IT先锋系列丛书

（影印本）

# Data Over Wireless Networks

## Bluetooth™,WAP & Wireless LANs

无线数据传输网络：蓝牙、WAP和WLAN

Gil Held 著

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◆ 著 Gil Held
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# PREFACE

The best type of revolution is a bloodless one that improves the life of mankind. During the nineteenth and twentieth centuries we experienced several bloodless revolutions, commencing with the industrial revolution. During the twentieth century our productivity was considerably enhanced with the PC revolution, while we closed out the old millennium with a substantial growth in the use of cellular telephones, personal digital assistants, and other electronic gadgets.

As we start the new millennium we are witnessing the potential emergence of a new bloodless revolution. This revolution involves the transmission of data over wireless networks and is referred to by this author as data over wireless (DoW).

Data over Wireless is not one technology but a series of technologies that provides the potential to revolutionize the manner by which we live. Just imagine being able to walk into a supermarket and use your cell phone to obtain a list of sale specials. Imagine driving from New York to San Francisco and being able to pay different tolls in different states without having to stop your car and reach for your wallet. Imagine being able to surf the Web, obtaining alerts concerning changes in stock prices or news about specific companies as it hits the wire, regardless of your physical location. In addition, imagine being able to have your address book, to-do list and mail directory automatically synchronized and updated as you arrive back at the office or return home after a trip. While we can now perform some of the previously mentioned functions, we typically cannot cross vendor platforms and must live with a series of constraints governing our ability to perform such functions. As we progress into this new millennium a variety of evolving standards will provide us with the ability to achieve the previously described functions with numerous vendor products, lowering the cost of equipment and expanding our equipment selection possibilities.

In this book we will examine both current and emerging wireless messaging technologies that will allow us to use our cellular phones, personal digital assistants and notebook computers to send and receive email, access LANs, and surf the Web without the tethering associated with the wired world of the previous millennium. While we will focus on obtaining an understanding the various underlying technologies associated with different types of data over wireless transmission methods, we will also examine the potential applications that evolving technologies could support. Some applications may not represent a revolution; however, they may represent a technique that can considerably boost organi-

zational productivity and may facilitate significant enhancements to the manner by which we work. Other applications may truly revolutionize the manner by which we perform our daily tasks. Because the old adage "different strokes for different folks" is true when equating the impact of technology I will simply describe different emerging applications in this book and leave it to you to decide the level of impact it can have upon your daily routine. As a professional author I highly value reader feedback. Please feel free to send me your comments, criticisms, and suggestions. You can contact me either via the publisher whose address is on this book, or by email addressed to gil_held@yahoo.com.

GIL HELD

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The preparation of a book represents a team effort, with many persons contributing their skills to produce the book you are reading. Thus, I would be remiss if I did not thank several persons who directly facilitated the production of this book, as well as thank the entire staff at McGraw Hill for their fine efforts.

As an old-fashioned author who frequently flies to locations where it appears that no mixture of receptacle adapters work, many years ago I replaced my notebook with pen and paper for drafting manuscripts to include text and diagrams. Once again, I am indebted to Mrs. Linda Hayes for converting my longhand notes to include numerous inserts, convoluted drawings effected by air turbulence at 30,000 feet, and late night efforts into a professional manuscript rightly expected by the publisher. Concerning the publisher, once again it was a pleasure to work with Steve Elliot and his staff, and Penny Linskey, my editing supervisor. Last but not least, I would be remiss if I did not thank my wife, Beverly, for her patience and understanding during the many evenings and weekends that were required to create the manuscript and review the resulting galley pages that resulted in this book. While it is a relatively simple process to select a book, the effort of many individuals in its production process requires both patience and creativity. Thus, I would like to collectively thank the editors, proofreaders, and cover and jacket designers for the efforts.

## ABOUT THE AUTHOR

**Gilbert Held** is an internationally recognized award-winning author and lecturer. Gil is the author of over 40 books and 400 technical articles.

He was selected to represent the United States at technical conferences in Moscow and Jerusalem and is the only person to twice win the highly competitive Karp Award for excellence in technical writing. Gil is also the recipient of numerous additional awards, two include being selected to the original Federal 100 as being one of the top 100 persons in government, academia, and business that made a significant contribution to technical procurement.

After managing a large-scale government nationwide communications network Gil is now the Director of 4-Degree Consulting, a Macon, Georgia–based organization specializing in the application of communications and personal computing technology. Gil can be reached by email at gil_held@yahoo.com.

## ABOUT THE REVIEWERS

As the leading publisher of technical books for more than 100 years, McGraw-Hill prides itself on bringing you the most authoritative and up-to-date information available. To ensure that our books meet the highest standards of accuracy, we have asked a number of top professionals and technical experts to review the accuracy of the material you are about to read.

We take great pleasure in thanking the following technical reviewers for their insights:

**Ray Sarch** has 13 years' publishing experience with McGraw-Hill as Senior Technology Editor on the staff of *Data Communications* magazine. His book publishing experience includes co-authoring three editions of *Data Communications: A Comprehensive Approach* for McGraw-Hill. This text has been adopted by colleges and universities in,the United States, England, and other countries. Ray has also written the "Data Communications" entry in the *Encyclopedia of Management.* Among the books that Ray has edited for McGraw-Hill are *Inside X.25: A Manager's Guide*; *Data Network Design Strategies*; *Cases in Network Design*; and *Integrating Voice and Data.*

He is currently a freelance writer and editor for publishers such as Van Nostrand Reinhold, IEEE (*Spectrum*), and Associate Editor of *International Journal of Network Management.*

He has also held engineering positions at RCA, Litton Industries, Reeves Instrument, and Western Union. Ray holds the degree of Bachelor of Electrical Engineering from CCNY in New York City.

## ABOUT THE CONTRIBUTOR

We gratefully acknowledge the contribution of **John Vacca** who authored the vendor listings in Bluetooth, Wireless Application Protocol and Wireless LANs.

**John Vacca** is an information technology consultant and internationally known author based in Pomeroy, Ohio. Since 1982, John has authored 27 books and more than 350 articles in the areas of Internet and Intranet security, programming, systems development, rapid application development, multimedia and the Internet. John was also a configuration management specialist, computer specialist, and the computer security official for NASA's space station program (Freedom) and the International Space Station Program, from 1988 until his early retirement from NASA in 1995.

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