Next Generation Teletraffic And Wiredwireless Advanced Networking 8th International Conference New2an 2008 And 1st Russian Conference On Smart Lecture Notes In Computer Science

The 7th International Conference on Adhoc, Mobile and Wireless Networks (AdHoc-NOW 2008) was held at INRIA Sophia Antipolis - M´ editerran´ ee, on the French Riviera, during September 10–12,2008. The six previous conferences intheserieswereheldinMorelia(2007),Ottawa(2006),Cancun(2005),Vanc- ver (2004), Montreal (2003) and Toronto (2002). The purpose of this conference is to provide a forum for researchers from academia/industry and practitioners to meetandexchangeideas regardingrecentdevelopmentsintheareasofad-hoc wireless networks. AdHoc-NOW 2008 received 110 submissions submitted by authors form the following 33 countries: Algeria, Australia, Austria, Belgium, Brazil, Canada, China, the Czech Republic, Denmark, Finland, France, Germany, Greece, India, Iran, Israel, Italy, Japan, Luxembourg, Macedonia, Norway, Pakistan, Poland, Slovakia, South Africa, South Korea, Sri Lanka, Sudan, Switzerland, Taiwan, Tunisia, the UK and the USA. Each paper was assigned to three members of the Technical Program Committee (TPC). Based on the reviews, we decided to accept 39 submissions as regular papers, 24 of them with 25 minutes' oral presentation time, and 15 as poster presentations. All of the accepted papers appear in this volume. We thank the three invited speakers at this conference, Srdjan Krco (Er- sson, Ireland), Xuemin (Sherman) Shen (University of Waterloo, Canada), and Stephan Olariu (Old Dominion University, USA) for accepting our invitation to share their insights on new developments in their research areas.

Being infrastructure-less and without central administration control, wireless ad-hoc networking is playing a more and more important role in extending the coverage of traditional wireless infrastructure (cellular networks, wireless LAN, etc). This book includes state-of the-art techniques and solutions for wireless ad-hoc networks. It focuses on the following topics in ad-hoc networks: vehicular ad-hoc networks, security and caching, TCP in ad-hoc networks and emerging applications. It is targeted to provide network engineers and researchers with design guidelines for large scale wireless ad hoc networks.

This book constitutes the joint refereed proceedings of the 17th International Conference on Next Generation Wired/Wireless Advanced Networks and Systems, NEW2AN 2017, the 10th Conference on Internet of Things and Smart Spaces, ruSMART 2017. The 71 revised full papers presented were carefully reviewed and selected from 202 submissions. The papers of NEW2AN focus on advanced wireless networking and applications; lower-layer communication enablers; novel and innovative approaches to performance and efficiency analysis of ad-hoc and machine-type systems; employed game-theoretical formulations, Markov chain models, and advanced queuing theory; grapheme and other emerging material, photonics and optics; generation and processing of signals; and business aspects. The ruSMART papers deal with fully-customized applications and services. The NsCC Workshop papers capture the current state-of-the-art in the field of molecular a nd nanoscale communications such as information, communication and network theoretical analysis of molecular and nanonetwork, mobility in molecular and nanonetworks; novel and practical communication protocols; routing schemes and architectures; design/engineering/evaluation of molecular and nonoscale communication systems; potential applications and interconnections to the Internet (e.g. the Internet of Nano Things).

This book constitutes the joint refereed proceedings of the 14th International Conference on Next Generation Wired/Wireless Advanced Networks and Systems, NEW2AN 2014, and the 7th Conference on Internet of Things and Smart Spaces, ruSMART 2014, held in St. Petersburg, Russia, in August 2014. The total of 67 papers was carefully reviewed and selected for inclusion in this book. The 15 papers selected from ruSMART are organized in topical sections named: smart spaces core technologies, smart spaces for geo-location and e-tourism apps, smart space supporting technologies, and video solutions for smart spaces. The 52 papers from NEW2AN deal with the following topics: advances in wireless networking, ad hoc networks and enhanced services, sensor- and machine-type communication, networking architectures and their modeling, traffic analysis and prediction, analytical methods for performance evaluation, materials for future communications, generation and analysis of signals, business aspects of networking, progress on upper layers and implementations, modeling methods and tools, techniques, algorithms, and control problems, photonics and optics, and signals and their processing.

Smart Systems for Safe, Sustainable and Networked Vehicles

Internet of Things, Smart Spaces, and Next Generation Networks and Systems

7th International Conference, NEW2AN 2007, St. Petersburg, Russia, September 10-14, 2007, Proceedings

Plug-in Electric Vehicle Grid Integration

Proceedings of the International Congress ‘14 (IntCongress 2014)

Urban Retrofitting for Sustainability

By 2020, if not before, mobile computing and wireless systems are expected to enter the fifth generation (5G), which promises evolutionary if not revolutionary services. What those advanced services will look like, sound like, and feel like is the theme of the book Advances in Mobile Computing and Communications: Perspectives and Emerging Trends in 5G Networks. The book explores futuristic and compelling ideas in latest developments of communication and networking aspects of 5G. As such, it serves as an excellent guide for advanced developers, communication network scientists, researchers, academicians, and graduate students. The authors address computing models, communication architecture, and protocols based on 3G, LTE, LTE-A, 4G, and beyond. Topics include advances in 4G, radio propagation and channel modeling aspects of 4G networks, limited feedback for 4G, and game theory application for power control and subcarrier allocation in OFDMA cellular networks. Additionally, the book covers millimeter-wave technology for 5G networks, multicellular heterogeneous networks, and energy-efficient mobile wireless network operations for 4G and beyond using HetNets. Finally, the authors delve into opportunistic multiconnect networks with P2P WiFi and cellular providers and video streaming over wireless channels for 4G and beyond.

The convergence of two powerful technologies—wireless and the Internet—through IPv4/v6 protocol has led to emergence of next-generation networks (NGNs). NGN is no more a network of mere computers but a connected conglomeration of varied networks with diverse physical properties, with a plethora of network elements, along with a variety of real-time multimedia applications. This book covers the entire gamut of technology challenges from physical layer to application layer including security from both academic and industrial perspectives.

"This book offers cutting edge approaches for the provision of quality of service in wireless local area networks"--Provided by publisher.

This book explains how the performance of modern cellular wireless networks can be evaluated by measurements and simulations With the roll-out of LTE, high data throughput is promised to be available to cellular users. In case you have ever wondered how high this throughput really is, this book is the right read for you: At first, it presents results from experimental research and simulations of the physical layer of HSDPA, WiMAX, and LTE. Next, it explains in detail how measurements on such systems need to be performed in order to achieve reproducible and repeatable results. The book further addresses how wireless links can be evaluated by means of standard-compliant link-level simulation. The major challenge in this context is their complexity when investigating complete wireless cellular networks. Consequently, it is shown how system-level simulators with a higher abstraction level can be designed such that their results still match link-level simulations. Exemplarily, the book finally presents optimizations of wireless systems over several cells. This book: Explains how the performance of modern cellular wireless networks can be evaluated by measurements and simulations Discusses the concept of testbeds, highlighting the challenges and expectations when building them Explains measurement techniques, including the evaluation of the measurement quality by statistical inference techniques Presents throughput results for HSDPA, WiMAX, and LTE Demonstrates simulators at both, link- level and system-level Provides system-level and link-level simulators (for WiMAX and LTE) on an accompanying website (https://www.nt.tuwien.ac.at/downloads/featured-downloads) This book is an insightful guide for researchers and engineers working in the field of mobile radio communication as well as network planning. Advanced students studying related courses will also find the book interesting.

Wireless Network Traffic and Quality of Service Support: Trends and Standards

Applications of Evolutionary Computing

WITS 2020

Modeling and Tools for Network Simulation

Ad-hoc, Mobile and Wireless Networks

Traffic Monitoring and Analysis

This book constitutes the joint refereed proceedings of the 12 International Conference on Next Generation Teletraffic and Wired/Wireless Advanced Networking, NEW2AN, and the 5th Conference on Internet of Things and Smart Spaces, ruSMART 2012, held in St. Petersburg, Russia, in August 2012. The total of 42 papers was carefully reviewed and selected for inclusion in this book. The 14 papers selec ruSMART are organized in topical sections named: defining an internet-of-things ecosystem; future services; and smart space governing through service mashups. The 28 papers from NEW2AN deal with the following topics: wireless cellular networks; ad-hoc, mesh, and delay-tolerant networks; scalability, cognition, and self-organization; traffic and internet applications; and wireless sensor networks. They selected papers from the NEW2AN 2012 winter session.

Across a variety of disciplines, data and statistics form the backbone of knowledge. To ensure the reliability and validity of data, appropriate measures must be taken in conducting studies and reporting findings. Research Methods: Concepts, Methodologies, Tools, and Applications compiles chapters on key considerations in the management, development, and distribution of data. With its focus on both fun and advanced topics, this multi-volume reference work will be a valuable addition to researchers, scholars, and students of science, mathematics, and engineering.

Andrey Kolesnikov proposes an interesting unified approach and corresponding tools for modelling and effective generation of realistic workloads and traffic in networks. As a result of the general applicability in IP-based networks, the outcome of his research can be used for different service interfaces in combination with various workload models and modelling techniques. His work is both broad and deep i to demonstrate the application of the proposed approach in different realistic scenarios.

This book constitutes the refereed proceedings of the 9th International Conference on Next Generation Teletraffic and Wired/Wireless Advanced Networking, NEW2AN 2009, held in conjunction with the Second Conference on Smart Spaces, ruSMART 2009 in St. Petersburg, Russia, in September 2009. The 32 revised full papers presented were carefully reviewed and selected from a total of 82 submissio papers are organized in topical sections on teletraffic issues; traffic measurements, modeling, and control; peer-to-peer systems; security issues; wireless networks: ad hoc and mesh; and wireless networks: capacity and mobility. The ruSMART papers start with an invited talk followed by 10 papers on smart spaces.

A Unified Approach and Tool Support

Digital Arts and Entertainment: Concepts, Methodologies, Tools, and Applications

19th International Conference, NEW2AN 2019, and 12th Conference, ruSMART 2019, St. Petersburg, Russia, August 26–28, 2019, Proceedings

Concepts, Methodologies, Tools, and Applications

From Testbed Measurements to System Level Performance

17th International Conference, NEW2AN 2017, 10th Conference, ruSMART 2017, Third Workshop NsCC 2017, St. Petersburg, Russia, August 28–30, 2017, Proceedings

This book constitutes the refereed proceedings of the 7th International Conference on Next Generation Teletraffic and Wired/Wireless Advanced Networking, NEW2AN 2007, held in St. Petersburg, Russia in September 10-14, 2007. The 39 revised full papers presented were carefully reviewed and selected from a total of 113 submissions. The papers are organized in topical sections on teletraffic, traffic characterization and modeling, 3G/UMTS, sensor networks, WLAN, QoS, MANETs, lower layer techniques, PAN technologies, and TCP.

This book constitutes the refereed proceedings of the 8th International Conference on Next Generation Teletraffic and Wired/Wireless Advanced Networking, NEW2AN 2008, held in St. Petersburg, Russia in September 3-5, 2008 in conjunction with the First ruSMART 2008. The 21 revised full papers presented were carefully reviewed and selected from a total of 60 submissions. The NEW2AN papers are organized in topical sections on wireless networks, multi-hop wireless networks, cross-layer design, teletraffic theory, multimedia communications, heterogeneous networks, network security. The ruSMART papers start with three keynote talks followed by seven articles on Smart Spaces.

This volume contains the post-proceedings of the Second International Workshop on Critical Information Infrastructure Security (CRITIS 2007), that was held during October 3 – 5, 2007 in Benalmadena-Costa (Malaga), Spain, and was hosted by the University of Malaga, Computer Science Department. In response to the 2007 call for papers, 75 papers were submitted. Each paper was reviewed by three members of the Program Committee, on the basis of significance, novelty, technical quality and critical infrastructures relevance of the work reported therein. At the end of the reviewing process, only 29 papers were selected for pres- tation. Revisions were not checked and the authors bear full responsibility for the content of their papers. CRITIS 2007 was very fortunate to have four exceptional invited speakers: Adrian Gheorghe (Old Dominion University, USA), Paulo Ver í ssimo (Universidade de L- boa, Portugal), Donald Dudenhoeffer (Idaho National Labs, USA), and Jacques Bus (European Commission, INFSO Unit "Security"). The four provided a high added value to the quality of the conference with very significant talks on different and int- esting aspects of Critical Information Infrastructures. In 2007, CRITIS demonstrated its outstanding quality in this research area by - cluding ITCIP, which definitively reinforced the workshop. Additionally, the solid involvement of the IEEE community on CIP was a key factor for the success of the event. Moreover, CRITIS received sponsorship from Telecom Italia, JRC of the European Commission, IRRIIS, IFIP, and IABG, to whom we are greatly indebted.

This book constitutes the thoroughly refereed post-conference proceedings of the Second International Workshop on Critical Information Infrastructures Security, CRITIS 2007, held in Benalmadena-Costa, Spain, in October 2007 in conjunction with ITCIP 2007, the first conference on Information Technology for Critical Infrastructure Protection. The 29 revised full papers presented were carefully reviewed and selected from a total of 75 submissions. The papers address all security-related heterogeneous aspects of critical information infrastructures and are orgaized in topical sections on R&D agenda, communication risk and assurance, code of practice and metrics, information sharing and exchange, continuity of services and resiliency, SCADA and embedded security, threats and attacks modeling, as well as information exchange and modeling.

Evaluation of HSDPA and LTE

8th International Conference, NEW2AN 2008 and 1st Russian Conference on Smart Spaces, ruSMART, St. Petersburg, Russia, September 3-5, 2008, Proceedings

12th International Conference, NEW2AN 2012, and 5th Conference, ruSMART 2012, St. Petersburg, Russia, August 27-29, 2012, Proceedings

Bee-Inspired Protocol Engineering

Critical Information Infrastructures Security

Trends and Standards

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.

This book constitutes the proceedings of the 4th International Workshop on Traffic Monitoring and Analysis, TMA 2012, held in Vienna, Austria, in March 2012. The thoroughly refereed 10 full papers and 8 short papers presented in this volume were carefully reviewed and selected from 31 submissions. The contributions are organized in topical sections on traffic analysis and characterization: new results and improved measurement techniques; measurement for QoS, security and service level agreements; and tools for network measurement and experimentation.

In today’s interconnected society, media, including news, entertainment, and social networking, has increasingly shifted to an online, ubiquitous format. Artists and audiences will achieve the greatest successes by utilizing these new digital tools. Digital Arts and Entertainment: Concepts, Methodologies, Tools, and Applications examines the latest research and findings in electronic media, evaluating the staying power of this increasingly popular paradigm along with best practices for those engaged in the field. With chapters on topics ranging from an introduction to online entertainment to the latest advances in digital media, this impressive three-volume reference source will be important to researchers, practitioners, developers, and students of the digital arts.

This book constitutes the refereed proceedings of the 11th International Conference on Next Generation Teletraffic and Wired/Wireless Advanced Networking, NEW2AN 2011 and the 4th Conference on Smart Spaces, ruSMART 2011 jointly held in St. Petersburg, Russia, in August 2011. The 56 revised full papers presented were carefully reviewed and selected from numerous submissions. The ruSMART papers are organized in topical sections on role of context in smart spaces, smart spaces platforms and smart-M3, methods for studying smart spaces, and smart spaces solutions. The NEW2AN papers are organized in topical sections on wireless PHY and power control, ad hoc networks, WSN, special topics, simulation + fundamental analysis I, traffic modeling and measurement, simulation + fundamental analysis II, network performance and QoS, cooperative, P2P, overlay networks and content, applications and services, API and software, and video.

14th International Conference, NEW2AN 2014 and 7th Conference, ruSMART 2014, St. Petersburg, Russia, August 27-29, 2014, Proceedings

Mobile Ad-Hoc Networks

From Nature to Networks

Smart Spaces and Next Generation Wired/Wireless Networking

Proceedings of the 6th International Conference on Wireless Technologies, Embedded, and Intelligent Systems

Convergence Through All-IP Networks

With a foreword from Paul King, Chief Executive, UK Green Building Council and Chairman, Zero Carbon Hub As concerns over climate change and resource constraints grow, many cities across the world are trying to achieve a low carbon transition. Although new zero carbon buildings are an important part of the story, in existing cities the transformation of the current building stock and urban infrastructure must inevitably form the main focus for transitioning to a low carbon and sustainable future by 2050. Urban Retrofitting for Sustainability brings together interdisciplinary research contributions from leading international experts to focus on key issues such as systems innovation, financing tools, governance, energy, and water management. The chapters consider not only the knowledge and technical tools available, but looks forward to how they can be implemented in real cities by 2050.

This book constitutes the joint refereed proceedings of the 13 International Conference on Next Generation Teletraffic and Wired/Wireless Advanced Networking, NEW2AN, and the 6th Conference on Internet of Things and Smart Spaces, ruSMART 2013, held in St. Petersburg, Russia, in August 2013. The total of 38 papers was carefully reviewed and selected for inclusion in this book. The 14 papers selected from ruSMART are organized in topical sections named: internet on things, smart spaces technologies; and smart systems. The 24 papers from NEW2AN deal with the following topics: performance and efficiency analysis, network and transport layer issues; cognitive radio networks; sensor and mesh networks; upper layer protocols and applications; ad-hoc, cellular and satellite networks.

This book presents peer-reviewed articles from the 6th International Conference on Wireless Technologies, Embedded and Intelligent Systems (WITS 2020), held at Fez, Morocco. It presents original research results, new ideas and practical lessons learnt that touch on all aspects of wireless technologies, embedded and intelligent systems. WITS is an international conference that serves researchers, scholars, professionals, students and academicians looking to foster both working relationships and gain access to the latest research results. Topics covered include Telecoms & Wireless Networking Electronics & Multimedia Embedded & Intelligent Systems Renewable Energies.

This authoritative new resource provides a comprehensive introduction to plug-in electric vehicles (PEVs), including critical discussions on energy storage and converter technology. The architecture and models for sustainable charging infrastructures and capacity planning of small scale fast charging stations are presented. This book considers PEVs as mobile storage units and explains how PEVS can provide services to the grid. Enabling technologies are explored, including energy storage, converter, and charger technologies for home and park charging. The adoption of EV is discussed and examples are given from the individual battery level to the city level. This book provides guidance on how to build and design sustainable transportation systems. Optimal arrival rates, optimal service rates, facility location problems, load balancing, and demand forecasts are covered in this book. Time-saving MATLAB code and background tables are included in this resource to help engineers with their projects in the field.

Research Methods: Concepts, Methodologies, Tools, and Applications
Advances in Mobile Computing and Communications
6th International Conference, NEW2AN 2006, St. Petersburg, Russia, May 29-June 2, 2006, Proceedings
EvoWorkshops 2007:EvoCOMNET, EvoFIN, EvoIASP, EvoINTERACTION, EvoMUSART, EvoSTOC, and EvoTransLog, Valencia, Spain, April 11-13, 2007, Proceedings
Discrete Event Simulations
4th International Workshop, TMA 2012, Vienna, Austria, March 12, 2012, Proceedings

Proceedings of the combined volumes of International Congress (IntCongress 2014) held at Holiday Inn Silom, Bangkok, Kingdom of Thailand between 19th November, 2014 and 21st November, 2014.

The ambitious objectives of future road mobility, i.e. fuel efficiency, reduced emissions, and zero accidents, imply a paradigm shift in the concept of the car regarding its architecture, materials, and propulsion technology, and require an intelligent integration into the systems of transportation and power. ICT, components and smart systems have been essential for a multitude of recent innovations, and are expected to be key enabling technologies for the changes ahead, both inside the vehicle and at its interfaces for the exchange of data and power with the outside world. It has been the objective of the International Forum on Advanced Microsystems for Automotive Applications (AMAA) for almost two decades to detect novel trends and to discuss technological implications and innovation potential from day one on. In 2012, the topic of the AMAA conference is "Smart Systems for Safe, Sustainable and Networked Vehicles". The conference papers selected for this book address current research, developments and innovations in the field of ICT, components and systems and other key enabling technologies leading to the automobile and road transport of the future. The book focuses on application fields such as electrification, power train and vehicle efficiency, safety and driver assistance, networked vehicles, as well as components and systems. Additional information is available at www.amaa.de

This book constitutes the refereed proceedings of the 6th International Conference on Next Generation Teletraffic and Wired/Wireless Advanced Networking, NEW2AN 2006, held in St. Petersburg, Russia in May/June 2006. The book includes 49 revised full papers presented together with 2 keynote talks. The papers are organized in topical sections on teletraffic, traffic characterization and modeling, 3G/UMTS, sensor networks, WLAN, QoS, MANETs, lower layer techniques, PAN technologies, and TCP.

This book constitutes the joint refereed proceedings of the 21st International Conference on Next Generation Teletraffic and Wired/Wireless Advanced Networks and Systems, NEW2AN 2021, and the 14th Conference on Internet of Things and Smart Spaces, ruSMART 2021. The conference was held virtually due to the COVID-19 pandemic. The 41 revised full papers presented were carefully reviewed and selected from 118 submissions.

High Speed Networks and Multimedia Communications
7th International Conference, ADHOC-NOW 2008, Sophia Antipolis, France, September 10-12, 2008, Proceedings
2G Mobile Networks
20th International Conference, NEW2AN 2020, and 13th Conference, ruSMART 2020, St. Petersburg, Russia, August 26–28, 2020, Proceedings, Part II
Next Generation Teletraffic and Wired/Wireless Advanced Networking
9th International Conference, NEW2AN 2009 and Second Conference on Smart Spaces, RuSMART 2009, St. Petersburg, Russia, September 15-18, 2009, Proceedings

This book constitutes the refereed proceedings of the 25th IFIP WG 6.1 International Conference on Formal Techniques for Networked and Distributed Systems, FORTE 2005, held in Taipei, Taiwan, in October 2005. The 33 revised full papers and 6 short papers presented together with 3 keynote speeches were carefully reviewed and selected from 88 submissions. The papers cover all current aspects of formal methods for distributed systems and communication protocols such as formal description techniques (MSC, UML, Use cases, . . .), semantic foundations, model-checking, SAT-based techniques, process algebrae, abstractions, protocol testing, protocol verification, network synthesis, security system analysis, network robustness, embedded systems, communication protocols, and several promising new techniques.

Readers will gain a thorough and quick understanding of GSM networks-from air interface to core network and the available services. The book provides an exhaustive coverage of protocol architecture and procedures, including radio resource and mobility management, as well as call handling. It begins by laying down the fundamentals of GSM technology cellular concepts, network and protocol architecture of GSM. This is followed by a discussion of GSM air interface that covers important topics including GSM frame hierarchy, burst structure, physical and logical channels. The discussion then moves onto the three logical parts of any basic wireless architecture-Mobile Station, Access and Core Networks. Important procedures of access and core networks are discussed next. The book ends with discussions of service aspects of GSM networks. These include voice transfer, SMS, cell broadcast service, location services and finally circuit switched data, and the more advanced high-speed circuit switched data.

Considered by many authors as a technique for modelling stochastic, dynamic and discretely evolving systems, this technique has gained widespread acceptance among the practitioners who want to represent and improve complex systems. Since DES is a technique applied in incredibly different areas, this book reflects many different points of view about DES, thus, all authors describe how it is understood and applied within their context of work, providing an extensive understanding of what DES is. It can be said that the name of the book itself reflects the plurality that these points of view represent. The book embraces a number of topics covering theory, methods and applications to a wide range of sectors and problem areas that have been categorised into five groups. As well as the previously explained variety of points of view concerning DES, there is one additional thing to remark about this book: its richness when talking about actual data or actual data based analysis. When most academic areas are lacking application cases, roughly the half part of the chapters included in this book deal with actual problems or at least are based on actual data. Thus, the editor firmly believes that this book will be interesting for both beginners and practitioners in the area of DES.

This book constitutes the refereed joint proceedings of seven workshops on evolutionary computing, EvoWorkshops 2007, held in Valencia, Spain in April 2007. It examines evolutionary computation in communications, networks, and connected systems; finance and economics; image analysis and signal processing; and transportation and logistics. Coverage also details evolutionary algorithms in stochastic and dynamic environments.

Industry 4.0: Managing The Digital Transformation
Load Modelling and Generation in IP-based Networks
11th International Conference, NEW2AN 2011 and 4th Conference on Smart Spaces, RuSMART 2011, St. Petersburg, Russia, August 22-15, 2011, Proceedings
7th IEEE International Conference, HSNMC 2004, Toulouse, France, June 30- July 2, 2004, Proceedings
20th International Conference, NEW2AN 2020, and 13th Conference, ruSMART 2020, St. Petersburg, Russia, August 26–28, 2020, Proceedings, Part I
Applications

A crucial step during the design and engineering of communication systems is the estimation of their performance and behavior; especially for mathematically complex or highly dynamic systems network simulation is particularly useful. This book focuses on tools, modeling principles and state-of-the art models for discrete-event based network simulations, the standard method applied today in academia and industry for performance evaluation of new network designs and architectures. The focus of the tools part is on two distinct simulations engines: OmNet++ and ns-3, while it also deals with issues like parallelization, software integration and hardware simulations. The parts dealing with modeling and models for network simulations are split into a wireless section and a section dealing with higher layers. The wireless section covers all essential modeling principles for dealing with physical layer, link layer and wireless channel behavior. In addition, detailed models for prominent wireless systems like IEEE 802.11 and IEEE 802.16 are presented. In the part on higher layers, classical modeling approaches for the network layer, the transport layer and the application layer are presented in addition to modeling approaches for peer-to-peer networks and topologies of networks. The modeling parts are accompanied with catalogues of model implementations for a large set of different simulation engines. The book is aimed at master students and PhD students of computer science and electrical engineering as well as at researchers and practitioners from academia and industry that are dealing with network simulation at any layer of the protocol stack.

Honey bee colonies demonstrate robust adaptive efficient agent-based communications and task allocations without centralized controls – desirable features in network design. This book introduces a multipath routing algorithm for packet-switched telecommunication networks based on techniques observed in bee colonies. The algorithm, BeeHive, is dynamic, simple, efficient, robust and flexible, and it represents an important step towards intelligent networks that optimally manage resources. The author guides the reader in a survey of nature-inspired routing protocols and communication techniques observed in insect colonies. He then offers the design of a scalable framework for nature-inspired routing algorithms, and he examines a practical application using real networks of Linux routers. He also utilizes formal techniques to analytically model the performance of nature-inspired routing algorithms. In the last chapters of the book, he introduces an immune-inspired security framework for nature-inspired algorithms, and uses the wisdom of the hive for routing in ad hoc and sensor networks. Finally, the author provides a comprehensive bibliography to serve as a reference for nature-inspired solutions to networking problems. This book bridges the gap between natural computing and computer networking. What sets this book apart from other texts on this subject is its natural engineering approach in which the challenges and objectives of a real-world system are identified before its solution, nature-inspired or otherwise, is discussed. This balanced exposition of the book makes it equally suitable for telecommunication network designers and theorists, and computer science researchers engaged with artificial intelligence, agents, and nature-inspired techniques.

This book constitutes the joint refereed proceedings of the 19th International Conference on Next Generation Teletraffic and Wired/Wireless Advanced Networks and Systems, NEW2AN 2019, and the 12th Conference on Internet of Things and Smart Spaces, ruSMART 2019. The 66 revised full papers presented were carefully reviewed and selected from 192 submissions. The papers of NEW2AN address various aspects of next-generation data networks, with special attention to advanced wireless networking and applications. In particular, they deal with novel and innovative approaches to performance and efficiency analysis of 5G and beyond systems, employed game-theoretical formulations, advanced queuing theory, and stochastic geometry, while also covering the Internet of Things, cyber security, optics, signal processing, as well as business aspects.ruSMART 2019, provides a forum for academic and industrial researchers to discuss new ideas and trends in the emerging areas. The 12th conference on the Internet of Things and Smart Spaces, ruSMART 2019, provides a forum for academic and industrial researchers to discuss new ideas and trends in the emerging areas.

This book constitutes the refereed proceedings of the 6th International Conference on Next Generation Teletraffic and Wired/Wireless Advanced Networking, NEW2AN 2006, held in St. Petersburg, Russia in May/June 2006. The 49 revised full papers presented together with 2 keynote talks were carefully reviewed and selected from a total of 137 submissions. The papers are organized in topical sections on teletraffic, traffic characterization and modeling, 3G/UMTS, sensor networks, WLAN, QoS, MANETs, lower layer techniques, PAN technologies, and TCP.

Advanced Microsystems for Automotive Applications 2012
Mapping the Transition to 2050
Second International Workshop, CRITIS 2007, Benalmadena-Costa, Spain, October 3-5, 2007
Perspectives and Emerging Trends in 5G Networks
25th IFIP WG 6.1 International Conference, Taipei, Taiwan, October 2-5, 2005, Proceedings
Internet of Things, Smart Spaces, and Next Generation Networking

This book constitutes the joint refereed proceedings of the 20th International Conference on Next Generation Teletraffic and Wired/Wireless Advanced Networks and Systems, NEW2AN 2020, and the 13th Conference on Internet of Things and Smart Spaces, ruSMART 2020. The conference was held virtually due to the COVID-19 pandemic. The 79 revised full papers presented were carefully reviewed and selected from 225 submissions. The papers of NEW2AN address various aspects of next-generation data networks, with special attention to advanced wireless networking and applications. In particular, they deal with novel and innovative approaches to performance and efficiency analysis of 5G and beyond systems, employed game-theoretical formulations, advanced queuing theory, and stochastic geometry, while also covering the Internet of Things, cyber security, optics, signal processing, as well as business aspects. ruSMART 2020, provides a forum for academic and industrial researchers to discuss new ideas and trends in the emerging areas.

This book provides a comprehensive guide to Industry 4.0 applications, not only introducing implementation aspects but also proposing a conceptual framework with respect to the design principles. In addition, it discusses the effects of Industry 4.0, which are reflected in new business models and workforce transformation. The book then examines the key technological advances that form the pillars of Industry 4.0 and explores their potential technical and economic benefits using examples of real-world applications. The changing dynamics of global production, such as more complex and automated processes, high-level competitiveness and emerging technologies, have paved the way for a new generation of goods, products and services. Moreover, manufacturers are increasingly realizing the value of the data that their processes and products generate. Such trends are transforming manufacturing industry to the next generation, namely Industry 4.0, which is based on the integration of information and communication technologies and industrial technology.The book provides a conceptual framework and roadmap for decision-makers for this transformation

13th International Conference, NEW2AN 2013, and 6th Conference, ruSMART 2013, St. Petersburg, Russia, August 28-30, 2013. Proceedings
Formal Techniques for Networked and Distributed Systems - FORTE 2005
21st International Conference, NEW2AN 2021, and 14th Conference, ruSMART 2021, St. Petersburg, Russia, August 26–27, 2021, Proceedings