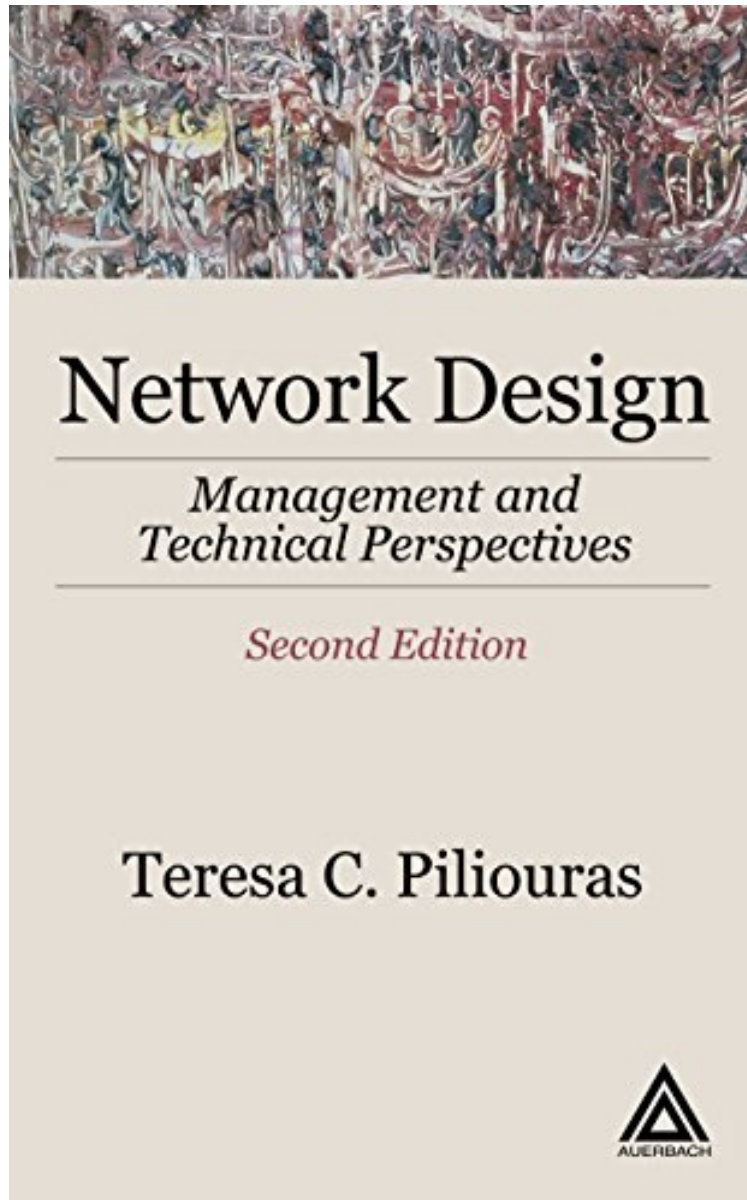


Network Design, Second Edition: Management and Technical Perspectives

Von Teresa C. Piliouras

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KundenrezensionenHilfreichste Kundenrezensionen0 von 0 Kunden fanden die folgende Rezension hilfreich. I am one of the co-authors of this book. Von Ein KundeNetwork design and planning is a challenging and formidable task. To do it effectively, requires in-depth knowledge, creativity, and imagination in envisioning ways to pieces together a multitude of often conflicting options, and the right organizational and technological tools to support the process. This book is designed to provide the reader with a comprehensive overview of this process using numerous real-life case studies. Building on this knowledge, we also describe how to integrate the various components into seamless networks that are cost-efficient, scaleable, easy to upgrade, and compatible across various vendors. We also discuss ways to achieve a balance between technical innovations, migration strategies, and systems integration solutions. This involves thorough analysis of internetworking topologies, utilizations, traffic loads and flows, networking and performance trends, disaster recovery plans, and network impact statements. These technical considerations are also coupled with financial cost analysis, RFI/RFP development, and implementation/planning tools, templates, and checklists. In this book, we emphasize basic network design principles and analytical approaches that will survive the test of time, independent of a specific implementation of technology. However, to illustrate how basic principles can be applied in the context of realistic network design problems, we also present specific implementations of numerous technologies (such as packet switching, frame relay, ISDN, SMDS, SONET, ATM, Ethernet, Token ring, voice and data networking options, etc.) through the use of case studies. In the case studies, both management and technical considerations are discussed. This approach is used to demystify the design process, which traditionally -- on anything other than an ad-hoc basis -- has been limited to the purview of highly trained and specialized professionals. By describing the lingua franca of both managers and design engineers in common terms, it is hoped that each will gain a better understanding of the total network design process. The material for this book is based on our experiences both as industry consultants and as professors teaching graduate network design and management courses. In each of these roles, we have to deal with network managers and with hands-on network designers. We frequently observe sub-optimal communication between these two groups of professionals. For example, network managers frequently express a lack of confidence in evaluating whether or not organizational objectives will be satisfied by the recommendations proposed by design engineers. Design engineers, on the other hand, voice concerns that "management does not have any idea of what I'm doing and what is involved," and thus lack confidence that the goals established by management are realistic. Network managers have told us that they need to understand the technical jargon and basic approaches that network designers use so they can evaluate vendor offerings and staff recommendations. Managers want this perspective without getting too immersed in technical details. Network implementers have told us that they need and want practical advice on how to apply sound design principles in the context of a realistic design scenario, where organizational, budgetary, political, and other considerations must enter into the design process. Thus, this book is intended to help management and design professionals work together towards achieving their respective goals in the network design process.

KurzbeschreibungThere are hundreds of technologies and protocols used in telecommunications. They run the full gamut from application level to physical level. It is overwhelming to try to keep track of them. Network Design, Second Edition: Management and Technical Perspectives is a broad survey of the major technologies and networking protocols and how they interrelate, integrate, migrate, substitute, and segregate functionality. It presents fundamental issues that managers and engineers should be focused upon when designing a telecommunications strategy and selecting technologies, and bridges the communication gap that often exists between managers and technical staff involved in the design and implementation of networks. For managers, this book provides comprehensive technology overviews, case studies, and tools for decision making, requirements analysis, and technology evaluation. It provides guidelines, templates, checklists, and recommendations for technology selection and configuration, outsourcing, disaster recovery, business continuity, and security. The book cites free information so you can keep abreast of important developments. Engineers benefit from a review of the major technologies and protocols up and down the OSI protocol stack and how they relate to network design strategies. Topics include: Internet standards, protocols, and implementation; client server and distributed networking; value added networking services; disaster recovery and business continuity technologies; legacy IBM mainframe technologies and migration to TCP/IP; and MANs, WANs, and LANs. For engineers wanting to peek under the technology covers, Network Design provides insights into the mathematical underpinnings and theoretical basis for routing, network design, reliability, and performance analysis. This discussion covers star, tree, backbone, mesh, and access networks. The volume also analyzes the commercial tools and approaches used in network design, planning, and management. KurzbeschreibungThere are hundreds of technologies and protocols used in telecommunications. They run the full gamut from application level to physical level. It is overwhelming to try to keep track of them. Network Design, Second Edition: Management and Technical Perspectives is a broad survey of the major technologies and networking protocols and how they interrelate, integrate, migrate, substitute, and segregate functionality. It presents fundamental issues that managers and engineers should be

focused upon when designing a telecommunications strategy and selecting technologies, and bridges the communication gap that often exists between managers and technical staff involved in the design and implementation of networks. For managers, this book provides comprehensive technology overviews, case studies, and tools for decision making, requirements analysis, and technology evaluation. It provides guidelines, templates, checklists, and recommendations for technology selection and configuration, outsourcing, disaster recovery, business continuity, and security. The book cites free information so you can keep abreast of important developments. Engineers benefit from a review of the major technologies and protocols up and down the OSI protocol stack and how they relate to network design strategies. Topics include: Internet standards, protocols, and implementation; client server and distributed networking; value added networking services; disaster recovery and business continuity technologies; legacy IBM mainframe technologies and migration to TCP/IP; and MANs, WANs, and LANs. For engineers wanting to peek under the technology covers, Network Design provides insights into the mathematical underpinnings and theoretical basis for routing, network design, reliability, and performance analysis. This discussion covers star, tree, backbone, mesh, and access networks. The volume also analyzes the commercial tools and approaches used in network design, planning, and management.

Synopsis This book serves as a new reference on data network design, satisfying the needs of managers and designers in understanding each others perspective in the network design process. It introduces managers and technical professionals in the telecommunications field to the fundamental principles and analytical techniques used in designing data networks. Covers LAN and WAN network design. Emphasizes basic network design principles and analytical approaches - independent of specific implementation of technology. Presents effective tools for communication between managers and designers. Provides practical advice on applying sound design principles within a realistic design scenario - considering organisational, budgetary, and political factors.