

Howto update U-Boot on DIMM-MX6 and DIMM-AM335x

Rev	Date/Signature	Changes
v01en	31.10.2013/Bi/Ft	--

ATTENTION: Errors when you update U-Boot can lead to a bricked system. Please only update when really needed and follow these instructions carefully. This manual is valid for DIMM-MX6 and DIMM-AM335x

Download the files for U-Boot update to the folder of a tftp server. You have to know the IP address of the tftp server for the following steps.

Start your emtrion board and interrupt the boot process so you have the bootloader prompt. Example output:

```
U-Boot 2011.09-00002-g73005e9 (Apr 11 2013 - 10:54:36)

I2C:   ready
DRAM:  512 MiB
WARNING: Caches not enabled
Configuring board as DIMM_AM335X
MMC:   OMAP SD/MMC: 0
SF: Detected MX25L6405D with page size 64 KiB, total 8 MiB
Net:   cpsw
Hit any key to stop autoboot:  0
U-Boot#
```

Now we have to use the command "printenv" to get a printout of the current U-Boot environment variables. In the process of an update we also reset the variables to default. So copy and paste the environment printout to save the variables for later. Important variables are "hw_product_type", "hw_serial_nr", "hw_revision", "ethaddr". Example:

```
U-Boot# printenv
autoload=no
baudrate=115200
bootcmd=run flash_boot
bootdelay=3

# etc

Environment size: 3149/65532 bytes
U-Boot#
```

You can also check the variables "image.uboot" and "image.bootstrap". Their values should correspond to the filenames on the tftp server. Not all of our devices need a bootstrapper, so if you got only one file it has to correspond to "image.uboot". If there are two files, the smaller one is the bootstrapper and the bigger one is u-boot. Now we can start the update. First do "setenv serverip [address of tftp-server]" and then "run update_uboot". If everything is ok it should look like this example:

```
U-Boot# setenv serverip 192.168.1.57
U-Boot# run update_uboot
link up on port 0, speed 100, full duplex
BOOTP broadcast 1
BOOTP broadcast 2
BOOTP broadcast 3
DHCP client bound to address 192.168.1.43
link up on port 0, speed 100, full duplex
Using cpsw device
TFTP from server 192.168.1.57; our IP address is 192.168.1.43
Filename 'MLO_big_endian'.
Load address: 0x82000000
Loading: T #####
done
Bytes transferred = 23228 (5abc hex)
SF: Detected MX25L6405D with page size 64 KiB, total 8 MiB
link up on port 0, speed 100, full duplex
Using cpsw device
TFTP from server 192.168.1.57; our IP address is 192.168.1.43
Filename 'u-boot.img'.
Load address: 0x82000000
Loading: T #####
done
Bytes transferred = 191056 (2ea50 hex)
SF: Detected MX25L6405D with page size 64 KiB, total 8 MiB
Update U-Boot successful
U-Boot#
```

After successfully running "run update_uboot" we can reset the module and startup the new U-Boot. Do this by entering "res" in the U-Boot shell.

```
U-Boot# res
resetting ...

U-Boot SPL 2011.09-00002-g73005e9 (Apr 11 2013 - 10:54:36)
Texas Instruments Revision detection unimplemented
SF: Detected MX25L6405D with page size 64 KiB, total 8 MiB

U-Boot 2011.09-00002-g73005e9 (Apr 11 2013 - 10:54:36)

I2C:   ready
DRAM:  512 MiB
WARNING: Caches not enabled
Configuring board as DIMM_AM335X
MMC:   OMAP SD/MMC: 0
SF: Detected MX25L6405D with page size 64 KiB, total 8 MiB
```

```
Net:    cpsw
Hit any key to stop autoboot:  0
U-Boot#
```

The date/version tag of U-Boot should now have changed. Now we reset the environment to the defaults of the new uboot by entering "env default -f" (DIMM-AM335X) or "env default -a" (DIMM-MX6). Now you have to set the variables we saved before by using "setenv [variablename] [value]" and commit the changes by using "saveenv". Example:

```
U-Boot# env default -f
U-Boot# setenv ethaddr 00:11:22:33:44:55
U-Boot# setenv hw_serial_nr 12345
U-Boot# setenv hw_product_type DIMM-AM3359-512-512
U-Boot# setenv hw_revision r2a
U-Boot# saveenv
```