

Basic Objectives

1. Define a scalable logical framework that can support arbitrary port speeds and counts while retaining as many of the feature in our Feature Objectives as possible.
2. Define a first electrical interface to provide connectivity to a **single** Ethernet port with 8 or fewer pins operating at line speeds up to 100 Mb/s.
3. Provide **single** port connectivity without a ~~SerDes~~ **mandating clock recovery from the data**.
4. Define a second electrical interface to provide connectivity to as many as 8 ports **using 8 or fewer pins**, each with speeds up to 100 Mb/s.
5. Provide eight-port connectivity with **an interface speed** a ~~SerDes~~ not to exceed 2 Gbps.

Feature Objectives

1. Provide an optional in-band, **error-checked** MDIO management interface.
2. Support Energy Efficient Ethernet (EEE).
3. Support half-duplex operation.
4. Support Clause 148 PLCA.
5. Support full-duplex operation.
6. Support auto-negotiation (e.g. Clause 28, Clause 98)
7. **Provide an extensible out-of-band communications channel between a MAC and a PHY**

Compatibility Objectives

1. Specify a MAC interface that maintains compatibility with Clause 96 PHYs.
2. Specify a MAC interface that maintains compatibility with Clause 97 PHYs.
3. Specify a MAC interface that maintains compatibility with Clause 146 PHYs.
4. Specify a MAC interface that maintains compatibility with Clause 147 PHY including support for Clause 148 PLCA.
5. Do not preclude support for proposed 100BASE-T1L PHYs (P802.3dg - Clause 190).
6. Do not preclude the transmission of PTP timestamps across the interface using in-band data.
7. Do not modify the preamble, thus precluding features that rely on the preamble being passed intact by the MII.
8. **Do not preclude support for proposed 10BASE-T1M PHYs (P802.3da - Clause 188).**

*** Note to Task Force – Consider an objective for EMS compatibility**