High Speed Tcp Ip Protocol Stack

High Performance Computing Systems and Applications contains fully refereed papers from the 15th Annual Symposium on High Performance Computing. These papers cover both fundamental and applied topics in HPC: parallel algorithms, distributed systems and architectures, distributed memory and performance, high level applications, tools and solvers, numerical methods and simulation, advanced computing systems, and the emerging area of computational grids. High Performance Computing Systems and Applications is suitable as a secondary text for graduate level courses, and as a reference for researchers and practitioners in industry.

The goal of this text is to describe the technical design aspects of the IT infrastructure; it does not give the details of installing and customizing SAP software, nor business process reengineering. Using primarily HP products for the solution examples, the chapters guide the reader through the foundation of the systems from an IT perspective, reviews its business application and architecture and introduces the server systems, then describes data storage, high availability and recovery solutions, client PCs with front-end user interfaces, output management and printing solutions, network infrastructure and requirements, cabling designs, LANs and WANs, and connecting mySAP.com to the Internet. Both authors are members of the HP-SAP International Competence Center. Annotation copyrighted by Book News, Inc., Portland, OR

The industry standard for best practices in system administration, updated to address today's challenges.

There is a great deal of change happening in the technology being used for local networks. As Web intranets have driven bandwidth needs through the ceiling, inexpensive Ethernet NICs and switches have come into the market. As a result, many network professionals are interested in evaluating these new technologies for implementation consideration. If you are looking for advice from experts who can help you realistically compare and decide how to use the options before you. Often, books on this subject are too varied in subject matter, attempting to cover to many subjects in the book. This book addresses the topic of Ethernet Networking from a planning perspective to a bit analysis of the Ethernet packets. It explains in detail information in the new network administrator would find it necessary to know.

Develop an understanding of the core principles of information systems (IS) and how these principles make a difference in today's business environment with Stair/Reynolds' PRINCIPLES OF INFORMATION SYSTEMS, 14E. Completely reorganized for clarity and focus, this fresh new edition provides engaging new chapter opening cases and a new chapter on AI and automation. You explore the challenges and risks of cybercrime, hacking, internet of things, and artificial intelligence as you examine the latest IS research and learn from memorable examples. You can even maximize your employability as you learn how to use IS to increase profits and reduce costs in organizations while studying the latest developments in big data, business intelligence, cloud computing, e-commerce, enterprise systems, mobile computing, strategic planning, and systems development. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

Mastering cluster technology-the linking of servers-is becoming increasingly important for application and system programmers and network designers, administrators, and managers. With Microsoft's Windows NT cluster server being the first to tie cluster technology with a major operating system, it appears destined to take a leadership position in the industry. Introduction to Microsoft Windows NT Cluster Server provides all you need to know to develop your abilities for this essential technology. The author provides both introductory and advanced material focused on the three basic functions: fault tolerant computing (failover), load balancing, and centralized administration and monitoring. He guides the reader from the basics of cluster servers, through Microsoft's cluster server set-up, communication, programming, and administration. Written for professionals who are familiar with the Windows NT operating system and have programming experience, Introduction to Microsoft Windows NT Cluster Server contains information instrumental in helping you achieve zero downtime.

William Stallings offers the most comprehensive technical book to address a wide range of design issues of high-speed TCP/IP and ATM networks in print to date. "High-Speed Networks and Internets" presents both the professional and advanced student an up-to-date survey of key issues. The Companion Website and the author's Web page offer unmatched support for students and instructors. The book features the prominent use of figures and tables and an up-to-date bibliography. In this second edition, this award-winning and best-selling author steps up to the leading edge of integrated coverage of key issues in the design of high-speed TCP/IP and ATM networks to include the following topics: Unified coverage of integrated and differentiated services. Up-to-date and comprehensive coverage of TCP performance. Thorough coverage of next-generation Internet protocols including (RSVP), (MPLS), (RTP), and the use of Ipv6. Unified treatment of congestion in data networks; packet-switching, frame relay, ATM networks, and IP-based internets. Broad and detailed coverage of routing, unicast, and multicast. Comprehensive coverage of ATM; basic technology and the newest traffic control standards. Solid, easy-to-absorb mathematical background enabling understanding of the issues related to high-speed network performance and design. Up-to-date treatment of gigabit Ethernet. The first treatment of self-similar traffic for performance assessment in a textbook on networks (Explains the mathematics behind self-similar traffic and shows the performance implications and how to estimate performance parameters.) Up-to-date coverage of compression. (A comprehensive survey.) Coverage of gigabit networks. Gigabit design issues permeate the book.

This book contains the papers presented at the 14th International Conference on Field Programmable Logic and Applications (FPL) held during August 30th- September 1st 2004. The conference was hosted by the Interuniversity Micro- Electronics Center (IMEC) in Leuven, Belgium. The FPL series of conferences was founded in 1991 at Oxford University (UK), and has been held annually since: in Oxford (3 times), Vienna, Prague, Darmstadt, London, Tallinn, Glasgow, Villach, Belfast, Montpellier and Lisbon. It is the largest and oldest conference in reconfigurable computing and brings together academic researchers, industry experts, users and newcomers in an informal, welcoming atmosphere that encourages productive exchange of ideas and knowledge between the delegates. The fast and exciting advances in field programmable logic are increasing steadily with more and more application potential and need. New ground has been broken in architectures, design techniques, (partial) run-time reconfiguration and applications of field programmable devices in several different areas. Many of these recent innovations are reported in this volume. The size of the FPL conferences has grown significantly over the years. FPL in

2003 saw 216 papers submitted. The interest and support for FPL in the programmable logic community continued this year with 285 scientific papers submitted, demonstrating a 32% increase when compared to the year before. The technical program was assembled from 78 selected regular papers, 45 additional short papers and 29 posters, resulting in this volume of proceedings. The program also included three invited plenary keynote presentations from Xilinx, Gilder Technology Report and Altera, and three embedded tutorials from Xilinx, the Universit ? at Karlsruhe (TH) and the University of Oslo.

How prepared are you to build fast and efficient web applications? This eloquent book provides what every web developer should know about the network, from fundamental limitations that affect performance to major innovations for building even more powerful browser applications—including HTTP 2.0 and XHR improvements, Server-Sent Events (SSE), WebSocket, and WebRTC. Author Ilya Grigorik, a web performance engineer at Google, demonstrates performance optimization best practices for TCP, UDP, and TLS protocols, and explains unique wireless and mobile network optimization requirements. You'll then dive into performance characteristics of technologies such as HTTP 2.0, client-side network scripting with XHR, real-time streaming with SSE and WebSocket, and P2P communication with WebRTC. Deliver superlative TCP, UDP, and TLS performance Speed up network performance over 3G/4G mobile networks Develop fast and energy-efficient mobile applications Address bottlenecks in HTTP 1.x and other browser protocols Plan for and deliver the best HTTP 2.0 performance Enable efficient real-time streaming in the browser Create efficient peer-to-peer videoconferencing and low-latency applications with real-time WebRTC transports

The 5th International Symposium on High Performance Computing (ISHPC–V) was held in Odaiba, Tokyo, Japan, October 20–22, 2003. The symposium was thoughtfully planned, organized, and supported by the ISHPC Organizing C- mittee and its collaborating organizations. The ISHPC-V program included two keynote speeches, several invited talks, two panel discussions, and technical sessions covering theoretical and applied research topics in high–performance computing and representing both academia and industry. One of the regular sessions highlighted the research results of the ITBL project (IT–based research laboratory, http://www.itbl.riken.go.jp/). ITBL is a Japanese national project started in 2001 with the objective of re- izing a virtual joint research environment using information technology. ITBL aims to connect 100 supercomputers located in main Japanese scienti?c research laboratories via high–speed networks. A total of 58 technical contributions from 11 countries were submitted to ISHPC-V. Each paper received at least three peer reviews. After a thorough evaluation process, the program committee selected 14 regular (12-page) papers for presentation at the symposium. In addition, several other papers with fav- able reviews were recommended for a poster session presentation. They are also included in the proceedings as short (8-page) papers. Theprogramcommitteegaveadistinguishedpaperawardandabeststudent paper award to two of the regular papers. The distinguished paper award was given for "Code and Data Transformations for Improving Shared Cache P- formance on SMT Processors" by Dimitrios S. Nikolopoulos. The best student paper award was given for "Improving Memory Latency Aware Fetch Policies for SMT Processors" by Francisco J. Cazorla.

Technological Advances and Problems of High Performance Communications An ecosystem of solutions along a stack of technology layers Cohesively collecting state-of-the-art contributions from leading researchers in industry, national laboratories, and academia, Attaining High Performance Communications: A Vertical Approach discusses various issues pertaining to high performance communications in a particular layer of a vertical stack. It explores efficient interconnection hardware, the architectural aspects of network adapters and their integration with processor cores, the design of scalable and robust high performance end-to-end communications services and protocols, and system

services and tools for new multi-core environments. No single solution applied at one particular layer can help applications solve all performance-related issues with communication services. Instead, this book shows that a coordinated effort is needed among the layers. It covers many different types of technologies and layers across the stack, from the architectural features of the hardware, through the protocols and their implementation in operating system kernels, to the manner in which application services and middleware are using underlying platforms. The book also describes key developments in high-end platforms, high performance interconnection fabrics and communication libraries, and multi- and many-core systems. This volume addresses the challenges involved in emerging types of communications applications, platforms, and services. Examining each layer in the vertical stack, it illustrates how to eliminate bottlenecks and provide optimization opportunities.

For more than 50 years, IBM® mainframes have supported an extraordinary portion of the world's computing work, providing centralized corporate databases and mission-critical enterprise-wide applications. IBM zTM Systems, the latest generation of the IBM distinguished family of mainframe systems, has come a long way from its IBM System/360 heritage. Likewise, its IBM z/OS® operating system is far superior to its predecessors in providing, among many other capabilities, world-class and state-of-the-art support for the TCP/IP internet protocol suite. TCP/IP is a large and evolving collection of communication protocols that is managed by the Internet Engineering Task Force (IETF), an open, volunteer organization. Because of its openness, the TCP/IP protocol suite has become the foundation for the set of technologies that form the basis of the internet. The convergence of IBM mainframe capabilities with internet technology, connectivity, and standards (particularly TCP/IP) is dramatically changing the face of information technology and driving requirements for even more secure, scalable, and highly available mainframe TCP/IP implementations. The IBM z/OS Communications Server TCP/IP Implementation series provides understandable, step-by-step guidance for enabling the most commonly used and important functions of z/OS Communications Server TCP/IP. This IBM Redbooks® publication is for people who install and support z/OS Communications Server. It introduces z/OS Communications Server TCP/IP, describes the system resolver, and shows the implementation of global and local settings for single and multi-stack environments. It presents implementation scenarios for TCP/IP base functions, connectivity, routing, and subplexing.

Guide to TCP/IP, Fourth Edition introduces students to the concepts, terminology, protocols, and services that the Transmission Control Protocol/Internet Protocol (TCP/IP) suite uses to make the Internet work. This text stimulates hands-on skills development by not only describing TCP/IP capabilities, but also by encouraging students to interact with protocols. It provides the troubleshooting knowledge and tools that network administrators and analysts need to keep their systems running smoothly. Guide to TCP/IP, Fourth Edition covers topics ranging from traffic analysis and characterization, to error detection, security analysis and more. Both IPv4 and IPv6 are covered in detail. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

Establishing adaptive control as an alternative framework to design and analyze Internet congestion controllers, End-to-End Adaptive Congestion Control in TCP/IP Networks employs a rigorously mathematical approach coupled with a lucid writing style to provide extensive background and introductory material on dynamic systems stability and neural network approximation; alongside future internet requests for congestion control architectures. Designed to operate under extreme heterogeneous, dynamic, and time-varying network conditions, the developed controllers must also handle network modeling structural uncertainties and uncontrolled traffic flows acting as external perturbations. The book also presents a parallel examination of specific adaptive congestion control, NNRC, using adaptive control and approximation theory, as well as extensions toward cooperation of NNRC with application QoS control. Features: Uses adaptive control

techniques for congestion control in packet switching networks Employs a rigorously mathematical approach with lucid writing style Presents simulation experiments illustrating significant operational aspects of the method; including scalability, dynamic behavior, wireless networks, and fairness Applies to networked applications in the music industry, computers, image trading, and virtual groups by techniques such as peer-to-peer, file sharing, and internet telephony Contains working examples to highlight and clarify key attributes of the congestion control algorithms presented Drawing on the recent research efforts of the authors, the book offers numerous tables and figures to increase clarity and summarize the algorithms that implement various NNRC building blocks. Extensive simulations and comparison tests analyze its behavior and measure its performance through monitoring vital network quality metrics. Divided into three parts, the book offers a review of computer networks and congestion control, presents an adaptive congestion control framework as an alternative to optimization methods, and provides appendices related to dynamic systems through universal neural network approximators.

1 This year marks the l0 h anniversary of the IFIP International Workshop on Protocols for High-Speed Networks (PfHSN). It began in May 1989, on a hillside overlooking Lake Zurich in Switzerland, and arrives now in Salem Massachusetts 6,000 kilometers away and 10 years later, in its sixth incarnation, but still with a waterfront view (the Atlantic Ocean). In between, it has visited some picturesque views of other lakes and bays of the world: Palo Alto (1990 - San Francisco Bay), Stockholm (1993 - Baltic Sea), Vancouver (1994- the Strait of Georgia and the Pacific Ocean), and Sophia Antipolis I Nice (1996- the Mediterranean Sea). PfHSN is a workshop providing an international forum for the exchange of information on high-speed networks. It is a relatively small workshop, limited to 80 participants or less, to encourage lively discussion and the active participation of all attendees. A significant component of the workshop is interactive in nature, with a long history of significant time reserved for discussions. This was enhanced in 1996 by Christophe Diot and W allid Dabbous with the institution of Working Sessions chaired by an "animator," who is a distinguished researcher focusing on topical issues of the day. These sessions are an audience participation event, and are one of the things that makes PfHSN a true "working conference.

The recent trend towards the interoperability of traditionally separate networks, such as terrestrial, wireless/cellular, and satellite, for the support of multimedia applications poses new and significantly challenging problems to network design. This book reports on the state-of-the-art work developed during the four years of operation of the COST 279 Action, Analysis and Design of Advanced Multiservice Networks supporting Mobility, Multimedia, and Internetworking, by its participating researchers, originating from over 40 research institutions from the academic, industrial, and telecom operator worlds. The work includes both fundamental, methodological, and applied aspects of network performance evaluation and design. Analysis and Design of Advanced Multiservice Networks Supporting Mobility, Multimedia, and Internetworking contains a detailed account of the work developed, supported on an extensive bibliography of material published in the peer-reviewed literature. It contains the following six chapters: IP-Based NetworksQueueing Models Traffic Measurement, Characterization, and ModelingWireless NetworksOptical NetworksPeer-to-Peer Services Analysis and Design of Advanced Multiservice Networks Supporting Mobility, Multimedia, and Internetworking will appeal to both practitioners of network design, and to researchers aiming to map future directions in networking research.

For more than 40 years, IBM® mainframes have supported an extraordinary portion of the world's computing work, providing centralized corporate databases and mission-critical enterprise-wide applications. The IBM System z®, the latest generation of the IBM distinguished family of mainframe systems, has come a long way from its IBM System/360 heritage. Likewise, its IBM z/OS® operating system is far superior to its predecessors in providing, among many other capabilities, world-class and state-of-the-art support for the TCP/IP Internet protocol suite. TCP/IP is a large and evolving collection of communication protocols managed by the Internet Engineering Task Force (IETF), an open, volunteer organization. Because of its openness, the TCP/IP protocol suite has become the foundation for the set of technologies that form the basis of the Internet. The convergence of IBM mainframe capabilities with Internet technology, connectivity, and standards (particularly TCP/IP) is dramatically changing the face of information technology and driving requirements for even more secure, scalable, and highly available mainframe TCP/IP implementations. The z/OS Communications Server TCP/IP Implementation series provides understandable, step-by-step guidance about how to enable the most commonly used and important functions of z/OS Communications Server TCP/IP. This IBM Redbooks® publication is for people who install and support z/OS Communications Server. It introduces z/OS Communications Server TCP/IP, discusses the system resolver, showing implementation of global and local settings for single and multi-stack environments. It presents implementation scenarios for TCP/IP base functions, connectivity, routing, virtual MAC support, and sysplex subplexing.

Internet Congestion Control provides a description of some of the most important topics in the area of congestion control in computer networks, with special emphasis on the analytical modeling of congestion control algorithms. The field of congestion control has seen many notable advances in recent years and the purpose of this book, which is targeted towards the advanced and intermediate reader, is to inform about the most important developments in this area. The book should enable the reader to gain a good understanding of the application of congestion control theory to a number of application domains such as Data Center Networks, Video Streaming, High Speed Links and Broadband Wireless Networks. When seen through the lens of analytical modeling, there are a number of common threads that run through the design and analysis of congestion control protocols in all these different areas, which are emphasized in this book. The book also cuts a path through the profusion of algorithms in the literature, and puts the topic on a systematic and logical footing. Internet Congestion Control provides practicing network engineers and researchers with a comprehensive and accessible coverage of analytical models of congestion control algorithms, and gives readers everything needed to understand the latest developments and research in this area. Examines and synthesizes the most important developments in internet congestion control from the last 20 years. Provides detailed description on the congestion control protocols used in four key areas; broadband wireless networks, high speed networks with large latencies, video transmission networks, and data center networks. Offers accessible coverage of advanced topics such as Optimization and Control Theory as applied to congestion control systems.

The explosion of traffic over data communications networks has resulted in a growing demand for Quality of Service (QoS)

techniques to ensure network reliability, particularly in regard to e-commerce applications. Written by two experts in the field, this book covers the implementation of QoS techniques from an engineering point of view. Readers will find practical, up-to-date coverage of all key QoS technologies, real-world engineering examples illustrating theoretical results, and a discussion of new control techniques for the next generation multimedia networks. Market: Electrical Engineers and Computer Scientists involved with high-speed networks

Bestselling author William Stallings presents comprehensive, up-to-date coverage of TCP performance design issues. A high-level overview of cutting-edge network and Intranet design, this book focuses on high-speed technologies like routing for multimedia, how to manage traffic flow, and compression techniques for maximizing throughout.

The conference proceedings of the International Conference on Systems, Computing Sciences and Software Engineering include a set of rigorously reviewed world-class manuscripts addressing and detailing state-of-the-art research projects in the areas of Computer Science, Software Engineering, Computer Engineering, and Systems Engineering and Sciences. The International Conference on Systems, Computing Sciences and Software Engineering (SCSS 2005) was part of the International Joint Conferences on Computer, Information and Systems Sciences and Engineering (CISSE 2005). CISSE 2005, the World's first Engineering/Computing and Systems Research E-Conference was the first high-caliber Research Conference in the world to be completely conducted online in real-time via the internet. CISSE received 255 research paper submissions and the final program included 140 accepted papers, from more than 45 countries. The whole concept and format of CISSE 2005 was very exciting and ground-breaking. The powerpoint presentations, final paper manuscripts and time schedule for live presentations over the web had been available for 3 weeks prior to the start of the conference for all registrants, so they could pick and choose the presentations they want to attend and think about questions that they might want to ask. The live audio presentations were also recorded and are part of the permanent CISSE archive, which includes all power point presentations, papers and recorded presentations. All aspects of the conference were managed on-line; not only the reviewing, submissions and registration processes; but also the actual conference. Conference participants - authors, presenters and attendees - only needed an internet connection and sound available on their computers in order to be able to contribute and participate in this international ground-breaking conference. The on-line structure of this high-quality event allowed academic professionals and industry participants to contribute work and attend world-class technical presentations based on rigorously refereed submissions, live, without the need for investing significant travel funds or time out of the office. Suffice to say that CISSE received submissions from more than 50 countries, for whose researchers, this opportunity presented a much more affordable, dynamic and well-planned event to attend and submit their work to, versus a classic, on-the-ground conference. The CISSE conference audio room provided superb audio even over low speed internet connections, the ability to display PowerPoint presentations, and cross-platform compatibility (the conferencing software runs on Windows, Mac, and any other operating system that supports Java). In addition, the conferencing system allowed for an unlimited number of participants, which in turn granted CISSE the opportunity to allow all participants to attend all presentations,

as opposed to limiting the number of available seats for each session. The implemented conferencing technology, starting with the submission & review system and ending with the online conferencing capability, allowed CISSE to conduct a very high quality, fulfilling event for all participants.

For more than 20 years, Network World has been the premier provider of information, intelligence and insight for network and IT executives responsible for the digital nervous systems of large organizations. Readers are responsible for designing, implementing and managing the voice, data and video systems their companies use to support everything from business critical applications to employee collaboration and electronic commerce.

This book provides an overview of the resources and research projects that are bringing Big Data and High Performance Computing (HPC) on converging tracks. It demystifies Big Data and HPC for the reader by covering the primary resources, middleware, applications, and tools that enable the usage of HPC platforms for Big Data management and processing.Through interesting use-cases from traditional and non-traditional HPC domains, the book highlights the most critical challenges related to Big Data processing and management, and shows ways to mitigate them using HPC resources. Unlike most books on Big Data, it covers a variety of alternatives to Hadoop, and explains the differences between HPC platforms and Hadoop.Written by professionals and researchers in a range of departments and fields, this book is designed for anyone studying Big Data and its future directions. Those studying HPC will also find the content valuable.

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implementation of global and local settings for single and multi-stack environments. We present implementation scenarios for TCP/IP Base functions, Connectivity, Routing, Virtual MAC support, and sysplex subplexing.

The TCP/IP protocol suite has become the de facto standard for computer communications in today's networked world. The ubiquitous implementation of a specific networking standard has led to an incredible dependence on the applications enabled by it. Today, we use the TCP/IP protocols and the Internet not only for entertainment and information, but to conduct our business by performing transactions, buying and selling products, and delivering services to customers. We are continually extending the set of applications that leverage TCP/IP, thereby driving the need for further infrastructure support. It is our hope that both the novice and the expert will find useful information in this publication.

Written by best selling author, Raj Jain, and his authoritative co-author, this book features leading edge issues and solutions for high performance TCP/IP networking, this easy-to-read book provides a one-stop-shop for coverage of the many changes to the TCP protocol over the last two decades and all important research results. Professionals can keep themselves up-to-date with advances in this area and learn many potential performance problems and solutions for running TCP/IP in the emerging networking environment. An international expert in the field captures state of the art topics in each chapter in the five-part organization. Part I introduces the scope of the book, Part II provides detailed coverage of the tools and techniques for performance evaluation of TCP/IP networks, Part III examines the performance concepts and issues for running TCP/IP in the emerging network environment, Part IV discusses congestion control, and Part V explores the performance issues in implementing TCP/IP in the end system. For network engineers, R&D managers, research scientists, and network administrators.

Several approaches have been used to build experimental Gigabit Networks in various industrial and academic research laboratories. Many lessons have been learned and progress has been made. High Performance Networks: Frontiers and Experience contains a collection of chapters written by the principal investigators of some of the most representative pilot projects. Authors describe their approaches and provide some advice based on their practical experience. Projects covered include some national gigabit testbeds in the US (Aurora), Germany (Berkom) and Sweden (MultiG). Also described are gigabit research networks implemented in the labs of IBM and HP. The second part of the book covers the implementation of protocols for high performance systems. These include traditional protocols that can still be used in gigabit networks (such as TCP/IP and OSI-TP4) as well as newly proposed protocols (such as T++). An example implementation of a high performance ATM adapter is also presented. Professionals, engineers, and researchers in high performance (gigabit) communications who need to design and build such networks and protocols will find this volume to be an invaluable reference. The book is also suitable for use as a text for advanced courses on the subject.

at the distributed virtual Program Committee meeting. Each paper's review recomm- dationswere carefully checkedfor consistency; in many instances, the Vice Chairs read the papers themselves when the reviews did not seem suf?cient to make a decision. Throughout the reviewing process, I received a tremendous amount of help and advice from General Co-chair Manish Parashar, Steering Chair Viktor Prasanna, and last year's Program Chair Srinivas Aluru; I am very grateful to them. My thanks also go to the Publications Chair Sushil Prasad for his outstanding efforts in putting the proceedings together. Finally, I thank all the authors for their contributions to a hi- quality technical program. I wish all the attendees a very enjoyable and informative meeting. December 2008 P. Sadayappan Message from the General Co-chairs and the Vice General Co-chairs On behalf of the organizers of the 15th International Conference on High-Performance Computing(HiPC), it is our pleasureto present these proceedingsand we hopeyou will ?nd them exciting and rewarding. TheHiPCcallforpapers,onceagain,receivedanoverwhelmingresponse,attracting 317submissionsfrom27countries.P.Sadayappan,theProgramChair,andthe Program Committee worked with remarkablededication to put together an outstandingtechnical program consisting of the 46 papers that appear in these proceedings.

Programming in TCP/IP can seem deceptively simple. Nonetheless, many network programmers recognize that their applications could be much more robust. Effective TCP/IP Programming is designed to boost programmers to a higher level of competence by focusing on the protocol suite's more subtle features and techniques. It gives you the know-how you need to produce highly effective TCP/IP programs. In forty-four concise, self-contained lessons, this book offers experience-based tips, practices, and rules of thumb for learning high-performance TCP/IP programming techniques. Moreover, it shows you how to avoid many of TCP/IP's most common trouble spots. Effective TCP/IP Programming offers valuable advice on such topics as: Exploring IP addressing, subnets, and CIDR Preferring the sockets interface over XTI/TLI Using two TCP connections Making your applications event-driven Using one large write instead of multiple small writes Avoiding data copying Understanding what TCP reliability really means Recognizing the effects of buffer sizes Using tcpdump, traceroute, netstat, and ping effectively Numerous examples demonstrate essential ideas and concepts. Skeleton code and a library of common functions allow you to write applications without having to worry about routine chores. Through individual tips and explanations, you will acquire an overall understanding of TCP/IP's inner workings and the practical knowledge needed to put it to work. Using Effective TCP/IP Programming, you'll speed through the learning process and quickly achieve the programming capabilities of a seasoned pro.

This complete guide to setting up and running a TCP/IP network is essential for network administrators, and invaluable for users of home systems that access the Internet. The book starts with the fundamentals -- what protocols do and how

they work, how addresses and routing are used to move data through the network, how to set up your network connection -- and then covers, in detail, everything you need to know to exchange information via the Internet.Included are discussions on advanced routing protocols (RIPv2, OSPF, and BGP) and the gated software package that implements them, a tutorial on configuring important network services -- including DNS, Apache, sendmail, Samba, PPP, and DHCP -- as well as expanded chapters on troubleshooting and security. TCP/IP Network Administration is also a command and syntax reference for important packages such as gated, pppd, named, dhcpd, and sendmail.With coverage that includes Linux, Solaris, BSD, and System V TCP/IP implementations, the third edition contains: Overview of TCP/IP Delivering the data Network services Getting startedM Basic configuration Configuring the interface Configuring routing Configuring DNS Configuring network servers Configuring sendmail Configuring Apache Network security Troubleshooting Appendices include dip, ppd, and chat reference, a gated reference, a dhcpd reference, and a sendmail reference This new edition includes ways of configuring Samba to provide file and print sharing on networks that integrate Unix and Windows, and a new chapter is dedicated to the important task of configuring the Apache web server. Coverage of network security now includes details on OpenSSH, stunnel, gpg, iptables, and the access control mechanism in xinetd. Plus, the book offers updated information about DNS, including details on BIND 8 and BIND 9, the role of classless IP addressing and network prefixes, and the changing role of registrars.Without a doubt, TCP/IP Network Administration, 3rd Edition is a must-have for all network administrators and anyone who deals with a network that transmits data over the Internet.

Covers topics including HTTP methods and status codes, optimizing proxies, designing web crawlers, content negotiation, and load-balancing strategies.

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.

For more than 40 years, IBM® mainframes have supported an extraordinary portion of the world's computing work, providing centralized corporate databases and mission-critical enterprise-wide applications. IBM System z®, the latest generation of the IBM distinguished family of mainframe systems, has come a long way from its IBM System/360 heritage. Likewise, its IBM z/OS® operating system is far superior to its predecessors in providing, among many other capabilities, world-class, state-of-the-art support for the TCP/IP Internet protocol suite. TCP/IP is a large and evolving collection of communication protocols managed by the Internet Engineering Task Force (IETF), an open, volunteer organization. Because of its openness, the TCP/IP protocol suite has become the foundation for the set of technologies that form the basis of the Internet. The convergence of IBM mainframe capabilities with Internet technology, connectivity, and standards (particularly TCP/IP) is dramatically changing the face of information technology and driving requirements for even more secure, scalable, and highly available mainframe TCP/IP implementations. The IBM z/OS Communications Server TCP/IP Implementation series provides understandable, step-by-step guidance for enabling the most commonly used and important functions of z/OS Communications Server TCP/IP. This IBM Redbooks® publication is for people who install and support z/OS Communications Server. It introduces z/OS Communications Server TCP/IP, describes the system resolver, showing implementation of global and local settings for single and multi-stack environments. It presents implementation scenarios for TCP/IP base functions, connectivity, routing, virtual MAC support, and sysplex subplexing. From Charles M. Kozierok, the creator of the highly regarded www.pcguide.com, comes The TCP/IP Guide. This completely up-to-date, encyclopedic reference on the TCP/IP protocol suite will appeal to newcomers and the seasoned professional alike. Kozierok details the core protocols that make TCP/IP internetworks function and the most important classic TCP/IP applications, integrating IPv6 coverage throughout. Over 350 illustrations and hundreds of tables help to explain the finer points of this complex topic. The book's personal, user-friendly writing style lets readers of all levels understand the dozens of protocols and technologies that run the Internet, with full coverage of PPP, ARP, IP, IPv6, IP NAT, IPSec, Mobile IP, ICMP, RIP, BGP, TCP, UDP, DNS, DHCP, SNMP, FTP, SMTP, NNTP, HTTP, Telnet, and much more. The TCP/IP Guide is a must-have addition to the libraries of internetworking students, educators, networking professionals, and those working toward certification.

Leading authorities deliver the commandments for designing high-speed networks There are no end of books touting the virtues of one or another high-speed networking technology, but until now, there were none offering networking

professionals a framework for choosing and integrating the best ones for their organization's networking needs. Written by two world-renowned experts in the field of high-speed network design, this book outlines a total strategy for designing high-bandwidth, low-latency systems. Using real-world implementation examples to illustrate their points, the authors cover all aspects of network design, including network components, network architectures, topologies, protocols, application interactions, and more.

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