Switching And Traffic Theory For Integrated Broadband Networks

"This book contains investigations of grid and cloud evolution, workflow management, and the impact new computing systems have on education and industry"--Provided by publisher.

Explores both the technology and marketing decision-making in a world-wide industry where product purchasers represent long-term decisions. This book deals with the mainstream switching systems required for the public network. It is about the history of core switching systems and signaling.

New Services such as for Internet data and multimedia applications, have caused a fast growing demand for broadband communications. The fundamental technologies for the integration of these services have been developed in the last decade: optical communications, photonic switching, high speed local area networks, Asynchronous Transfer Mode (ATM), ISDN and B-ISDN, Internet packet networks and mobile communications. The development was possible through the dynamic progress in

communication and computer technologies and through worldwide standardization activities within ITU-T, the ATM Forum, the IETF, IEEE, ANSI, ETSI and other bodies. These developments have been supported by research and field trial programmes. Past developments, such as about LAN, Internet or ISDN networking technologies, have shown that it needs a time span of 10 years for a new technology from its research stage to its full application. Broadband Communications is just at its onset for full deployment. It will have a dramatic effect not only on the networking situation but on the whole development of information technology throughout our social and economic life, which is expressed by the conference theme ,The Future of Telecommunications". The Broadband Communications conference series of IFIP WG 6. 2 addresses the fundamental technical and theoretical problems related with these technologies. BC '98 is the fourth meeting in a series on conferences being held in Stuttgart, Germany. The previous confernces were held in Estoril, Portugal, in 1992, in Paris, France, in 1994, and in Montreal, Canada, in 1996.

Integrated optoelectronics is becoming ever more important to

communications, computer, and consumer industries. It is the enabling technology in a variety of systems, ranging from low-cost, robust optical componentsin consumer electronics to high-performance broadband information networks capable of supporting video and multimedia conferencing. The requirements for producing low-cost, highly reliable components for deployment in these new systems have created a technology challenge. Integrated optoelectronics promises to meet the performance and cost objectives of these applications by integrating both optical and electronic components in a highly functional chip. This book provides an overview of this exciting newtechnology. Integrated Optoelectronics brings together a group of acknowledged experts from both universities and industry around the world to focus on a common theme of integration. These experts have reported not only on the state-of-the-art, but also on the physics and design experience that goes into implementing integrated chips and modules. This book is a cohesive series of articles that includes a discussion of the intimate trade-offs between materials, processes, devices, functional blocks, packaging,and systems requirements in a truly integrated

technology. This integration encompasses electrical, optoelectronic, and optical devices onto monolithic or hybrid chips, and into multichip modules. This volume surveys state-of-the-art research activities in integrated optoelectronics and gathers most of the important references into a single place. It outlines the major issues involved in integrating both optical and electronic components, provides an overview of design and fabrication concepts, and discusses the issues involved in bringing these new chips to the marketplace. This exciting new book: Provides a broad overview of the optoelectronic field, including materials processing, devices, and systems applications Features authors who are acknowledged research experts in this field, from both industry and universities around the world Includes new information on device fabrication, including the latest epitaxial growth and lift-off techniques to permit the mixing of dissimilar materials onto single chips Covers planar processed laser fabrication leading to wafer level automated testing Discusses optimization of devices for integration, including a detailed treatment of the vertical emitting laser and theoretical and experimental coverage of

optimization of photodetectors for integration into receiver chips Describes design approaches for multifunctional chips, including photonic circuits for all-optical networks and the design of integrated optoelectronic chips with lasers, photodiodes, and electronic ICs Covers the infrastructure needed to support an integrated technology, including automated design systems which treat both optical and electrical circuits, and multichip packaging approaches for both optical and IC chips

The future of telecommunications

Performance Evaluation and High Speed Switching Fabrics and Networks

Matrix-Analytic Methods in Stochastic Models

100 Years of Telephone Switching

Advances in Computer and Information Sciences '98

Radio, Electronics, Computers and Communications

ATM Network Performance describes a unified approach to ATM network management. The focus is on satisfying quality-of-service requirements for individual B-ISDN connections. For an ATM network of output-buffer switches, the author describes how the basic network resources (switch buffer

memory and link transmission bandwidth) should be allocated to achieve the required quality-of-service connections. The performance of proposed bandwidth scheduling policies is evaluated. Both single node and end-to-end performance results are given. In particular, these results are applied to resource provisioning problems for prerecorded (stored) video and video teleconferencing. The flow control problem for available bit rate traffic is also described. This book is intended for a one-term course in performance of Broadband Integrated-Services Digital Networks (B-ISDNs) based on a type of packet-switched communication network called Asynchronous Transfer Mode (ATM). The level of presentation is at the first year of graduate studies and for professionals working in the field, but it may be accessible to senior undergraduates as well. Some familiarity with ATM standards is assumed as such standards are only briefly outlined. All of the required background in discrete-time queueing theory is supplied. Exercises are given at the end of chapters. Solutions and/or hints to

selected exercises are given in an Appendix.
The first edition of this book was the first to cover in depth the mathematical theory of nonblocking multistage interconnecting networks, which is applicable to both communication and computer networks. This comprehensively updated new edition not only introduces the classical theory of the fundamental point-to-point network but also has a renewed emphasis on the latest multicast and multirate networks. The book can serve as either a one- or two-semester textbook for graduate students of information science, (electronic) communications, and applied mathematics. In addition, as all the relevant literature is organized and evaluated under one structured framework, the volume is an essential reference for researchers in those areas.
A Comprehensive, Thorough Introduction to High-Speed Networking Technologies and Protocols Network Infrastructure and Architecture: Designing High-Availability Networks takes a unique approach to the subject by covering the ideas

underlying networks, the architecture of the network elements, and the implementation of these elements in optical and VLSI technologies. Additionally, it focuses on areas not widely covered in existing books: physical transport and switching, the process and technique of building networking hardware, and new technologies being deployed in the marketplace, such as Metro Wave Division Multiplexing (MWDM), Resilient Packet Rings (RPR), Optical Ethernet, and more. Divided into five succinct parts, the book covers: Optical transmission Networking protocols VLSI chips Data switching Networking elements and design Complete with case studies, examples, and exercises throughout, the book is complemented with chapter goals, summaries, and lists of key points to aid readers in grasping the material presented. Network Infrastructure and Architecture offers professionals, advanced undergraduates, and graduate students a fresh view on high-speed networking from the physical layer perspective.

An authoritative introduction to the roles of switching and

transmission in broadband integrated services networks Principles of Broadband Switching and Networking explains the design and analysis of switch architectures suitable for broadband integrated services networks, emphasizing packet-switched interconnection networks with distributed routing algorithms. The text examines the mathematical properties of these networks, rather than specific implementation technologies. Although the pedagogical explanations in this book are in the context of switches, many of the fundamental principles are relevant to other communication networks with regular topologies. After explaining the concept of the modern broadband integrated services network and why it is necessary in today's society, the book moves on to basic switch design principles, discussing two types of circuit switch design—space domain and time domain—and packet switch design. Throughput improvements are illustrated by some switch design variations such as Speedup principle, Channel-Grouping principle, Knockout principle, and Dilation principle. Moving seamlessly into advanced switch design

principles, the book covers switch scalability, switch design for multicasting, and path switching. Then the focus moves to broadband communications networks that make use of such switches. Readers receive a detailed introduction on how to allocate network resources and control traffic to satisfy the quality of service requirements of network users and to maximize network usage. As an epilogue, the text shows how transmission noise and packet contention have similar characteristics and can be tamed by comparable means to achieve reliable communication. Principles of Broadband Switching and Networking is written for senior undergraduate and first-year postgraduate students with a solid background in probability theory.

Papers selected for presentation at ISTTT18, a peer reviewed series since 1959

Switching and Traffic Theory for Integrated Broadband Networks

LANs, MANs, ATM, B-ISDN, and Optical Networks for Integrated Multimedia Telecommunications

New Trends in Neural Computation
NETWORKING 2000. Broadband Communications, High Performance Networking, and Performance of Communication Networks
Library of Congress Subject Headings

Compiling the most influential papers from the IEICE Transactions in Communications, High-Performance Backbone Network Technology examines critical breakthroughs in the design and provision of effective public service networks in areas including traffic control, telephone service, real-time video transfer, voice and image transmission for a content delivery network (CDN), and Internet access. The contributors explore system structures, experimental prototypes, and field trials that herald the development of new IP networks that offer quality-of-service (QoS), as well as enhanced security, reliability, and function. Offers many hints and guidelines for future research in IP and photonic backbone network technologies

Switching and Traffic Theory for Integrated Broadband NetworksSpringer Science & Business Media

For telecommunications engineers and researchers looking to learn about broadband networks based on the ATM standard, no other book combines the analysis of ATM theory, architecture, and performance in a single volume.

The telecommunications network is a global system of equipment and means that ensures the connections between the users of communication services, with the transmission and reception of the information involved. It is a set of communication nodes, in which processing procedures take place for the transmission and reception of information signals, switching connections and choosing routes between nodes to make connections between sources and destinations of communications, and a set of links between these nodes, made in a variety of technologies. This volume contains 5 chapters in which the different processes and types of systems within the telecommunications network are presented.

Data, Management, and Control Planes

Proceedings of the IFIP WG 7.3 International Conference on the Performance of Distributed Systems and Integrated Communication Networks, Kyoto, Japan, 10-12 September, 1991

ATM Network Performance

Twelfth Annual Conference on European Fibre Optic Communications and Networks, Heidelberg, June 21-24, 1994 : Proceedings, Papers on ATM and Networks

The Froehlich/Kent Encyclopedia of Telecommunications

Switching Networks: Recent Advances

This book explores new analytical techniques and tools for the performance evaluation of distributed and integrated computer communication systems. The systems considered are those arising in LAN, MAN, WAN broadband ISDN, and ATM switching. These systems are mathematically modelled and analysed. Analytical results are presented on the basic queueing models such as multi-queue, priority queue, queueing network, queue with bursty input and superposed input, and multi-server queue. These results can be usefully applied for the performance evaluation of all the above systems. Many argue that telecommunications network infrastructure is the most impressive and important technology ever developed. Analyzing the telecom market's constantly evolving trends, research directions, infrastructure, and vital needs, Telecommunication Networks responds with revolutionized engineering strategies to optimize network construction. Omnipresent in society, telecom networks integrate a wide range of technologies. These include quantum field theory for the study of optical amplifiers, software architectures for network control, abstract algebra required to design error correction codes, and network, thermal, and mechanical modeling for equipment platform design. Illustrating how and why network developers make technical decisions, this book takes a practical engineering approach

to systematically assess the network as a whole—from transmission to switching. Emphasizing a uniform bibliography and description of standards, it explores existing technical developments and the potential for projected alternative architectural paths, based on current market indicators. The author characterizes new device and equipment advances not just as quality improvements, but as specific responses to particular technical market necessities. Analyzing design problems to identify potential links and commonalities between different parts of the system, the book addresses interdependence of these elements and their individual influence on network evolution. It also considers power consumption and real estate, which sometimes outweigh engineering performance data in determining a product's success. To clarify the potential and limitations of each presented technology and system analysis, the book includes quantitative data inspired by real products and prototypes. Whenever possible, it applies mathematical modeling to present measured data, enabling the reader to apply demonstrated concepts in real-world situations. Covering everything from high-level architectural elements to more basic component physics, its focus is to solve a problem from different perspectives, and bridge descriptions of well-consolidated solutions with newer research trends. Since the publication of the first edition of Fundamentals of Digital Switching

in 1983, there has been substantial improvement in digital switching technology and in digital networks. Packet switching has advanced from a low-speed data-oriented switching approach into a robust broadband technology which supports services ranging from low-speed data to video. This technology has eclipsed the flexibility of circuit switching. Fiber optic cable has advanced since the first edition and has substantially changed the technology of transmission. to research in optical devices to find a still better means of This success has led switching. Digital switching systems continue to benefit from the 100-fold improvement in the capabilities of semiconductor devices which has occurred during the past decade. The chip industry forecasts a similar escalation in complexity during the next 10 years. Networks of switching systems have changed due to regulatory policy reform in many nations, including the breakup of the Bell System in the United States, the introduction of new types of carriers in Japan, competition in the United Kingdom, and a reexamination of public policy in virtually all nations. Standards bodies have been productive in specifying new capabilities for future networks involving interactive and distributive services through STM and A TM technologies.

This book constitutes the refereed proceedings of the 7th IEEE International Conference on High Speed Networking and Multimedia Communications,

HSNMC 2004, held in Toulouse, France in June/July 2004. The 101 revised full papers presented were carefully reviewed and selected from 266 submissions. The papers are organized in topical sections on quality of service, QoS, DiffServ, and performance analysis; scheduling and resource allocation; MPLS; routing and multicast; mobile networks, mobile IP, 3G/UMTS; IEEE 802.11 networks and ad hoc networks; wireless and WLAN; optical networks and WDM; applications and software development; and security and privacy.

Fundamentals of Digital Switching

Local and Metropolitan Communication Systems

Volume 17 - Television Technology

Advancing Research

Switching Theory

Networking Technologies, Services, and Protocols, Performance of Computer and Communication Networks, Mobile and Wireless Communications Systems : 5th International IFIP-TC6 Networking Conference, Coimbra, Portugal, May 15-19, 2006 : Proceedings

This is an elementary textbook on an advanced topic: broadband telecommunica tion networks. I must declare at the outset that this book is not primarily intended for an audience of telecommunication specialists who are weIl versed in the concepts, system architectures, and

underlying technologies of high-speed, multi media, bandwidth-on-demand, packet-switching networks, although the techni cally sophisticated telecommunication practitioner may wish to use it as a refer ence. Nor is this book intended to be an advanced textbook on the subject of broadband networks. Rather, this book is primarily intended for those eager to leam more about this exciting fron tier in the field of telecommunications, an audience that includes systems designers, hardware and software engineers, en gineering students, R&D managers, and market planners who seek an understand ing of local-, metropolitan-, and wide-area broadband networks for integrating voice, data, image, and video. Its primary audience also includes researchers and engineers from other disciplines or other branches of telecommunications who anticipate a future involvement in, or who would simply like to leam more about, the field of broadband networks, along with scientific researchers and corporate telecommunication and data communication managers whose increasingly sophis ticated applications would benefit from (and drive the need for) broadband net works. Advanced topics are certainly not ignored (in fact, a plausible argument could be mounted that aIl of the material is advanced, given the infancy of the topic).

Optical WDM networking technology is spearheading a bandwidth revolution in the networking infrastructure being developed for the next generation Internet. Rapid advances in optical components have enabled the transition from point-to-point WDM links to all-optical networking. Optical WDM Networks: Principles and Practice presents some of the most important challenges facing the optical networking community, along with some suggested

solutions. Earlier textbooks in optical networking have a narrower perspective, and rapidly advancing research has created the need for fresh and current information on problems and issues in the field. The volume editors and contributing authors have endeavoured to capture a substantial subset of the key problems and known solutions to these problems. All of the chapters are original contributions from leading international researchers. The chapters address a wide variety of topics, including the state of the art in WDM technology, physical components that make up WDM fiber-optic networks, medium access protocols, wavelength routed networks, optical access networks, network management, and performance evaluation of wavelength routing networks. The chapters also survey critical points in past research and tackle more recent problems. Practitioners and network product engineers interested in current state-of-the-art information beyond textbook-type coverage, and graduate students commencing research in this area, will appreciate the concise - and pertinent - information presented herein.

Reference Data for Engineers is the most respected, reliable, and indispensable reference tool for technical professionals around the globe. Written by professionals for professionals, this book is a complete reference for engineers, covering a broad range of topics. It is the combined effort of 96 engineers, scientists, educators, and other recognized specialists in the fields of electronics, radio, computer, and communications technology. By providing an abundance of information on essential, need-to-know topics without heavy emphasis on complicated mathematics, Reference Data for Engineers is an absolute "must-have" for every engineer who requires comprehensive electrical, electronics, and communications data at his or her fingertips. Featured in the Ninth

Edition is updated coverage on intellectual property and patents, probability and design, antennas, power electronics, rectifiers, power supplies, and properties of materials. Useful information on units, constants and conversion factors, active filter design, antennas, integrated circuits, surface acoustic wave design, and digital signal processing is also included. The Ninth Edition also offers new knowledge in the fields of satellite technology, space communication, microwave science, telecommunication, global positioning systems, frequency data, and radar. * Widely acclaimed as the most practical reference ever published for a wide range of electronics and computer professionals, from technicians through post-graduate engineers. * Provides a great way to learn or review the basics of various technologies, with a minimum of tables, equations, and other heavy math.

Reflecting changes in the field in the ten years since the publication of the first edition, The Handbook of Photonics, Second Edition explores recent advances that have affected this technology. In this new, updated second edition editor Mool Gupta is joined by John Ballato, strengthening the handbook with their combined knowledge and the continued contributions of world-class researchers. New in the Second Edition: Information on optical fiber technology and the economic impact of photonics Coverage of emerging technologies in nanotechnology Sections on optical amplifiers, and polymeric optical materials The book covers photonics materials, devices, and systems, respectively. An introductory chapter, new to this edition, provides an overview of photonics technology, innovation, and economic development. Resting firmly on the foundation set by the first edition, this new edition continues to serve as a source

for introductory material and a collection of published data for research and training in this field, making it the reference of first resort.

Proceedings of the third international conference on local and metropolitan communication systems

Networking 2006

Telecommunication Networks

Integrated Optoelectronics

IFIP-TC6/European Commission International Conference Paris, France, May 14-19, 2000 Proceedings

Covering past, present and future transport networks using three layered planes written by experts in the field. Targeted at both practitioners and academics as a single source to get an understanding of how transport networks are built and operated Explains technologies enabling the next generation transport networks

Neural computation arises from the capacity of nervous tissue to process information and accumulate knowledge in an intelligent manner. Conventional computational machines have encountered enormous difficulties in duplicatingsuch functionalities. This has given rise to the development of Artificial Neural Networks where computation is distributed over a great number of local processing elements with a high degree of

connectivityand in which external programming is replaced with supervised and unsupervised learning. The papers presented in this volume are carefully reviewed versions of the talks delivered at the International Workshop on Artificial Neural Networks (IWANN '93) organized by the Universities of Catalonia and the Spanish Open University at Madrid and held at Barcelona, Spain, in June 1993. The 111 papers are organized in seven sections: biological perspectives, mathematical models, learning, self-organizing networks, neural software, hardware implementation, and applications (in five subsections: signal processing and pattern recognition, communications, artificial vision, control and robotics, and other applications).

Based on the proceedings of the first International Conference on Matrix-Analytic Methods (MAM) in Stochastic Models, held in Flint, Michigan, this book presents a general working knowledge of MAM through tutorial articles and application papers. It furnishes information on MAM studies carried out in the former Soviet Union.

The rapid development of optical fiber transmission technology has created the possibility for constructing digital networks that are as ubiquitous as the current voice network but which can carry video, voice, and data in massive qlJantities. How and when such networks will evolve, who will pay

for them, and what new applications will use them is anyone's guess. There appears to be no doubt, however, that the trend in telecommunication networks is toward far greater transmission speeds and toward greater heterogeneity in the requirements of different applications. This book treats some of the central problems involved in these networks of the future. First, how does one switch data at speeds orders of magnitude faster than that of existing networks? This problem has roots in both classical switching for telephony and in switching for packet networks. There are a number of new twists here, however. The first is that the high speeds necessitate the use of highly parallel processing and place a high premium on computational simplicity. The second is that the required data speeds and allowable delays of different applications differ by many orders of magnitude. The third is that it might be desirable to support both point to point applications and also applications involving broadcast from one source to a large set of destinations.

Architecture and Performance in Broadband ATM Networks

High Speed Networks and Multimedia Communications

Nonblocking Electronic and Photonic Switching Fabrics

ISCIS '98 : Proceedings of the 13th International Symposium on Computer and Information Sciences, 26-28 October 1998, Belek-Antalya, Turkey

Evolving Developments in Grid and Cloud Computing: Advancing Research
Transportation and Traffic Theory 2009: Golden Jubilee

Reflecting the developments in the integrated transport of heterogenous kinds of communication services, this book provides an account of the switching for broadband ATM networks by covering three different areas: the theory of switching; the architecture of ATM switching fabrics; and the performance of the ATM switching fabrics.; The book combines the analysis of ATM theory, architecture and performance and presents the analytical models available to evaluate the traffic performance of ATM switches under random traffic, together with a wide set of results on the traffic performance of each si.

Here are the refereed proceedings of the 5th International IFIP-TC6 Networking Conference, NETWORKING 2006. The 88 revised full papers and 31 poster papers are organized in topical sections on caching and content management, mobile ad-hoc networks, mobility/handoff, monitoring/measurements, multicast, multimedia, optical networks, peer-to-peer, resource management and QoS, routing, topology and location awareness, traffic engineering, transport protocols, wireless networks, and wireless sensor networks.

We are witnessing an ever-increasing thrust toward the era of multimedia information networks, largely spurred by the U.S. Government's proposal for the

National Information Infrastructure in the fall of 1993. While more people are subscribing to the services of narrowband ISDN, the implementation of broadband ISDN by means of Asynchronous Transfer Mode (ATM) has accelerated since the formation of the ATM Forum in 1993. In the meantime, frame relay may prevail for inter-LAN connections. In the "upper layer" of the network, commercial use of Internet is rapidly emerging. To ensure the successful development of technology, it is vital to use a judicious approach in assessing the architecture and performance of the systems that implement the technology. It is this spirit that underlies the present conference, which is intended to provide an international forum for the presentation of recent research results in the area of local and metropolitan communication systems. This conference has two sets of predecessors. It is the third in a series of international conferences on Local and Metropolitan Communication Systems -LAN & MAN; the first was held in Toulouse in 1986 and the second in Palma de Mallorca in 1991. It is also the fourth in a triennial series organized by Kyoto University and others on the performance of communication-related systems; the previous ones were held in Tokyo (1985) and Kyoto (1988, 1991).

This book contains recent developments in switching networks and applications, including classic topics, such as nonblocking and Benes conjecture, and new

directions, such as optical switching networks and applications in VLSI designs. It provides the state of the art for researchers in computer networks and applied mathematics. Audience: Researchers in computer networks and applied mathematics. The book is appropriate for use in graduate courses.

International Workshop on Artificial Neural Networks, IWANN'93, Sitges, Spain, June 9-11, 1993. Proceedings

Reference Data for Engineers

Network Infrastructure and Architecture

Optical Fiber Telecommunications IV

Principles of Broadband Switching and Networking

ATM, Broadband ISDN, and MAN Technology (A Selected Reprint Volume)

A handy source for practicing engineers and researchers, this book offers collected examples of successful performance evaluation of high speed telecommunications switching fabrics such as ATM networks and high speed interconnection technology for computers. It emphasizes the performance evaluation of such switches as they apply to predicting a proposed system's performance through the use of statistical models -- a cost-saving way for communications engineers to test the design of a system without having to

construct it.

Volume IVA is devoted to progress in optical component research and development. Topics include design of optical fiber for a variety of applications, plus new materials for fiber amplifiers, modulators, optical switches, light wave devices, lasers, and high bit-rate electronics. This volume is an excellent companion to Optical Fiber Telecommunications IVB: Systems and Impairments (March 2002, ISBN: 0-12-3951739). - Fourth in a respected and comprehensive series - Authoritative authors from a range of organizations - Suitable for active lightwave R&D designers, developers, purchasers, operators, students, and analysts - Lightwave components reviewed in Volume A -Lightwave systems and impairments reviewed in Volume B - Up-to-the minute coverage Surveys recent advances in combinatorial properties of switching fabrics Written by an expert in the area of switching fabrics th It is our great privilege and honor to present the proceedings of the 18 International Symposium on Transportation and Traffic Theory (ISTTT), held at The Hong Kong Polytechnic University in Hong Kong, China on 16-18 July 2009. th The 18 ISTTT is jointly organized by the Hong Kong Society for Transportation Studies and

Department of Civil and Structural Engineering of The Hong Kong Polytechnic University. The ISTTT series is the main gathering for the world's transportation and traffic theorists, and those who are interested in contributing to or gaining a deep understanding of traffic and transportation phenomena in order to better plan, design and manage the transportation system. Although it embraces a wide range of topics, from traffic flow theories and demand modeling to road safety and logistics and supply chain modeling, the ISTTT is hallmarked by its intellectual innovation, research and development excellence in the treatment of real-world transportation and traffic problems. The ISTTT prides itself in the extremely high quality of its proceedings. Previous ISTTT conferences were held in Warren, Michigan (1959), London (1963), New York (1965), Karlsruhe (1968), Berkeley, California (1971), Sydney (1974), Kyoto (1977), Toronto (1981), Delft (1984), Cambridge, Massachusetts (1987), Yokohama (1990), Berkeley, California (1993), Lyon (1996), Jerusalem (1999), Adelaide (2002), College Park, Maryland (2005), and London (2007). th th This 18 ISTTT celebrates the 50 Anniversary of this premier conference series.

The Mathematical Theory of Nonblocking Switching Networks
7th IEEE International Conference, HSNMC 2004, Toulouse, France, June 30- July 2, 2004, Proceedings
Performance of Distributed Systems and Integrated Communication Networks
European Optical Communications and Networks
Broadband Communications
The Handbook of Photonics

This was the first conference jointly organized by the IFIP Working Groups 6. 2, 6. 3, and 6. 4. Each of these three Working Groups has its own established series of conferences. Working Group 6. 2 sponsors the Broadband Communications series of conferences (Paris 1995, Montreal 1996, Lisboa 1997, Stuttgart 1998, and Hong-Kong 1999). Working Group 6. 3 sponsors the Performance of Communication Systems series of conferences (Paris 1981, Zürich 1984, Rio de Janeiro 1987, Barcelona 1990, Raleigh 1993, Istanbul 1995, and Lund 1998). Working Group 6. 4 sponsors the High Performance Networking series of conferences (Aaren 1987, Liège 1988, Berlin 1990, Liège 1992, Grenoble 1994, Palma 1995, New York 1997, Vienna 1998). It is expected that this new joint conference will take place every two years. In view of the three sponsoring Working Groups, there were three separate tracks, one per Working Group. Each track was handled by a different co chairman. Specifically, the track of Working Group 6. 2 was handled by Ulf Körner, the track of Working Group 6. 3 was handled by Ioanis Stavrakakis, and the track of Working Group 6. 4 was handled by Serge

Fdida. The overall program committee chairman was Harry Perros, and the general conference chairman was Guy Pujolle. A total of 209 papers were submitted to the conference of which 82 were accepted. Each paper was submitted to one of the three tracks.

Television Technology to Wire Antennas

In response to the increasing interest in developing photonic switching fabrics, this book gives an overview of the many technologies from a systems designer's perspective. Optically transparent devices, optical logic devices, and optical hardware are all discussed in detail and set into a systems context. Comprehensive, up-to-date, and profusely illustrated, the work will provide a foundation for the field, especially as broadband services are more fully developed.

Optical WDM Networks

TRANSMISSION, SWITCHING and ROUTING in communication networks

An Introduction to Broadband Networks

High-Performance Backbone Network Technology

Next Generation Transport Networks

Designing High-Availability Networks