

# The OIF CEI Project

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# Project Problem Statement

A faster electrical interface is required to provide higher density and/or lower cost interfaces for payloads of 10Gbps and higher,

Including:

- SERDES to Frammer Interface (SFI)
- System Packet Interface (SPI)
- TDM-Fabric to Frammer Interface (TFI)

# Project Scope

## (1 of 2)

- Electrical and jitter specifications for future interfaces including SFI, SPI and TFI.
- The project shall define:
  - A 6G+ short reach link
    - 0 to 200mm link with up to one connector
    - Data lane(s) that support bit rates from 4.976 to 6+Gbps over Printed Circuit Boards.
  - A 6G+ long reach link
    - 0 to 1m link with up to two connectors
    - Data lane(s) that support bit rates from 4.976 to 6+Gbps over Printed Circuit Boards.
  - An 11G+ short reach link
    - 0 to 200mm link with up to one connector
    - Data lane(s) that support bit rates from 9.95 to 11+Gbps over Printed Circuit Boards.
  - An 11G+ long reach link
    - 0 to 1m link with up to two connectors
    - Data lane(s) that support bit rates from 9.95 to 11+Gbps over Printed Circuit Boards.

# Project Scope

## (2 of 2)

- The Implementation Agreement shall define the applicable data characteristics
  - e.g. DC balance, transition density, maximum run length
- The Implementation Agreement shall define channel models and compliance points / parameters.
- The Implementation Agreement shall not:
  - Define the pin assignments or select a specific connector
  - Define a management interface

# Project Objectives & Requirements

## (1 of 2)

- The Implementation Agreement(s) shall allow single and multi-lane applications
- Shall support AC coupling
- Shall support hot plug
- Shall achieve Bit Error Ratio of better than  $10^{-15}$  per lane with the test requirement of  $10^{-12}$  per lane

# Project Objectives & Requirements

## (2 of 2)

- Short and long reach links should interoperate under 200mm
- Shall define an 11G+ short reach link that is capable of supporting SONET/SDH compliance at the optical carrier (OC) interface.
- The 6G+ long reach link shall accommodate legacy IEEE 802.3 XAUI and TFI-5 compliant backplanes.
- The primary focus of the 11G LR CEI implementation agreement will be for non-legacy applications, optimized for overall cost-effective system performance including total power dissipation

# Project Deliverables

An Implementation Agreement with clauses which shall cover:

- Interoperability, Jitter & Compliance Methodology
- 6G+ Short Reach
  - for 0 to 200mm and up to 1 connector
- 6G+ Long Reach
  - for 0 to 1m and up to 2 connectors
- 11G+ Short Reach
  - for 0 to 200mm and up to 1 connector
- 11G+ Long Reach
  - for 0 to 1m and up to 2 connectors