

How to Generate a New ROMFS Kernel

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Overview

While the uClinux kernel we have been using has remained remarkably stable people have wanted to modify the ROM file system to change ethernet addresses... This fortunately can be done without recompiling the kernel (kernel.bin). The software presently runs on RedHat 5.2 and on RedHat 7.1.

Loading Programs

The programs can be gotten from the web page:

<http://www.physics.ohio-state.edu/~durkin/software/d360/genkernel.tar.gz>

To install type:

1. `tar -xvf genkernel.tar` (as **root**)
2. `cd genkernel;make`

Modifying ROMFS

The romfs is located in genkernel/mnt. You edit files you want changed. These may include genkernel/mnt/etc/rc, inetd.conf, services, and genkernel/mnt/bin/login. Since the ROM file system is a block file system you can edit even the binary files without causing problems.

Note: There have been problems seen with tar not handling the directory mnt/dev correctly. You should check there are files in mnt/dev. Also check there is not directory mnt/dev/dev. If there is delete it.

Generating Kernel Image

Once you are happy with the ROM file system type: `make_kernel`. This will generate the file kernel.bin. You can copy this to the d360-flash-loader/flash directory, and use it to flash the memory.

Debugging Problems

If your ROM file system will not flash correctly first check the size of the file. If this is about right try mounting romfs.img on your linux machine:

1. `mkdir /mnt/romfs` (as root)
2. `mount -r -o loop -t romfs romfs.img /mnt/romfs`

Now check each of the files in /mnt/romfs. If they all look ok it is time to EMAIL or phone me.