3g Wireless Demystified

EDWARDS ADKINS

Architectures, Protocols and Platforms Turtleback
Wireless data, the high-speed transfer of email, stock information, messages, and even video and audio across wireless networks, is expected to become a$7.5 billion business within the next three years. This resource unpacks the networks, technologies, and protocols that make it all possible and explains how to cash in on this massive new telecom market. * Includes basic network deployment and design concepts * Covers implementing fixed wireless and WLL (wireless local loop) * Details managing and maintaining high-speed wireless data networks
Introduction to Mobile Telephone Systems Elsevier
Among the many books published on 3G and cellular telecommunications, this introduction stands out due to its broad coverage of the subject and straightforward explanations of the principles and applications using a minimum of maths. Writing as an engineer for engineers, Ian Poole provides a systems-level view of the fundamentals that will enhance the understanding of engineers involved working in this fast-paced field. Equally, the book helps students, technicians and equipment manufacturers to gain a working knowledge of the applications and technologies involved in cellular communications equipment and networks. The book focuses on the latest 2G, 2.5G and 3G technologies, including GSM (with GPRS and EDGE), NA-TDMA, cdmaOne (IS-95), CDMA2000 and UMTS (W-CDMA), with material on developing areas such as HSDPA. The fundamentals of radio propagation, modulation and cellular basics are also covered in a way that will give readers a real grasp of how cellular communications systems and equipment work. * Explains the principles and applications of cellular communications systems using a minimum of mathematics, providing a firm grounding for engineers, technicians and students. * Covers current technologies (2G, 2.5G) alongside 3G and other cutting-edge technologies, making this essential reading, not crystal ball gazing! * Provides coverage of fundamentals and whole systems, as well as equipment provides a wide knowledge base for engineers and technicians working in different parts of the industry: handset designers, network planners, maintenance technicians, technical sales, etc.
Wireless Internet Crash Course McGraw Hill Professional
Messaging-Passing Server Internals A COMPLETE MESSAGING SERVER CONSTRUCTION, DEPLOYMENT, AND MANAGEMENT KIT With the emergence of the Internet and heterogeneous computing environments, message-passing technology has gone from obscure to mainstream. Cell phones, pagers, PDAs, and browser-based network clients have made messaging technology accessible to everyone. This book targets developers interested in implementation, engineers migrating into communications, and network administrators interested in deployment issues. This book is an extensive guide to constructing a fully functional message-passing engine, complete with deployment and management tools. With short, step-by-step tutorials, Bill Blunden moves smoothly from explaining basic theory to designing and implementing high-level subsystems. Background material is presented in a way that will appeal to novice engineers, but the sophisticated approach will make advanced developers feel right at home. The companion CD contains source code for original implementation, in addition to system management utilities. MESSAGE-PASSING SERVER INTERNALS DELIVERS: * Nuts-and-bolts construction techniques for message-passing servers * Short tutorials that build from basics to top-tier components * Author known for clarity and clean code * CD-ROM with source code for complete messaging system, testing, deployment, and management tools
802.11 Demystified McGraw Hill Professional
This book constitutes the proceedings of the First International Conference on Grid and Pervasive Computing, GPC 2006. The 64 revised full papers were carefully reviewed. The papers are organized in topical sections on grid scheduling, peer-to-peer computing, Web/grid services, high performance computing, ad hoc networks, wireless sensor networks, grid applications, data grid, pervasive applications, semantic Web, semantic grid, grid load balancing, wireless ad hoc/sensor networks, and mobile computing.
Cellular Communications Explained McGraw Hill Professional
All-in-one, application-and service-focused look at 3G cellular Want to know exactly how existing wireless technologies are evolving into a vital third generation -- and how this trend impacts the bottom line? You'll find the answers in 3G Cellular & PCs Demystified, by Lawrence Harte, Richard Levine, Roman Kikta. This plain-language guide fills you in on the different technology types, design issues for handset and network systems, economics, and the future of 3G --vital topics for anyone working in the field, from marketing managers to technicians. Helpful appendices identify key companies involved with the products and services highlighted in the book. In addition to an introduction to 3G wireless basics and industry terms, you get: History, system overviews, basic operation, world system descriptions of cellular systems...North American TDMA...and Code Division Multiple Access Radio channel structure, signaling, and system parameters of digital wireless Global System for mobile (GSM) communications Wireless Office telephone systems Cordless telephone technology, including residential cordless handsets, CT2, CT3, IS-91A 3G mobile telephones and networks Wireless telephone system equipment costs, network capital costs, operational costs Future advances for 4th generation systems More
Softswitch McGraw Hill Professional
High speed data wireless networks in multipath environments suffer channel impairment from many sources such as thermal noise, path loss, shadowing, and fading. In particular, short-term fading caused by mobility imposes irreducible error floor bounds on system performance. We study the effect of fading on the performance of the widely used TCP/UDP protocol, and investigate how to improve TCP performance over fading channels. Our solutions target upcoming mobile wireless systems such as IEEE 802.16e wireless MANs "Metropolitan Area Networks" where adaptive modulation is enabled and the underlying medium access scheme is On-Demand Time Division Multiple Access "On-Demand TDMA". Adaptive modulation is used in the new generation of wireless systems to increase the system throughput and significantly improve spectral effciency by matching parameters of the physical layer to the time-varying fading channels. Most high-rate applications for such wireless systems rely on the reliable service provided by TCP protocol. The effect of adaptive modulation on TCP throughput is investigated. A semi-Markov chain model for TCP congestion/flow control behavior and a multi-state Markov chain model for Rayleigh fading channels are used together to derive the steady state throughput of TCP Tahoe and Reno. The theoretical prediction based on our analysis is consistent with simulation results using the network simulator NS2. The analytical and simulation results triggered the idea of cross-layer TCP protocol design for single-user scenarios. The fading parameters of wireless channels detected in the physical layer can be used to dynamically tune the parameters "such as packet length and advertised receiver window size" of the TCP protocol in the transport layer so that TCP throughput is improved. For multi-user scenarios, we study how multi-user diversity can be used to improve th.
McGraw Hill Professional
Unlike most other references on the market, this next-generation resource goes well beyond Bluetooth specifications and thoroughly examines different implementation approaches - as taught by a "master instructor." This book discusses Bluetooth in detail, covering both operational characteristics as well as its use as a wireless communications system. It addresses the coexistence of Bluetooth with other wireless networks and provides information on the significant security problems that exist when communicating without wires. It is based on 2 very popular and highly effective courses the author has been teaching for more than a year.
Packet Broadband Network Handbook CRC Press
Within the next few years, 40% - 50% of all companies will attempt to execute a wireless application strategy--bringing the

number of wireless data users to a whopping 36 million by 2003! Wireless LANs are now considered the best bet for wirelessly enabling business since the technology can be quickly and inexpensively deployed using existing infrastructure. * Shows how to wirelessly enable employees to work from any location within the office, as well as home and outside locations * Discusses the different wireless protocols and standardes: 802.11, Bluetooth, WAP, CDMA, 3G, etc. * Covers all the benefits of wireless LANs, with specific cost reductions and support solutions * Includes "insider" information about deploying Microsoft .NET-related wireless LAN applications.

Wireless LANs Demystified McGraw Hill Professional

This text aims to provide everything necessary to successfully deploy video-conferencing in a meeting, training or conference environment. Key features include: benefits versus liabilities of video conferences; purchasing / renting / using key components and equipment; and key technologies - streaming media, web conferencing, IP multicasting and LAN capacity.

Concepts and Technologies CRC Press

The experts predict that the opening of broadband internet connections and 3G wireless capabilities will drive the adoption of streaming media to 75% of all broadcasting and e-commerce firms by the end of 2003. Author Mark Topic offers the fast, relible, and painless way to get the lowdown on the streaming of video over the internet (both wired and wireless)--he thoroughly examines the technologies, protocols, and business models on this next giant happening in the world of video and telecom. * Internet protocols for delivering streaming media * Audio and video compression schemes * Covers MPEG-4 and MPEG-7 * Discusses digital rights management * Details Metadata

Cellular, 3G, LMR, Mobile Data, Paging, Satellite, Broadcast, and WLAN Althos Incorporated

"Get a sound fix on the expanding universe of telecom Explore the vast telecom landscape -- from standards and protocols to premise, access and transport technologies. Far more than an acronym-studded quick fix, Telecom Crash Course is a true tutorial that offers you context, connections, and the wisdom to quickly grasp key technologies, including wireless Internet, optical networking, 3G, IP, protocol layer, PSTN, ATM, spread spectrum, GPRS, and SIP. Author Steven Shepard includes lively stories that deliver important points about the markets that drive the technologies. You get rigorous technical accuracy, with explanations of each technologys economic importance. Heres your chance to decipher the alphabet soup of telecom acronyms -- not just what they stand for, but what they mean and how they can generate profits."

Bluetooth Demystified McGraw Hill Professional

This new second edition of the Artech House classic, Wireless Technician's Handbook applies up-to-date knowledge of wireless communications formats to the real-world situations you encounter everyday. Featuring brand new material on such critical technologies as GPRS, EDGE, CDMA-2000, and WCDMA, this single, easy-to-understand volume collects the comprehensive information that is essential for your work in the field today.

Wi-Fi Handbook McGraw Hill Professional

The best-selling Distributed Sensor Networks became the definitive guide to understanding this far-reaching technology. Preserving the excellence and accessibility of its predecessor, Distributed Sensor Networks, Second Edition once again provides all the fundamentals and applications in one complete, self-contained source. Ideal as a tutorial for students or as research material for engineers, the book gives readers up-to-date, practical insight on all aspects of the field. Revised and expanded, this second edition incorporates contributions from many veterans of the DARPA ISO SENSIT program as well as new material from distinguished researchers in the field. Sensor Networking and Applications focuses on sensor deployment and networking, adaptive tasking, self-configuration, and system control. In the expanded applications section, the book draws on the insight of practitioners in the field. Readers of this book may also be interested in Distributed Sensor Networks, Second Edition: Image and Sensor Signal Processing (ISBN: 9781439862827).

Advances in Grid and Pervasive Computing John Wiley & Sons

This book provides a big picture of the key wireless industries, what systems and technologies they use, how they operate, their market trends, and what services they provide. If you are involved or you are getting involved in the wireless industry, your life is changing. The growth and decline of wireless industries can be well over 40% per year and it rapidly changes. Some wireless systems that were "hot technologies" just 10 years ago with billions of dollars in investment with national or global presence are simply gone. This information covered in this book ranges from the basics to what's new in wireless. You will learn that each wireless industry has its own unique advantages and limitations, which offer important economic and technical choices for managers, salespeople, technicians, and others involved with wireless telephones and systems. This book provides the background for a good understanding of the major wireless technologies, issues, and options available. The book starts with a basic introduction to wireless communication. It covers the different types of industries, who controls and regulates them, and provides a basic definition of each of the major wireless technologies. A broad overview of the telecom voice, data, and multimedia applications is provided. You will discover the fundamentals of wireless technologies and their terminology are described along with how the radio frequency spectrum is divided, the basics of radio frequency transmission and modulation, antennas and radio networks. The different types of analog and digital mobile telephone systems and their evolution are covered. Included is the basic operation, attributes and services for analog cellular(1st generation), digital cellular (2nd generation), packet based cellular (2 = generation), and wideband cellular (3rd generation) communication systems. Private land mobile radio (PLMR) dispatch and two-way radio systems are explained along with how they are changing from proprietary analog systems to advanced digital multimedia communication systems. The basics of mobile data are provided along with the available types of packet and circuit switched data systems and how they operate. Descriptions of paging systems are provided and you will discover how paging systems are evolving from one-way numeric messaging to two-way interactive information services. Important characteristics of satellite systems are covered. An overview of fixed wireless systems including point to point microwave, wireless cable, and broadband wireless is included. The fundamentals of radio and television broadcast systems are covered along with how they are converting from analog to digital systems and why in just a few years service to existing radios and telephones will stop. The fundamentals of residential cordless, public cordless and WPBX telephone systems covered. Wireless local area networks (WLANs) basics are provided including the different versions of 802.11. Short-range Bluetooth wireless is explained along with how it is used by accessories such as headsets, keyboards, cameras, and printers. The fundamentals of billing and customer care systems are provided along with these systems collect and process service and usage charges.

First International Conference, GPC 2006, Taichung, Taiwan, May 3-5, 2006, Proceedings McGraw Hill Professional

Keiser has developed this readable tour through the basics and cutting edge applications of optical communications for non-specialist engineers and lower tech readers. Broken into short, 20-25 page modules, complete with illustrations and sidebars, this is a completely new approach to the topic, ideal for use in the classroom, independent study, or corporate training.

Network Processors McGraw Hill Professional

Despite the features that make Voice over IP so attractive from the standpoint of cost and flexibility of telephone services, businesses will only adopt it once they've determined whether, and under what circumstances, the quality of VoIP will be satisfactory to users. This hands-on guide supplies you with all the tools you need for VoIP service quality analysis, including explicit directions for: * designing subjective tests and interpreting results * selecting, extending, and applying speech distortion and multiple effects models * examining call set-up times for IP telephony * determining requirements for multimedia exchanges. Without jargon, or tech talk, Hardy delivers solid information on means of measuring, assessing, and improving VoIP quality. He gives you expert information and hands-on specifics, showing you: * The factors that can create a negative caller experience and how packet switching affects them * What to look for in assessing VoIP quality * How to elicit and interpret user evaluations of voice quality * How to estimate likely user perception of voice quality by objective test and analysis * When and how to apply alternative quality measurement techniques to overcome quality shortfalls.

3G Wireless Demystified 3G Wireless Demystified

Describes the history, intrigue, performance and quality, and future of IP telephony services.

Message Passing Server Internals McGraw-Hill Telecom Portable C

This text provides a crash course in the wireless Internet. WAP, SMS, i-mode, and Bluetooth are all compared and contrasted for their respective strengths and weaknesses, along with the existing and potential wireless markets. Other topics are mobile applications development languages and interoperability issues.

Building 802.11b Wireless Networks Informing Science

Broadband in the Metro Area has proven to be telecom's one bright spot in 2001 – all the long haul backbone capacity in the world does you no good if you can't move your data through the Metro bottleneck. But service providers are wrestling with all manner of technology choices (SONET? DWDM? Ethernet? The coming 10Gig Ethernet?), and also face the challenge of easily and effectively accessing SANs and VPNs. Quality of service issues are crucial in recruiting and maintaining customers Steven Shepard lays bare the tricks and traps awaiting service providers in the metro area space, detailing the technological challenges and opportunities in his trademark lucid, humorous prose.

The Evolution of Mobile Teaching and Learning CRC Press

An all-in-one, application and service-focused look at how existing wireless technologies are evolving into 3G, and how this trend impacts the bottom line. Describes the different technology types, design issues for handset and network systems, economics, and the future of 3G. Appendices identify key companies involved with the products and services highlighted in the book.