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January 28, 2010

Lightwave's Future of Optical Networking e-conference

February 1, 2010

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Cupertino, CA – USA
(open to the public)

February 2-4, 2010

OIF Q1 Meeting
Cupertino, CA - USA
(Principal members only)

March 23-25, 2010

OFC/NFOEC
San Diego, CA - USA
Booth # 3041

May 4-6, 2010

OIF Q2 Meeting
Asia
(Principal members only)

July 20-22, 2010

OIF Q3 Meeting
North America
(Principal members only)

October 26-28, 2010

OIF Q4 Meeting
Europe
(Principal members only)

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The OIF Kicks Off The Next Decade



2009 marked the first year of a new era for the OIF - following the big 10th anniversary events last year! OIF continues to be a well-positioned and widely recognized group and forum with its work broadly adopted across the telecom landscape. Most exciting from my perspective is the broad basis and expertise of our members, covering the whole networking eco-system. This year's achievements can be highlighted in the following areas.

The OIF Worldwide Interoperability Demonstration 2009 – Enabling Broadband On-Demand Services provided the arena for the work and commitment of the OIF vendor and carrier members. Despite having to deal with unique logistical challenges, the demo successfully showcased:

- First time application of the OIF UNI 2.0 to new transport network technologies, including packet transport and OTN
- First time demonstration of multi-domain restoration
- First time public demonstration at three global events spanning Asia (Tokyo), North America (Boston/Waltham) and Europe (Nice)

On the Physical and Link Layer (PLL) side, our 100G work has attracted large interest – both internally and externally - and enhances the visibility of the OIF significantly! With the publication of the “100G Ultra Long Haul DWDM Framework Document” a major step was accomplished by setting the foundation for a set of 100G projects that can work and generate valuable solutions and specifications.

Now is the time to start initiatives and research looking beyond 100G, taking into account the significant time needed for research and development. Not only has the OIF begun discussions about beyond 100G solutions internally amongst our members, but the OIF has also been working in cooperation with OIDA (Dec 2nd, OIDA 18th Annual Forum- Photonics in Communications).

Thanks to the joint efforts of all OIF members – component, system, and software, vendors, along with carriers – the OIF work has progressed significantly in 2009, laying the basis for fruitful developments and new endeavors in 2010!

I'm looking forward to further exciting developments in 2010. In addition to the advancement of OIF's specification work, a PLL Showcase is planned at OFC/NFOEC 2010, exhibiting 100G components and sub-systems as well as a speaking program encompassing OIF achievements and projects. On the educational front, the OIF will host a workshop on CEI 25/28 on Feb. 1st, 2010 that will be open to the public and kick-off its OIF Day program in March 2010.

I wish you and your families Happy Holidays and a Happy and Healthy New Year 2010!!!

Hans-Martin Foisel
OIF President
Deutsche Telekom

Over the past eleven years I've been both a member of the OIF and an outside observer. The progress that the organization's members have made over that time has been vital to the functioning of the telecom industry. In 2009, two OIF highlights come to mind: the Worldwide Interoperability Demo, which I attended in Waltham, and the work in 100G and beyond. This year's demo extended the accomplishments of the OIF's three earlier efforts to verify important concepts in end-to-end provisioning and restoration and in Ethernet data plane interoperability. These inter-vendor/inter-carrier tests will help shape tomorrow's highly scalable packet-optical networks.

The OIF's 100G framework projects and "beyond 100G" discussions will encourage industry coalescence around a bounded set of approaches as promising technologies pass early research hurdles. These implementation agreements will help improve coupling throughout the industry food-chain. This in turn will raise industry investment efficiency and move products to market faster. Congratulations on more than a decade of accomplishment, and best wishes in 2010 and beyond!

Dana Cooperson
Vice President, Network Infrastructure
Ovum Research



Educational Outreach

2009 Events

Pacific Telecommunications Council '09

January 18, 2009, Honolulu, Hawaii – USA

Hans-Martin Foisel presented on "Enabling On-Demand Ethernet Services"

1Q09 OIF Technical Meeting

January 20, 2009, Waikoloa, Hawaii – USA

Invited speaker – Nate Smith, CEO of TWC Hawaii

OFC/NFOEC

March 26, 2009, San Diego, CA - USA

Rod Smith moderated Market Watch - Panel V: 100G Standards Update and Joe Berthold represented the OIF

2Q09 OIF Technical Meeting

April 21, 2009, Boston, MA - USA

Invited Speaker - Dr. Bill Ring of OIDA

Verizon FiOS Lab Tour

IIR Packet Transport Networks

April 28, 2009, Vienna, Austria

Hans-Martin Foisel, presented "Controlling Packet Optical Transport Networks"

Light Reading's Packet-Optical Transport Evolution

May 19, 2009, New York City - USA

OIF Workshop presented by Dave Brown, Joe Berthold, John McDonough and Vishnu Shukla

iPOP

June 11, 2009, Tokyo, Japan

Jim Jones presented "OIF Challenges: Enabling Broadband On-Demand Services"

IIR WDM and Next Generation Optical Networking

June 22, 2009, Nice, France

Hans-Martin Foisel presented "Enabling Broadband On-Demand Services"

Broadband World Forum Europe

September 8, 2009, Paris, France

“OIF Interop event 2009 and its business impact and relevance”

Speakers: Hans-Martin Foisel, Dave Brown, Remi Theillaud, Ghani Abbas

Ethernet Alliance Technology Exploration Forum

September 15, 2009, Santa Clara, CA - USA

Dave Stauffer presented “CEI 25: 25 Gb/s Electrical Signaling”

ECOC 2009

September 20, 2009, Vienna, Austria

Workshop on Multi-Layer Dynamic Transport Networks Enabling Rich Bandwidth Services

Speakers: Hans-Martin Foisel, Yoshiaki Sone, Roberto Sabella, Gint Atkinson, Vishnu Shukla, Gert Grammel

4Q09 OIF Technical Meeting

October 12, 2009, Lannion, France

France Telecom/Orange Lab Tour

IIR Packet Transport Networks

November 18, 2009, Barcelona, Spain

Malte Schneiders, presented on “[Meeting the Need for Speed - OIF Work on 100G Long Haul DWDM](#)”

OIDA's 18th Annual Forum- *Photonics in Communications*

December 2, 2009, Santa Clara Techmart, Santa Clara, CA - USA

Jeff Hutchins, OIF board member and Rod Smith, OIF MA&E co-chair, presented presented “[Meeting the Need for Speed - Too Little; Too Late?](#)”

Upcoming 2010 Events

Lightwave's Future of Optical Networking e-conference

January 28, 2010

9:30am - 4:30 pm EST

<http://www.lightwaveonline.com/lightwave-e-conference/>



Lightwave's Future of Optical Networking will have two conference session tracks moderated by editor-in-chief Stephen Hardy:

- Keynote: Market Forecasts for High-Speed and Access Networks
- High-Speed Access Track: The Optical Internetworking Forum's 100G Activities
Joe Berthold, Vice President Network Architecture at Ciena and former OIF president (12:00 noon Eastern)
- General Session: High-Speed Access Networks

CEI Workshop on Common Electrical Interface – 25Gb/28Gb

Monday, February 1, 2010

The Cypress Hotel

Cupertino, CA - USA

8:00 am – 5:00 pm PST

On the Monday of the OIF Q1 2010 Technical Committee Plenary week, OIF will host a workshop on CEI. This workshop will be open to the public. Fee for OIF members is \$100. Fee for non-members is \$125 (includes continental breakfast and lunch). Click [here](#) for more information and registration.

8:00 to 8:30 – Breakfast

8:30 to 11:30 – Morning Session: CEI Content, History & Status

11:30 to 12:15 - Lunch

12:15 to 5:00 – Afternoon Session: Industry Feedback Topics

The afternoon session will cover system vendor perspectives, channels, asymmetric interfaces and test boards

Please contact Kimberly Chiu kchiu@oiforum.com or Andi Kosich akosich2@oiforum.com with any questions.

OIF Showcase at OFC

March 23-25, 2010, San Diego, CA - USA
Booth # 3041



The OIF is sponsoring a Product Showcase at OFC/NFOEC 2010 to display components, modules, and/or other hardware supporting one of the OIF PLL 100G Projects with a focus on the Integrated Photonics Transmitter and Receiver Projects.

OIF Speaking Program: Optical Networking - Delivering on the Promise

Wednesday March 24, 2010 - 3:15-5:15 pm
Service Provider Summit Area

- **Enabling Broadband On-Demand Services** - 3:15-3:45pm

A Review of the OIF 2009 Worldwide Interoperability Demo

- **CEI Project Update** - 3:45-4:10pm

The OIF will provide updates and future considerations regarding the Common Electrical Interface CEI-28G SR project, which defines electrical specifications for 28 Gbaud/s signaling for next generation chip-to-chip and chip-to-module applications that support transmission of 100 Gb/s data rates, such as 100 Gigabit Ethernet and OTU4.

- **Controlling Tomorrow's Optical Networks** - 4:10-4:40pm

The OIF will explain how Carriers' use of the OIF Control Plane Technology simplifies packet/circuit networks.

- **On the Road to 100G** - 4:40-5:05pm

The OIF will provide an overview of its work on 100G for long distance DWDM networking, and review the latest progress in the areas of integrated photonics and the electro-mechanical characteristics of DWDM transceiver modules.

- **Beyond 100G** - 5:05-5:15pm

With work progressing towards delivering the technologies required for widespread deployment of 100G, the OIF has begun discussion on the next step in optical networking. This talk will review the framework for these discussions, including network application domains, constraints, objectives and technology challenges.

“OIF Day” at Carrier Sites

The OIF is launching a live educational workshop program at various locations throughout the year to expand awareness of and educate member company employees on the work of the OIF. The “OIF Day” will leverage the success and momentum of the past interoperability demos, ongoing work within the OIF technical committees and 100G work.



“OIF Day is a new venture for 2010 that will bring together Carrier and vendor members in an organized venue to promote the interaction and sharing of ideas, challenges, issues and needs facing the industry,” said Dave Brown, OIF MA&E committee co-chair.

“OIF Days” will be conducted on-site at carrier locations to reach and obtain inputs from a range of support functions, e.g. operations, network planning, network management, marketing, etc. Presenter-led sessions will be conducted by host reps and OIF reps and will incorporate open discussion.

The first “OIF Day” will take place at the Verizon facility in Basking Ridge, NJ on March 17th. “OIF Day” will be open to Verizon employees, invited OIF speakers and vendor member guests – watch for more details in the New Year.

Technology Update

Current Work Projects

Physical and Link Layer Projects

- 100G Long Distance DWDM Transmission Framework
- 100G Long Distance DWDM Integrated Photonics Components
- Forward Error Correction (FEC) for 100G DP-QPSK Long Distance Communication
- 100G Long-Haul DWDM Transmission Module – Electromechanical
- Common Electrical Interface - 25Gb (CEI-25)
- Integrable Tunable Laser Assembly - MSA Interface Compliance Benchmark
- 100G Module Management Interface (MDIO)

Networking Projects

- E-NNI 2.0 Routing
- Control Plane Security
- Multilayer Signaling
- E-NNI 2.0 Recovery Amendment

Recently Published Whitepapers

[CEI-28G: Paving the way for 100 Gigabit](#)

While the first generation of devices supporting 100 Gigabit per second (Gb/s) will utilize a 10 lane by 10 Gb/s signaling rate, future power and size reduction requirements will drive the need for a faster, narrower interface. This white paper provides an overview of the CEI-28G project, which defines electrical specifications for 28 Gbaud/s signaling for next generation chip-to-chip and chip-to-module applications that support transmission of 100 Gb/s data rates, such as 100 Gigabit Ethernet and OTU4.

[2009 Worldwide Interoperability Demonstration: Enabling Broadband On-Demand Services](#)

This white paper gives an overview of the OIF’s 2009 interoperability demonstration, the equipment and technologies tested in carrier labs. The 2009 OIF Worldwide Interoperability Demonstration showcased the enabling of broadband on-demand services. It demonstrated end-to-end provisioning of dynamically switched Ethernet Virtual Private Line (EVPL) services over multiple, control-plane enabled intelligent optical core networks through the use of OIF implementation agreements of UNI 2.0 and E-NNI 2.0. Bandwidth on-demand over various transport technologies such as MPLS-TP, PBB-TE and OTN, and multi domain service restoration are some of the new features that were demonstrated.

Recently Published Implementation Agreement and Framework Document

[E-NNI Signaling Specification](#)

The OIF-E-NNI-Sig-02.0 implementation agreement, approved by members in April, specifies the content and operation of the E-NNI signaling protocol which communicates between control domains to create connections. E-NNI signaling functions, along with the OIF-UNI-02.0 and I-NNI signaling protocols (the latter not specified by OIF), are used to establish end-to-end transport services.

[100G Ultra Long Haul DWDM Framework Document](#)

The OIF-FD-100G-DWDM-01.0 document, approved by members in June, describes the OIF work on 100G DWDM transmission. The objective of this work is to aid the industry in the development of transceiver technology for transport of 100G signals in long distance backbone networks.

Newest OIF Members



SUMITOMO OSAKA CEMENT CO., LTD.



OIF in the News - Press Releases and Articles

Press Releases

November 6, 2009

[The OIF Defines 100G Project for Module Management Interface](#)

Latest Project Builds on Framework Document

June 30, 2009

[New Framework Document Brings OIF's 100G Work into Focus](#)

June 8, 2009

[OIF to Showcase Worldwide Interoperability Testing Across the Globe](#)

Live Demonstrations, Presentations and Lab Tours

May 18, 2009

[Ten Equipment Vendors Make Control Plane Technology Top Priority in Global Interoperability Demonstration](#)

April 20, 2009

[On Your Mark, Get Set, Test! OIF's 4th Worldwide Interoperability Event Commences](#)

Demo of Broadband On-Demand Services, Hosted By Global Telecom Carriers

Articles

November 20, 2009

[OPTICAL COMMUNICATIONS: Are 100G networks ready for prime time?](#)

Gail Overton, Laser Focus World