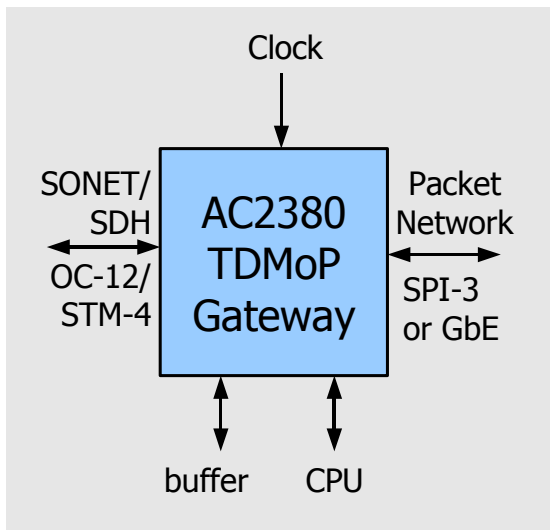


AC2380 – TDM over Packet Gateway device



- **TDM over Packet gateway for up to 336 DS1 or 252 E1 channels**
- **CESoPSN and SAToP mappings**
- **Jitter and wander compliant to G.8261 and G.823/G.824**
- **STM4/OC12 line interface**
- **Applications:**
 - **TDM over packet aggregation nodes**
 - **Wireless backhaul**
 - **Wireline network migration**

Overview

The AC2380 TDM over Packet Gateway device implements Circuit Emulation Services Interworking Functions (CES IWF) for a fully channelized OC-12/STM-4. Each of the 336 DS1 or 252 E1 channels embedded on the line interface are processed individually to provide a high-density Gateway between TDM over SONET/SDH and TDM over Packet.

Each of the embedded DS1 or E1 channels may be asynchronously clocked on ingress and the reassembly function supports independent clock recovery for the TDM data towards the line interface. Each channel operates in either adaptive or differential clock recovery mode.

The AC2380 implements the IETF and MEF8 defined SAToP and CESoPSN modes. These allow transport of either the full DS1/E1 channels, or bandwidth efficient fractional channels. Integrated SONET/SDH framers/mappers and DS1/E1 framers enable fault and performance monitoring, including test pattern insertion and loopback. The device supports Ethernet, VLAN, MPLS and IP/UDP PWE3 packet headers, and a SPI-3 bus or GbE ports towards the packet network.

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

Features

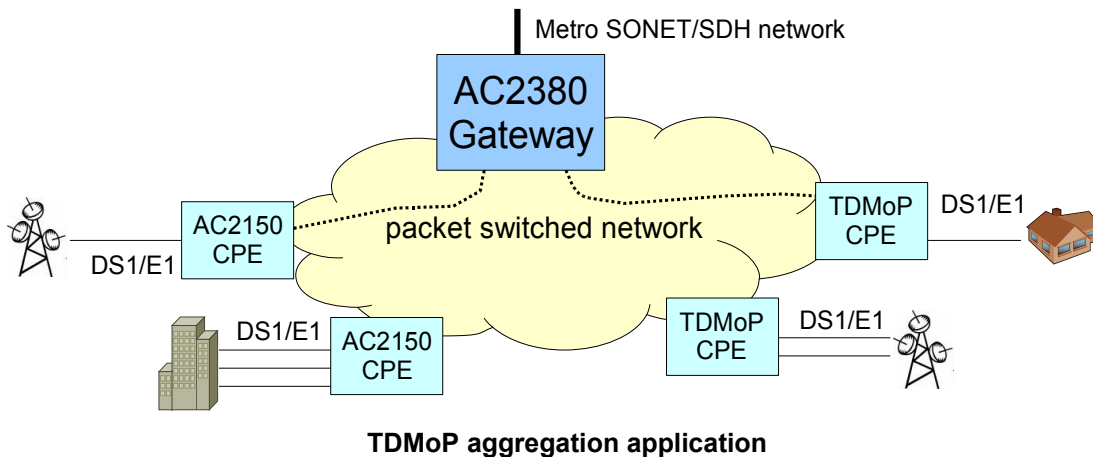
- CES IWF for up to 336 DS1 or 252 E1 channels
- SAToP or CESoPSN transport mode selectable per channel
- SAToP: unstructured agnostic payload transport

- CESoPSN: transport of fractional E1/DS1
- Configurable amount of TDM data per packet
- Clock recovery mode selection per channel: adaptive or differential mode
- RTP header for differential clock: RFC3550
- RTP time stamp programmable at N * 8kHz
- Jitter and wander compliant to ITU-T G.8261 and G.823 / G.824 for traffic interfaces
- Programmable initial and maximum jitter buffer per port
- Packet resequencing and missing packet detection with TDM frame replication
- The integrated SONET/SDH framer/mapper supports SOH/POH, pointer processors, and VT1.5/VC12 mappers
- DS1/E1 framers provide alarm, fault and performance monitoring and supports loopbacks and PRBS maintenance functionality
- Integrated Ethernet MAC enables flexible packet header processing of MAC addresses, VLAN tags, MPLS and IP/UDP PWE3 packet headers.

Interfaces

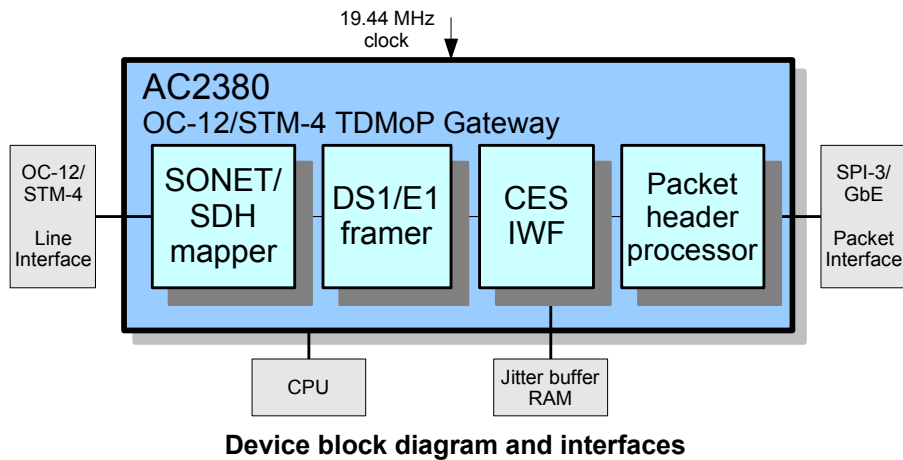
- OC-12 or STM-4 line interface
- SPI-3 packet bus or dual GbE
- Clock: 19.44 MHz
- RAM interface
- 16-bit CPU interface

Applications and Block diagram



Typical system applications for the AC2380 include:

- High density TDM over packet systems
- Aggregation or gateway card on MSPP, Carrier Ethernet Switch or IP/MPLS Router
- RNC or BSC controller network interface card
- CMTS cable headend
- AMC I/O cards for ATCA and MicroTCA



A companion device, the AC2150 - 32x DS1/E1 TDMoP, targets TDM CES line cards and CPE applications. The AC2380 and AC2150 are based on the same processing core and allow for seamless end-to-end interworking.

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Dec 2008 v0.9

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AimValley B.V. offers full-featured carrier-class solutions for metro and regional services equipment. Its subsidiaries, AimSys and AimCom, provide system- and device level solutions for Carrier Ethernet and Optical Networking systems, delivering cost-effective SONET/SDH, PDH and Ethernet services.

AimCom B.V. is an Altera Certified Design Center and cooperates with Altera in the development and marketing of FPGA ASSPs and FPGA design services.

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