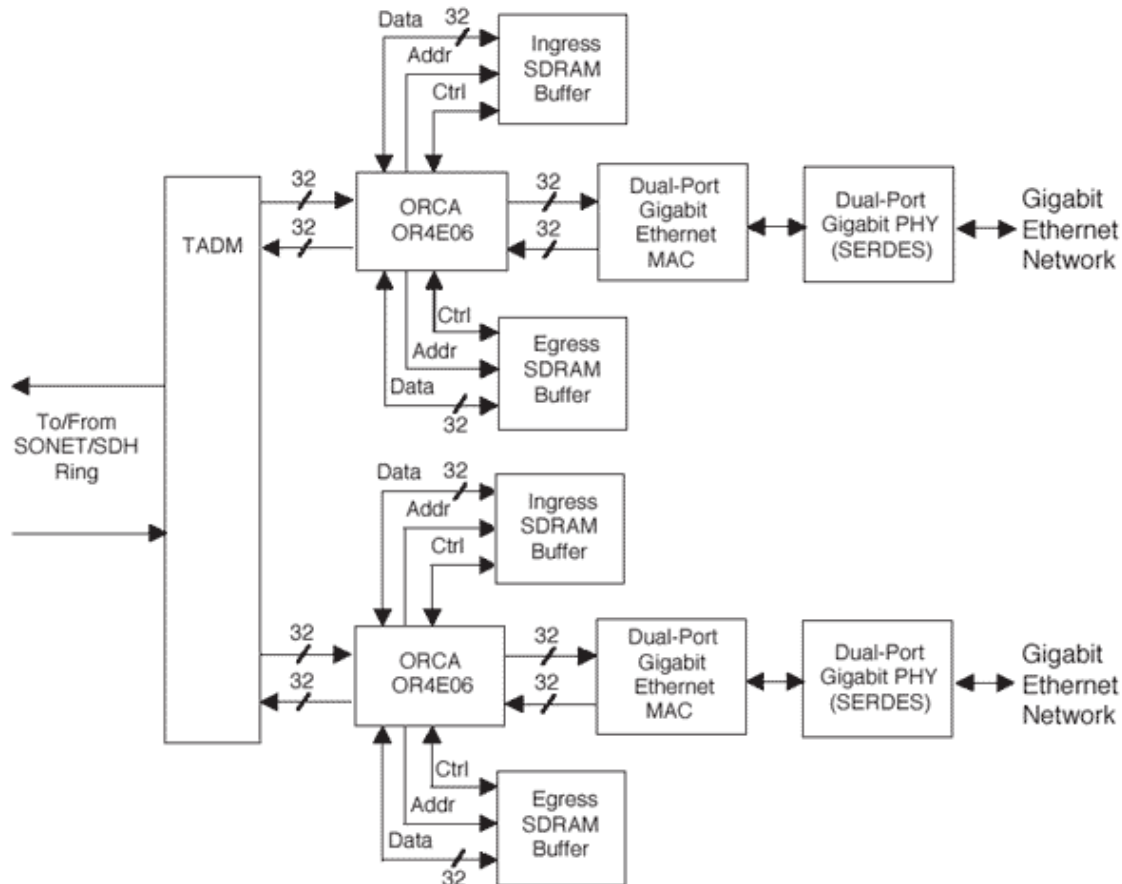


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Quad GbE Over SONET/SDH

Overview

Lattice's Quad GbE Over SONET/SDH Bridge is a hard IP Core implemented in two Lattice ORCA4E06 devices that act as a bridge between two Intel Dual-Port GbE MAC devices (part number IXF1002) and an Agere System's SONET Framing device (part number TADM042G5v2). External 64Mb DRAM is also used as part of the system for buffering data and flow control purposes. The 9-page Data Sheet provides a brief description of the IP Core, its signals, and the system solution. Please consult the Lattice factory for further information.



Features

- Encapsulates GbE frames into SONET/SDH protocol using packet-over SONET (POS) and simplified data link (SDL)
- Quad OC-12c POS interface to the SONET/SDH network, each OC-12c carries one GbE data channel
- Performs all SONET/SDH section, line, and path termination functions
- Support for Jumbo Ethernet packets, up to 9.6 Kbytes
- Full packet error handling with parity error detection & error indication from Link Layer and MAC devices
- Robust 64-bit FIFO MAC interfaces with arbitration
- Flexible flow control at ingress & egress. Software-provisioned flow control provided through MPU interface
- SDRAM Controller with programmable watermark registers for buffering data & control in external memory
- Backpressure mechanism at ingress & egress using Ethernet flow control packets and programmable timers
- Motorola MPC860-compatible MPU interface for status & control

Evaluation Configurations

Evaluation Configuration Table

Bitstream File	Device	Speed Grade	ORCA4 PFUs/ LUTs	Throughput
ether_1gqd_o4_1_001	(2) ORCA4E06-1BM6801 devices	-2	Bitstreams fill (2) OR4E6s	Quad GbE to OC-12c POS

Ordering Information

Part Numbers:

For ORCA4:ETHER-1GQD-O4-B1

To find out how to purchase the Quad GbE Over SONET/SDH IP Core, please contact your [local Lattice Sales Office](#).