

Need for a 40km 40GE SMF Interface

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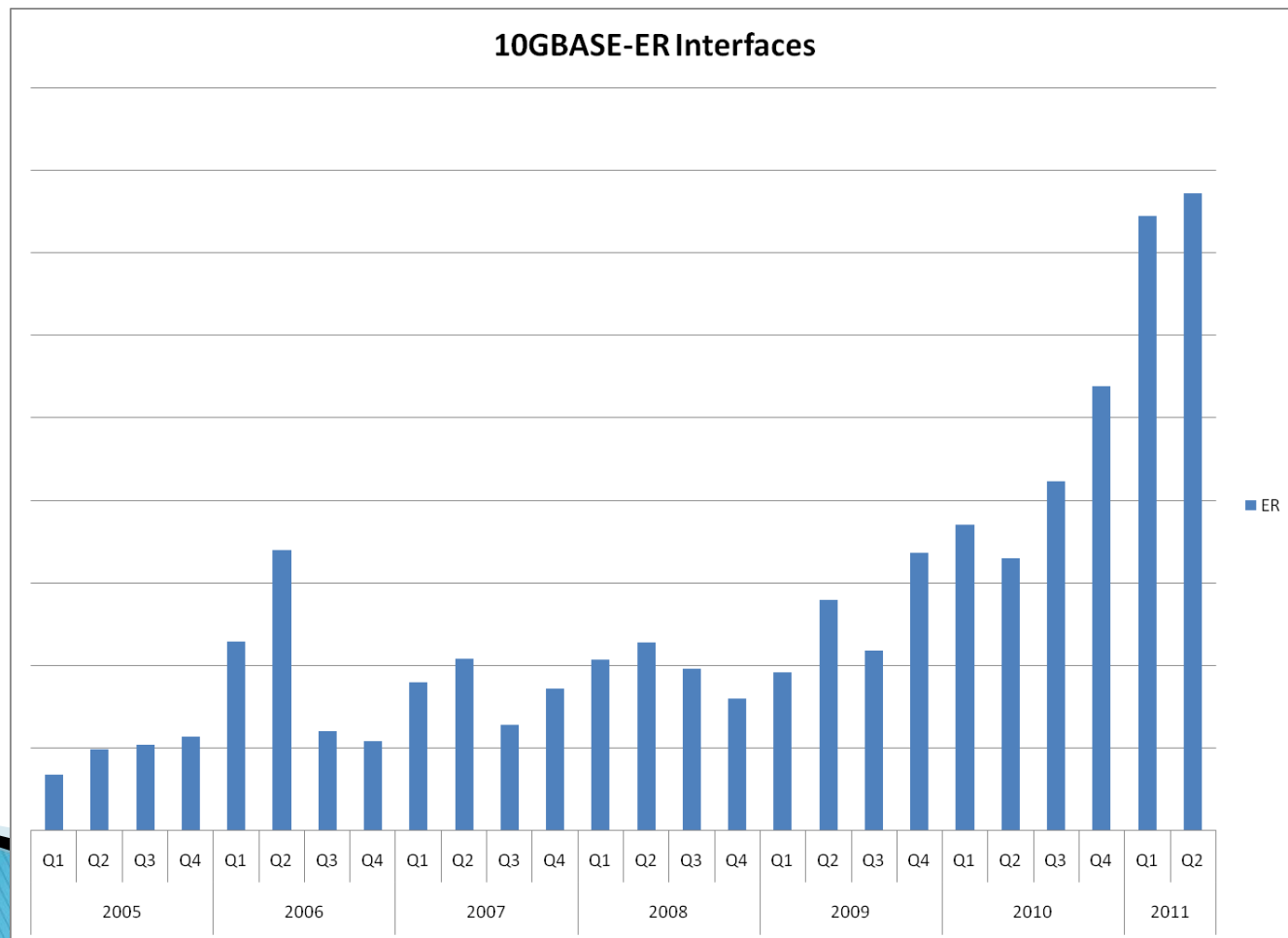
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Background on need for 40GE 40km reach optical interface

- ❑ Networking need/application exists
 - ❑ 10GBASE-E
 - ❑ 100GBASE-ER4
- ❑ Most applications adequately served by 10km (40GBASE-LR4) interfaces
- ❑ However, using a DWDM solution or similar approaches for >10km spans represents HUGE increase in cost when a point to point link is all that is needed
- ❑ Companies are bringing forward proposals informally – need a standards based approach
- ❑ No existing 40GE project within IEEE – suggest inclusion into NG 100G study group

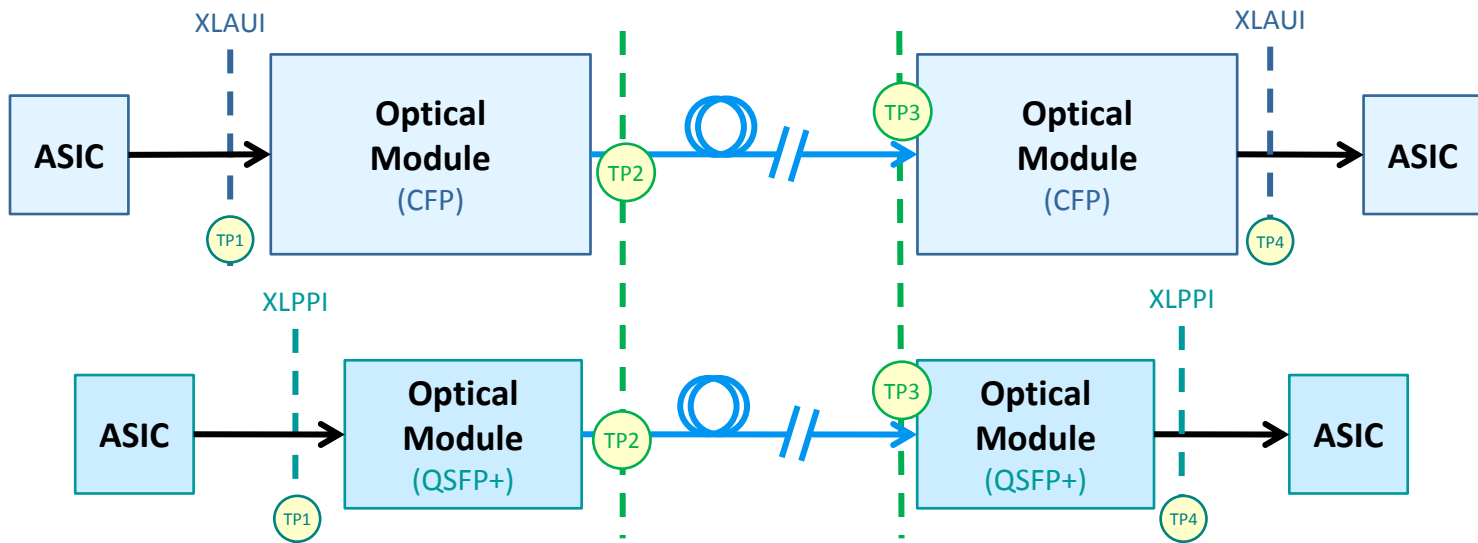
Cisco 10GBASE-E Module Shipments

10GBASE-E serves a critical network need for point to point connectivity



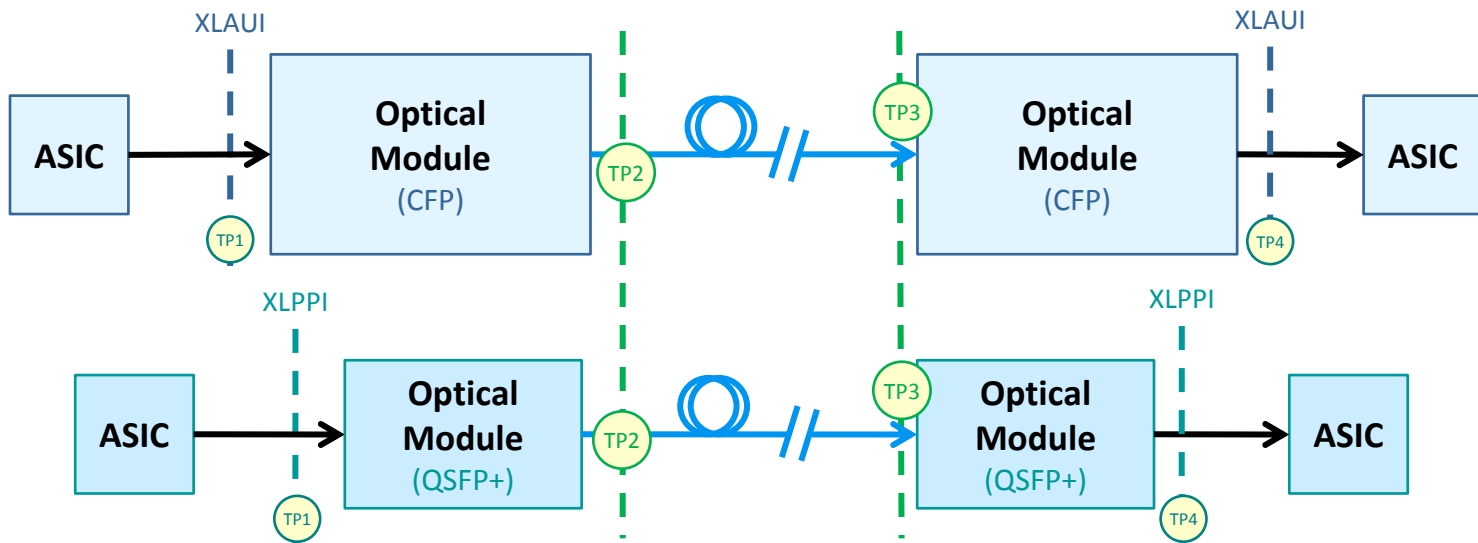
Need to specify a Form Factor agnostic 40km

- ❑ Current proposals in industry focused on XLAUI based optical budget with retimer in module
- ❑ Need a solution which allows for mix/match of retimed & unretimed interfaces



Need to specify a Form Factor agnostic 40km cont.

- ❑ Propose specifying optical budget from TP2 – TP3 which includes necessary margin to satisfy XLPPi or XLAUI mix/match scenarios
- ❑ Propose not building in features which may block support for OTU3 rate operation
- ❑ Propose adopting “engineered” link model for 40km support
 - ❑ Engineered link model implies reduced insertion loss per km fiber



Suggested Direction

- ❑ Leverage XLAUI and XLPPI electrical specifications from IEEE (see 802.3ba Clauses 83B & 86A)
- ❑ Leverage the 40GBASE-LR4 specifications
- ❑ Leverage engineered link model definition from IEEE 10GBASE-E and 100GBASE-ER4

- ❑ Request that the SG include an objective on 40GE over 40km reach