802 11 Wireless Networks The Definitive Guide Enabling Lity With Wi Fi Networks

This book focuses on providing a detailed and practical explanation of key existing and emerging wireless networking technologies and trends,while minimizing the amount of theoretical background information. The book also goes beyond simply presenting what the technology is, but also examines why the technology is the way it is, the history of its development, standardization, and deployment. The book also describes how each technology is used, what problems it was designed to solve, what problems it was not designed to solve., how it relates to other technologies in the marketplace, and internetworking challenges faced withing the context of the Internet, as well as providing deployment trends and standardization trends. Finally, this book decomposes evolving wireless technologies to identify key technical and usage trends in order to discuss the likely characteristics of future wireless networks. This is Cisco's comprehensive practical guide to planning, designing, installing, testing, and supporting both 802.11ac and 802.11n wireless networks for enterprise-based applications. Fully updated for the new 802.11ac standard, this Second Edition delivers expert hands-on guidance for mastering 802.11ac's fundamentally different design, site survey, implementation, and network configuration techniques. Designing and Deploying 802.11 Wireless Networks, Second Edition presents multiple examples using Cisco wireless products, while offering methodologies and tips that are applicable with any vendor's equipment. The authors offer in-depth coverage of building new wireless networks and migrating existing wireless networks

(802.11a,b,g,n) to 802.11ac. After introducing fundamental wireless and 802.11 concepts, the authors present fully-updated coverage of all aspects of network design: requirements, architecture, performance, roaming, RF considerations, security, and much more. Drawing on extensive field experience, they walk through installation and testing, and share comprehensive operational guidance for managing security, troubleshooting roaming and connections, and training support staff. This edition's revamped coverage ranges from new site survey methods to best practices for WPA authentication configuration; advanced design guidelines for city-wide deployments to the latest Cisco equipment. Simply put, you'll find all you need to succeed with your next wireless project -- in any environment, no matter how challenging.

"Building a network for the multitude of new devices is now a strategic decision for network engineers everywhere. This book give you an in-depth look at key parts of 802.11n, and shows you how to acheive an Ethernet-free wireless office"--Back cover.

Secure Roaming in 802.11 Networks offers a comprehensive treatise on Wi-Fi 802.11 roaming by comparing/contrasting it to cellular roaming theory and techniques. The book explores the fundamental concepts, basic theory, and key principles of 802.11 networks with roaming capabilities. It helps ensure secure and constant connectivity of laptops, PDAs and other emerging mobile devices. Today, we increasingly expect to find public Wide Local Area Network (WLAN) 802.11 access in our airports, public spaces, and hotels, and we want to maintain our connections when we're mobile and using 802.11 WLANs. However, 802.11 was not originally designed with roaming capabilities and can't, in its "pure" form, support seamless roaming between different hotspots and other 802.11 access points. This book details the

theory behind various 802.11 extensions to permit roaming and describes how these extensions can be successfully implemented in 802.11 WLANs. It reviews coverage of user authentication in 802.11, as well as roaming between 802.11 and other wireless technologies. It also discusses wireless technologies and application programming interfaces. This book will appeal to RF/wireless engineers and designers, computer/data network engineers, and graduate students. * Offers a comprehensive treatise on Wi-Fi 802.11 roaming by comparing/contrasting it to cellular roaming theory and techniques * Emerges as a "one stop" resource for design engineers charged with fulfilling the market need for seamless 802.11 device roaming capabilities * Builds upon the knowledge base of a professional audience without delving into long discussions of theory long since mastered

This unique and practical text introduces the principles of WLANs based upon the IEEE 802.11 standards, demonstrating how to configure equipment in order to implement various network solutions. The text is supported by examples and detailed instructions.

A handy resource for network engineers and administrators working with Cisco wireless technologies covers the fundamentals of designing, deploying, managing, optimizing, and troubleshooting a wireless network, furnishing easy-to-understand explanations and guidelines, description and analysis of Cisco wireless LAN devices, configuration essentials, and tuning and performance management. Original. (Intermediate)

Designing and Deploying 802.11 Wireless Networks Second Edition A Practical Guide to Implementing 802.11n and 802.11ac Wireless Networks For Enterprise-Based Applications Plan, deploy, and operate high-performance 802.11ac and 802.11n wireless networks The new 802.11ac standard enables WLANs to deliver significantly higher performance. Network

equipment manufacturers have refocused on 802.11ac- and 802.11n-compliant solutions, rapidly moving older versions of 802.11 toward "legacy" status. Now, there's a complete guide to planning, designing, installing, testing, and supporting 802.11ac and 802.11n wireless networks in any environment, for virtually any application. Jim Geier offers practical methods, tips, and recommendations that draw on his decades of experience deploying wireless solutions and shaping wireless standards. He carefully introduces 802.11ac's fundamentally different design, site survey, implementation, and network configuration techniques, helping you maximize performance and avoid pitfalls. Geier organizes each phase of WLAN deployment into clearly defined steps, making the entire planning and deployment process easy to understand and execute. He illuminates key concepts and methods through realistic case studies based on current Cisco products, while offering tips and techniques you can use with any vendor's equipment. To build your skills with key tasks, you'll find several hands-on exercises relying on free or inexpensive tools. Whether you're deploying an entirely new wireless network or migrating from older equipment, this guide contains all the expert knowledge you'll need to succeed. Jim Geier has 30 years of experience planning, designing, analyzing and implementing communications, wireless, and mobile systems. Geier is founder and Principal Consultant of Wireless-Nets, Ltd., providing wireless analysis and design services to product manufacturers. He is also president, CEO, and co-founder of Health Grade Networks, providing wireless network solutions to hospitals, airports, and manufacturing facilities. His books include the first edition of Designing and Deploying 802.11n Wireless Networks (Cisco Press); as well as Implementing 802.1X Security Solutions and Wireless Networking Handbook. Geier has been active in the IEEE 802.11 Working Group and Wi-Fi

Alliance; has chaired the IEEE Computer Society (Dayton Section) and various conferences; and served as expert witness in patent litigation related to wireless and cell ...

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.

Wireless Communications Standards: A Study of IEEE 802.11, 802.15, and 802.16 is one of the latest books in the IEEE Standards Wireless Networks Series, and it is the only book of its kind that covers all of the current 802 wireless standards! Presented in a clear style, by Dr. Todor Cooklev of San Francisco State University, the book is accessible to a wide audience. It is aimed at engineers, computer scientists, managers, and marketing specialists. It can also be used as the primary textbook for a one-semester advanced undergraduate/graduate level course on wireless communication standards, or as a complementary textbook for a course in wireless communications.

The next frontier for wireless LANs is 802.11ac, a standard that increases throughput beyond one gigabit per second. This concise guide provides in-depth information to help you plan for 802.11ac, with technical details on design, network operations, deployment, and monitoring. Author Matthew Gast—an industry expert who led the development of 802.11-2012 and security

task groups at the Wi-Fi Alliance—explains how 802.11ac will not only increase the speed of your network, but its capacity as well. Whether you need to serve more clients with your current level of throughput, or serve your existing client load with higher throughput, 802.11ac is the solution. This book gets you started. Understand how the 802.11ac protocol works to improve the speed and capacity of a wireless LAN Explore how beamforming increases speed capacity by improving link margin, and lays the foundation for multi-user MIMO Learn how multi-user MIMO increases capacity by enabling an AP to send data to multiple clients simultaneously Plan when and how to upgrade your network to 802.11ac by evaluating client devices, applications, and network connections

'The WiFi Networking Book: WLAN Standards: IEEE 802.11 bgn, 802.11n, 802.11ac and 802.11ax' starts from the ground up for a new user and does a gradual progression into the technical details around IEEE 802.11 Wireless Lan communications standard. The book details the 'legacy' 802.11 stack (a/b/g) and also goes into the latest wave of 802.11 standards - 802.11n, ac and ax. Introduction A wireless LAN (WLAN) is a data transmission system designed to provide location-independent network access between computing devices by using radio waves rather than a cable infrastructure . In the corporate enterprise, wireless LANs are usually implemented as the final link between the existing wired network and a group of client computers, giving these users wireless access to the full resources and services of the corporate network across a building or campus setting. The widespread acceptance of WLANs depends on industry standardization to ensure product compatibility and reliability among the various manufacturers. The 802.11 specification as a standard for wireless LANS was ratified by the Institute of Electrical and Electronics Engineers (IEEE) in the year 1997. This version of

802.11 provides for 1 Mbps and 2 Mbps data rates and a set of fundamental signaling methods and other services. Like all IEEE 802 standards, the 802.11 standards focus on the bottom two levels the ISO model, the physical layer and link layer. Any LAN application, network operating system, protocol, including TCP/IP and Novell NetWare, will run on an 802.11-compliant WLAN as easily as they run over Ethernet. What is inside Overview on Wireless Technologies, Usage Scenarios and related Taxonomy Wireless LAN and 802.11 WiFi: Architecture, 802.11 Physical Layer, 802.11 Data Link Layer, 802.11 Security 802.11 Standards: 802.11b, 802.11a, 802.11g, 802.11n MIMO, 802.11ac - Wave 1 and Wave 2, 802.11ax WiMax Networks: Forum, WiMax Protocol, WiMax Architecture

The purpose of this document is to provide guidance toorganizations in securing their legacy Institute of Electrical and Electronics Engineers (IEEE) 802.11 wireless local area networks (WLAN) that cannot use IEEE 802.11i. The document provides an overview of legacy IEEE 802.11WLAN standards, components, and architectural models. It discusses the basics of WLAN security and examines the security capabilities provided by legacy IEEE 802.11 standards. The document also discusses threats andvulnerabilities involving legacy IEEE 802.11 WLANs, explains common countermeasures, and makes recommendations for their use.

802.11 Wireless LAN Fundamentals gives you the background and practical details you need to select, design, install, and run your own WLAN. This book begins with an overview of Ethernet technologies, 802.11 standards, and physical layer technologies, providing you with a frame of reference for the rest of the book. Subsequent chapters address challenges and solutions associated with security, mobility, and QoS. Radio frequency fundamentals are

reviewed in detail, as are site-surveying methods. A series of case studies that highlight WLAN design considerations in various business environments helps place all the concepts covered in this book in the context of real-world applications.

Complete, practical guidance for every technical professional and manager who wants to deploy 802.11n wireless LANs successfully • •Detailed explanations and insider tips on migrating from legacy 802.11a, 802.11b, and 802.11g wireless networks. •Real world examples and case studies covering the entire project lifecycle, from planning through support. •Test tool and equipment configuration screenshots that illuminate key concepts and techniques. As the final 802.11n wireless LAN standard is ratified, thousands of companies are beginning to plan their deployments; many are already moving forward based on the stable Draft 2 standard. However, 802.11n is very different from legacy 802.11a, 802.11b and 802.11g wireless standards, and deployment requires new knowledge and techniques. In this book, leading wireless expert Jim Geier systematically presents all the information and guidance enterprise IT professionals and managers need to deploy 802.11n successfully and achieve maximum performance and business value. Drawing on his extensive experience with real-world 802.11n deployments, Geier covers the entire project lifecycle: planning, design, installation, testing, and support. He offers practical, how-to guidance for deploying in enterprises without existing wireless infrastructure, As well as migrating from legacy 802.11x wireless networks. Part I of this book focuses on the underlying concepts that must be understood before deploying an 802.11n wireless network. Part II focuses on the latest 802.11 standard itself, including current medium access and physical layers, 802.11n functionality, and other current updates, such as 802.11r.

This book describes new approaches to wireless security enabled by the recent development of new core technologies for Wi-Fi/802.11. It shows how the new approaches work and how they should be applied for maximum effect. For system administrators, product designers, or advanced home users.

This is not another book about installing a home or "hobby Wi-Fi system. Instead, this book shows you how to plan, design, install, and operate WLAN systems in businesses, institutions, and public settings such as libraries and hotels. In other words, this book is packed with serious information for serious professionals responsible for implementing robust, high performance WLANs covering areas as small as a coffee shop or as large as entire communities. Ron Olexa provides a solid foundation in RF/wireless theory as it applies to WLANs. His detailed, thorough coverage of propagation at GHz frequencies helps you understand the mysteries of WLAN coverage (such as how it can change from season to season due to foliage). You'll also learn about antenna radiation patterns and gain so you can design you WLAN to have the coverage you need without causing interference to (or suffering interference from) other WLANs. Covers the widely used 802.11 family, as well as the new 802.16 and 802.20 standards Focuses on big commercial network implementations, such as in public buildings and businesses Author has over 25 years of experience with cellular systems and wireless networks

A thoroughly up-to-date resource on IEEE 802 wireless standards Readers can turn to this book for complete coverage of the current and emerging IEEE 802 wireless standards/drafts, including: 802.11 Wireless LANs 802.15.1 Bluetooth and 801.15.2

802.15.3 Wireless PANs 802.15.4 and 802.15.5 Wireless PANs 802.16 Wireless MANs Emerging Wireless LANs, Wireless PANs, and Wireless MANs is a unique, convenient resource for engineers, scientists, and researchers in academia and industry. It also serves as a valuable textbook for related courses at the upper-undergraduate and graduate levels.

Wireless networking is poised to have a massive impact on communications, and the 802.11 standard is to wireless networking what Ethernet is to wired networking. There are already over 50 million devices using the dominant IEEE 802.11 (essentially wireless Ethernet) standard, with astronomical growth predicted over the next 10 years. New applications are emerging every day, with wireless capability being embedded in everything from electric meters to hospital patient tracking systems to security devices. This practical reference guides readers through the wireless technology forest, giving them the knowledge, the hardware and the software necessary to design a wireless embedded device rapidly, inexpensively, and effectively. Using off-the-shelf microcontrollers from Microchip and Atmel, the author provides step-by-step instructions for designing the hardware and firmware for a fully operational wireless networking device. The book gives a thorough introduction to 802.11 technology and puts it into perspective against the other wireless standard options. Just enough theory and mathematics is provided to give the depth of understanding needed for practical design work. The book thoroughly covers: * Laptop wireless Ethernet card introduction

and theory *Introduction to CompactFlash-to-microcontroller interfacing * Implementing the laptop wireless Ethernet card in an embedded environment Covers the hottest new embedded market area- wireless networking Shows designers how to save money and time by using microcontrollers in their embedded wireless designs instead of expensive, complex prefab boards

Presentation of background material of wireless communications, traffic modeling and traffic engineering techniques. Provides descriptions of upcoming features such as IP multimedia subsystems, multimedia broadcast/multicast services and Push-to-Talk over Cellular (PoC) for 3G networks Including problems at the end of each chapter Written for lecturers, graduate students and system designers

The de facto standard for wireless networking is the 802.11 protocol, which includes Wi-Fi—the wireless standard based on 802.11b, 802.11g, and 802.11n protocols. With easy-to-install 802.11 network hardware available everywhere you turn, the choice seems simple, and many people dive into wireless computing with less thought and planning than they'd give to a wired network. But it's wise to be familiar with both the capabilities and risks associated with the 802.11 protocols. And 802.11 Wireless Networks: The Definitive Guide, 3rd Edition is the perfect place to start. This thoroughly updated edition covers everything you'll need to know about wireless technology. Designed with system administrators and serious home users in mind, this book is a no-nonsense guide for setting up 802.11 on Windows and Linux.

As we all know by now, wireless networks offer many advantages over fixed (or wired) networks. Foremost on that list is mobility, since going wireless frees you from the tether of an Ethernet cable at a desk. But that's just the tip of the cable-free iceberg. Wireless networks are also more flexible, faster and easier for you to use, and more affordable to deploy and maintain.The de facto standard for wireless networking is the 802.11 protocol, which includes Wi-Fi (the wireless standard known as 802.11b) and its faster cousin, 802.11g. With easy-to-install 802.11 network hardware available everywhere you turn, the choice seems simple, and many people dive into wireless computing with less thought and planning than they'd give to a wired network. But it's wise to be familiar with both the capabilities and risks associated with the 802.11 protocols. And 802.11 Wireless Networks: The Definitive Guide, 2nd Edition is the perfect place to start.This updated edition covers everything you'll ever need to know about wireless technology. Designed with the system administrator or serious home user in mind, it's a no-nonsense guide for setting up 802.11 on Windows and Linux. Among the wide range of topics covered are discussions on: deployment considerations network monitoring and performance tuning wireless security issues how to use and select access points network monitoring essentials wireless card configuration security issues unique to wireless networks With wireless technology, the advantages to its users are indeed plentiful. Companies no longer have to deal with the hassle and expense of wiring buildings, and households with several computers can

avoid fights over who's online. And now, with 802.11 Wireless Networks: The Definitive Guide, 2nd Edition, you can integrate wireless technology into your current infrastructure with the utmost confidence.

Discusses the fundamentals of wireless security and of the popular wireless LAN protocol 802.11, covering topics including station security configurations, network weaknesses, access points, and client security.

The major expectation from the fourth generation (4G) of wireless communication networks is to be able to handle much higher data rates, allowing users to seamlessly reconnect to different networks even within the same session. Advanced Wireless Networks gives readers a comprehensive integral presentation of the main issues in 4G wireless networks, showing the wide scope and inter-relation between different elements of the network. This book adopts a logical approach, beginning each chapter with introductory material, before proceeding to more advanced topics and tools for system analysis. Its presentation of theory and practice makes it ideal for readers working with the technology, or those in the midst of researching the topic. Covers mobile, WLAN, sensor, ad hoc, bio-inspired and cognitive networks as well as discussing cross-layer optimisation, adaptability and reconfigurability Includes hot topics such as network management, mobility and hand-offs, adaptive resource management, QoS, and solutions for achieving energy efficient wireless networks Discusses security issues, an essential element of working with wireless networks

Supports the advanced university and training courses in the field and includes an extensive list of references Providing comprehensive coverage of the current status of wireless networks and their future, this book is a vital source of information for those involved in the research and development of mobile communications, as well as the industry players using and selling this technology. Companion website features three appendices: Components of CRE, Introduction to Medium Access Control and Elements of Queueing Theory

The first generation 802.11 wireless market, once struggling to expand, has spread from largely vertical applications such as healthcare, point of sale, and inventory management to become much more broad as a general networking technology being deployed in offices, schools, hotel guest rooms, airport departure areas, airplane cabins, entertainment venues, coffee shops, restaurants, and homes. This has led to the tremendous growth of new sources of IEEE 802.11 devices. IEEE 802.11 equipment is now moving into its second stage, where the wireless LAN is being treated as a large wireless communication system. As a system, there is more to consider than simply the communication over the air between a single access point and the associated mobile devices. This has lead to innovative changes in the equipment that makes up a wireless LAN. The IEEE 802.11 Handbook: A Designer's Companion, Second Edition is for the system network architects, hardware engineers and software engineers at the heart of this second stage in the evolution of 802.11 wireless LANs

and for those designers that will take 802.11 to the next stage.

From entertainment to telephony, emerging wireless systems will make possible a new generation of wireless multimedia applications. "Multimedia Wireless Networks" is the first book to help network professionals systematically address QoS in today's most important wireless networks -- and tomorrow's.

An all-encompassing coverage on UMTS Networks including an in-depth discussion of current work on UMTS evolution and 4G . UMTS Networks and Beyond offers a comprehensive introduction to the networking aspects of UMTS and the networks coming after UMTS. The book is unique in that it systematically compares how a particular problem, e.g. obtaining connectivity, is solved in UMTS and how the same problem is solved in a Computer Network such as the Internet. It also highlights why the respective solutions are so different. The first part of the book provides a detailed technical discussion of UMTS, including original vision, architecture, protocol stacks and overall functionality. It places UMTS in the context of its evolution of from GSM and its convergence with Computer Networks. The second part of the book discusses today's vision of 4G, and introduces upcoming networking technologies. Emphasis is on LTE / SAE as successor of UMTS; UMB, WiMAX and NGN are also discussed. The book gives an overview of what these technologies are likely to offer, of their architectures, protocols and functionality. It also discusses their differences and similarities, and whether they will qualify as 4G. Key Features: Provides readers, particularly those with a background in IP-based networks, with a technical understanding of what UMTS does, how it works and how it is likely to evolve Explains the differences in design between UMTS Networks and Computer Networks and discusses how these design divergences can be reconciled in the future Shows

how economic considerations shape the design of UMTS Motivates why particular design choices are made in UMTS Gives an in-depth introduction to LTE / SAE Provides a detailed picture of the state of the art in 4G Illustrates the theory with numerous tables and figures This comprehensive textbook is essential reading for advanced students and lecturers in communications systems and networking. It is also of interest to engineers and researchers in the field of UMTS and communications systems.

With transfer speeds up to 11 Mbps the 802.11 wireless network standard is set to revolutionize wireless LANs. Matthew Gast's definitive guide to the standard is aimed at administrators, architects and security professionals.

Make informed decisions about planning and installing 802.11 'Wi-Fi' wireless networks. This book helps you tackle the challenge, whether installing Wi-Fi within an existing corporate network or setting up a wireless network from scratch in any business

A guide to wireless LAN technology and security, covering such topics as protocols, deployment patterns, WEP, EAP, switching, and management.

Designing and Deploying 802.11 Wireless Networks Second Edition A Practical Guide to Implementing 802.11n and 802.11ac Wireless Networks For Enterprise-Based Applications Plan, deploy, and operate high-performance 802.11ac and 802.11n wireless networks The new 802.11ac standard enables WLANs to deliver significantly higher performance. Network equipment manufacturers have refocused on 802.11ac- and 802.11n-compliant solutions, rapidly moving older versions of 802.11 toward "legacy" status. Now, there's a complete guide to planning, designing, installing, testing, and supporting 802.11ac and 802.11n wireless networks in any environment, for virtually any application. Jim Geier offers practical methods,

tips, and recommendations that draw on his decades of experience deploying wireless solutions and shaping wireless standards. He carefully introduces 802.11ac's fundamentally different design, site survey, implementation, and network configuration techniques, helping you maximize performance and avoid pitfalls. Geier organizes each phase of WLAN deployment into clearly defined steps, making the entire planning and deployment process easy to understand and execute. He illuminates key concepts and methods through realistic case studies based on current Cisco products, while offering tips and techniques you can use with any vendor's equipment. To build your skills with key tasks, you'll find several hands-on exercises relying on free or inexpensive tools. Whether you're deploying an entirely new wireless network or migrating from older equipment, this guide contains all the expert knowledge you'll need to succeed. Jim Geier has 30 years of experience planning, designing, analyzing and implementing communications, wireless, and mobile systems. Geier is founder and Principal Consultant of Wireless-Nets, Ltd., providing wireless analysis and design services to product manufacturers. He is also president, CEO, and co-founder of Health Grade Networks, providing wireless network solutions to hospitals, airports, and manufacturing facilities. His books include the first edition of Designing and Deploying 802.11n Wireless Networks (Cisco Press); as well as Implementing 802.1X Security Solutions and Wireless Networking Handbook. Geier has been active in the IEEE 802.11 Working Group and Wi-Fi Alliance; has chaired the IEEE Computer Society (Dayton Section) and various conferences; and served as expert witness in patent litigation related to wireless and cellular technologies. Review key 802.11 concepts, applications, markets, and technologies Compare ad hoc, mesh, and infrastructure WLANs and their components Consider the impact of radio signal

interference, security vulnerabilities, multipath propagation, roaming, and battery limitations Thoroughly understand today's 802.11 standards in the context of actual network deployment and support Plan your deployment: scoping, staffing, schedules, budgets, risks, feasibility analysis, and requirements Architect access networks and distribution system for maximum reliability, manageability, and performance Make the right tradeoffs and decisions to optimize range, performance, and roaming Secure WLANs via encryption, authentication, rogue AP detection, RF shielding, and policies Master design and site survey tools and methods for planning 802.11ac networks and migrations Efficiently install and test any 802.11ac or 802.11n wireless network Establish specialized support for wireless networks, including help desk operations Systematically troubleshoot connectivity, performance, and roaming issues Design efficient mesh networks and city-wide deployments

If you've been searching for a way to get up to speed quickly on IEEE 802.11n without having to wade through the entire standard, then look no further. This comprehensive overview describes the underlying principles, implementation details, and key enhancing features of 802.11n. A detailed discussion of the key throughput, robustness, and reliability enhancing features (such as MIMO, 40 MHz channels, and packet aggregation) is given, in addition to a clear summary of the issues surrounding legacy interoperability and coexistence. Advanced topics such as beamforming and fast link adaption are also covered. With numerous MAC and physical layer examples and simulation results included to highlight the benefits of the new features, this is an ideal reference for designers of WLAN equipment, and network managers whose systems adopt the new standard. It is also a useful distillation of 802.11n technology for graduate students and researchers in the field of wireless communication.

The first end-to-end reference guide for every network professional who wants to design, deploy, or manage nextgeneration wireless networks • •Covers the principles and components of next-generation wireless networks built with Cisco wireless controllers and Cisco 802.11n AP. •Contains valuable tips, insights, and best practices for designing and implementing next generation networks, direct from Cisco experts with extensive first-hand experience. •Presents configuration examples for common deployment scenarios. As wired networks are increasingly replaced with wireless connections based on the new 802.11n standard, the enterprise wireless market is shifting to centralized, next-generation architectures that utilize wireless controllers. These networks will run business-critical voice, data, and video applications that formerly required wired Ethernet. In this book, two senior Cisco wireless experts bring together all the practical and conceptual knowledge professionals need to confidently design, configure, deploy, manage, and troubleshoot these advanced wireless networks with Cisco Unified Wireless Network technologies. The authors first introduce the core principles, components, and advantages of next-generation wireless networks built with Cisco technologies. Drawing on their pioneering experience, they present tips, insights, and best practices for network design and implementation, as well as detailed configuration examples. They illuminate key technologies ranging from wireless controllers to LWAPP and CAPWAP, 802.11n, Fixed Mobile Convergence, and WiFi Voice. The authors also show how to take advantage of the Cisco Unified Wireless Network's end-to-end security features; and simplify management by using its automatic configuration, self-healing, and integrated management capabilities. This book will serve as a practical, hands-on reference for the entire project lifecycle, as well as an authoritative comprehensive learning tool for new wireless certification programs.

802.11 Wireless Networks: The Definitive GuideThe Definitive Guide"O'Reilly Media, Inc."

Designed to help administrators set up and debug an 802.11 wireless network, this comprehensive handbook examines the 802.11 protocol in detail, discusses a variety of Linux networking issues, and explores wide area networking using 802.11. Original. (Advanced)

Written for network engineers by highly experienced wireless and Ethernet experts, this title is one of the first to provide the know-how for enterprise implementations. Throughout the next decade, 802 wireless systems will become an integral part of fourth generation (4G) cellular communication systems, where the convergence of wireless and cellular networks will materialize through support of interworking and seamless roaming across dissimilar wireless and cellular radio access technologies. IEEE 802 Wireless Systems clearly describes the leading systems, covering IEEE 802.11 WLAN, IEEE 802.15 WPAN, IEEE 802.16 WMAN systems' architecture, standards and protocols (including mesh) with an instructive approach allowing individuals unfamiliar with wireless systems to follow and understand these technologies. Ranging from digital radio transmission fundamentals, duplex, multiplexing and switching to medium access control, radio spectrum regulation, coexistence and spectrum sharing, this book also offers new solutions to broadband multi-hop networking for cellular and ad hoc operation. The book Gives a

comprehensive overview and performance evaluation of IEEE 802.11, 802.15 and 802.16 Includes a tutorial like introduction to the basics of wireless communication Discusses challenges in mesh/multi-hop relaying networks and provides profound solutions for their realization with 802 Wireless Systems Covers spectrum sharing on different levels and provides solutions for coexistence, cooperation and interworking of 802 Wireless Systems that are following the same or different standards, but share the same spectrum Includes a detailed overview and introduction on cognitive radio and dynamic spectrum access Accompanying website contains simulation software and provides slides of the figures and tables from the book ready for course presentation This book is an essential text for advanced undergraduate students with a basic working knowledge of wireless communication, graduate students and engineers working in the field of wireless communications.

"Performing a wireless LAN (WLAN) site survey before installing a wireless network is the key to any successful WLAN deployment. Yet each location and company have unique needs that must be taken into account. 802.11 Wireless Network Site Surveying and Installation helps you understand the challenges associated with any site survey, including multipath mitigation, reflection, absorption, and radio wave interference, plus the added complexity of user and application demands. This book helps you identify obstacles to a successful deployment and guides your equipment decisions to ensure that your WLAN reaches its maximum potential."--BOOK JACKET.