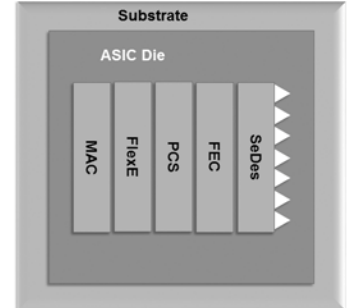


FlexE (Flexible Ethernet) IP

FlexE IP

OpenFive's FlexE IP is fully compliant to the OIF (Optical Internetworking Forum) FlexE v1.0 and v2.0 standard supporting various MAC client rates.

Built upon a flexible and robust architecture, OpenFive's FlexE IP core is compatible with various MACs supporting different rates. The FlexE IP supports FlexE aware, FlexE unaware and FlexE terminate modes of mapping over the transport network.



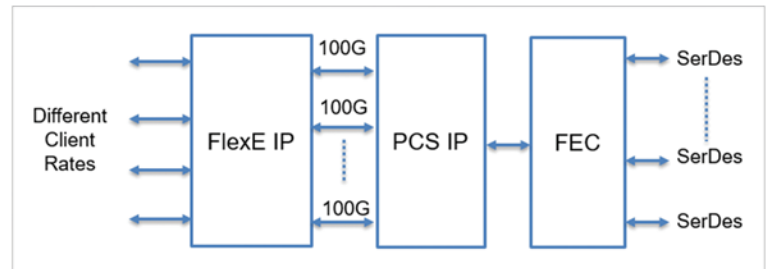
Features

- Supports various MAC client rates
- User configurable client rate adaption
- Supports bonding, sub rate, channelization and hybrid capabilities
- Supports up to eight FlexE groups
- Supports re-sizing of FlexE client within the FlexE group

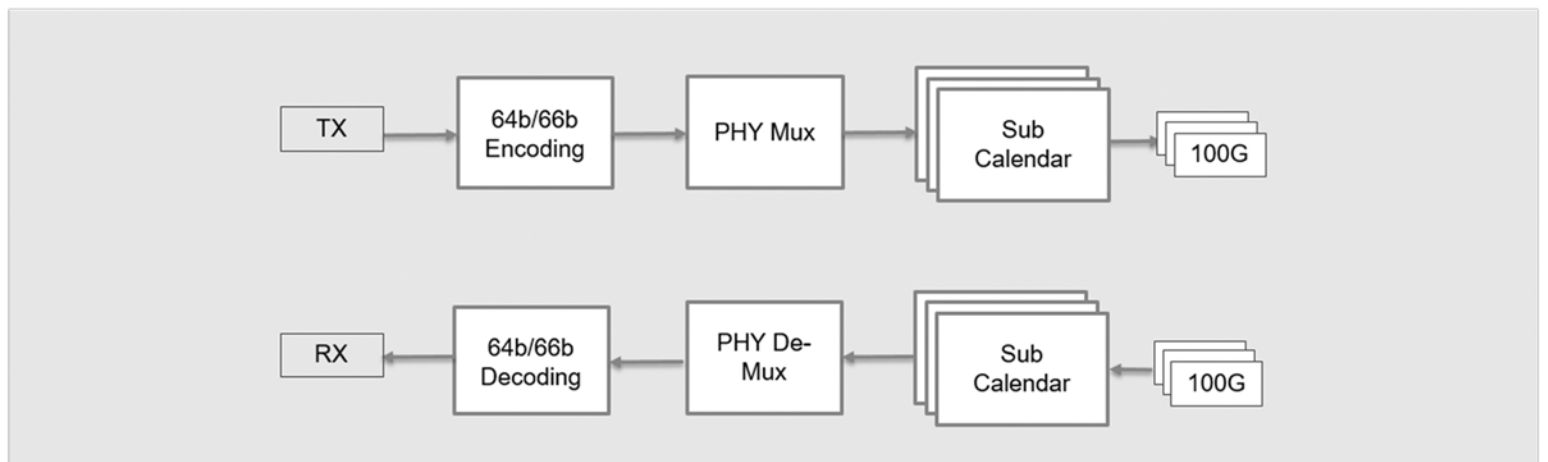
FlexE IP supports various Ethernet MAC rates, fully compliant to OIF Flex Ethernet Standard v1.1 and will be compliant to upcoming v2.0

Designed and tested to be easily synthesizable into many ASIC technologies, the OpenFive FlexE IP is uniquely built to work with off-the-shelf MACs from leading technology vendors. Using vendor-specific proven MACs allows for fast and seamless integration of the FlexE IP into the technology of choice.

The block diagram on the right shows the functional representation of how the FlexE relates to the Client and the 100G PCS. A single FlexE can be used to interface with up to eight FlexE groups, with each group comprising multiple 100G PCS interface.



Functional Block Diagram



FlexE IP Block Diagram

Applications

- Packet Processing/NPU
- Traffic Management
- Switch Fabric
- Switch Fabric Interface
- Framer/Mapper
- FPGA etc.

Deliverables

OpenFive's FlexE IP is shipped with the following deliverables:

- Synthesizable RTL
- Template CAD scripts for synthesis and static timing
- Assertions for the user interface and config registers
- Sanity test simulation environment
- RX/TX BFM
- Documentation:
 - SiFive IP Specification
 - Memory-Mapped Register Manual
 - Design Verification Plan