

Preface

इन्द्रियाणां हि चरतां यन्मनोऽनुविधीयते ।
तदस्य हरति प्रज्ञां वायुर्नाविमिवाम्भसि ॥६७

indriyanam hi charatam
yan mano 'nuvidhiyate
tad asya harati prajnam
vayur navam ivambhasi

As a boat on the water is swept away by a strong wind, even one of the roaming senses on which the mind focuses can carry away a man's intelligence.

—*The Bhagvad Gita* (2.67)

The Technical Program Committee of the Fourth International Symposium on Wireless Personal Multimedia Communications (WPMC'01), held September 9–12, 2001, in Aalborg, Denmark, decided to organize special invited sessions to highlight the trend of the fusion of the packet IP wireless networks. This task was assigned to us. We realized the importance of the area, as well as the shortage of technical material in a single place in the field of wireless IP and closely related technologies that form the critical success factors. Therefore, we decided to invite the experts who are truly active in the field: the equipment manufacturers, mobile operators, and those working in research laboratories and universities.

Wireless IP and Building the Mobile Internet is the first book to take a comprehensive look at the convergence of wireless and Internet technologies giving rise to the mobile wireless Internet as we know it. In short, the book endeavors to provide an overview of all the elements required to understand and develop the future IP-based wireless multimedia communications and services.

The primary audience of this book is practicing engineers and designers, as well as engineering managers. The book is organized, however, in a format that makes it easily adaptable for a graduate-level textbook. We believe that this book provides sufficient exposure and knowledge in multiple

technologies with a good mix of theory and practice to understand the internal working of the wireless Internet. This book attempts to bridge the gap between research in wireless and IP communications by including chapters from experts who have hitherto confirmed their work in their respective specialties with their peers.

The major objective of this book is to focus not only on the latest developments in mobility, wireless, and Internet technologies, but also to integrate these to provide workable end-to-end solutions. We have encouraged the authors to be concerned about the adjoining layers and technologies even though their primary interest is to focus deeply on only one aspect of the technology spectrum. To meet this objective of seamless interworking, we felt that it was good to have some overlap in the subject materials since the context is often different from one focus area to another and the perception of a certain issue or problem can vary widely.

This book covers a broad range of topics and has been organized into several sections: wireless IP evolution, quality of service (QoS) and resource management, TCP/IP in wireless IP networks, handoff, mobility, signaling, and services and applications. We illustrate the coverage of this book with the help of Figure P.1.

We have tried our best to make each chapter complete in itself. This book is a single authoritative source of information both for the industry professional and the academic in the combined field of wireless and Internet protocols. Any feedback that would improve the book or correct any errors is greatly appreciated.