SSV

How to build a ADNP/1520 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 ADNP/1520 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 `imgtool2.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.

That's all.