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	Nota di contenuto	Foreword -- Preface -- PART I - INTRODUCTORY NETWORK DESIGN -- Chapter 1 - Overview -- Chapter 2 - Network Design ProblemsNotation and Illustrations -- Chapter 3 - Technology-Related Modeling Examples -- PART II - DESIGN MODELING AND METHODS -- Chapter 4 - Network Design Problem Modeling -- Chapter 5 - General Optimization Methods for Network Design -- Chapter 6 - Location and Topological Design -- Chapter 7 - Networks With Shortest-Path Routing -- Chapter 8 - Fair Networks -- PART III - ADVANCED MODELS -- Chapter 9 - Restoration and Protection Design of Resilient Networks -- Chapter 10 - Application of Optimization Techniques for Protection and Restoration Design -- Chapter 11 - Multi-Hour and MultiTime-Period Network Modeling and Design -- Chapter 12 - Multi-Layer Networks: Modeling and Design -- Chapter 13 - Restoration Design of

Sommario/riassunto	In network design, the gap between theory and practice is woefully broad. This book narrows it, comprehensively and critically examining current network design models and methods. You will learn where mathematical modeling and algorithmic optimization have been under-utilized. At the opposite extreme, you will learn where they tend to fail to contribute to the twin goals of network efficiency and cost-savings. Most of all, you will learn precisely how to tailor theoretical models to make them as useful as possible in practice. Throughout, the authors focus on the traffic demands encountered in the real world of network design. Their generic approach, however, allows problem formulations and solutions to be applied across the board to virtually any type of backbone communication or computer network. For beginners, this book is an excellent introduction. For seasoned professionals, it provides immediate solutions and a strong foundation for further advances in the use of mathematical modeling for network design. Written by leading researchers with a combined 40 years of industrial and academic network design experience. Features Considers the development of design models for different technologies, including TCP/IP, IDN, MPLS, ATM, SONET/SDH, and WDM Discusses recent topics such as shortest path routing and fair bandwidth assignment in IP/MPLS networks Addresses proper multi-layer modeling across network layers using different technologiesfor example, IP over ATM over SONET, IP over WDM, and IDN over SONET. Covers restoration-oriented design methods that allow recovery from failures of large-capacity transport links and transit nodes. Presents, at the end of each chapter, exercises useful to both students and practitioners.