## Lecture Notes in Computer Science

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# Broadband Communications

Networks, Services, Applications, Future Directions

1996 International Zurich Seminar on Digital Communications, IZS'96 Zurich, Switzerland, February 21-23, 1996 Proceedings



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#### Foreword

In the second half of the 1990s broadband networks will evolve to become an indispensable resource in national economies and our society as a whole. It is obvious at the time of this writing that ATM will be deployed as a solution for broadband networks in wide and local area environments; as a matter of fact various broadband network testbeds have been set up throughout the world, and in Europe a wide-area ATM pilot network encompassing eighteen countries has been put to service and is about to be replaced by commercial services in some countries. It can be expected that before long real applications will be running on top of various broadband networks and experience with their use will become available.

It is for the reasons outlined above that the theme of IZS '96 was selected to be "Broadband Communications", emphasizing the three areas of *networks*, *experience with services*, and *application technology*.

Selecting such a broad theme implies that the conference will provide a snapshot of the state of the art in communication technology. The response to the Call for Papers indeed fliet the expectations of the Programme Committee: Close to 70 manuscripts dealing with many aspects of broadband communications were submitted. The manuscripts were reviewed rigorously by the members of the PC or other knowledgeable reviewers, such that each manuscript received four independent opinions, which were instrumental in the decision process conducted by the PC. Finally, the PC chose 26 papers from the set of submitted manuscripts. Many good contributions had to be rejected, but we anticipate that most of these will be published elsewhere.

By explicitly including *services* and *applications* as subtopics in the Call for Papers the Programme Committee hoped to attract reports of systems in which the emerging broadband communication infrastructure was actually used productively. However, a brief look a the conference programme and the table of contents of the proceedings shows that interesting and well-written reports about applications of broadband networks are not readily found. There is just one session which discusses applications, which actually includes two papers invited by the PC.

We are indebted to many individuals who contributed to the IZS '96: Specifically, we thank the members of the Organizing Committee for their dedication and hard work prior and during the conference, the members of the Programme Committee for their invaluable advice in selecting the best papers and creating the programme, and the authors of manuscripts and speakers for publishing and presenting their research results.

We also acknowledge the contributions of the sponsors, which helped alleviate the problems that are always associated with a restricted budget, and the support of the patrons, which made this event possible.

January 1996

Bernhard Plattner, President and Programme Chair Beat Keller, Chairmann

# 1996 International Zurich Seminar On Digital Communications

# Broadband Communications, Networks, Services, Applications, Future Directions

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#### **Contents**

#### **Broadband Network Architecture**

A Path Selection Method in ATM Using Pre-Computation O. Crochat, JY. Le Boudec, T. Przygienda	1
Design and Evaluation of Distributed Link and Path Restoration Algorithms for ATM Meshed Networks  K. Struyve, P. Demeester, L. Nederlof, L. Van Hauwermeiren	.3
Scalability Enhancements for Connection-Oriented Networks  Er. Gauthier, JY. Le Boudec	:7
Designing for Quality of Service Guarantees	
Fair Queueing Algorithms for Packet Scheduling in BISDN S. J. Golestani	9
Burstiness Bounds Based Multiplexing Schemes for VBR Video Connections in the B-ISDN M. Hamdi, J. W. Roberts	;3
Implications of Self-Similarity for Providing End-to-End QOS Guarantees in High-Speed Networks: A Framework of Application Level Traffic Modeling  B. K. Ryu  6	i5
Protocol Support for Multimedia/Multipoint Services	
Multimedia Call Control: A Centralized Approach  H. Müller	31
A Generic Concept for Large-Scale Multicast  M. Hofmann 9	)5
On the Potentials of Forward Error Correction Mechanisms Applied to Real-Time Services Carried over B-ISDN  T. Stock, X. Garcia	)7

Traffic Modeling and Performance Evaluation

# Can Self-Similar Traffic Be Modeled by Markovian Processes? Modeling and Analysis of MPEG Video Sources for Performance Evaluation of Broadband Integrated Networks On the Scalability of the Demand-Priority LAN - A Performance Comparison to FDDI for Multimedia Scenarios Fairness in Resource Allocation A Fast Switch Algorithm for ABR Traffic to Achieve Max-Min Fairness Virtual Partitioning by Dynamic Priorities: Fair and Efficient Resource-Sharing by Several Services A Perfomance Study of the Local Fairness Algorithm for MetaRing MAC Protocol **Applications** Experiences with Multimedia Teleshopping Applications over a Broadband Network - The Project ESSAI Multimedia Multipoint Teleteaching over the European ATM Pilot S. Znaty, T. Walter, M. Brunner,

#### Server Functions in ATM

A Universal Scaling Principle for ATM Based Connectionless Servers  C. M. Winkler	239
The UMTS Mobility Server: a Solution to Support Third Generation Mobility in ATM  J. De Vriendt, L. Vercauteren, K. Georgokitsos  A. Saïdi	251
Satellite and Wireless Networks	
VSAT Satellite Networks Providing ATM Service  M. H. Hadjitheodosiou	263
Predictive Congestion Control for Broadband Satellite Systems  Y. M. Jang, A. Ganz, J. F. Hayes	277
Single-Frequency Packet Network Using Stack Algorithm and Multiple Base Stations  N.D. Vvedenskaya, J.P.M.G. Linnartz	289
Broadband Access and Switching	
Broadband Access in RECIBA B-ISDN Experimental Platform J. I. Solana, J. Marino, R. Caravantes	299
LARNet, a Wavelength Division Multiplexed Network for Broadband Local Access	
M. Zirngibl, C. H. Joyner, C. R. Doerr, L. W. Stulz, I. P. Kaminow	311
Design of a Large ATM Switch with Trunk Grouping S. Aryal, J. S. Meditch	321
D. AA JUST U. U. MINONSTON	241

## Acceptance and Congestion Control

End-to-End Performance Evaluation of Datagram Acceptance Control in DQDB-ATM-DQDB CL Network  R. Vogt, U. Killat	335
Comparison of Explicit Rate and Explicit Forward Congestion Indication Flow Control Schemes for ABR Service  A. Kolarov, G. Ramamurthy	347
Author Index	359