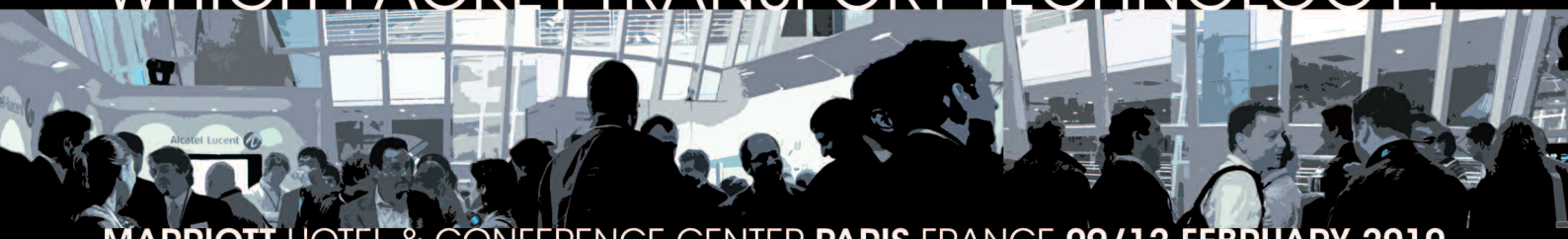
MPLS & ETHERNET

World congress 2010

WHICH PACKET TRANSPORT TECHNOLOGY?



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Which Packet Transport Technology?

The continuing success of the MPLS & Ethernet World, is largely due to the quality of the technical debates, lead for the last ten years by renowned experts in the fields of Internet and Ethernet broadband.

Since its beginning in 1999, MPLS & Ethernet World has followed in close detail the evolution of Internet broadband technologies, from GMPLS to Mobile Backhaul through OAM issues and layer 3 VPN.

MPLS-TP, Aggregation, Multicast Issues, Data Center Interconnection

The 2010 agenda will again privilege operator and enterprises scenarios and testimonies.

Particular attention will be paid to MPLS-TP standards and mechanisms, multicasting and MPLS and cloud computing.

The proposals have been analyzed and categorized according to their degree of pertinence by the members of the scientific committee.

OAM Issues for MPLS/TP

This year, the traditional debate will address OAM issues of MPLS-TP. As each year, the panel will propose a fruitful confrontation between equipment vendors and service providers.

The Carrier Ethernet Workshop

The fourth edition of the Carrier Ethernet Worshop will discuss technological and implementation detailed issues in parallel with the traditional MPLS Tutorial addressed by the Broadband Forum. The workshop will be addressed by the MEF ambassadors for the standardization process review. Other sessions will welcome vendors for business models and solutions descriptions and carriers for deployment reports.

Ethernet Wholesale

A second conference called “Ethernet Wholesale” will be organised at the same time, same place. It will cover in detail the various offers by the service providers, in relation to regulation on unbundling and new concerns like Network Monetisation.

The Interoperability Showcase

The major manufacturers all participate in this platform showcasing service and product interoperability.

The EANTC in collaboration with Upperside will invite industrials to a multi-vendor MPLS & Ethernet interoperability test in January 2010.

The EANTC will evaluate state of the art MPLS & Ethernet architectures and applications in a detailed technical hot-staging.

The test results will be demonstrated in a public showcase during the MPLS & Ethernet World Congress 2010. Service providers will support the preparation of the test plan and participate in the hot-staging and public event.

Participation is open to all vendors of MPLS routers and switches, traffic emulators and analyzers, provisioning and fault management vendors.

The following companies and devices demonstrated their interoperability in the 2009 test bed: Alcatel-Lucent, Brocade, Corrigent Systems, Huawei, RAD Data Communications, Redback Networks, Ericsson, NEC, MRV, Celtro, Telco Systems, Ixia, UTStarcom, Calnex Solutions, Spirent.

MPLS TECHNICAL TUTORIAL TUESDAY 09 FEBRUARY 2010

07.45 WELCOME, REGISTRATION AND COFFEE

09.00 

OPENING TALK BY

ANDREW G. MALIS
Vice President and Board of Directors
BROADBAND FORUM
Director, Packet Architecture
VERIZON COMMUNICATIONS

SESSION MPLS-TP

PRESENTERS FROM
BT, CISCO, VERIZON, ALCATEL-LUCENT AND NOKIA SIEMENS NETWORKS

09.30 Evolving Transport Towards Packets
What is MPLS-TP?
MPLS-TP Architecture

10.30 COFFEE BREAK

11.00 OAM in MPLS-TP
Management and Control Plane
Protection and Resiliency
MPLS-TP and IP/MPLS

11.45 MPLS-TP Use cases
Standardization Update
Conclusions

12.30 LUNCH

SESSION MPLS IN THE ACCESS

PRESENTERS FROM **JUNIPER NETWORKS**

14.00 The Access Landscape
A Broader View of MPLS Nodes
Connectivity Blueprints
Where Does MPLS-TP Fit?
Flexible Service Placement
Scaling
Protection
Summary

15.30 COFFEE BREAK

SESSION MPLS IN THE RAN

PRESENTED BY
BROADBAND FORUM AMBASSADORS

broadband forum

16.00 Key issues, enablers and drivers for a transition and the value of IP/MPLS in evolving mobile RAN backhaul architectures

MPLS fit and operation in the mobile RAN network and the support of end-to-end SLAs, QoS and high availability

MPLS Pseudowires as an enabler for legacy network traffic migration and their operation over IP/MPLS backhaul networks

MPLS Operations, Administration and Management(OAM)and Protection capabilities in RAN IP/MPLS backhaul networks

Packet synchronization and timing

MPLS Mobile Backhaul Initiative - MMBI

Summary of IP/MPLS in the RAN

17.30 END OF THE MPLS TECHNICAL TUTORIAL

CARRIER ETHERNET WORKSHOP TUESDAY 09 FEBRUARY 2010

07.45 WELCOME, REGISTRATION AND COFFEE

MORNING SESSION TUTORIAL

PRESENTED BY **MEF AMBASSADORS** MEF

09.00 **Welcome Address from MEF**

MEF Introduction, Mission
Global Carrier Ethernet Update
Latest MEF Work
MEF Global Interconnect Objectives
MEF Certification Program Highlights

09.30 **Global Demand for Service Provider Interconnect**

Market Dynamics
Interconnect Drivers and Business Challenges
Interconnect Defined: Technical, Operational, and Business Elements

09.50 **Global Interconnect Initiative**

Relationships of key interconnect specifications and standards
Certification role in interconnect success
Tools for Ethernet Access Service purchase and sale

10.10 **Interconnect in-Depth Part 1 (ENNI and CoS)**

ENNI Draft spec overview and relation to interconnect
MEF 23 – Multiprovider CoS

10.50 COFFEE BREAK

11.10 **Interconnect in-Depth Part 2 (OAM and MEF Tools)**

Uni Type II Management Elements
End-To-End OAM Architecture
Service OAM Performance and Fault Management

11.50 **Progressing Standardization of Carrier Ethernet for Mobile Backhaul**

Overview of plans for Phase II
Key issues in synchronization, quality of experience, resilience
Relationships to other standards bodies (3GPP2, NGMN)
Closing notes

12.30 LUNCH

AFTERNOON SESSION CARRIER ETHERNET IMPLEMENTATION ISSUES

14.00 **Carrier Ethernet Framework for Optimizing the Network for Scalable Multi-Service Applications**

Providing an overview of the framework required, identifying where intelligence could be located for a truly optimized network. Focusing on the Multi-technology access required to provide network touch when and where it is required, Intelligent Photonics to simplify operations and addressing the cost capacity issues, Packet Optical Transport for seamless evolution from circuit to packet.

DAVID STOKES, EMEA Solution Marketing, **ALCATEL-LUCENT**

14.30 **Implementation of end-to-end Service Management in Carrier Ethernet Networks**

Presenting several real-life scenarios with end-to-end implementations of standardized mechanisms included in 802.3ah, 802.1ag, ITU-T Y.1731 amongst others. Applicability and efficiency is demonstrated focusing on areas such as low-touch provisioning, fault forward, performance management and network protection.

DR. MICHAEL RITTER, Vice President Technical Marketing
ADVA OPTICAL

15.00 **Carrier Ethernet Transport – The Roles for PBB and MPLS**

Future Carrier Ethernet topologies are unlikely to rely solely on either PBB-TE or MPLS-TP. Discussing the advantages of both transport methods, with possible means of handling connectivity in the core of the network, and at the network edge.

MORTEZA GHODRAT, Director, Carrier Ethernet,
VITESSE SEMICONDUCTOR CORPORATION

15.30 **Evolving from Carrier Ethernet Network to Metro Service Platform**

New services such as HDTV and MBB bring great challenges to the traditional carrier metro network. The metro service platform is called for by those services. Reviewing the industrial status on metro networking and key remaining issues as well as discussing the key technologies and solutions to enable SingleMetro platform for multiplay service.

DR. XIPENG XIAO, Vice President of Product Marketing for Data Communications, **HUAWEI TECHNOLOGIES**

16.00 COFFEE BREAK

16.30 **Carrier Ethernet Connection-oriented Services**

The latest evolution on Carrier Ethernet definition and new connection-oriented protocols expands Enterprise customers' requirements to get crystal-clear Service Level Agreements (SLA). Discussing connection-oriented technologies, related standards, service options and real-life customer's case studies.

ZEEV DRAER, **MRV**

17.00 **Implementation of Converged Networks with Carrier Ethernet Transport Solution**

Transport operator challenges and business needs in fixed, mobile and converged networks
Services requirements and definitions in enterprise, residential and mobile backhaul applications. Different priorities of QoS, SLA.
Carrier Ethernet transport solution as a part of multi-layer network architecture
Carrier grade OAM and operational support systems enabling cost-effective and simple business processes

PEKKA VIIROLA, Head of Technology, Broadband Connectivity Solutions,
NOKIA SIEMENS NETWORKS

17.30 **Service Assurance through the Ethernet life-cycle of Provisioning, Monitoring and Troubleshooting**

Explaining why Ethernet service providers must have the proper systems to enable smooth and trouble-free provisioning of new services, employ performance monitoring to guarantee SLAs and utilise troubleshooting techniques to quickly and effectively diagnose and locate service affecting problems.

DHAREN ELLS, EMEA Business Development Manager, Service Assurance, **SPIRENT COMMUNICATIONS**

18.00 **Implementing Carrier Ethernet Devices: Scalability, Robustness and Interoperability Risks**

How well can evolving fault-management technologies such as CFM, BFD, LACP, RSVP FRR and MSTP cooperate to reduce network outage?
Can switched technologies, such as PBB/PBT, and VPLS technologies from different vendors transparently co-exist, providing end-to-end service?

DAVE SCHNEIDER, AGILENT

18.30 END OF THE CARRIER ETHERNET WORKSHOP

CONFERENCE DAY ONE WEDNESDAY 10 FEBRUARY 2010

CHAIRMAN

AZHAR SAYEED
Senior Member IEEE,
Director of Product Management, **CISCO**

07.45 WELCOME, REGISTRATION AND COFFEE

08.30 

OPENING TALK BY

SUNIL KHANDEKAR
Vice-President Business Development EMEA,
IP Division
ALCATEL-LUCENT

09.00 

INTRODUCTION BY

CLARENCE FILSFILS
Distinguished Engineer
CISCO

09.30 

KEYNOTE ADDRESS BY

DR YAKOV REKHTER
JUNIPER FELLOW

SESSION I STANDARDIZATION UPDATE

10.10 MPLS, MPLS Transport and the Development of the ITU-T and IETF Standards

LOA ANDERSSON, Chair of the IETF MEAD Team and MPLS WG,
Senior Strategy and Standards Manager, **ERICSSON**

10.40 COFFEE BREAK

11.10 MPLS-TP: The Technology of Choice for Packet Transport Networks

Highlighting the ways in which MPLS-TP addresses the challenges associated with packet transport. MPLS-TP enables the reliable transport of any service, of any scale. Introducing a network architecture that allows MPLS-TP to extend from Metro to Access while maintaining a scalable and cost-efficient way of delivering NGN services.

NURIT SPRECHER, Senior Specialist, Carrier Ethernet Transport,
NOKIA SIEMENS NETWORKS

11.40 Circuits versus Packets: Evolution or Revolution?

Is packet transport a flash in the pan? Will circuits die? Or get emulated over packets? Or ...?
Covering the benefits and costs of layering. Delivering a picture of the future transport network

KIREETI KOMPELLA, JUNIPER FELLOW

12.10 LUNCH

14.00 Avoiding Overlay Temptation and Leveraging MPLS-TP & IP-FRR to Simplify the Network Design

Avoiding overlay temptation and leveraging MPLS-TP & IP-FRR to simplify the network design. As we introduce new technologies and tools into the network it is tempting to generalize their deployment across the whole network. Since each network layer access, edge and core have different requirements it is important to review the best fit for each technology.

FRANCOIS LEMARCHAND, **ERICSSON**

14.30 Converging IP and Transport Networks Using MPLS-TP

Describing not only how MPLS is being enhanced to meet the requirements for deployment in packet transport networks, but also how these new developments can be employed in today's IP/MPLS networks, thus enabling a common, interoperable technology to be used across a carrier's service and transport networks.

DR. MATTHEW BOCCI, Director, Technology & Standards,
IP Division, **ALCATEL-LUCENT**

15.00 A Practical View of MPLS-TP

Motivations for SPs adopting MPLS-TP
MPLS-TP requirements from Service Providers perspective
MPLS-TP key technologies quick overview
MPLS-TP potential use case scenarios

LUYUAN FANG, CISCO, **NABIL BITAR**, **VERIZON**
and **RAYMOND ZHANG**, **BT**

15.30 COFFEE BREAK

SESSION II SERVICE PROVIDERS EXPERIENCES

16.00 MPLS and Ethernet Services: BT Perspective

Describing the diverse range of services that BT provides using Ethernet and MPLS as key underlying technologies. At one point to point ELINE & Layer 2 & 3 VPNs and Broadband through to Content distribution and multipoint broadcast video delivery with ultra low latency financial services at the other extreme.

BEN NIVEN-JENKINS, IP, Data & Content Architect,
Network Infrastructure Architecture, **BT**

16.30 Verizon's Requirements for IP/MPLS-based Carrier Ethernet Networks

The IETF has standardized Ethernet pseudowires and VPLS, and these form a firm foundation for deploying a public Carrier Ethernet service. However, the IETF RFCs alone are insufficient to specify Verizon's requirements for Carrier Ethernet over MPLS. Discussing the various aspects of these requirements in detail.

ANDREW MALIS, Director, Packet Architecture, and
DREW REXRODE, Distinguished Member of the Technical Staff,
VERIZON COMMUNICATIONS

17.00 NTT: Requirements and further Evolving Scenario for Carrier Grade Packet Transport Network

Packet transport has been positively discussed, and a few technologies have been specified like MPLS-TP network. When requirements are considered, most important, however, is to understand the amount and types of negative and positive effects on customers and operators, i.e., the degree of impact on carrier grade services.

YOSHINORI KOIKE and **MAKOTO MURAKAMI**, **NTT LABS**

17.30 BGP MVPN Deployment: Cox's Case Study

Describing Cox's deployment of BGP MVPN for hierarchical VoD library distribution from national video head-end to regional video head-ends. Explaining the reasons for choosing BGP MVPN technology for this application.

MAZEN KHADDAM, Principal Networking Architect,
COX COMMUNICATIONS

DEBATE MPLS/MPLS-TP OAM ISSUES

18.00 

MODERATOR

THOMAS NADEAU
BT

ANDREW MALIS, **VERIZON COMMUNICATIONS**
BEN NIVEN-JENKINS, **BT**
LOA ANDERSSON, **ERICSSON**
ITALO BUSI, **ALCATEL-LUCENT**
KIREETI KOMPELLA, **JUNIPER FELLOW**
GEORGE SWALLOW, **CISCO**
HECTOR AVALOS, **ERICSSON**
MAARTEN VISSERS, **HUAWEI**
PATRICK LEISCHING, **NSN**
RAHUL VIR, **BROCADE COMMUNICATIONS**
GERALD MALENSTEIN, **ZTE**

19.00 END OF CONFERENCE DAY ONE

19.00 WELCOME RECEPTION

CONFERENCE DAY TWO THURSDAY 11 FEBRUARY 2010

CHAIRMAN

DR. MATTHEW BOCCI
Director, Technology & Standards, IP Division
ALCATEL-LUCENT

WELCOME, REGISTRATION AND COFFEE

07.45 **SESSION III MPLS-TP PSEUDOWIRES**

08.00 **MPLS in Transport Networks**

Describing an MPLS based architecture and solution for Service Provider (SP) metro and backbone transport networks.
Providing a perspective on the applicability of the emerging MPLS-TP technology to transport networks.

RAHUL AGGARWAL, Distinguished Engineer, **JUNIPER NETWORKS**

08.30 **Pseudowires and MPLS-TP**

Exploring network topologies, and design where statically configured pseudowires might make sense. Discussing how some PW OAM scaling problems introduce a new technology to scale the OAM for pseudowires used in MPLS-TP environments.

LUCA MARTINI, CISCO

09.00 **Multi-Segment Pseudowires: Recognising the Layer Network**

Discussing the fundamental elements of pseudowire technology and showing how separating the functions into separate layers enables easier definition of new features, and supports simpler network operation. Examining issues of data encapsulation, multiplexing and flow merging, routing, pseudowire setup, service delivery and OAM that arise in multi-segment pseudowire networks.

NEIL HARRISON, BT & ADRIAN FARREL, OLD DOG CONSULTING

09.30 **Pseudowires, MPLS and MPLS-TP: Blurring the Boundaries between Access, Aggregation and Core Networks**

Exploring the ways in which product architectures and network deployments may evolve, highlighting the roles of Pseudowires, MPLS-TP and GMPLS in creating a seamless MPLS network.

GEORGE SWALLOW, Distinguished Engineer, **CISCO**

SESSION IV MPLS IN THE ACCESS AND AGGREGATION

10.00 **Seamless MPLS: Integrating Access and Aggregation into a Single MPLS Network**

Using the "Seamless MPLS" approach Deutsche Telekom is currently building an MPLS network integrating 100.000 nodes spanning the access, aggregation and core network. The goal is to provide end-to-end services for residential, whole-sale and business customers on a single MPLS platform.

NICOLAI LEYMANN, Zentrum Technik Einführung,
DEUTSCHE TELEKOM NETZPRODUKTION GMBH

10.30 COFFEE BREAK

11.00 **Flexible Service Edge Architecture for MPLS Access and Aggregation**

Authors **François Le Faucheur, Maciek Konstantynowicz, Cisco**
Speaker **FRANÇOIS LE FAUCHEUR,** Distinguished Engineer, **CISCO**

11.30 **Deployment of MPLS over Carrier Ethernet in the Access**

Focusing on end-to-end MPLS delivery solution, which is based on the carrier ethernet platform. Showing how to deploy MPLS in the the Metro Network and highlighting topics as; competitive TCO, capability and flexibility.

WU QIONG, ZTE

12.00 **VIRTUAL INTERNET EXCHANGE POINTS – EXTENDING PEERING ACROSS GEOGRAPHIES**

Discussing a new Internet Exchange Point architecture called Virtual Internet Exchange Point (V-IXP). V-IXP allows Service Providers to peer without geographic boundaries while offering increased scalability, resiliency and efficiency. This new design uses MPLS to overcome the limits imposed by long-established Internet Exchange Point network architectures.

RAHUL VIR, Senior Product Manager, **BROCADE COMMUNICATIONS**

12.30 LUNCH

14.00 **Ethernet Services Using MPLS or MPLS to the DSLAM**

Covering the latest Carrier Ethernet market trends and the latest MPLS developments in order to demonstrate the benefits for deploying Layer 2 MPLS at the metro edge for the delivery of residential triple play, enterprise VPN, and mobile backhauling services.

EYLON SOREK, Director, Marketing, **ORCKIT-CORRIGENT**

14.30 **Use Cases and Challenges for Extending MPLS in the Access Network**

Delivering SP views on the rationales for extending MPLS in access networks, its related use cases (business, wholesale, mobile backhauling…) and why these use cases will rely on the MS-PW technology. Focusing on MS-PW architectures crossing an access and metro/core network and presenting the different steps required for setting up different types of L2VPN services with the use of the FEC129 format.

SIMON DELORD and **RAYMOND KEY, TELSTRA**
FREDERIC JOUNAY, FRANCE TELECOM - ORANGE LABS

15.00 **Implementing the End-to-End, Access-to-Core MPLS Network**

Discussing the benefits and challenges of an end-to-end, access-to-core MPLS implementation. Surveying the lessons learned to date by carriers pioneering this effort, as well as the business model for new services revenue generated by such an end-to-end implementation.

RAFAEL FRANCIS, Associate Vice President, **ECI TELECOM**

15.30 **H-MPLS: Lightweight MPLS in Access Network for Full Services**

Describing a lightweight MPLS solution to carry full services in the Access Network based on real case studies. It enables a routing-free access network with MPLS to user edge, especially in case of mobile backhauling, enterprise VPN and wholesale services, and can be applied to both PON (Passive Optical Network) and P2P Ethernet.

ROBIN ZHENG, Chief Engineer of Advanced Technology, **HUAWEI**

16.00 COFFEE BREAK

SESSION V MULTICAST

16.30 **Deployment Considerations while Using RSVP-P2MP for Mutlicast Delivery**

Discussing the tool set and considerations needed for successful large scale deployments. Describing some of the issues related to S2L path re-merge in the network, S2L re-optimization and source redundancy.

PRAVEEN MULEY, Sr. Staff Engineer, IP Division, **ALCATEL-LUCENT**

17.00 **Empirical Analysis of Multicast Virtual Private Networks**

Sharing deployment experiences and test results of MPLS/BGP Multicast Virtual Private Networks (MVPNs). MVPNs are usually always deployed on top of a system that is significantly used because of already deployed unicast services. As all the various services including MVPNs share the same system resources, it is imperative to understand how MVPNs scale, perform and are utilized in such an environment.

AZHAR SAYEED, CISCO & MARIA NEPIERALA, AT&T

17.30 **Telkom Indonesia: Multicast Implementation in Multi-Vendor IP/MPLS Networks**

Head-end selection and position on the network: Super Head-end, Distributed Head-end or the combination of both types. Connection between Super Head-end and Distributed Head-end: VLL, VPLS or Multicast on global routing. Multicast Routing Protocol Selection.
KARNO BUDIONO, Researcher, **PT TELEKOMUNIKASI INDONESIA**

18.00 **E-TREE Services over an MPLS Backbone**

Reasons for deploying E-TREE services (what are the needs?). Current shortcomings for deploying such services (the problem statement)
Some possible implementations over an MPLS backbone (using a mix of P2P and P2MP PWs) (some implementation recommendations)
Some possible options to look at in the future (future evolution)

SIMON DELORD and **RAYMOND KEY, TELSTRA**
FREDERIC JOUNAY, FRANCE TELECOM - ORANGE LABS

18.30 **Deploying Next-Generation Multicast VPN**

Discussing practical considerations when deploying. Next-Generation Multicast VPN. Focusing especially on how to achieve a smooth migration from a legacy multicast VPN deployment to Next-Generation Multicast VPN. Showing test results illustrating how to perform this migration.

JULIAN LUCEK, JUNIPER NETWORKS

19.00 END OF CONFERENCE DAY TWO

CONFERENCE DAY THREE FRIDAY 12 FEBRUARY 2010

CHAIRMAN

FRANCOIS LEMARCHAND
ERICSSON

08.15 WELCOME, REGISTRATION AND COFFEE

SESSION VI MPLS AND CLOUD COMPUTING

09.00 **MPLS and Cloud Computing and the Bigger Picture of Inter-Cloud**

Discussing the role of MPLS in developing XaaS models across a private MPLS backbone vs offering Cloud-based services over the Internet.
Discussing the potential evolution of Cloud Computing in the form of Private. Hybrid and Inter-Cloud.

MONIQUE MORROW, Distinguished Consulting Engineer, CISCO

09.30 **MPLS Green Cloud Computing: New Opportunities for Delivering Managed Services**

Describing technologies and solutions illustrating integrated MPLS and Ethernet delivered universally through Cloud Computing combined with carbon credits. Examples of non-traditional service offerings are provided with a five-year global market forecast.

DANIEL G. BAUER, Program Director,
INSIGHT RESEARCH CORPORATION

10.00 **Lesson Learned with Data-Center Interconnect Using VPLS**

Understanding why customers are willing to extend VLAN across DC sites.
Understand L2 designs with Spanning-tree Isolation.
Position VPLS as DC core to allow.
Usage of any type of link.
Case study on insertion of DCI in an existing 'Outsourcers' network.

PATRICE BELLAGAMBA, Consulting Engineer, CISCO

10.30 COFFEE BREAK

SESSION VII OAM AND HIGH AVAILIBILITY

11.00 **The Real Value of OAM**

Explaining which subset of OAM tools/techniques really gets used in an operational environment, which do not and why.
Operational experience shows that there are many non-obvious factors that go into the design, development and deployment of an OSS.

THOMAS NADEAU, BT

11.30 **Application aware MPLS VPN Services: C&W Case Study**

Cable & Wireless, APM service is a proposition made up of visibility, optimisation, acceleration and application management modules. Deployed in stages, APM offers businesses a panoramic view of their IT infrastructure, including; how network performance is functioning, where problems lie and what changes can be made to improve network utilisation.

INTI SHAH, Technical Architect, C&W
and **MARK BURTON**, Director Product Management,
IPANEMA TECHNOLOGIES

12.00 **IP/MPLS Unified Network Management and Visualized Operation**

Discussing the current challenges of management of IP/MPLS Network and explaining the approach to combine the information from service layer, IP/MPLS bearer, and transport layer with quick trouble shooting and service provision, which makes the IP/MPLS manageable and operable.

MARIA JOSE MOSSI, HUAWEI

12.30 LUNCH

14.00 **Chung-Hwa Telecom IP/MPLS NGN Project: Convergence, Architecture and Network Management**

Chung-Hwa Telecom Service introduction (HSI, MOD, NGN, VPN, Mobile)
NGN IP/MPLS core network convergence project including its architecture and design.
NGN network transformation features.
Integrated FCAPS in a single NMS platform deployed in CHT NGN project.

Y.H. CHU, CHUNGHWA TELECOM, TELECOMMUNICATION LABS,
JAR WU and **BEN TSAI**, WANDL, INC.

14.30 **Access & Core: OAM Challenges in Packet Transport**

Discussing some challenges in terms of supporting MPLS OAM (G.8114) for a high number of links and providing support for implementing protection schemes like G.8031 and G.8032 for Tunnels/Paths redundancy.

PATRICK BISSON, VP Technology & Applications,
EZCHIP SEMICONDUCTOR

15.00 **Design and Implementation of Application-aware Routing**

Proposing an application-aware routing architecture with a new method to separate the virtual topology that consists of routing and forwarding tables per application. In this case, the physical topology is completely different from the virtual topology, and that IP and XML packets are forwarded based on routing and forwarding tables in each virtual topology.

Authors:
Kenji Kumaki, Atsuo Tachibana, Tomoki Murai, and **Shigehiro Ano**,
KDDI R&D Laboratories Inc. and Furukawa Network Solution Corp.

Speaker: **KENJI KUMAKI**, KDDI LABS

15.30 COFFEE BREAK

SESSION VIII OPTICAL

16.00 **Synergy of IP and Transport Network by interworking between MPLS and GMPLS**

Due to the rapid growth in network traffic, the backbone network is facing considerable pressures on its capacity expansion. Expanding the backbone means increasing cost. How to solve the dilemma of lower revenue and higher cost? Synergy of IP and Transport Network facilitates raising the efficiency of network and reducing the pressure of core routers, and the interworking between MPLS and GMPLS is the cornerstone

JORGE RODRIGUEZ, HUAWEI TECHNOLOGIES

16.30 **Implementation of GMPLS for Survivable Zero Touch Photonics**

Traditional WDM transport networks suffer from operational limitations dictated by the intrinsic analog nature of photonics. By introducing GMPLS, coupled with photonic switching architectures, operational barriers can be overcome.

GERT GRAMMEL, ALCATEL-LUCENT OPTICS DIVISION

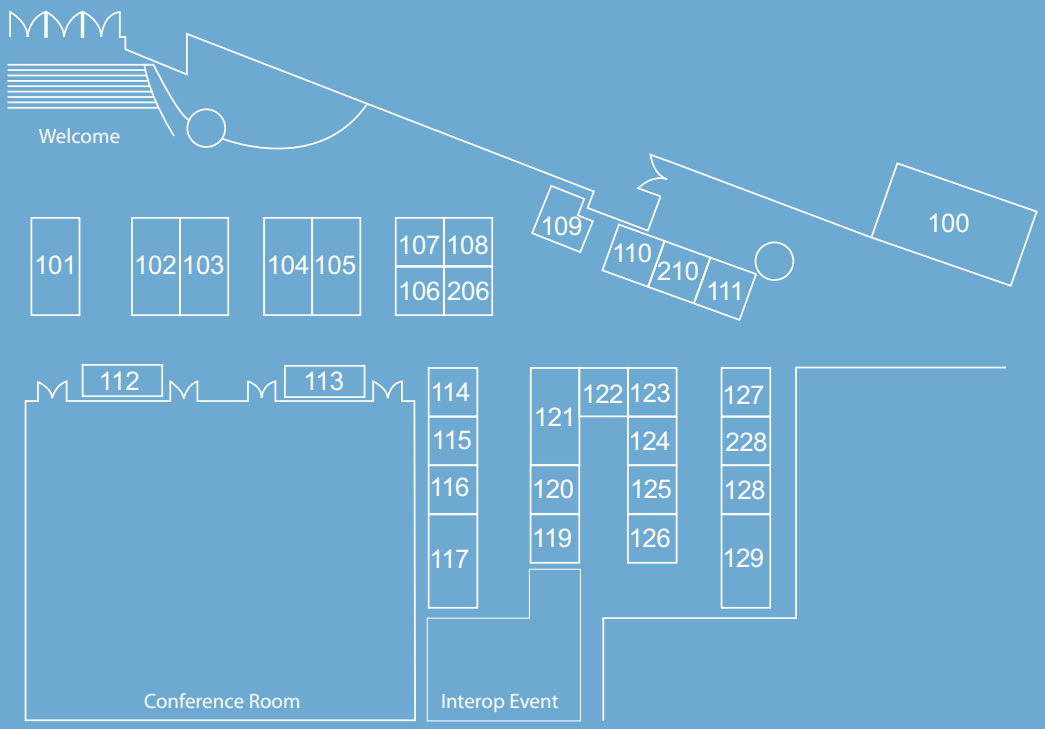
17.00 **From Static Optical Pipes to Dynamic Optical Networking: Introducing a GMPLS-based Control Plane**

Showing how GMPLS-based optical networking can be taken to the next level.
Explaining what factors need to be considered and how we can allow transport networks to become more manageable and operate more efficiently – resulting in greater ease-of use and lower operational cost.

ANTONY MAGE, ADVA OPTICAL

17.30 END OF MPLS & ETHERNET WORLD CONGRESS 2010

THE EXHIBITION 10/12 FEBRUARY 2010



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108 WANDL
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MARRIOTT PARIS RIVE GAUCHE HOTEL & CONFERENCE CENTER

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All bedrooms are entirely renovated and are larger than the average 4 star Paris hotel bedrooms. They feature spectacular views, Marriott's supremely comfortable Revive® bedding and upscale shower products. The Great Room by 70s inspired designer R' Yves combines a European brasserie, cocktail bar and lounges as well as a take-away counter for guests to enjoy great food and a trendy atmosphere.

In the central Rive Gauche vicinity of France's capital city, this Marriott hotel provides excellent services and facilities for a successful business trip, week-end visit or a vacation away in this unique European destination.

Marriott Rewards Category **6**

All 617 Deluxe rooms, 89 Executive rooms and 51 Suites are fully renovated with Marriott design

For guests in Executive rooms and Suites the elegant Executive Lounge offers all day refreshments

Free World Class® fitness center access and classes for Marriott hotel guests; massages available

Luxurious Marriott Revive® bedding with down comforter, custom duvet, crisp linen and plush pillows
Spacious work area at our downtown Paris hotel, secure high-speed Internet and connectivity panel

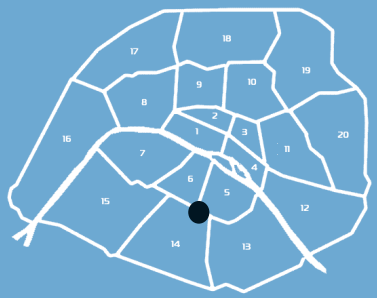
All rooms feature iron and ironing board, tea and coffee making facilities and 24h room service

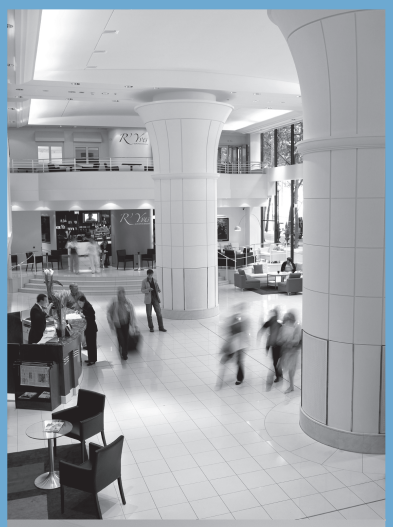
SPECIAL RATES

Room single or double:
Euros 170

Breakfast not included:
Euros 25

To book your room:
http://www.upperside.fr





Marriott
PARIS
RIVE GAUCHE HOTEL
& CONFERENCE CENTER

17 Boulevard Saint Jacques
75014 Paris - France
Metro: Saint Jacques (line 6)

Tel: ++ 33 (0)1 40 78 79 80
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Web: http://www.marriott.com

MPLS & ETHERNET WORLD CONGRESS 2010

TELEPHONE 33 1 53 46 63 80

INTERNET www.upperside.fr info@upperside.fr

FAX 33 1 53 46 63 85

POST MAIL 54 rue du Fbg St Antoine 75012 Paris - France

DATES

09/12 February 2010

VENUE

Marriott Paris Rive Gauche Hotel & Conference Center
17 Boulevard Saint-Jacques
75014 Paris
Metro (Line 6): Saint-Jacques or Glacière

Location and map: http://www.upperside.fr

REGISTRATION FEES

4-Day Event: Tutorial Sessions + 3-Day Conference
(09/12 February 2010)
Euros 2,450.00 + VAT @ 480.20 = Euros 2,930.20

3-Day Conference
(10/12 February 2010)
Euros 1,950.00 + VAT @ 382.20 = Euros 2,332.20

Carrier Ethernet Workshop or MPLS Technical Tutorial only
(09 February 2010)
Euros 850.00 + VAT @ 166.60 = Euros 1,016.60

These fees include the right to access the conference, lecture notes, coffee breaks and lunches. (VAT = 19.6%).

Conference Documentation only
Euros 650.00 (+ VAT 19.6 % for French companies only)

CONFERENCE LANGUAGE

English

ORGANIZED BY

Upperside Conferences
54 rue du Faubourg Saint Antoine - 75012 Paris - France
Telephone: ++ 33 (0)1 53 46 63 80 - Fax: ++ 33 (0)1 53 46 63 85
email: info@upperside.fr
Siret: 399.004.068.00033 - VAT: FR12 399.004.068

PAYMENT

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CANCELLATION

For all cancellations made before November 30th, 2009: the entire registration amount will be refunded.

For all cancellations made between December 1st and January 10th, 2010: the registration amount less 10% service charge will be refunded.

After January 10th, 2010: Regrettably, no refunds can be given for cancellations made after this date.

Substitution of delegates is permitted at any time.

Please tick and report the letter in the block below.

- [ ] A **4-Day Event** including **MPLS Tutorial** & **3-Day Conference**. 09/12 February 2010. € 2,450.00 + VAT € 480.20 = € 2,930.20. Marriott. Paris, France.
- [ ] B **4-Day Event** incl. **Carrier Ethernet Workshop** & **3-Day Conference**. 09/12 February 2010. € 2,450.00 + VAT € 480.20 = € 2,930.20. Marriott. Paris, France.
- [ ] C **3-Day Conference**. 10/12 February 2010. € 1,950.00 + VAT € 382.20 = € 2,332.20. Marriott. Paris, France.
- [ ] D **MPLS Technical Tutorial only**. 09 February 2010. Euros 850.00 + VAT @ 166.60 = Euros 1,016.60. Marriott. Paris, France.
- [ ] E **Carrier Ethernet Workshop only**. 09 February 2010. Euros 850.00 + VAT @ 166.60 = Euros 1,016.60. Marriott. Paris, France.
- [ ] F I am unable to attend, please reserve me a set of lecture notes. Euros 650.00 (+ VAT 19.6 % for French companies only)

		TITLE	FIRST NAME	FAMILY NAME	EMAIL
A	DELEGATE 1	Mr			
A	DELEGATE 2	Mr			
A	DELEGATE 3	Mr			

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EXPIRY DATE | CVC

- [ ] I enclose a cheque in favour of Upperside Conferences
- [ ] Please invoice my Company. Payment upon receipt of invoice

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SIGNATURE | DATE

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