

# Next Generation Networks

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## LIDO TELECOMMUNICATIONS ESSENTIALS®

Building on the foundation laid in Part 1 and Part 2, Part 3 addresses broadband technologies and next-generation networks. The evolution of broadband capabilities in the PSTN, Internet, Cable TV and Wireless infrastructures are discussed, with a focus on the applications scenario driving the requirement for new classes of networks as well as technologies for enabling interactive service platforms. Broadband networking discussions include the expanding range of broadband applications, including the role and standards of digital TV and the associated multimedia networking requirements. The nature and impact of convergence is examined, with a focus on what this means to next generation infrastructures. This naturally leads to the exploration of next generation network infrastructures, including the role of IMS as well as the three-tiered broadband architecture, the multiservice intelligent edge, quality of service techniques, and MPLS architecture. The full realm of broadband access alternatives are explored, including DSLs, cable, FTTx, wireless and powerline communications alternatives. And of course, the critical developments and deployments of optical technology are fully discussed, from the key principles and issues surrounding the optical realm, to developments in end-to-end optical components. Emerging standards for the next generation of digital optical infrastructure is discussed from both the carrier and data community perspectives.

### IP SERVICES

- \* The Evolution to IP Services
- \* IP Telephony
- \* IPTV
- \* Virtual Private Networks

### NEXT-GENERATION NETWORKS

- \* The Broadband Evolution
- \* Multimedia Networking Requirements
- \* The Broadband Architecture
- \* Next Generation Networks and Convergence
- \* The Next Generation Network Infrastructure
- \* The IP Multimedia Subsystem (IMS)
- \* The Multiservice Edge
- \* Quality of Service
- \* MPLS

### OPTICAL NETWORKING

- \* Optical Networking Today and Tomorrow
- \* End-to-End Optical Networking
- \* The Optical Edge
- \* The Optical Core
- \* Optical Networking Models
- \* The IP + Optical Control Plane
- \* Migration to Optical Networking

### BROADBAND ACCESS ALTERNATIVES

- \* The xDSLs
- \* Hybrid Fiber Coax (HFC)
- \* Fiber Solutions
- \* Broadband Wireless Access Alternatives
- \* Powerline Telecommunications (PLT)
- \* Home Area Networking

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