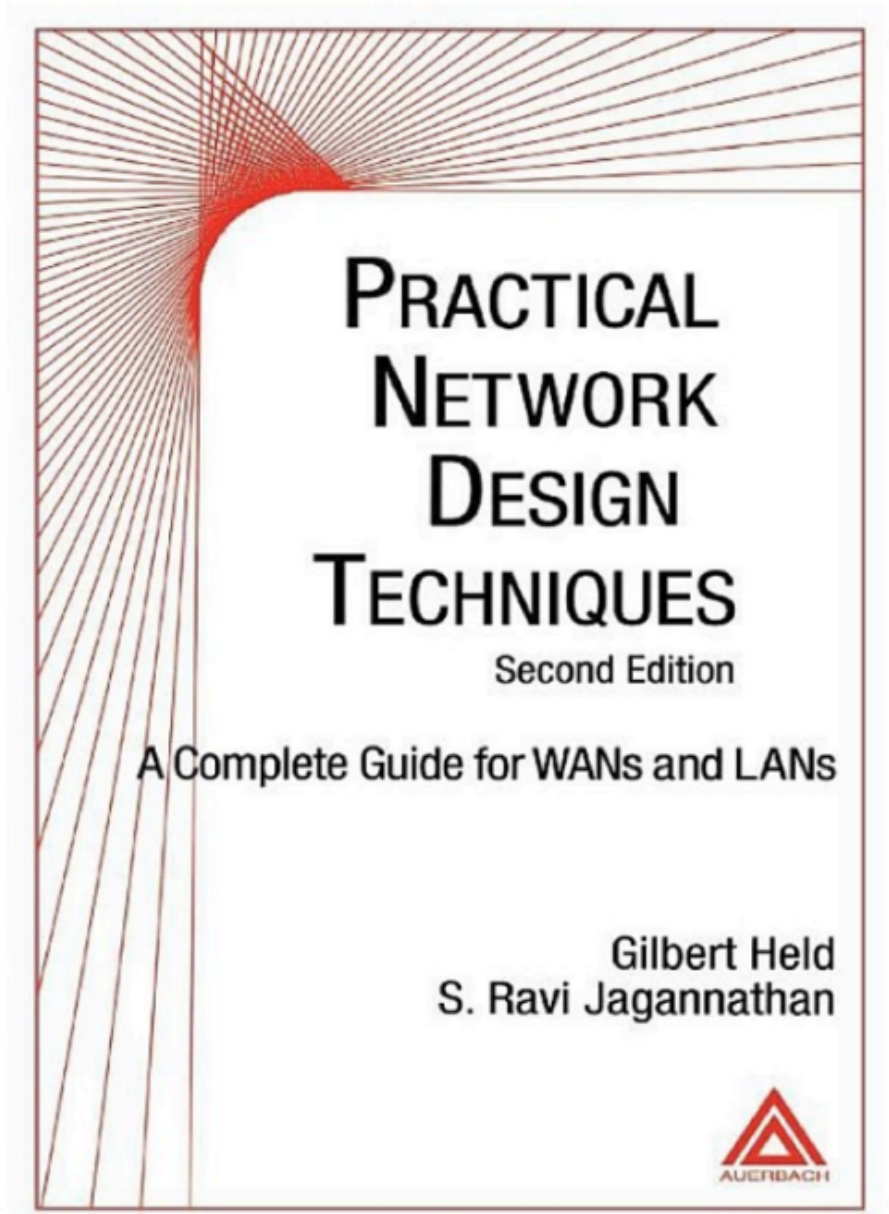


PRACTICAL NETWORK DESIGN TECHNIQUES

Second Edition

A Complete Guide for WANs and LANs

Gilbert Held

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Although the title of this book references network design, its rationale includes more than simply focusing on that topic. We will examine cost and performance issues that, although falling under the network design umbrella, can also be used by network analysts and designers as tools and techniques to follow to optimize existing networks with respect to their cost or performance. In several instances, we will examine reports generated by communications equipment to obtain an understanding of how different report elements can be used to tailor the cost or performance of a network segment. Although the large disparity between the uses of different types of communications equipment in different networks may result in the examination of report parameters not being applicable to some readers, the concept concerning the use of equipment reports should be applicable to all readers.

1.2 BOOK OVERVIEW

As previously mentioned, this book is subdivided into two sections: the first section primarily focuses on WAN design techniques and the second section is oriented toward LAN design techniques. For continuity purposes, chapters are numbered sequentially throughout this book.

Please note the distinction between "internet" (lowercase i) and "Internet" (capital I) used throughout this book. An "internet" is a connection of subnetworks, whereas, the "Internet" is a global network connecting millions of users, commonly known as the World Wide Web.

To obtain an appreciation of the scope and depth of the contents of this book we will briefly tour succeeding chapters of this book. Although each chapter was written to be as independent as possible of previous and succeeding chapters, readers should note that in some instances material in one chapter was required to reference material in another chapter. Even though chapter independence allows readers to turn to material of specific interest, for most readers and especially those entering the network design profession it is recommended that you read the chapters in this book in their sequence of presentation. That said, grab a favorite drink and perhaps a few munchies and follow us into the wonderful world of network design.

1.2.1 WAN Design