Instaling Linux on ARM
ARM boards

RaspberryPi 1/0

- armv6
- 1 core @ 700 MHz
- 256M / 512M RAM
- USB connected 100M Ethernet
- ~ 940 Kč
ARM boards

Raspberry Pi 2

- armv7
- 4 cores @ 900 MHz
- 1G RAM
- USB connected 100M Ethernet
- ~ 1 350 Kč
ARM boards

BananaPi

- armv7
- 2 cores @ 1 GHz
- 1G RAM
- native 1Gbit Ethernet
- SATA
- ~ 1 090 Kč
Booting

Most arm boards

• board loads U-Boot from fixed address
  ○ written to NAND or MMC or ...

• U-Boot loads kernel and initrd and dtb
  ○ can be on filesystem
  ○ can be at some address
  ○ can be on server

• U-Boot executes kernel
Bootstrapping

RaspberryPi

- searches for `bootcode.bin` on first FAT partition
- loads it, executes it, it searches for `start.elf`
- loads it, executes it, it searches for `config.txt`
- reads it, figures out what to execute next
  - can be kernel
  - can be U-Boot
- searches for it and execute it
What we need for installation

- SD card
- rootfs for our architecture
- maybe kernel for our board
- serial cable can be helpful
- qemu-user can be helpful
- qemu-nbd can be helpful
Let’s get working