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2 u-boot solution

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Question 1: u-boot configuration

1) Change the u-boot default prompt “=>” to “NanoPi #”

dans buildroot
make uboot-menuconfig
Dans Comma

Question 2: BOOT partition ext4

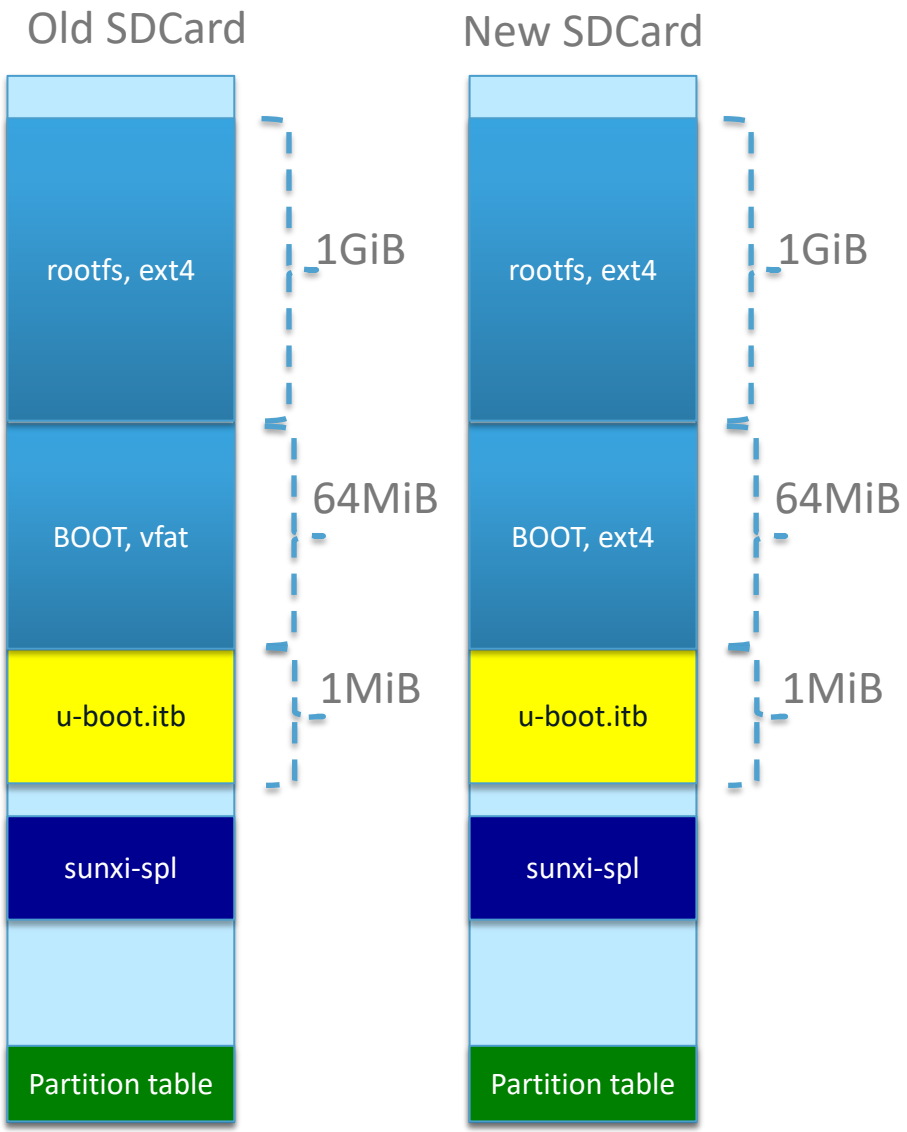
By default, BOOT partition is a VFAT partition.

Questions:

- Change the VFAT partition to an ext4 partition
- Write a script to initialize the SDCard

changer fichier boot.cmd

create boot.src



Question 3: change network initialization

- Linux initializes the network with this script `/etc/init.d/S40network`, which reads the configuration file `/etc/network/interfaces` ajouter la dedans ip,mask,default gateway

Question:

- Initialize automatically the network
- Modify buildroot configuration so that the file `/etc/network/interfaces` is automatically inserted to rootfs (use the rootfs_overlay)

192.168.0.11

rootfs_overlay a modifier

Optional: Question 4, -fstack-protector-all gcc option

1) On your PC, write a small program with a buffer overflow. Compile this program and configure `aarch64-none-linux-gnu-gcc` compiler to protect this program against buffer overflow. Try to find the limits of this protection

2) Modify the u-boot's compilation options in order to improve the code security by checking the buffer overflow.

   Remark: During uboot compilation-link you will have an error: the linker is not able to find this function: `__stack_chk_guard`.
   On Internet, it is possible to find this patch: uboot-stack-protector.patch (it is on moodle).
   But this patch works for another d uboot version. Adapt and create a new patch for this uboot version