

# OTN Family | 200G P-OTS Any-Rate Mapper | TPOC226

Altera's OTN SoftSilicon® Family provides a complete family of optical network processors for metro/core OTN and packet networks covering applications from network interfaces over transponders and muxponders to large OTN cross connect or Packet-Optical Transport Systems (P-OTS).

The Altera SoftSilicon solution provides maximum performance while optimizing customers' time-to-market, flexibility, risk profile, and cost-over-lifetime.

## Family Key Features

- All OTN networking applications covered
- Latest OTN/packet standards supported
- Maximum flexibility provided
- Low risk for system vendors and end users
- Low development cost and total cost of ownership
- 2.5 Gbit/s – 400 Gbit/s bandwidth
- G.709 OTN mapping, multiplexing, cross-connection, framing and FEC
- Client ports configurable to any rate and any protocol
- Support of ODU0 and ODUflex
- Built-in ODU cross connect for efficient sub-wavelength networking
- Stand-alone and switch-fabric applications
- Maximum flexibility and low risk for system vendors and end users
- Advanced and easy-to-use software API

## All Applications

Altera provides standard solutions for all applications in the packet optical space, ranging from simple, but efficient, framer/mapper interface components over stand-alone transponder and muxponder systems to 100G capacity, high density line cards on ODU cross connect and P-OTS.

## Fastest Time-to-Market

The Altera SoftSilicon model, with standard devices and a well-defined set of features, pin-out and software API validated on reference hardware, guarantees shortest time to market.

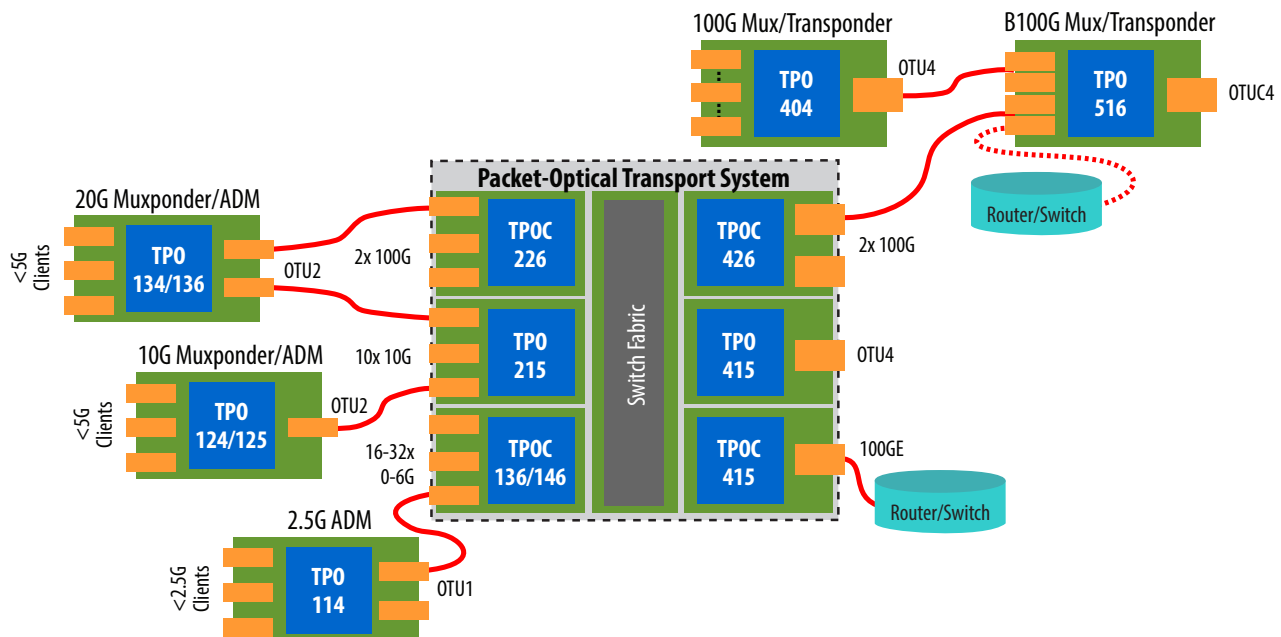
## Lowest Risk

Because SoftSilicon devices have been built and validated on reference platforms that closely resemble the target application, they minimize

the development risk for system providers. The FPGA platform mitigates the risk from new or changing requirements from end-customers or standardization bodies.

## Low Development and Maintenance Cost

Altera provides an easy-to-use unified software API for the various solutions even when chip sets are used. This makes it efficient for software teams to integrate their solutions into the system software and makes software maintenance much easier, particularly if hardware solutions are migrated to more integrated implementations and new process nodes over time.



## Specifications

### OTN/Client Interfaces

- 200 Gbit/s bandwidth
- 20 serial SoftPort interfaces, each can be configured as:
  - 0-14 Gbit/s client interface supporting any rate, any client type
  - OTU2 / OTUk interface (k=2e, 1e, 2f, 1f)
  - OTU1 interface
  - 1.25 Gbit/s OTU0LL interface

### System Interfaces

- 2x Interlaken interfaces
- 2x 100 Gbit/s OIF OFP segmentation/reassembly engines

### Mappings and multiplexing as per G.709

- Flexible mapping of 0-14 Gbit/s clients into ODUk (k = 0, 1, 2, 2e, 1e, 2f, 1f, flex)
- (De)multiplexing of all types of lower order ODUk from/to higher order ODU2 or ODU1

### OTN Overhead

- Full internal OTUk overhead processing (k=0LL, 1, 2, 2e, 1e, 2f, 1f)
- Full internal ODUk/OPUk overhead processing (k=0, 1, 2, 2e, 1e, 2f, 1f, flex)
- Fully flexible insertion/extraction of OH

### Forward Error Correction (FEC)

- Optional GFEC

### Driver Software

- Driver API software provided for easy integration with application layer software

## TPOC226 Functions

The TPOC226 is a single chip 20-channel any-rate mapper with segmentation and reassembly (SAR) and packet mapping functionality. The application diagram below highlights the applications that the TPOC226 supports.

TPOC226 devices can be applied in advanced ODU cross-connect systems for OTN-based transport networks.

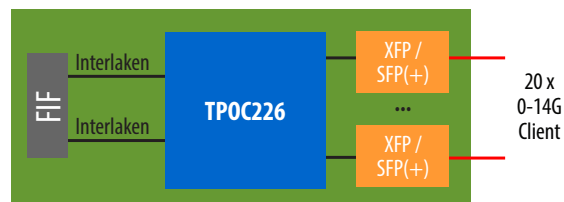
The application diagram below shows an example of how the TPOC226 can be used to build 200 Gbit/s line cards in an ODU cross-connect system with a packet based switch fabric.

To the system side it connects to the Fabric Interface Chip through two 120 Gbit/s Interlaken interfaces. Segmentation and Reassembly (SAR) functionality enable mapping of OTN system traffic.

## Driver Software

Advanced API software is provided for easy integration with and maintenance of application layer software. The API software can be compiled to any OS.

### Dual 100 Packet-Optical Muxponder



## Want to Know More

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