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KEY=INTERNET - CHARLES STEPHENS

Solutions for Sustaining Scalability in Internet Growth

IGI Global An ever-increasing thirst for information in recent years among consumers, researchers, and the general population has necessitated continuous growth of internet architecture and accessibility, an issue which, if not addressed properly, may inhibit the growth of the internet as a whole. Solutions for Sustaining Scalability in Internet Growth investigates current issues impeding the growth of information architecture and explores methods for developing a wider-reaching and ever-evolving internet. The book presents viable solutions to some of the current threats to robust and pervasive information systems, enabling internet actors such as network providers, service providers, vendors, and regulatory bodies to ensure the creation of a more accessible and balanced internet.

Selected Topics in Communication Networks and Distributed Systems

World Scientific Communication networks and distributed system technologies are undergoing rapid advancements. The last few years have experienced a steep growth in research on different aspects in these areas. Even though these areas hold great promise for our future, there are several challenges that need to be addressed. This review volume discusses important issues in selected emerging and matured topics in communication networks and distributed systems. It will be a valuable reference for students, instructors, researchers, engineers and strategists in this field.

Research Handbook on Governance of the Internet

Edward Elgar Publishing The Internet is now a key part of everyday life across the developed world, and growing rapidly across developing countries. This Handbook provides a comprehensive overview of the latest research on Internet governance, written by the leading scholars in the field. With an international focus, it features contributions from lawyers, economists and political scientists across North America, Europe and Australia. They adopt a broad multidisciplinary perspective, taking in law, economics, political science, international relations, and communications studies. Thought-provoking chapters cover topics such as ICANN, the Internet Governance Forum, grassroots activism, innovation, human rights, privacy in social networks, and network neutrality. Being a forward-looking guide for the next decade, this Research Handbook will strongly appeal to scholars and graduate students in the social sciences studying and researching Internet governance, political scientists, economists, lawyers and computer scientists working on governance issues, as well as regulators and policymakers responsible for Internet governance in national governments and intergovernmental organisations.

Network Science for Military Coalition Operations: Information Exchange and Interaction

Information Exchange and Interaction

IGI Global "This book is structured into sections that look at some of the challenges related to coalition operations in different types of networks, such as communications and information networks and human and cognitive networks, and looks at other issues that impact the operations of coalitions, the management and use of policies across different organizations"--Provided by publisher.

SCION: A Secure Internet Architecture

Springer This book describes the essential components of the SCION secure Internet architecture, the first architecture designed foremost for strong security and high availability. Among its core features, SCION also provides route control, explicit trust information, multipath communication, scalable quality-of-service guarantees, and efficient forwarding. The book includes functional specifications of the network elements, communication protocols among these elements, data structures, and configuration files. In particular, the book offers a specification of a working prototype. The authors provide a comprehensive description of the main design features for achieving a secure Internet architecture. They facilitate the reader throughout, structuring the book so that the technical detail gradually increases, and supporting the text with a glossary, an index, a list of abbreviations, answers to frequently asked questions, and special highlighting for examples and for sections that explain important research, engineering, and deployment features. The book is suitable for researchers, practitioners, and graduate students who are interested in network security.

Architecture and Design for the Future Internet

4WARD Project

Springer Science & Business Media Architecture and Design for the Future Internet addresses the Networks of the Future and the Future Internet, focusing on networks aspects, offering both technical and non-technical perspectives. It presents the main findings of 4WARD (Architecture and Design for the Future Internet), a European Integrated Project within Framework Programme 7, which addressed this area from an innovative approach. Today's network architectures are stifling innovation, restricting it mostly to the application level, while the need for structural change is increasingly evident. The absence of adequate facilities to design, optimise and interoperate new networks currently forces a convergence to an architecture that is suboptimal for many applications and that cannot support innovations within itself, the Internet. 4WARD overcomes this impasse through a set of radical architectural approaches, built on a strong mobile and wireless background. The main topics addressed by the book are: the improved ability to design inter-operable and complementary families of network architectures; the enabled co-existence of multiple networks on common platforms through carrier-grade virtualisation for networking resources; the enhanced utility of networks by making them self-managing; the increased robustness and efficiency of networks by leveraging diversity; and the improved application support by a new information-centric paradigm in place of the old host-centric approach. These solutions embrace the full range of technologies, from fibre backbones to wireless and sensor networks.

FM 2015: Formal Methods

20th International Symposium, Oslo, Norway, June 24-26, 2015, Proceedings

Springer This book constitutes the refereed proceedings of the 20th International Symposium on Formal Methods, FM 2015, held in Oslo, Norway, in June 2015. The 30 full papers and 2 short papers presented were carefully reviewed and selected from 124 submissions. The papers cover a wide spectrum of all the different aspects of the use of and the research on formal methods for software development.

Evolving the Internet Inter-domain Routing System (BGP)

Computer Networking: A Top-Down Approach Featuring the Internet, 3/e

Pearson Education India

CCDA 200-310 Official Cert Guide

Cisco Press Trust the best selling Official Cert Guide series from Cisco Press to help you learn, prepare, and practice for exam success. They are built with the objective of providing assessment, review, and practice to help ensure you are fully prepared for your certification exam. Master Cisco CCDA 200-310 exam topics Assess your knowledge with chapter-opening quizzes Review key concepts with exam preparation tasks This is the eBook edition of the CCDA 200-310 Official Cert Guide. This eBook does not include the practice exam

that comes with the print edition. CCDA 200-310 Official Cert Guide presents you with an organized test preparation routine through the use of proven series elements and techniques. "Do I Know This Already?" quizzes open each chapter and allow you to decide how much time you need to spend on each section. Exam topic lists make referencing easy. Chapter-ending Exam Preparation Tasks help you drill on key concepts you must know thoroughly. CCDA 200-310 Official Cert Guide focuses specifically on the objectives for the newest Cisco CCDA DESGN exam. Expert networking consultants Anthony Bruno and Steve Jordan share preparation hints and test-taking tips, helping you identify areas of weakness and improve both your conceptual knowledge and hands-on skills. Material is presented in a concise manner, focusing on increasing your understanding and retention of exam topics. Well-regarded for its level of detail, assessment features, comprehensive design scenarios, and challenging review questions and exercises, this official study guide helps you master the concepts and techniques that will allow you to succeed on the exam the first time. The official study guide helps you master all the topics on the new CCDA DESGN exam, including: Design methodologies, including PBM, network characterization, and top-down/bottom-up approaches Design objectives: modularity, hierarchy, scalability, resilience, fault domains Addressing and routing protocols in existing networks Enterprise network design: campus, enterprise, and branch Expanding existing networks: wireless, security, collaboration, virtualization, programmability, data centers, and more CCDA 200-310 Official Cert Guide is part of a recommended learning path from Cisco that includes simulation and hands-on training from authorized Cisco Learning Partners and self-study products from Cisco Press. To find out more about instructor-led training, e-learning, and hands-on instruction offered by authorized Cisco Learning Partners worldwide, please visit <http://www.cisco.com/web/learning/index.html> [Javvin Technologies Inc.](#) This handbook is designed to help information technology and networking professionals to smoothly navigate the network communication protocol territories. (Computer Books - General Information)

OSPF

Anatomy of an Internet Routing Protocol

[Addison-Wesley Professional](#) Written for TCP/IP network administrators, protocol designers, and network application developers, this introductory text explains the inner workings of the OSPF (Open Shortest Path First) TCP/IP routing protocol for the Internet. Topics covered include: OSBF virtual links, NBMA (nonbroadcast multi-access) network segments, interactions with other routing protocols, and protocol extensions. Annotation copyrighted by Book News, Inc., Portland, OR

The Future Internet

Future Internet Assembly 2011: Achievements and Technological Promises

[Springer](#) Irrespective of whether we use economic or societal metrics, the Internet is one of the most important technical infrastructures in existence today. It will be a catalyst for much of our innovation and prosperity in the future. A competitive Europe will require Internet connectivity and services beyond the capabilities offered by current technologies. Future Internet research is therefore a must. This book is published in full compliance with the Open Access publishing initiative; it is based on the research carried out within the Future Internet Assembly (FIA). It contains a sample of representative results from the recent FIA meetings spanning a broad range of topics, all being of crucial importance for the future Internet. The book includes 32 contributions and has been structured into the following sections, each of which is preceded by a short introduction: Foundations: architectural issues; socio-economic issues; security and trust; and experiments and experimental design. Future Internet Areas: networks, services, and content; and applications.

Network Routing

Algorithms, Protocols, and Architectures

[Morgan Kaufmann](#) Network Routing: Algorithms, Protocols, and Architectures, Second Edition, explores network routing and how it can be broadly categorized into Internet routing, PSTN routing, and telecommunication transport network routing. The book systematically considers these routing paradigms, as well as their interoperability, discussing how algorithms, protocols, analysis, and operational deployment impact these approaches and addressing both macro-state and micro-state in routing. Readers will learn about the evolution of network routing, the role of IP and E.164 addressing and traffic engineering in routing, the impact on router and switching architectures and their design, deployment of network routing protocols, and lessons learned from implementation and operational experience. Numerous real-world examples bring the material alive. Extensive coverage of routing in the Internet, from protocols (such as OSPF, BGP), to traffic engineering, to security issues A detailed coverage of various router and switch architectures, IP lookup and packet classification methods A comprehensive treatment of circuit-switched routing and optical network routing New topics such as software-defined networks, data center networks, multicast routing Bridges the gap between theory and practice in routing, including the fine points of implementation and operational experience Accessible to a wide audience due to its vendor-neutral approach

Introduction to Middleware

Web Services, Object Components, and Cloud Computing

[CRC Press](#) "A stereotype of computer science textbooks is that they are dry, boring, and sometimes even intimidating. As a result, they turn students' interests off from the subject matter instead of enticing them into it. This textbook is the opposite of such a stereotype. The author presents the subject matter in a refreshing story-telling style and aims to bring the Internet-generation of students closer to her stories." --Yingcai Xiao, The University of Akron Introduction to Middleware: Web Services, Object Components, and Cloud Computing provides a comparison of different middleware technologies and the overarching middleware concepts they are based on. The various major paradigms of middleware are introduced and their pros and cons are discussed. This includes modern cloud interfaces, including the utility of Service Oriented Architectures. The text discusses pros and cons of RESTful vs. non-RESTful web services, and also compares these to older but still heavily used distributed object/component middleware. The text guides readers to select an appropriate middleware technology to use for any given task, and to learn new middleware technologies as they appear over time without being greatly overwhelmed by any new concept. The book begins with an introduction to different distributed computing paradigms, and a review of the different kinds of architectures, architectural styles/patterns, and properties that various researchers have used in the past to examine distributed applications and determine the quality of distributed applications. Then it includes appropriate background material in networking and the web, security, and encoding necessary to understand detailed discussion in this area. The major middleware paradigms are compared, and a comparison methodology is developed. Readers will learn how to select a paradigm and technology for a particular task, after reading this text. Detailed middleware technology review sections allow students or industry practitioners working to expand their knowledge to achieve practical skills based on real projects so as to become well-functional in that technology in industry. Major technologies examined include: RESTful web services (RESTful cloud interfaces such as OpenStack, AWS EC2 interface, CloudStack; AJAX, JAX-RS, ASP.NET MVC and ASP.NET Core), non-RESTful (SOAP and WSDL-based) web services (JAX-WS, Windows Communication Foundation), distributed objects/ components (Enterprise Java Beans, .NET Remoting, CORBA). The book presents two projects that can be used to illustrate the practical use of middleware, and provides implementations of these projects over different technologies. This versatile and class-tested textbook is suitable (depending on chapters selected) for undergraduate or first-year graduate courses on client server architectures, middleware, and cloud computing, web services, and web programming.

Towards the Future Internet

Emerging Trends from European Research

[IOS Press](#) This book contains papers describing the major scientific achievements supported by European funding in the area of Future Internet. It is published in the context of FIA, the Future Internet Assembly¹, which is structured to permit interactions across technical domains from researchers and other stakeholders active in Future Internet research. FIA holds two meetings per year and calls on those involved in relevant funded research projects to participate actively and to steer its work. On 31 March, 2008 the Bled Declaration "Towards a European approach to the Future Internet"² was officially presented at the FIA Conference in Bled, Slovenia "In the future, even more users, objects, services and critical information infrastructures will be networked through the Future Internet which will underpin an ever larger share of our modern and global economies. It is therefore time to strengthen and focus European activities on the Future Internet to maintain Europe's competitiveness in the global marketplace. A significant change is required and the European Internet scientific and economic actors, researchers, industrialists, SMEs, users, service and content providers, now assert the urgent necessity to redesign the Internet, taking a broad multidisciplinary approach, to meet Europe's societal and commercial ambitions."

Frontiers in Internet Technologies

Second CCF Internet Conference of China, ICoC 2013, Zhangjiajie, China. Revised Selected Papers

Springer This book constitutes the refereed proceedings of the Second CCF Internet Conference of China, ICoC 2013, held in Zhangjiajie, China, in July 2013. The 24 revised full papers presented were carefully reviewed and selected from 63 submissions. The papers address issues such as future Internet architecture, Internet routing, network security, network management, data center networks, green networks, wireless networks, P2P networks, mobile Internet and the Internet of Things.

Data Networks, IP and the Internet

Protocols, Design and Operation

John Wiley & Sons Data Networking is a capability that allows users to combine separate data bases, telecommunication systems, and specialised computer operations into a single integrated system, so that data communication can be handled as easily as voice messages. Data communications is the problem of getting information from one place to another reliably (secure both from channel disruptions and deliberate interference) while conforming to user requirements. IP (Internet protocol) is the central pillar of the Internet and was designed primarily for internetworking as being a simple protocol almost any network could carry. The business world appears to increasingly revolve around data communications and the Internet and all modern data networks are based around either the Internet or at least around IP (Internet Protocol)-based networks. However, many people still remain baffled by multiprotocol networks - how do all the protocols fit together? How do I build a network? What sort of problems should I expect? This volume is intended not only for network designers and practitioners, who for too long have been baffled by the complex jargon of data networks, but also for the newcomer - eager to put the plethora of "protocols" into context. After the initial boom the rate of IP development is now beginning to stabilise, making a standard textbook and reference book worthwhile with a longer shelf life. Highly illustrated and written in an accessible style this book is intended to provide a complete foundation textbook and reference of modern IP-based data networking - avoiding explanation of defunct principles that litter other books. Network/IP engineers, Network operators, engineering managers and senior undergraduate students will all find this invaluable.

NETWORKING 2012

11th International IFIP TC 6 Networking Conference, Prague, Czech Republic, May 21-25, 2012, Proceedings, Part I

Springer The two-volume set LNCS 7289 and 7290 constitutes the refereed proceedings of the 11th International IFIP TC 6 Networking Conference held in Prague, Czech Republic, in May 2012. The 64 revised full papers presented were carefully reviewed and selected from a total of 225 submissions. The papers feature innovative research in the areas of network architecture, applications and services, next generation Internet, wireless and sensor networks, and network science. The first volume includes 32 papers and is organized in topical sections on content-centric networking, social networks, reliability and resilience, virtualization and cloud services, IP routing, network measurement, network mapping, and LISP and multi-domain routing.

NETWORKING 2006. Networking Technologies, Services, Protocols; Performance of Computer and Communication Networks; Mobile and Wireless Communications Systems

5th International IFIP-TC6 Networking Conference, Coimbra, Portugal, May 15-19, 2006, Proceedings

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

The "Hidden" Prehistory of European Research Networking

Trafford Publishing The main purpose of this book, which mostly covers the period 1984-1993, is about the history of European research networking. In particular, it strives to throw some light on some lesser known, sometimes forgotten, aspects of the European research networking history, as the EARN and EASInet initiatives from IBM but also DEC (EARN/OSI), thanks to operational pan-European networks, which were built during the period 1984-1990 thus allowing the start of operational European academic and research networking services in a very effective and swift manner. A secondary purpose of this article is to make a critical assessment of the political and technical achievements of the European NRENs and especially those of DANTE, the company set up by these same NRENs to build and operate a pan-European backbone interconnecting their national networking infrastructures as well as establishing international connections to other NRENs worldwide.

NETWORKING 2007. Ad Hoc and Sensor Networks, Wireless Networks, Next Generation Internet

6th International IFIP-TC6 Networking Conference, Atlanta, GA, USA, May 14-18, 2007, Proceedings

Springer Science & Business Media This book constitutes the refereed proceedings of the 6th International IFIP-TC6 Networking Conference, NETWORKING 2007, held in Atlanta, GA, USA in May 2007. The 99 revised full papers and 30 poster papers were carefully reviewed and selected from 440 submissions. The papers are organized in topical sections on ad hoc and sensor networks: connectivity and coverage, scheduling and resource allocation, mobility and location awareness, routing, and key management; wireless networks: mesh networks, mobility, TCP, MAC performance, as well as scheduling and resource allocation; next generation inte.

Day One

Deploying BGP Routing Security

Algorithms and Models for the Web-Graph

Third International Workshop, WAW 2004, Rome, Italy, October 16, 2004. Proceedings

Springer Science & Business Media This book constitutes the refereed proceedings of the Third International Workshop on Algorithms and Models for the Web-Graph, WAW 2004, held in Rome, Italy in October 2004. The 14 revised full papers presented together with an invited paper were carefully reviewed and selected from 31 submissions. The papers address a variety of topics related to the study of the Web-graph including random graphs, local network flow, network models, traffic driven Web-graph modeling, embedded communities, Web data mining, personalization, page rank computation, hierarchical information networks, Web crawling, community detection, and network communities.

Distributed Computing and Networking

12th International Conference, ICDCN 2011, Bangalore, India, January 2-5, 2011, Proceedings

Springer This book constitutes the refereed proceedings of the 12th International Conference on Distributed Computing and Networking, ICDCN 2011, held in Bangalore, India, during January 2-5, 2011. The 31 revised full papers and 3 revised short papers presented together with 3 invited lectures were carefully reviewed and selected from 140 submissions. The papers address all current issues in the field of distributed computing and networking. Being a leading forum for researchers and practitioners to exchange ideas and share best practices, ICDCN also serves as a forum for PhD students to share their research ideas and get quality feedback from the well-renowned experts in the field.

The Normative Order of the Internet

A Theory of Rule and Regulation Online

Oxford University Press There is order on the internet, but how has this order emerged and what challenges will threaten and shape its future? This study shows how a legitimate order of norms has emerged online, through both national and international legal systems. It establishes the emergence of a normative order of the internet, an order which explains and justifies processes of online rule and regulation. This order integrates norms at three different levels (regional, national, international), of two types (privately and publicly authored), and of different character (from ius cogens to technical standards). Matthias C. Kettemann assesses their internal coherence, their consonance with other order norms and their consistency with the order's finality. The normative order of the internet is based on and produces a liquefied system characterized by self-learning normativity. In light of the importance of the socio-communicative online space, this is a book for anyone interested in understanding the contemporary development of the internet. This is an open access title available under the terms of a CC BY-NC-ND 4.0 International licence. It is offered as a free PDF download from OUP and selected open access locations.

Innovative Capacity Allocations for All-IP Networks

A Network Economic Analysis of Evolution and Competition in the Internet Ecosystem

Nomos Verlag Das Internet-Ökosystem ist gekennzeichnet durch eine starke Dynamik und ausgeprägte Evolutorik. Während sich das Spektrum an Inhalten und Anwendungsdiensten, welche integriert über "General-Purpose"-Breitbandnetze bereitgestellt werden sollen, fortwährend wandelt, werden sowohl die Anforderungen an die Datenübermittlung als auch entsprechende Kapazitätsallokationsprobleme zunehmend komplexer. Die erwartete Rolle des Internets der Dinge, 5G oder Virtual-Reality-Anwendungen unterstreicht, wie wichtig es für Anbieter von breitbandigen Zugangsdiensten sein wird, diesen sich wandelnden Anforderungen in einer ökonomisch effizienten Weise gerecht werden zu können. Dieses Buch untersucht Evolution und den Wettbewerb im Internet-Ökosystem und führt eine netzökonomische Analyse effizienter Kapazitätsallokationen in All-IP-Netzen durch. In diesem Zusammenhang wird die Rolle von Netzneutralitätsregulierungen kritisch bewertet.

Migrating to IPv6

A Practical Guide to Implementing IPv6 in Mobile and Fixed Networks

John Wiley and Sons Understand IPv6, the protocol essential to future Internet growth. Exhaustion of address space and global routing table growth necessitate important revisions to the current version of the Internet Protocol, IPv4. IP version 6 offers greater address space and additional features to support the evolving requirements of Internet applications. Deployed alongside current IPv4 networks, IPv6 will restore the full-fledge network necessary for Internet growth. Migrating to IPv6 gives a comprehensive overview of IPv6 and related protocols, the layers below IPv6 to the application and end-user layers. Author Marc Blanchet offers a direct and clear route to understanding the topic, taking a top-down approach and ordering topics by relevance. Tried and tested practical techniques and advice on implementation, applications and deployment provide 'how-to' information on everything you need to know to put the technology to work. Migrating to IPv6: Provides a complete, up-to-date, in-depth, and accessible practical guide to IPv6. Demonstrates the theory with practical and generic examples and major implementation configurations, such as Windows, FreeBSD, Linux, Solaris, Cisco, Juniper and Hexago. Provides a comprehensive reference to key data structures and packet formats. Summarizes topics in table and graphical form to give fast access to information, including over 200 figures. Offers an accompanying website with extra coverage of specific topics, information on additional protocols and specifications, and updates on new features. This text will give network engineers, managers and operators, software engineers and IT professionals and analysts a thorough understanding of IPv6.

The Competitive Internet Service Provider

Network Architecture, Interconnection, Traffic Engineering and Network Design

John Wiley & Sons Due to the dramatic increase in competition over the last few years, it has become more and more important for Internet Service Providers (ISPs) to run an efficient business and offer an adequate Quality of Service. The Competitive Internet Service Provider is a comprehensive guide for those seeking to do just that. Oliver Heckmann approaches the issue from a system point of view, looking not only at running a network, but also at connecting the network with peering and transit partners or planning the expansion of the network. The Competitive Internet Service Provider: Offers an advanced reference on the topic, drawing on state-of-the art research in network technology. Clearly defines the criteria enabling ISPs to operate with the greatest efficiency and deliver adequate Quality of Service. Discusses the implications of the future multiservice Internet and multimedia applications such as Voice over IP, peer-to-peer, or network games. Delivers a comparative evaluation of different feasible Quality of Service approaches. Explores scientific methods such as queuing theory, network calculus, and optimization theory. Illustrates concepts throughout with mathematical models and simulations. This invaluable reference will provide academic and industrial researchers in the field of network and communications technology, graduate students on telecommunications courses, as well as ISP managers, engineers and technicians, equipment manufacturers and consultants, with an understanding of the concepts and issues involved in running a successful ISP.

Handbook of Research on Redesigning the Future of Internet Architectures

IGI Global As the volume of global Internet traffic increases, the Internet is beginning to suffer from a broad spectrum of performance-degrading infrastructural limitations that threaten to jeopardize the continued growth of new, innovative services. In answer to this challenge, computer scientists seek to maintain the original design principles of the Internet while allowing for a more dynamic approach to the manner in which networks are designed and operated. The Handbook of Research on Redesigning the Future of Internet Architectures covers some of the hottest topics currently being debated by the Internet community at large, including Internet governance, privacy issues, service delivery automation, advanced networking schemes, and new approaches to Internet traffic-forwarding and path-computation mechanics. Targeting students, network-engineers, and technical strategists, this book seeks to provide a broad and comprehensive look at the next wave of revolutionary ideas poised to reshape the very foundation of the Internet as we know it.

Internet of Things from Hype to Reality

The Road to Digitization

Springer Nature This revised textbook presents updated material on its core content: an end-to-end IoT architecture that is comprised of devices, network, compute, storage, platform, applications along with management and security components. As with the second edition, it is organized into six main parts: an IoT reference model; fog computing and the drivers; IoT management and applications; smart services in IoT; IoT standards; and case studies. This editions features include overhaul of the IoT Protocols (Chapter 5) to include an expanded treatment of low-power wide area networks including narrow band IoT (NB-IoT) protocol, updated IoT platforms and capabilities (Chapter 7) to include comparison of commercially available platforms (e.g. AWS IoT Platform, Google Cloud IoT Platform, Microsoft Azure IoT Platform, and PTC ThinkWorx), updated security (Chapter 8) to include approaches for securing IoT devices with examples of IoT devices used in security attacks and associated solutions including MUD and DICE, and finally new Appendix B to include six IoT project detailed for students.

Introduction to Networking

How the Internet Works

[CreateSpace](#) This book demystifies the amazing architecture and protocols of computers as they communicate over the Internet. While very complex, the Internet operates on a few relatively simple concepts that anyone can understand. Networks and networked applications are embedded in our lives. Understanding how these technologies work is invaluable. This book was written for everyone - no technical knowledge is required! While this book is not specifically about the Network+ or CCNA certifications, it is a way to give students interested in these certifications a starting point.

Quality of Future Internet Services

COST Action 263 Final Report

[Springer](#) This book presents a state-of-the-art survey of technologies, algorithms, models, and experiments in the area quality of Internet service. It is based on the European Action COST 263 Quality of Future Internet Services, which involved 70 researchers during a period of almost five years. The results presented in the book reflect the state of the art in the area beyond the Action COST 263. The six comprehensive chapters are written by teams of leading researchers in the area; a roadmap outlines and summarizes the overall situation and indicates future developments. The book offers chapters on traffic managements, quality of service routing, Internet traffic engineering, mobile networking, algorithms for scalable content distribution, and pricing and QoS.

Identification and Management of Distributed Data

NGN, Content-Centric Networks and the Web

[CRC Press](#) Although several books and academic courses discuss data management and networking, few of them focus on the convergence of networking and software technologies for identifying, addressing, and managing distributed data. Focusing on this convergence, Identification and Management of Distributed Data: NGN, Content-Centric Networks and the Web collates and describes the various distributed data management technologies to help readers from various backgrounds understand the common aspects that govern distributed data management. With a focus on the primary problems in identifying, addressing, and managing information in a distributed environment, the book guides you through the discovery of distributed data management on the web, in next-generation networks (NGNs), and in new content-centric networking paradigms. It includes case studies from the Palo Alto Research Center and the Semantic Web Education and Outreach Interest Group that illustrate the convergence between software engineering and networking technologies. Derived from academic courses, ongoing research, and the latest standardization initiatives, the book explains how the various layers of the existing Internet protocol stack already provide most of the functions that information engineers need to design efficient systems. Although the subject is broad, the book provides helpful insights into a number of critical technologies to provide you with the foundation required to build and deploy more efficient data interoperability paradigms in next-generation networks.

Internet of Things: Concepts and System Design

[Springer Nature](#) This comprehensive overview of IoT systems architecture includes in-depth treatment of all key components: edge, communications, cloud, data processing, security, management, and uses. Internet of Things: Concepts and System Design provides a reference and foundation for students and practitioners that they can build upon to design IoT systems and to understand how the specific parts they are working on fit into and interact with the rest of the system. This is especially important since IoT is a multidisciplinary area that requires diverse skills and knowledge including: sensors, embedded systems, real-time systems, control systems, communications, protocols, Internet, cloud computing, large-scale distributed processing and storage systems, AI and ML, (preferably) coupled with domain experience in the area where it is to be applied, such as building or manufacturing automation. Written in a reader-minded approach that starts by describing the problem (why should I care?), placing it in context (what does this do and where/how does it fit in the great scheme of things?) and then describing salient features of solutions (how does it work?), this book covers the existing body of knowledge and design practices, but also offers the author's insights and articulation of common attributes and salient features of solutions such as IoT information modeling and platform characteristics.

Power Plant Instrumentation and Control Handbook

A Guide to Thermal Power Plants

[Academic Press](#) Power Plant Instrumentation and Control Handbook, Second Edition, provides a contemporary resource on the practical monitoring of power plant operation, with a focus on efficiency, reliability, accuracy, cost and safety. It includes comprehensive listings of operating values and ranges of parameters for temperature, pressure, flow and levels of both conventional thermal power plant and combined/cogen plants, supercritical plants and once-through boilers. It is updated to include tables, charts and figures from advanced plants in operation or pilot stage. Practicing engineers, freshers, advanced students and researchers will benefit from discussions on advanced instrumentation with specific reference to thermal power generation and operations. New topics in this updated edition include plant safety lifecycles and safety integrity levels, advanced ultra-supercritical plants with advanced firing systems and associated auxiliaries, integrated gasification combined cycle (IGCC) and integrated gasification fuel cells (IGFC), advanced control systems, and safety lifecycle and safety integrated systems. Covers systems in use in a wide range of power plants: conventional thermal power plants, combined/cogen plants, supercritical plants, and once through boilers Presents practical design aspects and current trends in instrumentation Discusses why and how to change control strategies when systems are updated/changed Provides instrumentation selection techniques based on operating parameters. Spec sheets are included for each type of instrument Consistent with current professional practice in North America, Europe, and India All-new coverage of Plant safety lifecycles and Safety Integrity Levels Discusses control and instrumentation systems deployed for the next generation of A-USC and IGCC plants

Computational Science and Its Applications - ICCSA 2014

14th International Conference, Guimarães, Portugal, June 30 - July 3, 2014,

Proceedings, Part VI

[Springer](#) The six-volume set LNCS 8579-8584 constitutes the refereed proceedings of the 14th International Conference on Computational Science and Its Applications, ICCSA 2014, held in Guimarães, Portugal, in June/July 2014. The 347 revised papers presented in 30 workshops and a special track were carefully reviewed and selected from 1167. The 289 papers presented in the workshops cover various areas in computational science ranging from computational science technologies to specific areas of computational science such as computational geometry and security.

Scalable Multicasting over Next-Generation Internet

Design, Analysis and Applications

[Springer Science & Business Media](#) Next-generation Internet providers face high expectations, as contemporary users worldwide expect high-quality multimedia functionality in a landscape of ever-expanding network applications. This volume explores the critical research issue of turning today's greatly enhanced hardware capacity to good use in designing a scalable multicast protocol for supporting large-scale multimedia services. Linking new hardware to improved performance in the Internet's next incarnation is a research hot-spot in the computer communications field. The methodical presentation deals with the key questions in turn: from the mechanics of multicast protocols to current state-of-the-art designs, and from methods of theoretical analysis of these protocols to applying them in the ns2 network simulator, known for being hard to extend. The authors' years of research in the field inform this thorough treatment, which covers details such as applying AOM (application-oriented multicast) protocol to IPTV provision and resolving the practical design issues thrown up in creating scalable AOM multicast service models.

Intelligent Computing

Proceedings of the 2019 Computing Conference, Volume 1

Springer This book presents the proceedings of the Computing Conference 2019, providing a comprehensive collection of chapters focusing on core areas of computing and their real-world applications. Computing is an extremely broad discipline, encompassing a range of specialized fields, each focusing on particular areas of technology and types of application, and the conference offered pioneering researchers, scientists, industrial engineers, and students from around the globe a platform to share new ideas and development experiences. Providing state-of-the-art intelligent methods and techniques for solving real-world problems, the book inspires further research and technological advances in this important area.

Information Management and Market Engineering

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