# Intel® Building Block Solution for SONET/SDH Network Elements and Aggregation

Utilizing Intel® IXF6192, LXT16784/85, LXT16596/97 and LXT16748/49

## Application Overview

The rapidly-evolving optical communications market requires that companies interested in maintaining a competitive advantage get their products to market faster than ever before. Where a two-year development cycle was once the standard, today's solutions must hit full production in less than one year.

Intel has developed an off-the-shelf solution for OC-192 applications that allows equipment manufacturers to quickly design and implement their products in the SONET/SDH space. This solution features the services and capacity without requiring several racks of equipment or large, time-consuming internal ASIC development. The Intel® IXF6192 OC-192 bandwidth manager, combined with the Intel® LXT16784/85 OC-192 Serializer/Deserializer (SerDes) chipsets or Intel® LXT16596/97 OC-48 SerDes chipsets, offers a highly integrated, flexible, low power solution.

The Intel IXF6192 is a stand-alone OC-192/STM-64 SONET/SDH Overhead Termination (OHT) device as well as an OC-48 to OC-192 multiplexer with STS-1 level cross connect granularity. The IXF6192 incorporates all STS-192/STM-64 and STS-48/STM-16 SONET/ SDH standards requirements for add/drop multiplexers and cross connect equipment and allows full STS-1 level pointer processing for inter-network connectivity and re-timing. This allows full implementation of cross connect and ADM functions with one device.

The Intel LXT16748/49 and LXT16596/97 OC-48 are high performance MUX/DEMUX chipsets based on well-proven silicon bipolar technology. They are fully ITU-T and OIF compliant and offer the performance, stability and reliability that customers require for optical communication systems.

The Intel IXF6192, Intel LXT16784/85 and LXT16596/97 SerDes chipsets deliver the smallest form factor solution in the industry, providing very flexible and highly integrated bandwidth management capability for SONET/SDH transmissions and aggregation.

Intel®
Internet Exchange
Architecture

## Application Block Diagram



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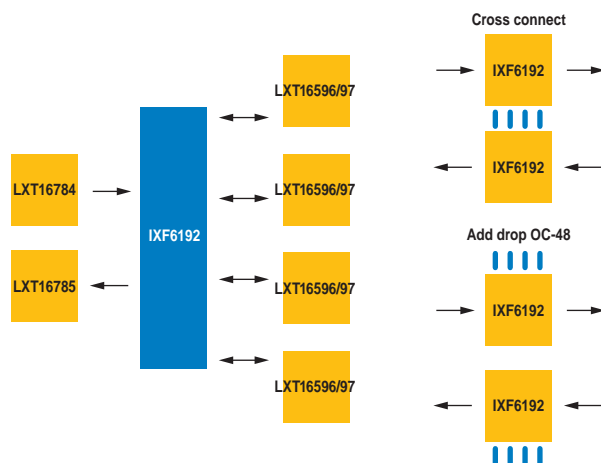
## Features

- True OC-48/12 to OC-192 aggregation
- Interconnection between independent network operator domains
- SONET/SDH processing
- Small form factor
- Bi-directional access to SONET/SDH overhead
- Fully OIF/ITU-T compliant building blocks
- Low power, high jitter performance solution

## Benefits

- Existing OC-48/12 networks can be reutilized
- High flexibility and cost saving for equipment manufacturers
- Total configurability for SONET/SDH transmissions
- Easy board design, cost savings
- SONET/SDH I/O in both directions for cross-connecting, multiplexing, add/drop or combinations of these functions
- Market acceptance
- High integration, better system performance

## Support Collateral

- Intel® IXF6192 – Product Brief, Data Sheet, IXD6192 Evaluation Board, FAQs, Software Drivers
- Intel® LXT16784/85—Product Brief, Data Sheet
- Intel® LXT16596/97—Data Sheet, LXD90596/97 Evaluation Board
- Intel® LXT16748/49—Product Brief, Data Sheet LXD90748/49 Evaluation Board
- Solution for SONET/SDH Aggregation to OTN Application Brief—Intel IXF6192, Intel LXT16596/97
- Aggregation Solution for Ultra Long Haul Transmissions Application Brief—IXF6192, LXT16596/97, LXT16748/49

## 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

## Intel Access

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| Developer's Site | http://developer.intel.com |
| Intel® Internet Exchange Architecture Home Page | http://www.intel.com/IXA |
| Networking Components Home Page | http://developer.intel.com/design/network |
| Other Intel Support:<br>Intel Literature Center | http://developer.intel.com/design/litcentr<br>(800) 548-4725 7 a.m. to 7 p.m. CST (U.S. and Canada)<br>International locations please contact your local sales office. |
| General Information Hotline | (800) 628-8686 or (916) 356-3104 5 a.m. to 5 p.m. PST |

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