Cortina Systems® IXF30025 Digital Wrapper for 2.5 Gbps Optical Transport Networks (OTN)

Product Description

The Cortina Systems® IXF30025 Digital Wrapper (IXF30025 Wrapper) 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 IXF30025 Wrapper 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 IXF30025 Wrapper is a key component in Wrapper-based transparent operation, administration, maintenance and
provisioning of optical networks.

The IXF30025 Wrapper is built on technology developed for the IXF30005 Wrapper, which was the first 10 Gbps digital Wrapper in the market. Supporting both asynchronous and synchronous mapping schemes, the IXF30025 Wrapper 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 IXF30025 Wrapper supports IXF30001 and IXF30003 G.975 framing, as well as ITU-T G.709. The IXF30025 Wrapper may be operated as a gateway between existing IXF30001- or IXF30003-based systems and ITU-T G.709-compliant equipment.

Dual Data Paths

The IXF30025 Wrapper 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 IXF30025 Wrapper provides APS support and may also be configured as a regenerator. The IXF30025 Wrapper supports both synchronous and asynchronous mapping of STM 16 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.
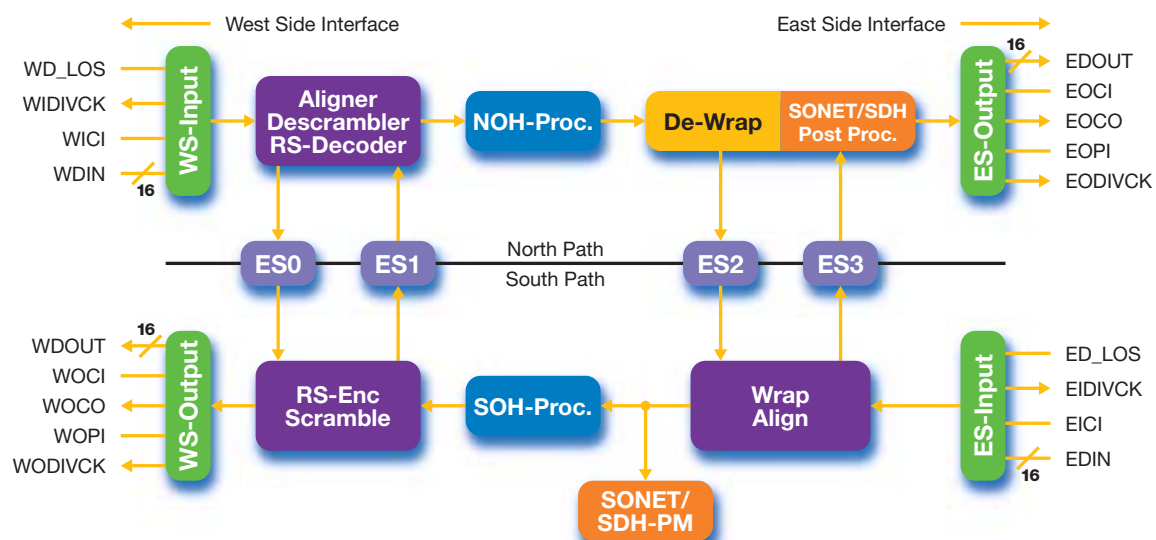

IXF30025 Wrapper Block Diagram

Features	Benefits
• Flexible 2.5 Gbps digital W rapper for OTN with ITU-T G.709 compliance, including F orward Error Correction (FEC).	• Versatile enough to use in man y locations and applications within an OTN, designed for current as well as future applications.
• Wide coverage of OTN overhead functions implemented in hardware.	• Reduces costs, space, power and softw are development time.
• OC-48/STM-16 client processing related to O TN functions and applications.	• Compliance with existing standards reduces development time.
• Drop-in replacement for IXF30001 or IXF30003 (FEC100). Identical footprint and ph ysical characteristics.	• Eases migration pass and reuses all 155/167 MHz PCB RF qualification data. Allows bridging between FEC100-based systems and OTN.
• Low power consumption	• Eases mechanical systems design and power management.
• OC-48/STM-16 SONET/SDH performance monitor (B1, B2, J0, gener al purpose) and post processor (AIS insertion)	• No additional performance monitor device required, basic SDH functionalit y downstream.
• Bidirectional device for single chip tr ansponder operation (synchronous or asynchronous).	• Compact system design, reduced cost, lower power consumption, different clocking schemes from which to choose.
• OIF-compliant LVDS Inputs/Outputs.	• Allows use of SerDes components pro vided by 3rd party vendors
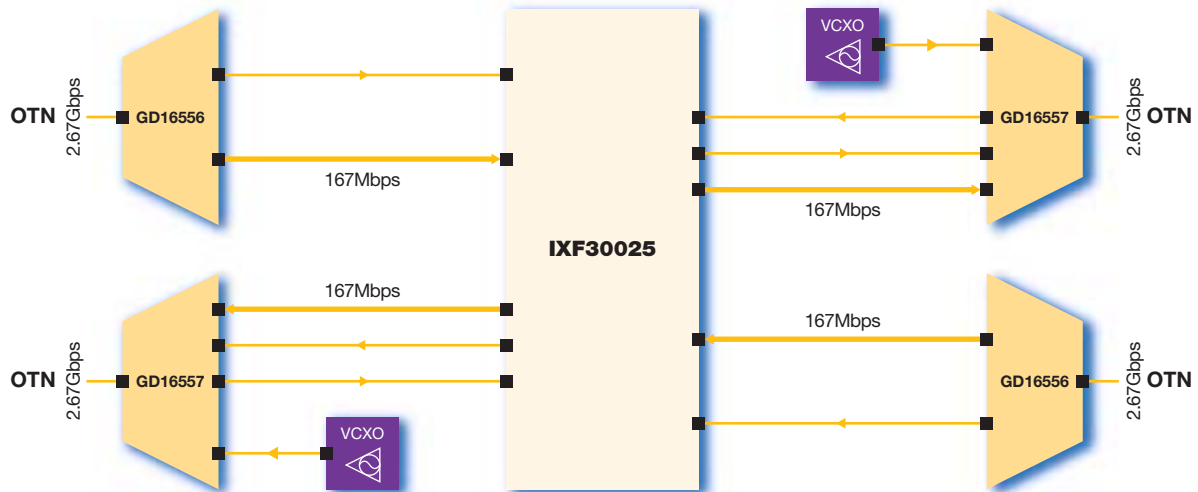
The IXF30025 Wrapper may be operated as Intra Domain Interface (IaDI) and Inter Domain Interface (IrDI) within an OTN according to G.709, acting as a gateway between two OTNs or as a network node within an OTN. Because of the various types of framing it supports, the IXF30025 Wrapper may also act as a gateway between existing IXF30001-based network and an G.709 compliant OTN.
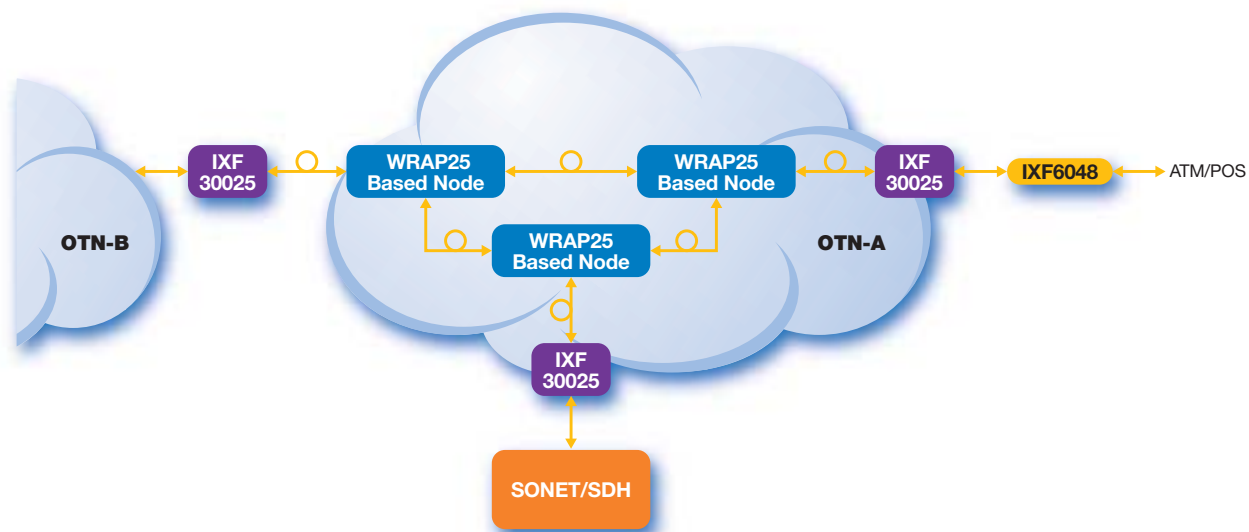
Key Applications

- 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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