Telecom 101 - Sixth Edition: 2022

High-Quality Reference Book and Study Guide
Covering All Major Telecommunications Topics... in Plain English.

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Telecommunications • Broadband • Data Communications • Networking • IP • Convergence • Fundamentals • Wireless • Fiber • Data Centers • Cloud • Carriers • Equipment • PSTN • SD-WAN • VoIP • SIP • Ethernet • MPLS

Packed with information, authoritative, covering all major topics - and written in plain English - Telecom 101 is also an invaluable textbook and day-to-day reference on telecom. Completely updated and revised, the new Sixth Edition of Telecom 101 is the materials from the latest version of Teracom's famous Course 101 Broadband, Telecom, Datacom and Networking for Non-Engineers, plus additional topics and chapters.

In a user-friendly 7 x 10" softcover version, printed in color, hardcover, or eBook, Telecom 101 brings you in one volume consistency, completeness and unbeatable value.

Telecom 101 also serves as a study guide for the Telecommunications Certification Organization TCO Certified Telecommunications Analyst (CTA) telecommunications certification, covering all material required for the CTA Certification Exam except the security module.

Our approach can be summed up with a simple philosophy: Start at the beginning. Progress in a logical order. Build one concept on top of another. Finish at the end. Avoid jargon. Speak in plain English. Bust the buzzwords, demystify jargon, and cut through doubletalk! Fill gaps and build a solid base of structured knowledge. Understand how everything fits together... knowledge and understanding that lasts a lifetime.

Ideal for anyone needing a book covering all major topics in telecom, data communications, IP and networking... in plain English. A wealth of clear, concise, organized knowledge, impossible to find in one place anywhere else.

Get this invaluable book today!

★★★★★ Best Book on the Market for Telecom, 6 stars

By Amazon Customer on August 6, 2017
Format: Paperback | Verified Purchase
This is by far and away the best book for someone in the telecom field who works with these products on a daily basis. There is no other book that I have found that addresses these concepts in a clear and relevant manner. I work for AT&T and trust me, this book is on point.

It is also meaningful for someone interested in learning about telecom. The author starts the book by providing an overview of telecom and how it relates to modern technologies in use today.

Not only is the information extremely relevant and well written, the author is humorous and uses great real world examples to validate his points. A must read!!

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Free Preview

A free preview is available via the "look inside" function on Telecom 101's Amazon page.

Trusted and Proven Content

This book is based on the course materials from Teracom's instructor-led Course 101 Broadband, Telecom, Datacom and Networking for Non-Engineering Professionals, tuned and refined over 20 years, and totally updated for the 2020s in this fifth edition.

With broadband Internet, the converged IP telecom network, cloud computing, web services and data centers in the front seat, the topics in this course represent the core knowledge set necessary for anyone serious in telecom today.

It has been written for those new to telecom, those getting up to speed, those filling in gaps, and for all those who do not have Engineering degrees specializing in telecommunications. Our goal is to demystify jargon and buzzwords, and put in place a structured understanding of telecom, the technologies and services, and most importantly, the underlying ideas – and how it all fits together.

The knowledge in this book is drawn from over 30 years of experience in the telecom business, working for telephone companies in jobs including Junior R&D Engineer, systems engineer, consultant writing telecom R&D tax credit claims, and teaching many private onsite courses for carriers.

The *style* of this book, the selection of material, its ordering and pacing, and the jokes, are the result of being the instructor at hundreds and hundreds of 2-day and 3-day seminar courses on these topics over the past 24 years.

The result is this book, Telecom 101: the course materials for an instructor-led course that costs US$1895 to attend, augmented with substantial additional material, available in softcover textbook and ebook.

Telecom 101 is intended to be used as a textbook, sequentially building one concept on another like an instructor-led course. It is also intended to be a valuable day-to-day reference handbook and glossary.

Let’s get started!

Value Pricing

Written by our top instructor, Eric Coll, M.Eng., Telecom 101 contains 30 years of knowledge and learning distilled and organized into an invaluable study guide and practical day-to-day reference for non-Engineers.

Looking through the chapter list and detailed outline below, you'll see that many chapters of Telecom 101 are like self-contained reference books on specific topics, like Wireless, Internet, IP, LANs and MPLS.

You can get all of these topics bound in one volume for one low price. Compare this to hunting down and paying for multiple books by different authors that may or may not cover what you need to know- and you'll agree this is a very attractive deal.

Career- and productivity-enhancing training... an investment that will be repaid many times over.

Chapter List

Telecom 101 is composed of four parts: The Fundamentals, Telecommunications Technologies, Equipment, Carriers and Interconnect, and finally Networking.

These topics are the core knowledge set necessary for anyone serious in telecom today.

PART 1: THE FUNDAMENTALS
1 INTRODUCTION TO THE BOOK
2 INTRODUCTION TO TELECOMMUNICATIONS
3 TELECOM FUNDAMENTALS
4 NETWORK FUNDAMENTALS
5 THE INTERNET, CLOUD COMPUTING AND DATA CENTERS
6 TELECOM SERVICES
7 DIGITAL MEDIA: VOICE, VIDEO, IMAGES, QUANTITIES, TEXT
8 FUNDAMENTALS OF VOICE OVER IP

The first part of Telecom 101 is eight chapters that cover the fundamentals of telecom, filling gaps, explaining concepts and establishing a solid knowledge base. First is an introduction to the book, then a high-level pass with a big-picture view and introducing all of the course topics.

Then we progress in a logical order: how telecom circuits are provisioned by carriers, telecom fundamentals, followed by IP packet network fundamentals. Then you’ll learn about the Internet as a business: ISPs, web services like AWS, cloud computing and data centers.

We’ll review today’s services in the residential, business and wholesale categories. Next is digital media: how voice is digitized, digital video, digital images, digital quantities and digital text. The fundamentals are completed with the Fundamentals of VoIP.

PART 2: TELECOM TECHNOLOGIES
9 WIRELESS
10 FIBER OPTICS
11 COPPER

In the second part of the course, we explore the three main technologies for transmitting information from one place to another: wireless, fiber and copper.

We'll cover wireless spectrum, mobile network components and operation, 4G LTE, 5G, fixed wireless broadband home internet, Wi-Fi and satellites.

Then you'll learn optical basics, and how networks are built with point-to-point fibers running Optical Ethernet, wave-division multiplexing, fiber in the core, metro and to the premise.

We'll finish with copper-wire technologies: DSL and POTS on twisted pair and the Legacy PSTN, Hybrid Fiber-Coax cable TV systems, T1 and the categories of LAN cables.

PART 3: EQUIPMENT, CARRIERS AND INTERCONNECT

12 TELECOM EQUIPMENT
13 CARRIERS AND INTERCONNECT

In the third part of the course, we explore the equipment like switches and routers that is connected by the fiber, copper and wireless of Part 2 to form networks, and the place and purpose of each.

Then we understand where and how connections physically take place between carriers for PSTN phone calls, for Internet traffic and CLEC services.

PART 4: NETWORKING

14 THE OSI LAYERS AND PROTOCOL STACKS
15 ETHERNET, LANS AND VLANS
16 IP NETWORKS, ROUTERS AND ADDRESSES
17 MPLS AND CARRIER NETWORKS
18 WRAPPING UP

The fourth and final part of Course 101 is devoted to IP networking. We begin with the OSI Reference Model and its layers to provide a structure for the discussion: what a layer is, what the layers are, the functions of each, and the standard protocols at each layer.

Next is a chapter on Layer 2: Ethernet, 802 standards, broadcast domains and VLANs. Then, Layer 3: IP routers, IP addresses, DHCP, public and private addresses, Network Address Translation and IPv6.

Chapter 17 covers the core traffic management system MPLS, and how MPLS is used to implement VPNs, classes of service, service integration and traffic aggregation.

We'll conclude with a top-down review and roundup of technologies and a peek at the future of telecommunications.

APPENDICIES

APPENDIX A MODULATION TECHNIQUES
APPENDIX B LEGACY CHANNELIZED TRANSMISSION SYSTEMS
APPENDIX C ALL ABOUT T1
APPENDIX D VOICE SERVICES AND JARGON
APPENDIX E LEGACY DATACOM TECHNOLOGIES
APPENDIX F ACRONYMS AND ABBREVIATIONS

Telecommunications is in constant change – and technologies that used to be in wide use are no longer. Along with some technical discussions, they've been moved to appendices to make room for the new: demoted rather than deleted, for those who have to deal with legacy technologies. The last appendix provides a comprehensive list of acronyms and abbreviations used in the book.

Outline

Here's a very detailed section-by-section outline of everything covered in Telecom 101:

Detailed Table of Contents

2 Introduction to Telecommunications

★★★★★ **Exceptional Book**

By Boruch T. on July 26, 2016
Format: Kindle Edition | Verified Purchase
It's an EXCEPTIONAL book. it explains EVERYTHING in Telecom in such plain easy to understand English. From Binary codes to how carriers perform COS and QOS by MPLS everything was explained thoroughly and easy language. Its a must for anybody that plans on dealing with telecom.

Quality you can trust

Benefit from decades of knowledge, insight and experience distilled into clear lessons designed for non-engineers, logically organized to build one concept on another… in plain English. Join our thousands of satisfied customers including:

and the FBI Training Academy, US Marine Corps Communications School, US Army, Navy, Air Force and Coast Guard, the NSA and CIA, IRS, FAA, DND, CRA, CRTC, RCMP, banks, power companies, police forces, manufacturers, government, local and regional telcos, broadband carriers, individuals, telecom planners and administrators, finance, tax and accounting personnel and many more from hundreds of companies. Teracom's GSA Contract GS-02F-0053X for supplying this training to the United States Government is your assurance of approved quality and value.