Better than $O(N^2)$ . . .

- What is lost?
  - output and internal conflicts

- Clos network
  - Beneš network

- Delta networks (self-routing networks)
  - Banyan, Baseline, Omega, Flip

- Batcher sorting network
Optical Networks

‣ Why?
- faster and farther (maximizing the product of rate and distance)
- resistant to electromagnetic interference
- non conductive
- lower volume/weight when compared with wires

‣ Why not?
- costly supplies, esp. fiber termination, connectors, components
- skilled labor intensive
Optical Components

- Fiber
- Light sources
  - semiconductor lasers
- Light modulators
- All-optical light amplifiers
  - Erbium-doped fiber amplifier (EDFA)
- Light switches
- Wavelength division multiplexing