

Optical Internetworking Forum Report

<http://www.oiforum.com/>

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Optical Internetworking Forum

- The mission of the Optical Internetworking Forum (OIF) is to foster the development and deployment of interoperable products and services for data switching and routing using optical networking technologies.

OIF Working Groups

- Architecture
 - Develops and recommends implementation agreements related to architectures for Optical Internetworks.
- OAM&P
 - Develops operations, administration, maintenance and provisioning requirements, guidelines, and implementation agreements related to optical internetworking.
- Physical and Link Layer (PLL)
 - Specifies implementation agreements related to physical and data-link layer interfaces between Optical Internetworking elements, reusing existing standards when applicable.

PLL Study Items

- Development of 10Gb/s interface based upon SONET/SDH standards
 - Selection of appropriate physical interfaces (SR, IR, LR, etc.)
 - Payload mapping
 - Synchronization and jitter requirements
 - Link layer protocol
- Development of interface agreements based on Packet-Over-SONET/SDH (POS) at 155 Mb/s, 622 Mb/s, and 2.5 Gb/s
 - All of the above issues for STS-1/STS-3c/STS-12c/STS-48c and a combination thereof

PLL Study Items (Cont'd)

- Development of a low-cost 10 Gb/s interface for intra-office data applications
- Development of standard System Physical Interface (SPI) for interconnection between the physical and link layer devices
- Development of specifications for SERDES/Framer electrical interface for OC192

12/99 Meeting

- An interim OIF meeting was held in Baltimore in December
- No motions; informational presentations only

10Gb/s Interface Status

- Defines the parallel interface between the Framer(MAC) and the SERDES
 - 16 bit LVDS at 622 Mbits/sec
- No new presentations

POS Interfaces at 2.5Gb/s, etc.

- Defines the interface between the Framer(MAC) and the network processor
- No new presentations

Low-Cost 10Gb/s Interface

- Hari interface was presented as a candidate for very-short-reach 10Gbps links (Del Hanson, Agilent, Del_Hanson@agilent.com)
- A 4xOC-48 link was also proposed; more details to be presented at next meeting (Tom Palkert, AMCC tomp@amcc.com)
- A serial 10 Gbps link based on VCSEL technology was proposed (Robert Marsland, Focused Research, rmarsland@aol.com)
- Some concern that OIF work in this area may overlap ITU very-short-reach 10Gbps work
 - ITU effort may not be addressing low-cost requirements

Low-Cost 10Gb/s Interface

- Three interface types are under consideration
 - 12 channels at 1.25 Gbps (mnowell@cisco.com)
 - 4 channels at 2.5 Gbps
 - 1 channel at 10.0 Gbps

System Physical Interface

- No new presentations

SERDES Interface

- There was a short description of changes to be proposed at the January meeting

Architecture Group

- Proposal to use SONET Section Trace byte (J0) to pass optical network topology information
- Concerns that other standards groups are working on definition of the J0 byte