Foreword

In our rapidly developing world when new technologies and new services come to the market day-by-day, it is of great importance that the controlling protocols of the new systems could also be developed as quickly as possible. The methodology of protocol development is the subject of protocol engineering. The book, "Advanced Communication Protocol Technologies: Solution, Methods and Applications," gives a detailed state of art description of protocol theory, protocol engineering, and formal languages needed in specification and testing of large-scale protocols. It also introduces the most important and most frequently used protocols in the areas of fixed and mobile telecommunication, Internet, multimedia, and special fields such as wireless sensor networks. This book gives a detailed overview of the protocols of nowadays' networks and an outlook for the next generation networks and applications.

In Section 1, the rules by which the protocols work and interact with each other are introduced, and the basic and advanced protocol functions like addressing, routing, flow and congestion control, security, mobility, and quality of service management are discussed. In this section, the steps of protocol development: formal description, verification, validation, implementation, and testing are summarized. In the rest of the book, the application areas of the protocols are displayed.

Section 2 is devoted to telecommunications. Here, the most important protocols used to control the ISDN, GSM, GPRS, and UMTS networks are shown.

In Section 3, the IP based protocols are discussed, including the convergence of fixed and mobile networks. This section gives an overview of network evolution, multimedia applications including video transmission, different mobility management solutions, and advanced routing methods.

In Section 4, special applications like sensor networks and RFID are introduced, and the protocols applied in these fields are shown.

The book, "Advanced Communication Protocol Technologies: Solution, Methods and Applications," could be very useful for university students as a textbook, for engineers who need theoretical background, and for scientists, who want to overview the latest applications of communication protocols. I also recommend this book to anyone else who is interested in this field.

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