$$10^6 \longrightarrow 10^7 \longrightarrow 10^8 \longrightarrow 10^9 \longrightarrow \ldots$$

Gigabit Ethernet
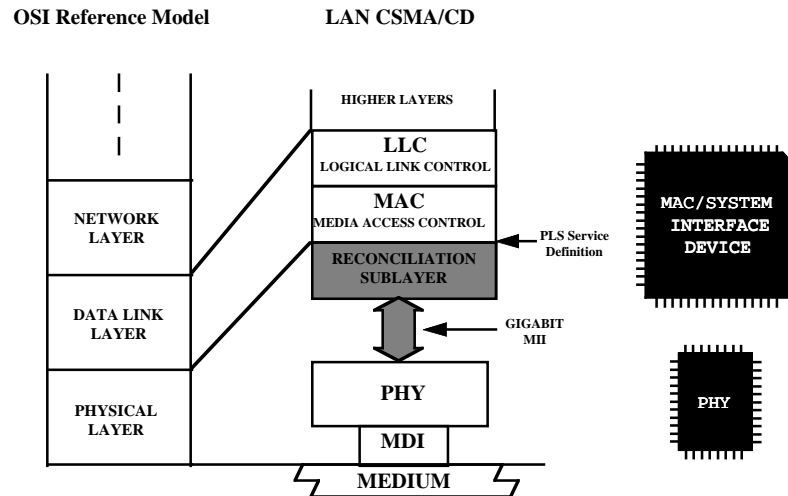# MAC/PHY Interface

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Why do we need a MAC/PHY Interface Standard?

- First Gigabit node implentations will not be single chip solutions
  - MAC & PHY technologies may be different
  - Systems vendors will want to choose/use PHYs from a variety of silicon suppliers
- Gigabit repeater/switch implementations will not be single chip solutions
  - Packaging, power/heat, layout and cost issues

Mapping to the OSI Model & Silicon

OSI Reference Model LAN CSMA/CD

	HIGHER LAYERS
	LLC LOGICAL LINK CONTROL
NETWORK LAYER	**MAC** MEDIA ACCESS CONTROL
	RECONCILIATION SUBLAYER

PLS Service Definition

DATA LINK LAYER

GIGABIT MII

PHYSICAL LAYER

PHY

MDI

MEDIUM

MAC/SYSTEM INTERFACE DEVICE

PHY

What Form Should the MAC/PHY Interface Take?

- Should leverage existing technology
  - Could build on the MII standard
  - Could build on the Fiber Channel standard
- Must be able to pass all PCS service interface information

•NO CONNECTOR!!!