



CORTINA

Product Brief

Cortina Systems® IXF30005 Digital Wrapper for 10 Gbit/s Optical Transport Networks (OTN)

Product Description

The Cortina Systems® IXF30005 Digital Wrapper and Forward Error Correction (FEC) Device (IXF30005 Wrapper/FEC) is a fully compliant G.709 digital wrapper device that covers most Optical Transport Network (OTN) applications on a single chip. Based on the digital signal wrapping technique defined by ITU-T G.709*, the IXF30005 Wrapper/FEC provides all functions required for an optical network transmission system, including transmission protection based on Forward Error Correction (FEC). With integrated FEC error statistics and overhead processing facilities, the IXF30005 Wrapper/FEC is a key component in wrapper-based transparent operation, administration, maintenance and provisioning of optical networks.

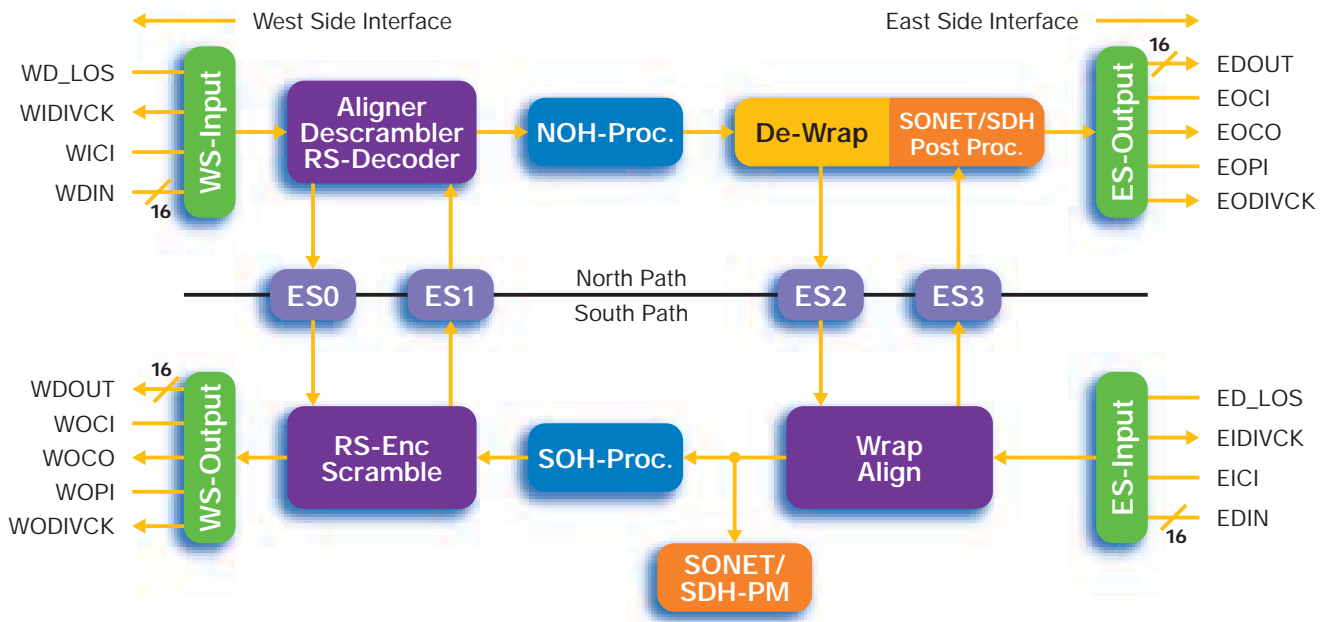
The IXF30005 Wrapper/FEC is built on technology developed for the Cortina Systems® IXF30001 (IXF30001) and Cortina Systems® IXF30003 (IXF30003), which were the first 10 Gbit/s FEC devices in the market. Supporting both asynchronous and synchronous mapping schemes, the IXF30005 Wrapper/FEC provides special features for SONET/SDH data streams, such as a Performance Monitor (PM) and post processor.

Acting as a direct pin and software compatible drop-in replacement for the IXF30001 and IXF30003 (FEC100), the IXF30005 Wrapper/FEC supports IXF30001 and IXF30003 G.975 framing, as well as ITU-T G.709*. The IXF30005 Wrapper/FEC may be operated as a gateway between existing IXF30001- or IXF30003-based systems and ITU-T G.709*-compliant equipment.

Dual Data Paths

The IXF30005 Wrapper/FEC contains two completely separate signal paths (north and south) that are designed to operate as receiver and transmitter for single chip transponder applications. Using integrated bridges between both paths, the IXF30005 Wrapper/FEC provides APS support and may also be configured as a regenerator. The IXF30005 Wrapper/FEC supports both synchronous and asynchronous mapping of STM-64 streams for SDH payload data, and an integrated, non-intrusive PM in the south path (the FEC transmitter) can be used to check incoming payload signal quality.

On the north path (the FEC receiver), an integrated SOH processor allows extraction of up to two configurable bytes. In the event of severe transmission error, such as the loss of signal or wrapper frame synchronization, received SONET/SDH data may be replaced by AIS frames.



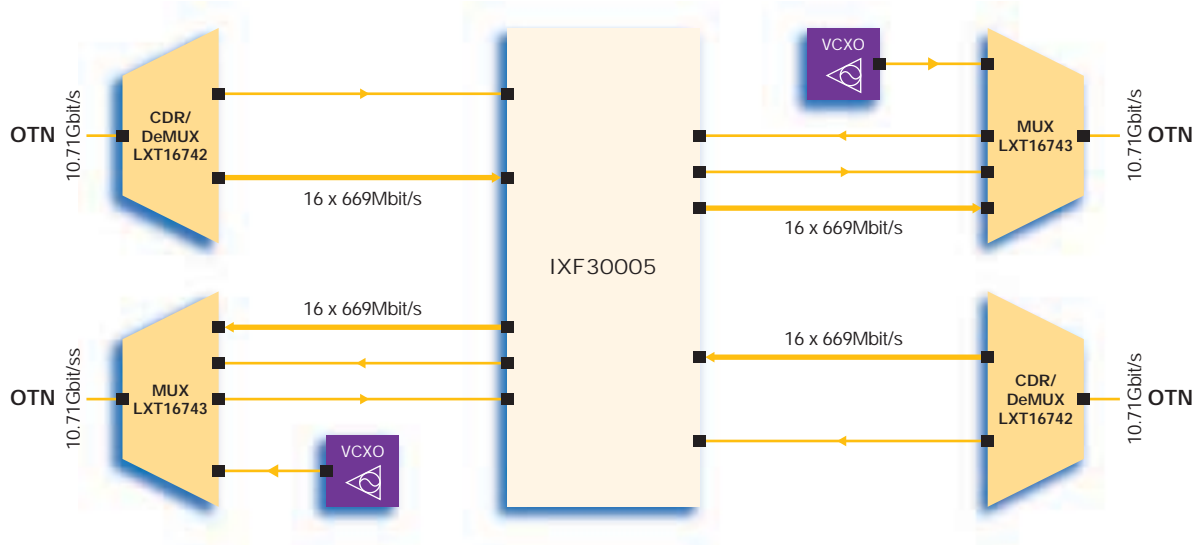
IXF30005 Wrapper/FEC Block Diagram

Features

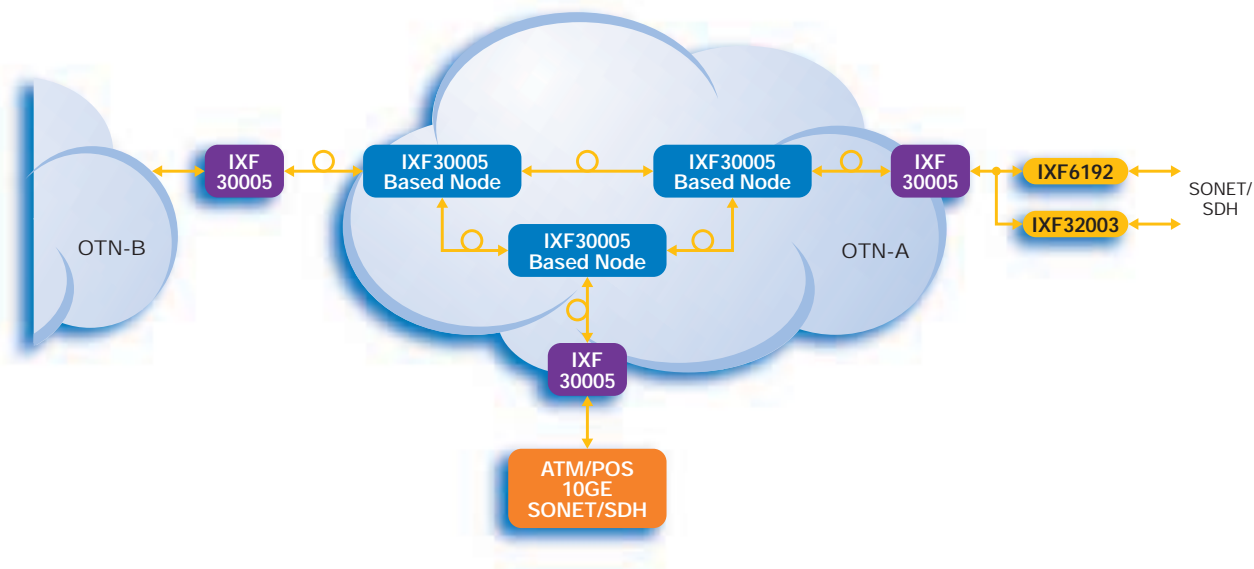
- Flexible 10 Gbit/s digital wrapper for OTN with ITU-T G.709 compliance, including Forward Error Correction (FEC).
- Wide coverage of OTN overhead functions implemented in hardware.
- OC-192/STM-64 client processing related to OTN functions and applications.
- Drop-in replacement for IXF30001 or IXF30003 (FEC100). Identical footprint and physical characteristics.
- Low power consumption (3.1 W maximum).
- OC-192/STM-64 SONET/SDH performance monitor (B1, B2, J0, general purpose) and post processor (AIS insertion).
- Bidirectional device for single chip transponder operation (synchronous or asynchronous).
- OIF-compliant LVDS Inputs/Outputs.

Benefits

- Versatile enough to use in many locations and applications within an OTN, designed for current as well as future applications.
- Reduces costs, space, power and software development time.
- Compliance with existing standards reduces development time.
- Eases migration path and reuses all 622/66MHz PCB RF qualification data. Allows bridging between FEC100-based systems and OTN.
- Eases mechanical systems design and power management.
- No additional performance monitor device required, basic SDH functionality downstream.
- Compact system design, reduced cost, lower power consumption, different clocking schemes from which to choose.
- Allows use of SerDes components provided by 3rd party vendors



The IXF30005 Wrapper/FEC may be operated as Intra Domain Interface (IaDI) and Inter Domain Interface (IrDI) within an OTN according to G.709, acting as a gateway between two OTNs or as a network node within an OTN. Because of the various types of framing it supports, the IXF30005 may also act as a gateway between existing IXF30001-based network and an G.709 compliant OTN.



Key Applications

- Long-haul optical transmission networks
- Increasing bandwidth in existing systems
- Submarine applications
- Optical Transport Networks according to G.709
- Bridge/gateway function between existing networks (SONET/SDH) and optical transport networks (OTN)

Cortina in Communications

Cortina is a leading supplier of intelligent communication solutions through continuous innovations in advanced port processing and intelligent port connectivity to the Core, Metro, Access and Enterprise Market Segments. With our state-of-the-art high speed analog digital integration, we deliver a wide suite of products that address our customers'

performance, density and flexibility needs enabling faster time-to-market, longer time-in-market, and increased revenue opportunities. Working closely with our customers to understand their system requirements and anticipate their needs, we are creating the foundation ingredients for new generations of services.

*Other names and brands may be claimed as the property of others.



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