Telecommunications Essentials, Second Edition: The Complete Global Source (2nd Edition)

By Lillian Goleniewski, Kitty Wilson Jarrett (editor)

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From the Back Cover

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About the Author

Lillian Goleniewski is Founder and President of the LIDO Organization, Inc., an internationally acclaimed provider of education, information, and advisory services in the area of telecommunications technologies, services and networks.

Ms. Goleniewski lectures extensively on telecommunications technology and management topics throughout the world. She is the author and creator of LIDO Telecommunications Essentials® (www.telecomessentials.com). Ms. Goleniewski's seminars and eLearning series have been conducted on an international basis since 1984, and are offered throughout Asia, Australia/New Zealand, Africa, Europe, the Middle East, North America and South America.

Prior to forming the LIDO Organization, Ms. Goleniewski held the position of telecommunications operations manager at the Electric Power Research Institute (EPRI), the research and development arm of the U.S. utility industry. Before joining EPRI, Ms. Goleniewski was vice-president of operations for a San Francisco-based telecommunications consulting firm.

Ms. Goleniewski graduated Phi Beta Kappa and Summa Cum Laude from Wayne State University in Detroit, Michigan. She holds a B.A. in psychology and has completed numerous post-graduate studies in information technologies as well as psychology. Ms. Goleniewski was the recipient of a NSF Award to conduct research in the area of human perception and information processing.

I love telecommunications. It is powerful and it empowers, with far-reaching consequences. It has demonstrated the potential to transform society and business, and the revolution has only just begun.

With the invention of the telephone, human communications and commerce were forever changed: Time and distance began to melt away as barriers to doing business, keeping in touch with loved ones, and being able to immediately respond to major world events. Through the use of computers and telecommunications networks, humans have been able to extend their powers of thinking, influence, and productivity, just as those in the Industrial Age were able to extend the power of their muscles, or physical self, through the use of heavy machinery.

Today, new inventions and developments are again poised to make telecommunications a force to be reckoned with, forever changing human communications and commerce, and introducing machines as members of the networked society. This is an exciting era, and we face a host of new telecommunications technologies and applications that bring breathtaking new opportunities, particularly in the industries of entertainment, education, health care, government, advertising, lifestyle, and, sadly, warfare.

Although the information and communications technologies (ICT) industry has suffered greatly in recent years, exciting developments continue unabated in many areas that are key to the ongoing evolution of broadband devices, applications, and network infrastructures. These remarkable developments are propelling broadband evolution, creating good reasons to pursue next-generation networks.

What This Book Covers

The rapid progress in embedded devices, intelligent wearables, virtual reality, robotics, grid computing, and real-time communications is ushering in a new era of applications—applications that require enormous bandwidth, low latencies, minimal loss, guaranteed performance, wireless broadband, and converged infrastructures.

This book provides a thorough foundation for understanding a wide range of telecommunications principles and technologies. It provides a concentrated, high-level overview of the terminology and issues that

comprise telecommunications, and it discusses the major telecommunications infrastructures, including the PSTN, the Internet, cable TV, and wireless. It also examines the latest perspectives and developments governing next-generation networks, including next-generation architectures, infrastructures, IP telephony, VPNs, broadband access alternatives, and broadband wireless applications. Even though the ICT industry has gone through some hard times lately, logic dictates that we can only look forward to greater emphasis on the use of ICT.

The book is divided into four parts:

- Part I, "Communications Fundamentals," explains the basics, the arts and sciences of telecommunications. It begins by explaining the factors that are contributing to the telecommunications revolution and talks about some of the exciting new technologies that are on the horizon. Part I gives you a good grounding in the basics of telecommunications technology and terminology, covering communications fundamentals, and including the characteristics and uses of the various transmission media. Part I also discusses the processes involved in establishing communications channels, examining the differences between circuit-switched and packet-switched networks, and it explores the nature of the traditional PSTN.
- Part II, "Data Networking and the Internet," introduces the basics of data communications and networking. It discusses today's local area and wide area networking alternatives, as well as how the public Internet is structured. It also explores next-generation network services, such as VPNs, VoIP, and IPTV.
- Part III, "Next-Generation Networks," explores the realm of broadband networking, next-generation network architectures, optical networking, broadband access alternatives, and home area networking.
- Part IV, "Wireless Communications," discusses the world of wireless networking—including wireless WANs, MANs, LANs, and PANs—and it also explores emerging technologies, including the near and distant future of communications and its convergence with related information technology industries.

The book also includes a very comprehensive glossary of ICT-related terms.

Prevailing Conditions

In almost every aspect of life, it's important to put and keep things in context. A good idea in one situation might be a terrible idea in another situation. This is often the case with telecommunications; there is no one-size-fits-all, be-all and end-all telecommunications solution. In assessing telecommunications needs, it is important to think about the prevailing conditions, so that you can choose the best transmission media, the best network architecture, and so on for the situation. It's also important to remember that prevailing conditions change. So what's right for you today may change six months down the road. As you plan a telecommunications strategy, it is important to look as far into the future as you can, to make your network as adaptable to future innovations as possible.

If you are new to the communications and information industry, or if you simply want an understandable yet comprehensive overview of telecommunications, this book is for you. ***Telecommunications Essentials, Second Edition,*** will equip you with a blueprint on which you can build. The telecommunications landscape is vast; for a newcomer, it is treacherous terrain to navigate. This book provides a logical progression in putting together all the pieces of the telecommunications puzzle. It helps you master the basic building blocks of key technologies, from the principles of telecommunications transmission and networking to the current and evolving nature of the Internet, broadband architecture, and optical networking, addressing both wired and wireless alternatives.

Users Review

From reader reviews:

Anita Pfeifer:

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Lori Gonzales:

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Josephine Widman:

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