PREFACE

Over fifteen years ago I introduced the first edition of this book with the statement 'data communications networking devices are the building blocks upon which networks are constructed.' Although networking technology has made significant advances, that statement retains its validity. Today you can use devices such as bridges and routers that were non-existent in the late 1970s to link local and wide area networks together, while boosting LAN productivity and access through the use of switches and remote access servers that represent products of the 1990s. Thus, the basic rationale and goal of this fourth edition, which is to provide readers with an intimate awareness of the operation and utilization of important networking products that can be used in the design, modification, or optimization of a data communications network, has not changed from the rationale and goal of the first edition. What has changed is the scope and depth of the material included in this book.

In developing this new edition I have taken into consideration and acted upon comments received from both individuals and professors who used the book for a college course on networking. Major changes include an expansion and subdivision of the Fundamental Concepts chapter, which now covers both WANs and LANs in a series of separate chapters focused upon fundamental concepts and advanced networking topics. Other significant changes in this new edition include a chapter covering Wide Area Networks as a separate entity and another covering LAN internetworking devices. In addition, a significant amount of material was revised and updated to provide detailed information covering the operation and utilization of additional networking devices and the updating of information concerning the operating characteristics of other devices. To facilitate the use of this book as a text as well as for reader review purposes, the questions at the end of each chapter reference the sections in each chapter. Through the use of a numbering scheme, students can easily reference an appropriate section in the book for assistance in answering a question while instructors can easily reference the assignment of questions to reading assignments based upon specific sections within chapters.

The expansion of the Fundamental Concepts chapter followed by the addition of two new chapters covering wide area networks and local area networks provides readers new to the field of data communications with the ability to use these chapters as a detailed introduction to this field. For more experienced readers the information in these chapters can be used as a reference to the many facets of data communications.