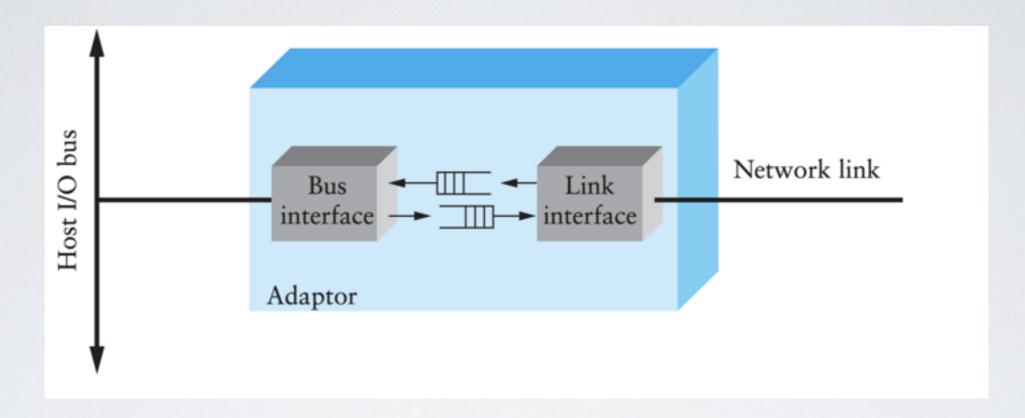
Example: Network Interface Card



- · 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