First Mile Access Networks And Enabling Technologies

Synopsis

Learn about the technologies that drive fast broadband access in the first mile and master the design of first mile access networksUnderstand the motivating forces behind first mile access networks and learn about the technology and business requirements for first mile access solutionsMaster the design of passive optical networks (PON)Build EPON solutions and differentiate them from BPON and GPONEnhance bandwidth capacity in the access area using CWDM technologyLearn about and design DSL and power-line communication (PLC) networksDiscover the use of WiFi in the first mile and study the subsystems involved in a WiFi solutionLearn the importance of management in first mile access networks and create a business case for diverse first mile access networksFirst Mile Access Networks and Enabling Technologies provides a platform for showcasing first mile access technologies and associated network solutions. Using this book, you learn about the bandwidth bottleneck within the first mile and explore the resulting business prospects. Benefit from a thorough and thoughtful discussion of the business case for the first mile, which helps you approach the issue from multiple perspectives. Examine multiple access technologies, understand the diversity of solutions within this area, and take your solutions further using sound and unique management techniques. Utilize the solid and tested implementation method provided by this book to remove networking anomalies, such as the digital divide. This book helps you understand and capitalize on the market opportunity presented by the first mile.First Mile Access Networks and Enabling Technologies covers multiple technologies, protocols, and business methods and can be used to understand the growth of first mile access networks and resulting business opportunities.This book is part of the Networking Technology Series from Cisco Press, which offers networking professionals valuable information for constructing efficient networks, understanding new technologies, and building successful careers.

Book Information

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Customer Reviews

This book provides an interesting in-depth look at first mile access network architectures and technologies. It begins with an introduction to the "Digital Divide" problem and introduces the technologies to be looked at throughout the rest of the text; namely DSL networks (and its derivations), optical fiber networks, cable networks, the public switched telephone network (PSTN), and wireless networks.The author covers passive optical networks first, with a discussion of the various topologies in use, and some of the problems that can be encountered with each one.This chapter introduces some logarithmic math, but don’t worry! The book is well written and easily understandable whether you are looking for an overview of the various technologies, or need a good reference book to look up the formula for the signal loss properties of different media. Equations and formulas are sprinkled throughout the book for reference. ATM, broadband, and Ethernet over optical networks are covered with the advantages and disadvantages of each in relation to cost, performance and protocol issues. Chapter 3 continues the theme with a fairly interesting discussion of CWDM and DWDM (course and dense wave division multiplexing, respectively) and their application to access-area networking.The next section of the book introduces wireless data communication networks and discusses time, frequency, and code division multiplexing technologies, the theory behind antenna gain and half power beam-width, and the different types of antennas. WLANs and the 802.11 IEEE standard are looked at, with an in-depth look at the evolution of the 802.11 standard, and specifically the 802.11b high rate wireless LAN standard. This leads nicely into the next chapter where IEEE 802.

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