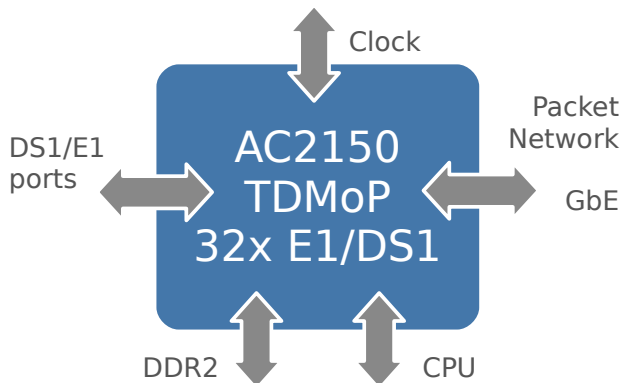


AC2150 - DS1/E1 TDM over Packet device



- **TDM over Packet solution for 32x DS1/E1**
- **CESoPSN and SAToP modes**
- **Wander compliant to MEF18 and G.8261**
- **Integrated DS1/E1 framer**
- **DDR2 jitter buffer**
- **Applications:**
 - **TDM over Packet**
 - **Wireless backhaul systems**
 - **Wireline network migration**

Overview

The AC2150 TDM over Packet device implements Circuit Emulation Services Interworking Functions (CES IWF) for 32 DS1/E1 TDM channels.

The device integrates all functions for TDM transport applications in wireless backhaul systems: DS1/E1 framers, TDMoP IWF, and packet header processing.

The AC2150 implements the SAToP and CESoPSN modes defined by IETF, MEF, MFA and ITU. These support transport of transparent DS1/E1 channels, or provide bandwidth efficient nx64 fractional channels.

Each TDM channel can be configured independently for adaptive, differential or retiming clock recovery mode, and each channel may operate at a different clock rate.

The integrated DS1/E1 framers enable fault and performance monitoring, including test pattern insertion and loopback. The device supports Ethernet, VLAN, IP and MPLS PWE3 packet headers, and a dual Gigabit Ethernet interface.

The device is ideally prepared for new protocols or standards evolution due to its FPGA based design.

Evaluation systems are available for system level testing.

Features

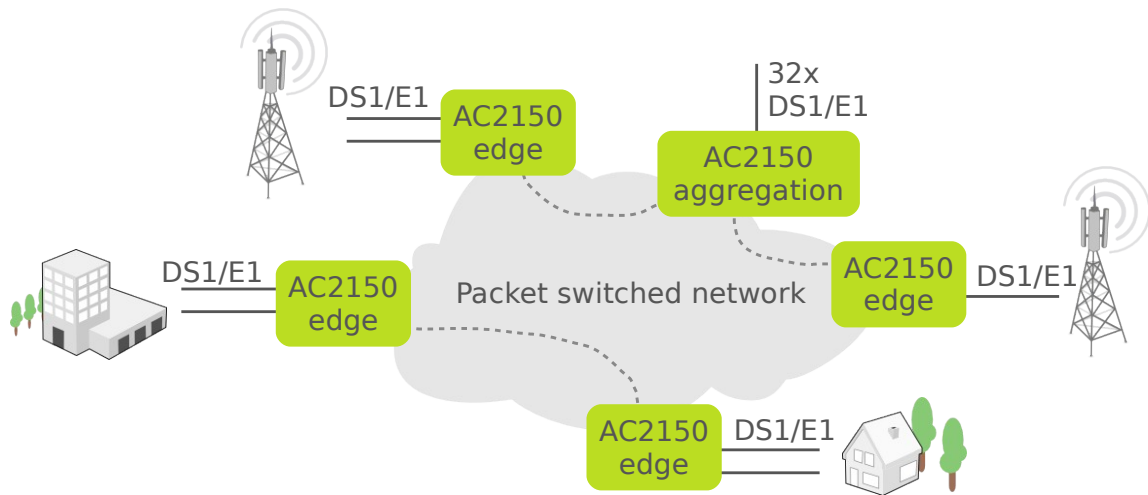
- TDM over Packet CES IWF for 32 DS1/E1 ports
- SAToP or CESoPSN transport mode selectable per channel (RFC4553 and RFC5086)
- Configurable amount of TDM data per packet
- Clock recovery mode selectable per channel: adaptive, differential or retiming mode
- RTP header for differential clock (RFC3550)
- Jitter and wander compliant to MEF18, ITU-T G.8261 and G.823 / G.824 for traffic interfaces
- Configurable jitter buffer size
- Extensive set of CES fault and performance monitoring points
- Integrated DS1/E1 framer with alarm, fault and performance monitoring, and support for loopbacks and PRBS maintenance functionality
- Integrated packet header processor for MAC addresses, VLAN tags, IP and MPLS PWE3 headers

Interfaces

- TDM interface to LIU at 1.544 or 2.048 Mb/s
- Dual GbE SerDes or interface to external PHY
- Clock: 19.44 MHz
- DDR2 DRAM for jitter buffer
- 16-bit CPU interface

Technology and Package

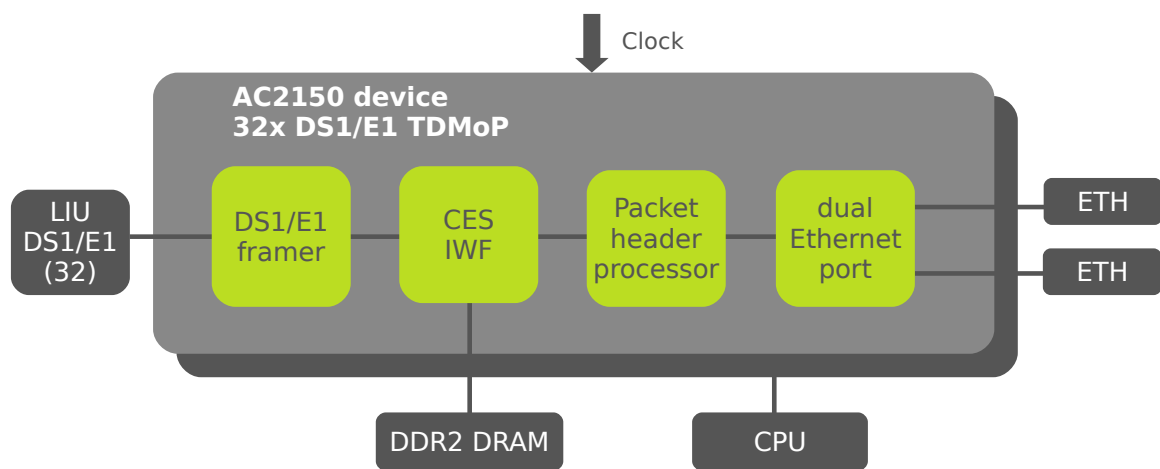
- 40 nm CMOS technology
- 484-pin 23 x 23 mm FBPGA package
- Typical power dissipation < 1.5 Watt



AC2150 core in network application

Typical system applications for the AC2150 include:

- TDMoP CPE and provider edge equipment
- RBS or BTS base station network cards
- Carrier Ethernet Switch or router blade for TDMoP network aggregation
- TDM business access equipment for leased line migration
- CMTS cable head-end
- AMC I/O cards for ATCA and MicroTCA



AC2150 block diagram and interfaces

A companion device, the AC2380 - OC12/STM4 TDMoP Gateway targets TDM over Packet aggregation applications. The AC2150 and AC2380 are based on the same processing core and allow for seamless end-to-end interworking.

AimValley is a global supplier of telecom and data networking solutions that enable network operators to provide services with optimized quality of experience. With its innovative solutions for Ethernet demarcation, Circuit Emulation and Carrier Class switching, AimValley addresses the demands of next generation packet based networks, supporting applications ranging from legacy based services to bandwidth demanding data and video.

The information in these materials is given to describe certain component concept and shall not be considered as a guarantee of characteristics. Please note that AimValley's product information does not constitute or contain any guarantee, warranty or legal binding representation, unless expressly identified as such in duly signed writing.

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