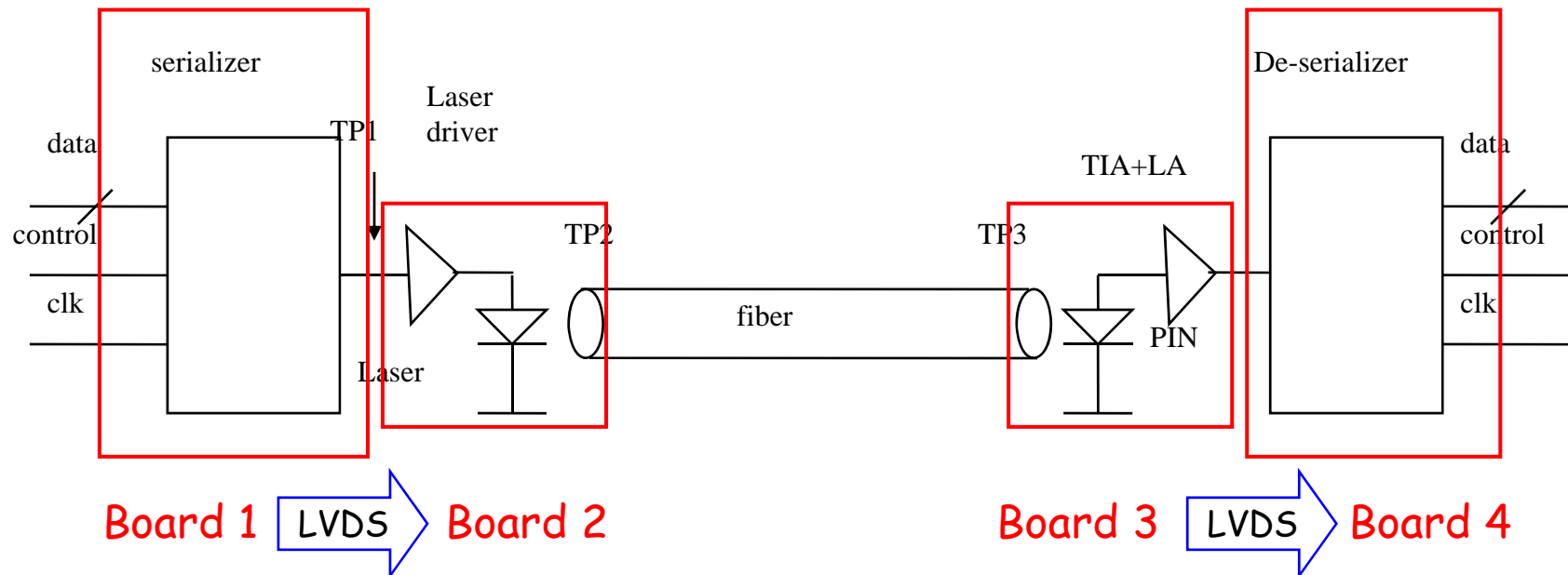


Subgroup C (Theme C)

- ❖ Goal establish optical link testing labs (centers).
- ❖ Advantages:
 - ❑ Develop and maintain expertise on multi-gigabit per second optical link systems. Provide knowledge base and baseline designs for optical links.
 - ❑ Best use of the very expensive equipment for multi-gigabit optical link development.
 - ❑ Standardize reference links and a test system to save on testing cost and time.
 - ❑ Standardize test procedures to easily compare test results among collaborators.
 - ❑ Overall to save on R&D cost on optical links for future HEP experiments.

What to standardize?

❖ Reference links at 1.25, 2.5 and 3.125 Gbps

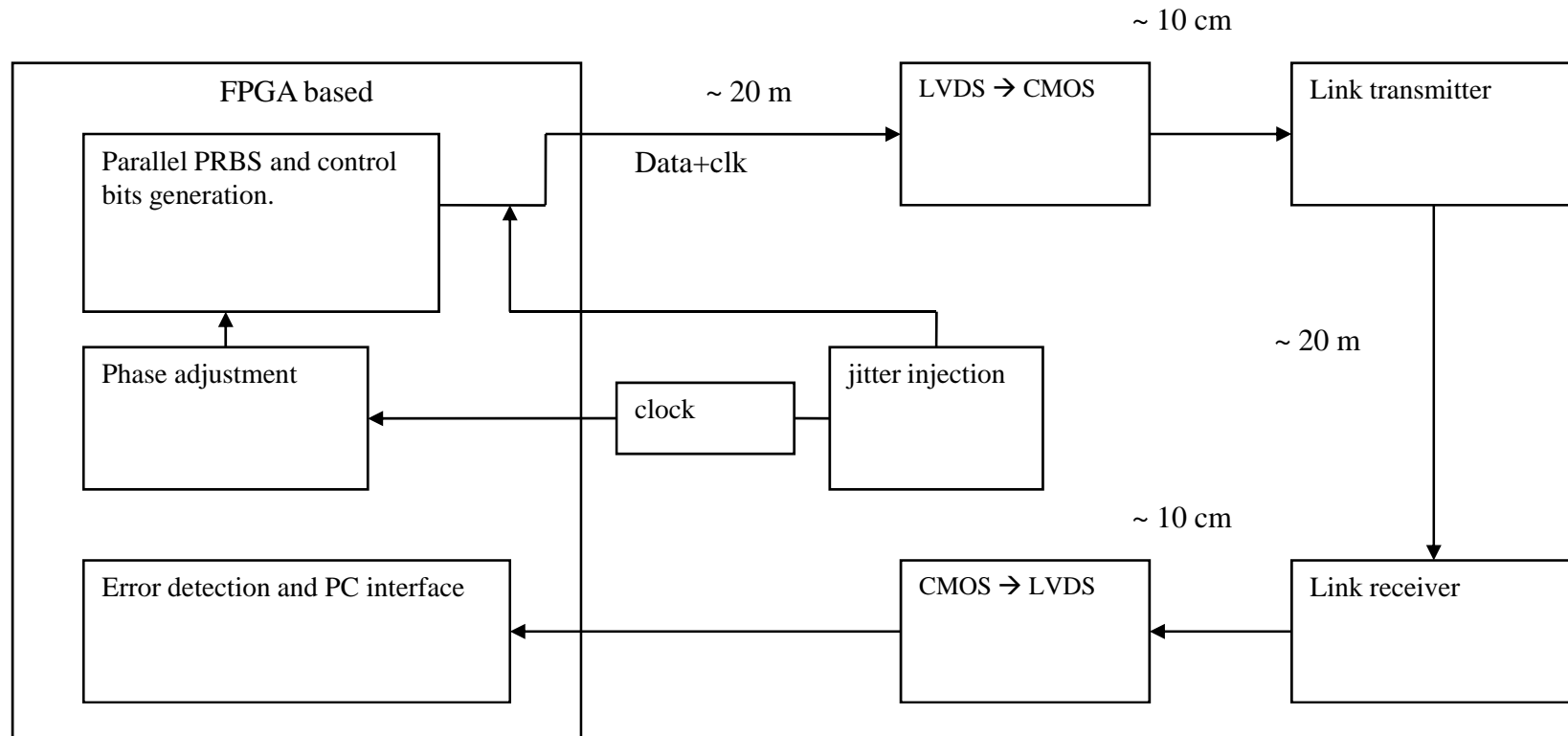


This allows for quick customer link construction for tests both in lab and in radiation.

Do we need 10 Gbps reference links?

What to standardize?

❖ Test systems (hardware + software):



This test system should be good for in-lab and irradiation tests.

What to standardize?

- ❖ A standardized in-lab test procedure.
- ❖ A standardized irradiation test procedure.
- ❖ Standardized hardware with software that (perhaps with small changes) may be used to construct custom links and test systems for groups that develop/evaluate components and subassemblies.

Please see the document.

A test center should provide

- ❖ Supporting staff on hardware, software development and maintenance.
- ❖ Adequate equipment for Multi-GHz optoelectronics development work.
- ❖ Develop and distribute (at a small material cost?) reference links and test systems, and help "users" of these links and systems to set up their optical links in lab.

Action items

- ❖ Review, comment and finalize the attached document. The best place to "sign off" this document is at TWEPP 2007.
- ❖ Two more phone meetings (if necessary), one in May/June, another in July/August to discuss about this document and other issues?
- ❖ A proposal to the ATLAS - CMS upgrade "steering body" to get endorsement on this idea?
- ❖ Closely work with CERN Versatile Link project to prove the usefulness of the standardized testing procedures and hardware?