# Project

## Ethernet Switch

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LTH

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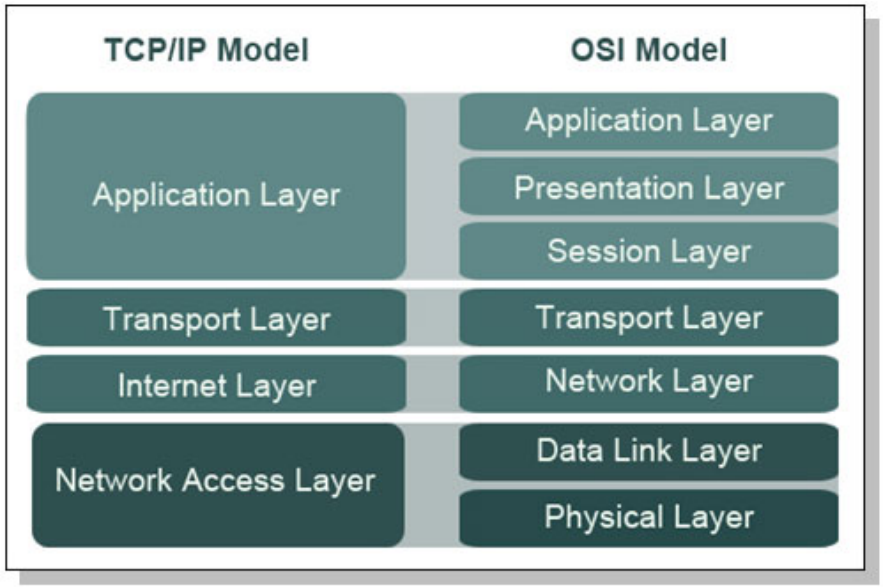
# Switches in general

Operate in OSI-layer 2 (MAC)

Maintain a MAC $\leftrightarrow$ port translation table, called CAM-table

Our additional functionality: filter on OSI-layer 3 (IP)



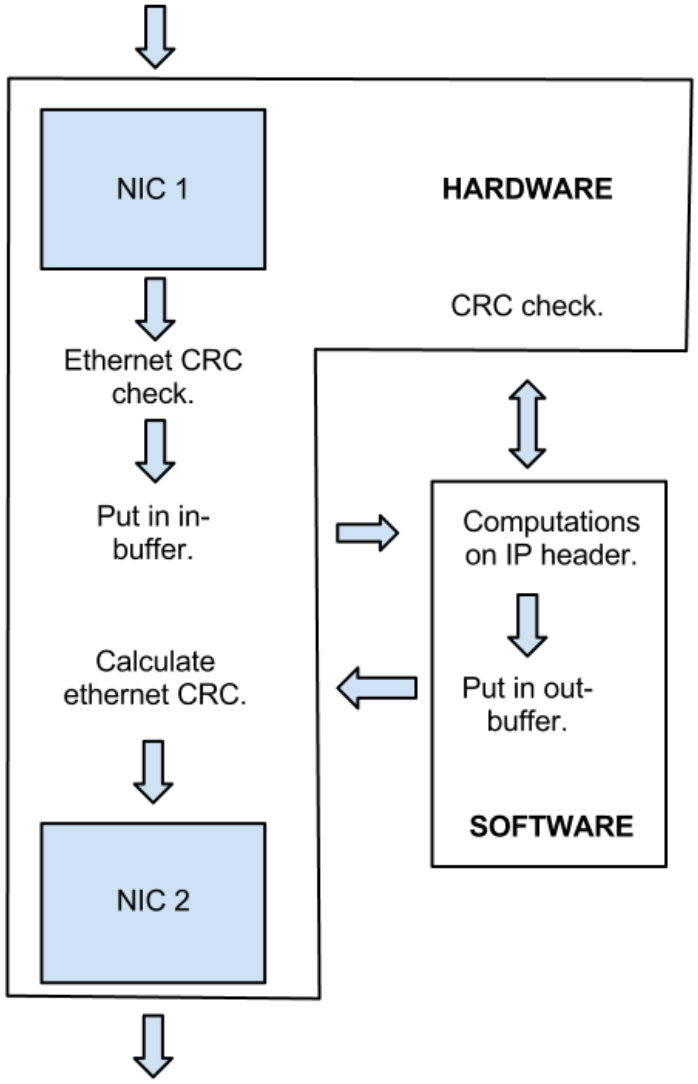
# Labour division

Software:

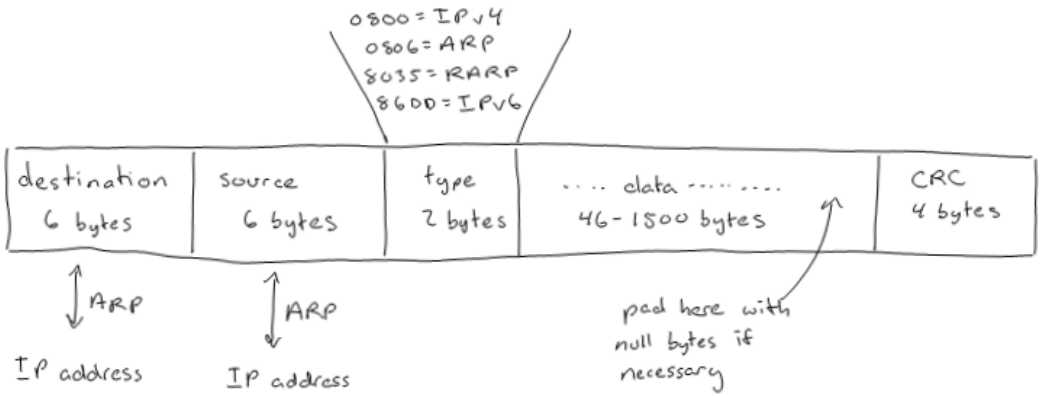
- Maintain CAM-table
- Handle hardware interrupts

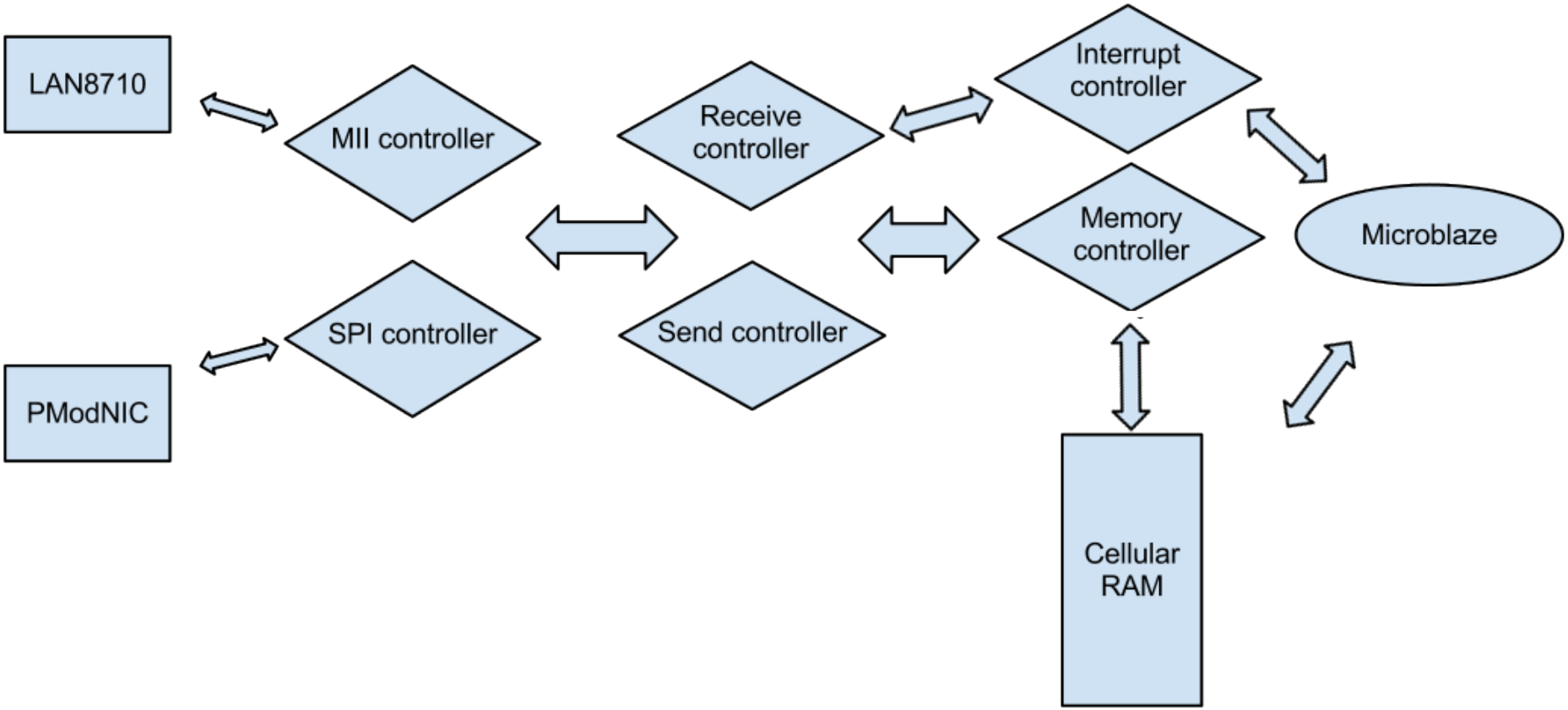
Hardware:

- CRC-32 calculation (Ethernet)
- CRC-16 calculation (IP) possibly?
- Read/Write packets from/to buffers



# Ethernet/IP frames




| version | IHL | Differentiated Services |
|---|---|---|
| Total Length | | |
| Identification | | |
| Flags | Fragment offset | |
| TTL | Protocol | |
| Header Checksum | | |
| IP source address | | |
| IP destination address | | |

# Internal communication