

## Book Reviews - Second Edition

Last Updated Tuesday, 24 July 2007

"In this updated and expanded edition of her excellent telecommunications primer, Lili explains in just the right detail everything you need to know to become fluent in this most important and fascinating industry. Besides including a satisfying amount of expert technical detail, the book also discusses equally crucial aspects of how communications technology affects society, culture, and politics. Electronic communications is changing the world for the better; learn from Lili's expertise how you, too, can participate in the revolution."

—Steve Riley, Senior Security Strategist, Microsoft Corporation

"The book you hold in your hand is a rarity. In more than thirty years of teaching, administration, and research in telecommunications, I have never found a single book that could serve these diverse areas. The search is over. Telecommunications Essentials is best-of-breed in telecommunications publishing and represents the most thorough, comprehensive, and forward-looking resource to date. Both student and practitioner alike will find the unique blend of introductory and advanced material a 'one-stop-shop.' If it was a movie, this book would receive two thumbs up!"

—Dr. Art St. George, Manager of Advanced Technologies, University of New Mexico

"Telecommunications Essentials should be on the shelf of every professional working in voice and data networking. It is the first place I go when I need to look up something that I am unsure of or when I encounter a new or unfamiliar term. I have been using Telecommunications Essentials now for two years as the course text for business technology students taking Introduction to Telecommunications. My course covers the entire book and the students end up with a practical knowledge base of the components, technologies, and connectivity that make today's networks work. This new edition is most welcome since it includes new advances in the areas of fiber optics, wireless, Voice over IP, and broadband technologies that have emerged since the publication of the first edition. This new edition will replace my well-worn copy of my first edition of Telecommunications Essentials, which has served me well so far."

—Robert Hudyma, Professor of Business, Ryerson University

"This is an excellent reference book on telecommunications. It's up-to-date on the latest technology, it's comprehensive, and most of all, it's easy to read and understand. Lili has the rare ability to explain very complex subjects well. If you need a good reference book on telecommunications, I would start with this."

—To Chee Eng, Research Director, Communications, Gartner

"Lillian makes telecoms fun."

—Ni Quiaque Lai, Long-term Lillian fan and CFO Hong Kong Broadband Network Ltd.

"Goleniewski's Telecommunications Essentials sets the stage by discussing forward-looking applications that are made possible by advances in telecommunications technology, including embedded devices, intelligent wearables, intelligent robot squads, and many others. This initial discussion is quite motivating for students and makes them eager to learn about various networking technologies which are covered quite well in the rest of the book. The 1st edition (2003) was already a great book for teaching telecommunications essentials, and it is clear that the 2nd edition brings us up to the present and is a remarkable treatment of the topic."

—Dr. Lundy Lewis, Chair of the Department of Information Technology, Southern New Hampshire University

"The book covers not just the fundamentals of telecommunications, but it easily guides the readers through the wide variety of technical details of next-generation network services, converged network architectures and technologies. Lillian's elegant and clear style of presentation makes the book an excellent reference source for system developers as well as telecommunications system designers to understand the current and emerging technologies that support business applications."

—Dr. Tibro Gyires, Professor, Illinois State University, School of Information Technology

"When Lili published her first edition of Telecommunications Essentials, I was a consultant in the communications field. Her guide was the only one I used to keep current. Now I'm in different field altogether but I need to understand this highly extensive field. Telecommunications Essentials is comprehensive, user-friendly, insightful and fun. Its the only resource to have if you want to know Telecom."

—Dave Feldman, Consul Trade & Investment, British Embassy

"After four decades of working in the computer and telecommunications fields, and over 20 years of teaching graduate level courses in telecommunications and network management in four universities, I finally have a book that meets the needs of students

who are working to gain an in depth and comprehensive grasp of an ever-changing field. Lili Goleniewski wrote that book. Her second edition is an outstanding contribution to the field and will be the best teaching aid I have ever had. If you teach you should use this book. If you want to really learn about telecommunications and data networks you should insist that your school adopt the book as a text."

—Michael Erbschloe, Consultant, Author and Educator

"Telecommunications is not just about the legacy telephone network, or the evolving wireless networks, or the rapidly expanding Internet. It is about all of these and much more. It requires years of expertise in this fascinating field combined with skillful writing ability to develop a book that presents in an interesting and insightful manner the multifaceted disciplines of telecommunications. Lillian Goleniewski has accomplished this immense task with great skill in her book Telecommunications Essentials. Beginning students and professionals alike will benefit from this book. It can serve as an excellent reference book to telecommunications executives and business professionals who need to understand the basics of telecommunications and workings of next generation networks. Congratulations to the author on a task well done!"

—Dr. Seshadri Mohan, Chair and Professor, Systems Engineering Department, University of Arkansas at Little Rock.

"Telecommunications Essentials is a brilliant book to read to get a broad and in-depth picture of telecommunications nitty-gritty. Lili has a way of explaining complicated topics very well. It is a must have book for any person who works in the IT world."

—Lino Alberts, Department Manager Technology Operations, RBTT Bank Aruba N.V.

"One of the great challenges facing those responsible for setting public policy or regulation associated with the converging technologies of telecommunications, IT, and media is that before the 'ink is dry' on their pronouncements, advancements in the underlying science and technology has often made the "new" policy, laws and regulation out-of-date or irrelevant. While Lili does not claim to predict the future in her 2nd Edition of Telecommunications Essentials, she does take what is to many "Rocket Science" and delivers it up in ways that those responsible for protecting the "public good" and maintaining more competitive communications market places, can easily understand. Lili is one of the few telecommunications educators out there, catering to a diverse a reader base, who has been keeping up with Moore's Law and what it really means in the real world of telecommunications." She continues to maintain her technological neutrality, never attempting to "sell" a particular flavor of the year as regards who is the "best" at delivering "what" to "whom", nor falling into a mumbo-jumbo-mantra of which national regulatory authority has invented the best-of-the-best new legal regime, something sorely needed by those needing a bias free technology primer."

—Thom Ramsey, Partner, Squire, Sanders & Dempsey (Brussels & Washington, D.C.) and former Deputy United States Coordinator for International Communications and Information Policy, U.S. Department of State

"As a journalist who writes about the Defense Department's most complicated space programs, I need to have a very clear and current handle on the technology and the operational aspects of the equipment and platforms. I am always on the prowl for materials that provide me that kind of background, concisely and accurately.

The best single source for such an understanding was "Telecommunications Essentials."

That was until author Lillian Goleniewski put together "Telecommunications Essentials: The Complete Source for Communications Fundamentals, Data Networking and the Internet, Next-Generation Networks, and Wireless Networking, 2nd Edition."

Since the publication of the first "Telecommunications Essentials," technology has grown enormously and understanding of those changes is an absolute must for a reporter who must write stories about the U.S. Air Force's latest satellite success for folly.

In her second edition, Lillian Goleniewski does just that. And, in the same manner of the first, she explains the technology without talking down or over the head of less-than-savvy readers. Yet, even those knowledgeable in these areas would find plenty of gold to mine in the text. With updates on technology and operations, the book is not only a must have, but will remain a sought-after reference and companion for those who need to understand the industry for years to come."

—Mike Fabey, Air and Space Warfare Reporter, Defense News

"A truly amazing book. A "must have" for any people who wants to know the basics of telecommunication, how it works, and where the industry is heading. This book is excellent for all audience; from novice to expert. Lili has successfully broken down the complexity of telecommunication so it can be easily understood."

—Mohd Radzi b. Mohd Yusoff, Senior Manager, MSC Technology Centre Sdn Bhd, Malaysia

"Telecom Essentials describes the most technical elements of the subject in lay person's terms, while remaining engaging for those with greater understanding. In providing the link between the most complex of telecoms technology

and its most simple applications, both now and in the future, Telecom Essentials is the most readable book on the subject both for newcomers and for the "old hands". Lili exudes enthusiasm throughout, providing a vision for the future that draws the reader in."

—Neil Juggins, Head of Research, Evolution Securities China

"As an electronic engineer and graduate student, I found the book to be very comprehensive in discussing various emerging and present telecommunication technologies. The book would describe quite accurately the technology without bogging you down with unnecessary details. It manages to be brief while still providing valuable data for the telecommunications professional, and broad enough to cover a wide spectrum (no pun intended) of material. And most importantly, it isn't a bore to read.

I recommend this to anyone seeking a basic to intermediate knowledge of a broad array of telecommunications concepts and applications."

—David Ethington, Wiesbaden Army Airfield, Germany

"I have to hand it to the authors, Lillian Goleniewski and Kitty Jarrett, for producing hands-down the most readable and comprehensive book out there on Telecom. I have had to slog through some of the worst writing to study this subject, and it was a breath of fresh air to crack this one open and start reading.

The authors cover every aspect of the field in great depth, and in such clear language that both the expert and the novice can benefit from this book. This will be required reading for all of my students, and I highly recommend other professors in the Telecom field to follow suit.

Well done!"

—Avid Reader, Brooklyn, NY

"The author is a great writer! This was an easy read and I'm glad it's in my personal library. Just what I needed to know about telecom and a nice addition to my other telecom books such as Taking Charge of your VoIP Project. That's another good one. Thank you Lillian! The first time tonight I haven't had to lament the plethora of bad writers and non-existent content editors!"

—Violet Weed, San Francisco - Honolulu - Chicago

"I was asked to review this book a while back. Given that it's a great reference book, but, at over 800 technical pages, it's not exactly nightstand material, it's taken me a little longer than I'd hoped. However, what I found inside is an excellent telecommunications reference book that certainly belongs in my library.

I'm not going to list a complete table of contents in this post. Rather, I'm going to point out a few of the things I found really noteworthy among those chapters in the book.

The book is broken into four general sections

Communications Fundamentals really focuses on the basics of telecom, but starts with a chapter that makes for a great paper on its own. The "Understanding the Telecommunications Revolution" chapter pulls together and synthesizes a great deal of what's going on in the telecom industry today.

The remainder of this first section of the book provides the basics. There are great basic explanations of transmission lines, circuits, channelization and virtual circuits. There's a section on analog vs digital transmission, explanations of codecs, and multiplexing in very good detail. Chapter 3 provides more than you'll ever want to know about media in practical terms - everything from coax to microwave to satellite, with a comprehensive section on fiber technologies. Chapter 4 is all about connections - switching modes - really packet vs. circuit switching. There's an entire chapter on the PSTN that includes SONET infrastructure, SS7 and Advanced Intelligent Networks (AINs).

Section two focuses on the basics of data networking. It starts off with DTE/DCE basics, then moves into modems and modulation methods. Coding schemes and transmission modes get solid coverage. And there's the obligatory OSI Reference Model that does a really good job.

The remainder of the book steps through everything from ISDN to ATM, from LAN topologies and protocols to VLANs and routing.

There's the obligatory "history of the Internet" section. Why do every one of us who write a technical book include that? I question whether it was useful in my own IP Telephony Demystified five years ago, and I question its usefulness here

The book gives a nice look at broadband architectures and technologies. It introduces security concepts, VPNs and VoIP and then moves into newer emerging technologies.

I spent a number of years teaching what I'd call technology curriculum. The classes I taught ranged from a one-day class on IP Telephony to parts of a ten-week curriculum on the full suite of voice and data technologies. One of the classes I most enjoyed teaching was a five day technology fly by that covered everything in the voice and data networking sector in a week. It often left students with a glazed over deer in the headlights look on the second day, but that class always got the best feedback as a stellar learning experience.

If I'm called on to teach a week-long course again, I'll use this book as the backdrop text to fame the course.

This is a text that I think belongs in every telecom and data networking manager's arsenal of information. In fact, I'm off to order four copies from Amazon as Christmas gifts for people I know who are new in that role and can use a valuable resource. I highly recommend this book.&rdquo;

&mdash;Ken Camp, Realtime Unified Communications

&ldquo;Firstly, I am a strong fan of Ms. Lili. I have personally met the author during a 3-day seminar during my PETRONAS days back in 1994. At that time, I was attending what was the best telecomm training course the market can offer and well worth its price.

#### WHY WE NEED TO UNDERSTAND TELECOMM PROPERLY:

To an oil-and-gas company network downtime to a gas-compressing subsidiary can cost around RM100,000 an hour (1994 exchange of RM2.50@US\$1) equivalent to US\$40,000.

At that time, IT Support has to figure out how to support a heterogeneous mix of one IBM 3745 mainframe, few UNIX boxes, tens of Novell 2.x servers. Several network protocols ran inside the various pipes/lines such as SNA, TCP-IP and MS Netbeui, and my pet project OS/2 NetBIOS, and Novell SPX. Most network segments are on Ethernet, and a couple are on Token-Ring.

Needless to say, troubleshooting network traffic particularly eliminating "jabbers chipping echoes etc" was to put it mildly a "challenge." One of the fire-fighting effort required bringing in a US consultant with a pony-tail using Data-General "Sniffer" equipment!

For IT Support to figure out how to support the big project at that time, mainly getting SAP gateways remaining up, we need to understand what it was we were having, as well as understand how the newer telecomm technologies are going to do to the overall picture.

At that time, we have the whole possible mix of telecomm devices such fixed leased lines, dial-up backup, and few sprinklings of VSAT and wireless. Of course you cannot learn all that in a 3-day class. And I don't think I learn that at school too. What I learned became obsolete after I graduated !

#### WHY WE NEED THIS BOOK:

This is where this book comes in. To provide good IT support, so that users will not pester Helpdesk folks, we need really good technical references. Of course, we need that initial mind-enlightening class [LIDO Telecommunications Essentials seminar or elearning] to understand the "big-picture." The details you can get free and easily off the web nowadays; understanding how the big picture works will make it easier for us to understand the complex details.

#### WHAT THIS BOOK COVERS:

Covered the whole range of Telecom technologies ranging from basic stuff such as circuits and channels to transmission type such as analog vs digital. The book then cover the traditional media such as twisted-pair, coax, fibre and telecomm devices such as microwave and satellite.

The depth of technical details amazes me to have everything in one book covering IP protocols, ports, and Quality of Service. Main trends are covered such as optical networking, broadband and wireless for both LAN, and WANs..

I really like Lili's supplementary notes on the various indicators on industry adoption of specific technologies as well as their technological history. Basically if you need to know something on Telecomms, there will be some pages on that topic here. .

#### COMPARED TO 1st EDITION:

Compared to the 1st edition, this is thicker by a double! We have a whopping 865 pages, although still much less than Yellow Pages

In the 2nd edition, I realized the author has diligently tracked the technology updates which is what most people wanted.

#### TELECOMMS MUST BE A PART OF YOUR COMPANY IT STRATEGIC PLAN:

Overall for techies out there, recognizing important trends in the telco industry is VERY VERY important for your corporate management. Having a feel of where everybody is going is critical to their Telecommunications Infra roadmap. This is where this book comes into value.

The Telecomms Infrastructure road map will determine what decisions are required for infrastructure procurement, leasing or investment. Thus, the Telecomm chapter is an important part of a company IT Strategic Plan (ISP).

Subsequently, this ISP will exist if senior management is really serious to get their brilliant and precious Business Strategic Plan up and running. Unless if the company is just SOHO with only 1-2 computers and they pass files using flash-disks! Otherwise the senior management is just talking.&rdquo;

&mdash;Ramzani ABD RAUB, Cyberjaya, Malaysia

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