.168.0.250

Filename 'uImage-BBB-3.12.1'.

Load address: 0x82000000

Loading: #################################################################

#################################################################

#################################################################

#################################################################

#################################################################

#################################################################

#################################################################

#################################################################

#################################################################

#################################################################

#################################################################

###############################

1.4 MiB/s

done

Bytes transferred = 3818976 (3a45e0 hex)

**setenv bootargs console=ttyO0,115200n8 root=/dev/nfs rw nfsroot=192.168.0.251:/home/erik/Beaglebone/root/rootfs ip=192.168.0.250:::::eth0**

**bootm 0x82000000 - 0x88000000**

**Find include of file**

[**http://lxr.free-electrons.com/ident?i=of\_match\_ptr**](http://lxr.free-electrons.com/ident?i=of_match_ptr)

**Compile kernel**

make ARCH=arm CROSS\_COMPILE=arm-linux-gnueabi- beaglebone\_defconfig -j4

make ARCH=arm CROSS\_COMPILE=arm-linux-gnueabi- uImage dtbs LOADADDR=0x80008000 -j4

make ARCH=arm CROSS\_COMPILE=arm-linux-gnueabi- modules -j4

1. **prepare configure file**
2. **compile kernel with builtin modules (cca 20 minutes)**
3. **compile kernel modules**

**Mounting eMMC in ntfs and tftp loaded kernel**

**mount /dev/mmcblk0p2 boot - filesystem**

**in /boot/uEnv.txt**

**mount /dev/mmcblk0p1 boot - second partitiion**

[**https://www.kernel.org/doc/Documentation/kobject.txt**](https://www.kernel.org/doc/Documentation/kobject.txt)

**https://www.kernel.org/doc/Documentation/filesystems/sysfs.txt**

**http://lxr.free-electrons.com/source/samples/kobject/kset-example.c**

**Send patch via email**

**set your ~/.gitconfit**

**[sendemail]**

**6 smtpencryption = tls**

**7 from=ErikLux<erik.lux@globallogic.com>**

**8 chainreplyto = false**

**9 smtpserver = smtp.gmail.com**

**10 smtpuser = erik.lux@globallogic.com**

**11 smtppass = one+einsje4**

**12 smtpserverport = 587**

**13 to = erik.lux@globallogic.com**

**git format-patch**

**git format-patch --to lux.erik18@gmail.com a5e4c1a495f083384f998ea87989bc9f6d81a8f0**

**! since the patch number not including**

**send gitpatch via email**

**git send-email --smtp-server=smtp.gmail.com --to lux.erik18@gmail.com 0001-Hello-driver-data-devres-debugfs-file-ui32-symlink.patch**