Intel® LXT3008 Protection Interface Unit

Silicon Solution for N+1 Protection in T1/E1/J1 Short-Haul Applications

Intel® Internet Exchange Architecture

Introduction

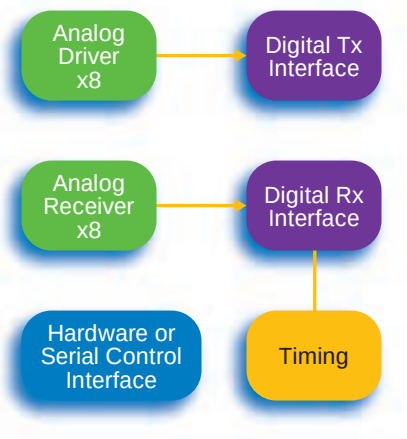
In today's connected world, network integrity is critically important. Built-in system redundancy prevents catastrophic data loss in the quest to achieve or beat 99.999 percent uptime. Today's T1/E1/J1 N+1 redundancy protection is implemented through the use of multiple mechanical relays. But design requirements frequently dictate adding more ports to boards already loaded with mechanical relays, challenging designers to provide high port-density solutions.

Intel innovated in 1999 by introducing Intel® Hitless Protection Switching (Intel® HPS) with its award winning LX38x family of Line Interface Units (LIU), providing a more reliable solution to 1+1 protection without mechanical relays. Today, Intel has developed an N+1 protection solution known as Intel® Protection Interface Unit that performs the function of an analog T1/E1/J1 multiplexing element.

Product Description

Eight short-haul T1/E1/J1 selectable ports per PIU, scalable to various architectures, provide a simplified analog interface that can operate without a microprocessor. By combining several PIU chips in a protection-switching matrix board that effectively routes any back plane signal to a back-up protection board, designers can achieve significant space, power savings as well as increasing system reliability.

Intel® LXT3008 Block Diagram



Increased Performance and Reliability

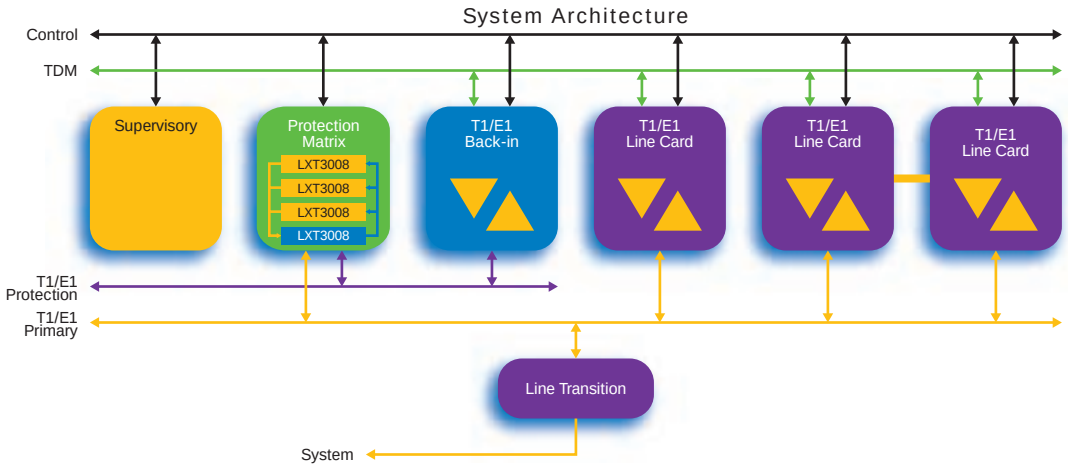
Because it is silicon-based, the switching time is considerably faster than mechanical relays and reduces downtime. The LXT3008 PIU can be controlled through hardware pins for fast data switching, or through a simple four-wire serial interface. Each LXT3008 PIU includes a tri-stateable analog short-haul interface and a tri-stateable digital data interface.

Reduced Board Space

Increased bandwidth and limited available space in service providers installation push designers toward increased port density on line cards. The LXT3008 helps replace as many as 32 relays.

Reduced Time-to-Market

Through extensive support tools, Intel provides designers detailed guidelines on how to implement N+1 Protection with the LXT3008.



Intel® Internet Exchange Architecture

Intel® Internet Exchange Architecture is an end-to-end family of high-performance, flexible and scalable hardware and software development building blocks designed to meet the growing performance requirements of today's networks. Based on programmable silicon and software building blocks, Intel® IXA solutions enable faster development, more cost-effective deployment and future upgradability of network and communications systems. Additional information can be found at www.intel.com/IXA

Support Collateral

- LXT3008 Data Sheet
- Intel® N+1 Redundancy Solution Application Notes
- Intel® Hitless Protection Switching Application Note
- LXT384 Design Assistant
- Demo Board for 1+1 and N+1 Applications

Key Applications

- SONET/SDH Add Drop Multiplexers (ADMs)
- Digital Access Cross Connect Systems (DACS)
- Digital Loop Carriers (DLCs)
- Base Station Controllers
- Central Office Switches
- E1-E3, T1-T3 Multiplexers
- Access Concentrator

Intel Access

Developer's Site	http://developer.intel.com
Intel® Internet Exchange Architecture Home Page	http://www.intel.com/IXA
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UNITED STATES AND CANADA
Intel Corporation
Robert Noyce Bldg.
2200 Mission College Blvd.
P.O. Box 58119
Santa Clara, CA 95052-8119
USA

EUROPE
Intel Corporation (UK) Ltd.
Pipers Way
Swindon
Wiltshire SN3 1RJ
UK

ASIA-PACIFIC
Intel Semiconductor Ltd.
32/F Two Pacific Place
88 Queensway, Central
Hong Kong, SAR

JAPAN
Intel Japan (Tsukuba HQ)
5-6
Tokodai Tsukuba-shi
300-2635 Ibaraki-ken
Japan

SOUTH AMERICA
Intel Semicondutores do Brazil LTDA
Rua Florida, 1703-2 and CJ 22
04565-001 Sao Paulo, SP
Brazil

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