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# Optical Internetworking Forum Report

http://www.oiforum.com/

Tom Palkert, AMCC

tomp@amcc.com

Scott Lowrey, Network Elements

slowrey@networkelements.com





## 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.

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## 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.

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## 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

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## PLL WG Summary - Feb 1 - New Orleans

- General Topics
  - October '99 Meeting Minutes OIF99.150 Approved
  - PLL Vice-Chair Shahrukh Merchant appointed by PLL WG
  - Intellectual Property Disclosure Letters from PMC-Sierra Distributed and captured in the mtg minutes

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#### PLL WG Summary - Feb 1 - New Orleans

- STUDY POINT 7: Framer/SERDES Electrical Interface
  - OIF99.102.4- (Technical Doc) voted by PLL WG to forward to TC for approval. All comments/changes approved by PLL are incorporated in 102.4
  - {Stylistic changes to reflect correct document template}
- STUDY POINT 5-1: System Physical Interface SPI-4
- Study Point 5-2: System Physical Interface SPI-3
- {These do not apply to IEEE activities}

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#### PLL WG Summary - Feb 1 - New Orleans

- Study Point 6 Low-cost OC-192/STM-64 Interface
  - 4 Task Groups formed to focus on VSR serial and parallel optics based interfaces - TG Champions - Gary Nicholl (Parallel - 12X1.2G), Tom Palkert (4X2.xG), Ed Cornejo (Serial -600m/2km), Robert Williamson (VCSEL Serial)
  - Objectives for the TGs Bring in contributions that reflect the consensus of the Task Groups to the PLL WG for discussion and voting
  - Chair will send email addresses of the TG Champions to PLL WG members and establish email exploders for the Task Groups
  - OIF00.21 approved to be the basis for evaluation criteria of the proposals -Jay Shah will coordinate with TG chairs to consolidate in an evaluation contribution

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## VSR comparison criteria

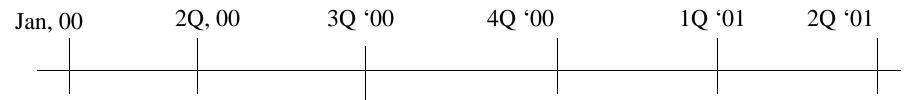
- Media type: number of fibers, type of connectors, connector scopes etc.
- Link budgets: Optical power, jitter
- Testability
- Reliability
- Thermal management

- EMI
- Form factor
- Multiple vendor support
- Interface protection
- Network management
- Cost comparisons

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## PLL WG Agenda - January 31, 2000



SERDES/Framer Interface spec ready for vote

SPI-3 ready for vote

SPI-4 - Baseline Tech Doc but alternative proposals on the table

SONET/SDH intf & DAtaLink Layer - Agreement Tech Doc TBD

Low-cost OC-192 Intf -Parallel optics -BaselineTech Doc but alternative proposals on the table; Serial Optics Several proposals - work on progress SERDES/Framer Intf - Approved by OIF SPI-3 - Approved by OIF

SPI-4 - Phae-I approved; Phase-II Tech Doc

SONET/SDH Interface & Data Link Layer -Tech Doc

Low-cost OC-192
- Parallel Optics
agreement and
Tech Doc ready
to be sent to TC
Serial Optics Agreement

Low-cost OC-192Paralle Optics approved by OIF

SPI-4 Phase-II approved

Low-cost OC-192 Serial Optics ready for vote by TC

Low-cost OC-192 Serial optics intf approved by OIF 40G intf?