

A tropical beach scene at sunset. A hammock is strung between a palm tree on the left and a point on the right. The sun is low on the horizon, casting a golden glow over the blue ocean and sky. The text "2008 2nd IEEE International Workshop on Bandwidth on Demand (BoD 2008)" is overlaid in white at the bottom.

**2008 2nd IEEE International Workshop on  
Bandwidth on Demand (BoD 2008)**



University of Zurich

# BoD Workshop @ NOMS 2008 Salvador da Bahia, Brazil, April 11, 2008



## 2008 2nd IEEE International Workshop on Bandwidth on Demand (BoD 2008)

Workshop Co-Chairs:

David Hausheer, Panayotis Antoniadis,  
Kohei Shiomoto, Burkhard Stiller, Jean Walrand

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# Introduction

BoD 2008 follows the first BoD workshop held at Globecom 2006

Workshop theme: From Bandwidth on Demand to Networks on Demand – Bandwidth Trading in the Era of Network Virtualization

Rapid technological progress in the area of network virtualization is becoming a key driver for Bandwidth on Demand

- Optical fiber technology
- Virtual router infrastructures

Suitable business models are needed for the provisioning of “on demand” bandwidth services



## Technical Focus of this Workshop

**Technical design** of scalable, reliable, and cost-effective bandwidth trading infrastructures, including market mechanisms as a way to increase efficiencies

**Economic studies and modeling** of market and business models in carrier and service provider networks

**Resource allocation and provision** in non-profit bandwidth trading systems (economic modeling, incentive mechanisms, policies)

**Industrial developments** of new technologies that facilitate or create impediments to bandwidth on demand

**Legislative and regulatory issues** related to the Telecom Act and in comparison to other commodities markets such as the electric grid



# Workshop Statistics

Submissions: 12

Reviews: 48

Accepted Papers: 8

- Asia-Pacific: 4
- North America: 3
- Europe: 1

Attendees: 13+



## Acknowledgement of TPC / Reviewers

Aiko Pras  
Bruno Tuffin  
Charis Kaskiris  
Chris Edwards  
Christian Hoene  
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Soichiro Araki  
Tiago Fioreze  
Torsten Braun  
Vasilios Darlagiannis  
Young Lee  
Zoran Despotovic



# Acknowledgements

BoD Keynote Speaker and Panelists

BoD Workshop Co-Chairs

IEEE NOMS 2008 Workshop Co-Chairs

- Edmundo Madeira and Rolf Stadler

IEEE

- Gayle Weisman, Elizabeth Aubrey, Bruce Worthman

Workshop Patrons

- Huawei Technologies, USA





## Agenda (Morning)

09:15 **Keynote**

Keynote Speaker: Jean Walrand, UC Berkeley

10:15 Coffee break

10:30 **Session 1: Provisioning of Bandwidth on Demand (Part 1)**

Session Chair: David Hausheer, University of Zurich

11:30 **Panel**

Moderator: Burkhard Stiller, University of Zurich

12:30 Lunch break



## Agenda (Afternoon)

- 14:00 **Session 2: Economics of Bandwidth on Demand**  
Session Chair: Burkhard Stiller, University of Zurich
- 15:30 Coffee break
- 16:00 **Session 3: Provisioning of Bandwidth on Demand (Part 2)**  
Session Chair: David Hausheer, University of Zurich
- 17:30 End of workshop



# Workshop Proceedings

Workshop handouts with all papers have been distributed to all workshop participants

- For further hardcopies, please contact [g.weisman@comsoc.org](mailto:g.weisman@comsoc.org)

Additionally, papers will be available electronically on IEEE Xplore after the workshop

- Check out <http://ieeexplore.ieee.org/>

Presentations will be uploaded to the workshop website after the workshop

- <http://www.csg.uzh.ch/events/bod08/>
- All speakers please send slides to [hausheer@ifi.uzh.ch](mailto:hausheer@ifi.uzh.ch)



# Have a Good Workshop Start!

Thank you for attending!

We wish you a lively and interesting Workshop  
with many interactions.



# Keynote



## Pricing of Bandwidth and Communication On Demand Services

Keynote Speaker: Jean Walrand, UC Berkeley

# Session 1: Provisioning of Bandwidth on Demand (Part 1)



University of Zurich



Session Chair: David Hausheer, University of Zurich

Resource Allocation and Provision for  
Bandwidth/Networks on Demand in SINET3

Tutorial: Path Computation Architectures Overview in  
Multi-domain Optical Networks  
Based on ITU-T ASON and IETF PCE



# Panel

Moderator: Burkhard Stiller, University of Zurich

From Bandwidth on Demand to Networks on Demand –  
Bandwidth Trading in the Era of Network Virtualization

## Panelists:

- Aiko Pras, University of Twente
- Prosper Chemouil, Orange-FT Research
- Kohei Shiimoto, NTT Labs
- Young Lee, Huawei

# Session 2: Economics of Bandwidth on Demand



University of Zurich



Session Chair: Burkhard Stiller, University of Zurich

An Efficient Mechanism for Network Bandwidth Auction

American Options Based Service Pricing For Virtual  
Operators

Time-Dependent Network Pricing and Bandwidth  
Trading

# Session 3: Provisioning of Bandwidth on Demand (Part 2)



University of Zurich



Session Chair: David Hausheer, University of Zurich

BoD Service with VCAT/LCAS and GMPLS Signalling

Enhancing Bandwidth on Demand Service Based on Virtual Network Topology Control

Services Parameters and Novel Provisioning Techniques for a Bandwidth Reservation Network