



Multirate 100G OTN Muxponder IP Solution

Altera's Multirate OTN Muxponder IP Solution is a single-device solution for 100G aggregation that supports sub-10G and 40G client ports. Together with the high bandwidth, high system performance, and lower power provided by Altera's Stratix® V FPGAs, this intellectual property (IP) solution enables the aggregation of both 10G and 40G networks for high-capacity 100G transport, significantly simplifying your network.

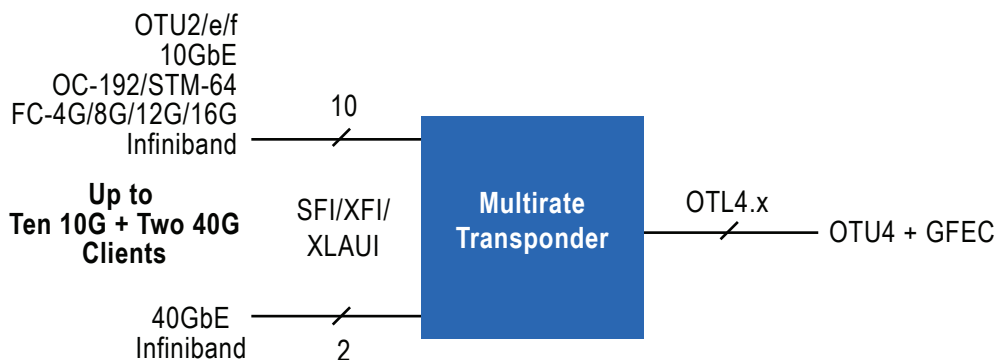
General Features

- Multiplexing of 100G client traffic
- Support for up to ten sub-10G ports and two 40G ports
- OTU4 line with G.709 generic forward error correction (GFEC)
- Dynamically configurable client ports
- Altera® industry-leading, high-gain enhanced forward error correction (EFEC) with 7-percent or 20-percent overhead available upon request

Key Features

- Aggregation of 40G and 10G networks for 100G transport
- Industry's first transport solution that supports 16G Fibre Channel clients
- Fully integrated digital core provides client adaptation, ODTUG4 multiplexing of up to 100G of client traffic, OTU4 mapping and framing, and forward error correction (FEC)

Application Diagram



Functionality

Clients

- Dynamically and independently reconfigurable client ports
- OTU2/e/f + GFEC
- 10GbE
- OC-192/STM-64
- FC-4G/8G/12G/16G
- Infiniband (QDR, DDR, and SDR)
- 40GbE (XLAUI)
- Supported interfaces: SFI/XFI/XLAUI

Line

- OTU4 (OTL4.10/OTL4.4)

FEC

- G.709 GFEC available on client and line
- Altera high-gain EFEC with 7-percent overhead available upon request
- Altera high-gain EFEC with 20-percent overhead available upon request

Supported Mapping Modes

- GMP mapping of OTU2
- Bit-transparent mapping of 10GbE to ODU2e
- BMP mapping of 40GbE and CBR clients to ODUflex
- 40GbE transcoding

Device

- Stratix V A9 device
- Package: F1517 (40 mm), F1932 (45 mm)

Power

For more information about the power profile, please contact your Altera sales representative.

OTN Standards Support

Framing

- Frame alignment signal (FAS) used to frame up and to identify out-of-frame (OOF) and loss-of-frame (LOF) conditions
- Multiframe alignment signal (MFAS) byte

OTU4 Section Overhead Monitoring

- Trail trace identifier (TTI)
- Bit-interleaved parity 8 (BIP-8)
- Backward error indication (BEI)
- Backward incoming alignment error (BIAE)
- Backward defect indication (BDI)
- Incoming alignment error (IAE)

ODU4 Path Overhead Monitoring

- TTI, BIP-8, BDI, and BEI monitoring
- Six levels of tandem connection monitoring (TCM)
- Delay measurement insertion and monitoring

OPU4 Path Overhead Monitoring

- Payload structure identifier (PSI)
- Payload type (PT)
- Justification control (JC)

Customization

Altera's experienced Optical Transport Network (OTN) design team will customize your solution to streamline your integration efforts.

Software

Altera's hardware abstraction layer (HAL) application programming interface (API) simplifies software integration. The API suite includes functions that provide client and line configuration, alarm propagation, and maintenance signaling.

Want to Dig Deeper?

For more information about our Multirate 100G OTN Muxponder IP Solution, please contact your Altera sales representative, or visit www.altera.com.

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