

How to build a O/S Image File with Linux

The following steps shows a way for building a Linux-based O/S Image File from two given files (1. the kernel zimage and 2. the root file system RIMAGE.GZ). You can download this O/S Image File with the help of the (A)DNP/1486 Flash Loader to the flash memory.

- 1. Step: Make a new and empty directory on your Linux-based development system.
- 2. Step: Download the file imgtool1.zip form www.dilnetpc.com (i.e. enter the URL www.dilnetpc.com/imgtool1.zip to your browser). Unzip the files boot.b, preload.bin, flash.cfg and lilo to your new directory. Make sure, that lilo is executable (i.e. chmod +x lilo).
- **3.** Step: Copy your given files zimage and rimage.gz to the new directory. Make sure, that the file names are using only lowercase letters.
- 4. Step: Open a shell within your new directory (cd directory name).
- 5. Step: Execute the Linux dd command with the following parameters.

dd if=/dev/zero of=flash.img bs=1024 count=1856

• 6. Step: Execute the Linux **mkfs.minix** command with the following parameters.

mkfs.minix -i 32 -n 14 flash.img

• 7. Step: Execute the Linux mount command with the following parameters.

mount -o loop -t minix flash.img /mnt

• 8. Step: Execute the Linux **cp** command with the following parameters.

cp -p boot.b /mnt

• 9. Step: Execute the Linux cp command with the following parameters.

cp -p rimage.gz /mnt

• 10. Step: Execute the Linux cp command with the following parameters.

cp -p zimage /mnt



• 11. Step: Execute the Linux sync command.

sync

• 12. Step: Run lilo with the following command line.

./lilo -C flash.cfg

• 13. Step: Execute the Linux df command with the following parameters.

df /mnt

• 14. Step: Execute the Linux sync command.

sync

• 15. Step: Execute the Linux **umount** command with the following parameters.

umount /mnt

• 16. Step: Execute the Linux cat command with the following parameters.

cat preload.bin flash.img > dnpx.img

• 17. Step: Execute the Linux **ls** command with the following parameters.

ls dnpx.img -al

Please note: The sequence of the copy commands is important. Do not change the sequence. If there is any error, execute umount /mnt and start again with dd command.

The maximum size for the O/S Image File dnpx.img is 1.966.080 bytes. Make sure, that you never get a bigger file size.