

HowTo Build a Meteohub Firmware Image

The Meteohub Firmware Image is a direct derivate from SlugOS 4.8 beta firmware available from <http://www.nslu2-linux.org/wiki/SlugOS/SlugOSBE>. Therefore Meteohub firmware applies to the same license terms as SlugOS/BE, detailed in appendix 1.

This step by step instruction tells how to create a Meteohub Firmware Image.

To use/distribute Meteohub firmware image you have to accept the SlugOS license terms as listed in Appendix 1.

Files/links you need:

1. Binary SlugOS/BE 4.8 beta: <http://www.slug-firmware.net/s-dls.php>
2. Source code SlugOS/BE 4.8 beta: <http://www.slug-firmware.net/s-dls.php>
3. Instructions to build SlugOS/BE 4.8 beta from Source:
<http://www.nslu2-linux.org/wiki/SlugOS/SlugOSBE>
4. Firmware Update Tool (Windows XP):
http://www.everbesthk.com/8-download/sercomm/firmware/NU54/Upgrade_207_XP.zip
5. Preparing the Firmware for USB Stick operation:
<http://www.nslu2-linux.org/wiki/OpenSlug/InitialisingOpenSlug>
6. additional files:
http://www.meteohub.de/joomla/index.php?option=com_docman&task=doc_details&gid=164&Itemid=29
7. unrar package:
http://ipkg.nslu2-linux.org/feeds/sluginst/unstable/unrar_3.4.3-r0_armv5teb.ipk
source code:
<http://www.softaward.com/download.php?id=8829&mode=primary>

If links above don't work, please drop a mail to "info@meteohub.de" to fix this.

STEP 1:

Install SlugOS/Be as described in (3) either from the compiled binaries (1) or from the source (2) you can compile native or cross as explained in (3). To flash the binary image to the NSLU2 you can use this tool under Windows XP (4).

STEP 2:

After having flashed the NSLU2 it restarts. Wait for the three consecutive beeps and login via ssh as "root", password "opeNSLUg".

STEP 3:

Insert an USB Stick into "Disk 1" connector of NSLU2 and give the command "turnup init". Enter

"meteohub" as the new password and "meteohub" as the new host name and "workgroup" as domain name, your preferred DHCP method. give command "turnup preserve" to make this persistent. Then reboot system by "reboot". These steps are also described at (5).

STEP 4:

Login again via ssh (user "root", password "meteohub"). To setup the USB Stick as the device that will handed over the boot process to, the USB stick has to be partitioned first. I assume, that you have a 2 GB USB stick. Give "fdisk /dev/sda" command and create three primary partitions:

- Partition 1: type linux ext2/3, size 400 MB
- Partition 2: type linux swap, size 128 MB
- Partition 3: type linux ext2/3, size 1300 MB

STEP 5:

Reboot and setup ext3 file systems on Partitions 1 and 3 by "mke2fs -j /dev/sda1" and "mke2fs -j /dev/sda3" and a swap area by "mkswap /dev/sda2".

STEP 6:

Now install additional files (6) at root level. Copy the "additional.tgz" file via scp to "/root". Give commands "cd /" and "tar xzpf /root/additional.tgz". This installs "/etc/rc.boot/autostart" (starts stickit on system boot) and "/root/buildfw" (tool for firmware snapshot) and "/root/stickit" (tool that reads USB stick image data from a USB stick and install this on a second USB stick) and modifies "/etc/udev/mount.blacklist" by a line "sdb[0-9]\$" to prevent automounting partitions on /dev/sdb.

STEP 7:

Now install "unrar" and the necessary libs. First install libstdc++ by "ipkg update", "ipkg install libstdc++". Then copy unrar package (7) to "/root" and install it by "ipkg install /root/unrar_3.4.3-r0_armv5teb.ipk". After that has run through without errors, delete the package by "rm /root/unrar_3.4.3-r0_armv5teb.ipk"

STEP 8:

Initialization of the USB stick is then done by "turnup memstick -i /dev/sda1 -t ext3". The flash image on the NSLU2 is now in it's final state. You can make an installable binary from this by calling "/root/buildfw". This tool mounts the 3rd partition of the attached USB stick and stores it there as "newimage.bin" on root level.

Appendix 1: SlugOS License

Slug-Firmware.net End User License Agreement ("EULA")

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