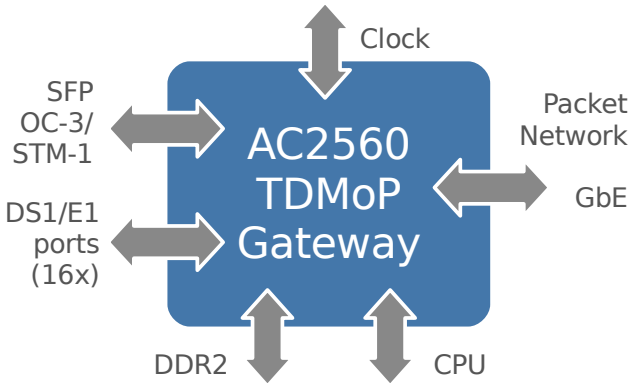
AC2560 – TDM over Packet Gateway device



- **TDM over Packet gateway for 16 DS1/E1 and fully channelized OC-3/STM-1**
- **CESoPSN and SAToP modes**
- **Wander compliant to MEF18 and G.8261**
- **OC-3/STM-1 line, and DS1/E1 interfaces**
- **Applications:**
  - **TDM over Packet**
  - **Wireless backhaul systems**
  - **Wireline network migration**

Overview

The AC2560 TDM over Packet device implements Circuit Emulation Services Interworking Functions (CES IWF) for a fully channelized OC-3 or STM-1 capacity and 16 additional DS1/E1 TDM ports. Each of the DS1 or E1 channels are processed individually to provide a high-density Gateway between TDM over SONET/SDH and TDM over packet.

The device integrates all functions for TDM transport gateway applications in wireless backhaul systems: SONET/SDH line interface with 1+1 APS protection, VT-1.5/VC-12 mappers, E1/DS1 framers, TDMoP IWF, and packet header processing.

The AC2560 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.

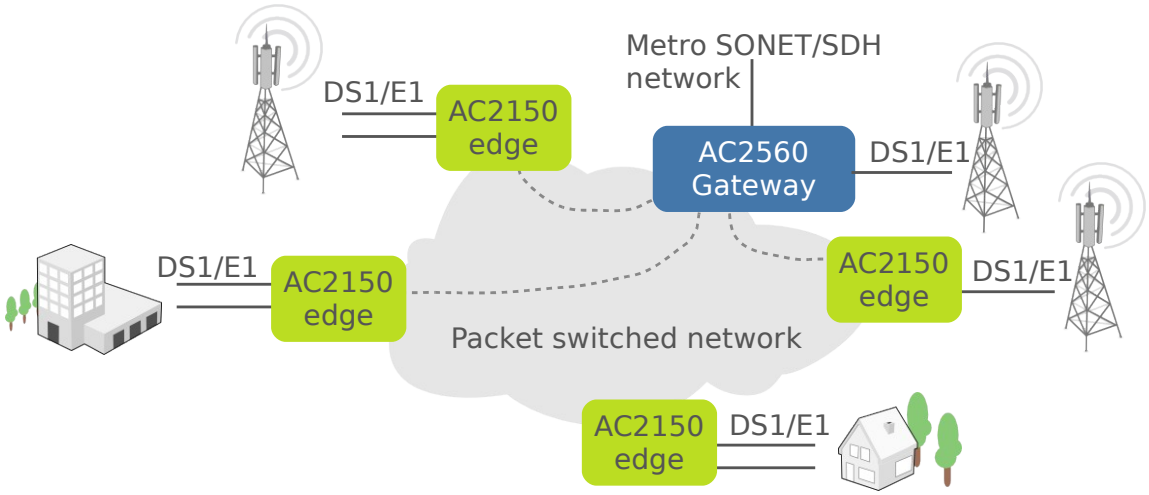
Evaluation systems are available for system level testing.

Features

- TDM over Packet CES IWF for 84+16 DS1s, 63+16 E1s
- 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
- The integrated SONET/SDH framer/mapper supports SOH/POH, pointer processors, and VT-1.5/VC-12 mappers
- DS1/E1 framers provide 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

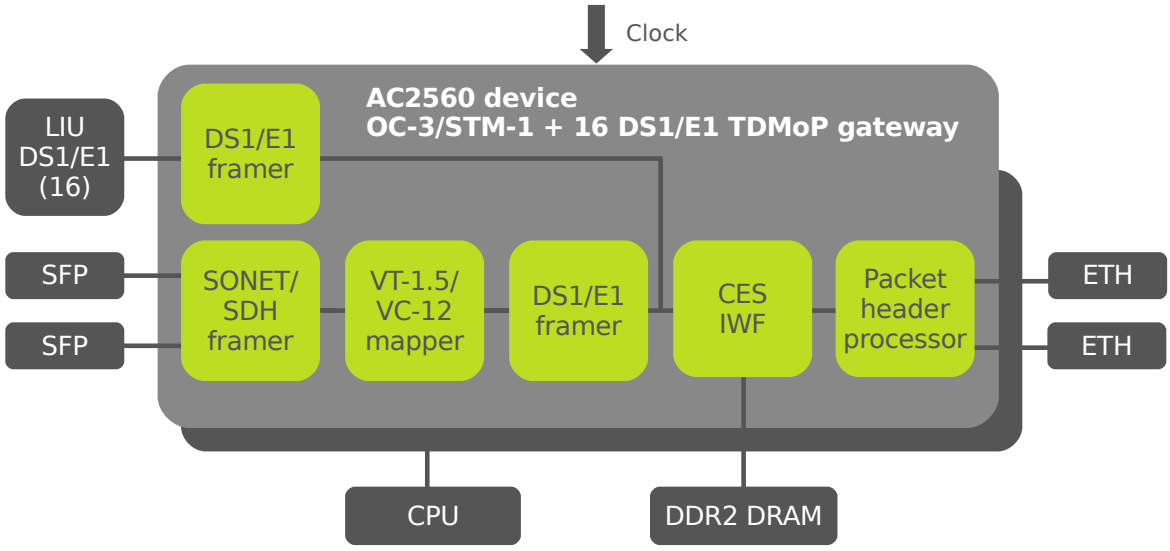
- 2 OC-3/STM-1 line interfaces
- 16 TDM interfaces to LIU at 1.544 or 2.048 Mb/s
- Dual GbE SerDes or interface to external PHY
- Clock: 19.44 MHz
- DDR2 DRAM for jitter buffer
- 16-bit CPU interface



TDMoP aggregation application

Typical system applications for the AC2560 include:

- High density TDM over packet equipment
- Aggregation or gateway card on Carrier-Class Ethernet Switch or IP/MPLS router
- RNC or BSC controller network interface card
- CMTS cable head-end
- AMC I/O cards for ATCA and MicroTCA



AC2560 block diagram and interfaces

A companion device, the AC2150 - 32x DS1/E1 TDMoP device, targets TDM CES line cards and CPE applications. The AC2560 and AC2150 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.

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