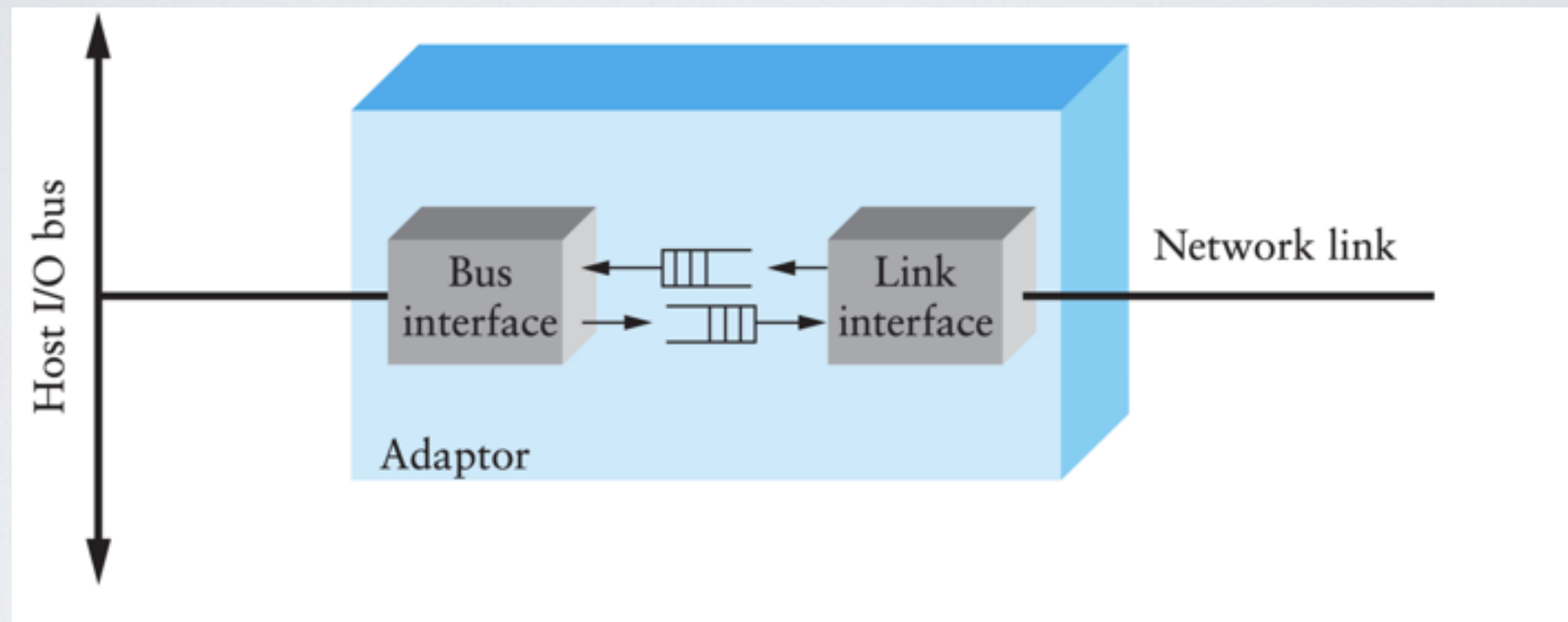


# Example : Network Interface Card



- Link interface talks to wire/fiber/antenna
- FIFOs on card provide small amount of buffering
- Bus interface logic uses DMA to move packets to and from buffers in main memory

# Variety is a challenge

## ● Problem : there are many devices and each has its own protocol

- Some devices are accessed by I/O ports or memory mapping or both
- Some devices can interact by polling or interrupt or both
- Some device can transfer data by programmed I/O or DMA or both

## ✓ Solution : abstraction

- Build a common interface
- Write device driver for each device

➡ Drivers are 70% of Linux source code