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Example ARP OperationARP Variations; ARP and IPv6; Questions for Readers; CHAPTER 6. IPv4 and IPv6 Headers; Packet Headers and Addresses; The IPv4 Packet Header; Fragmentation and IPv4; A Fragmentation Example; IPv4 and IPv6 Headers Compared; IPv6 and Fragmentation; Questions for Readers; CHAPTER 7. Internet Control Message Protocol; ICMP and Ping; The ICMP Message Format; Sending ICMP Messages; Ping; Traceroute; Path MTU; ICMPv6; Questions for Readers; CHAPTER 8. Routing; Routers and Routing Tables; Hosts and Routing Tables; Direct and Indirect Delivery; Questions for Readers CHAPTER 9. Forwarding IP PacketsRouter Architectures; Router Access; Forwarding Table Lookups; Dual Stacks, Tunneling, and IPv6; Tunneling Mechanisms; Transition Considerations; Questions for Readers; CHAPTER 10. User Datagram Protocol; UDP Ports and Sockets; What UDP Is For; The UDP Header; IPv4 and IPv6 Notes; Port Numbers; UDP Operation; UDP Overflows; Questions for Readers; CHAPTER 11. Transmission Control Protocol; TCP and Connections; The TCP Header; TCP Mechanisms; Connections and the Three-Way Handshake; Flow Control; Performance Algorithms; TCP and FTP; Questions for Readers CHAPTER 12. Multiplexing and SocketsLayers and Applications; The Socket Interface; The Socket Interface: Good or Bad?; The Windows Socket Interface; Sockets on Linux; Questions for Readers; Part III: Routing and Routing Protocols; CHAPTER 13. Routing and Peering; Network Layer Routing and Switching; Connection-Oriented and Connectionless Networks; Host Routing Tables; The Internet and the Autonomous System; The Internet Today; The Role of Routing Policies; Peering; Picking a Peer; Questions for Readers; CHAPTER 14. IGPs: RIP, OSPF, and IS-IS; Interior Routing Protocols; The Three Major IGPs Routing Information Protocol

Sommario/riassunto

In 1994, W. Richard Stevens and Addison-Wesley published a networking classic: TCP/IP Illustrated. The model for that book was a brilliant, unfettered approach to networking concepts that has proven itself over time to be popular with readers of beginning to intermediate networking knowledge. The Illustrated Network takes this time-honored approach and modernizes it by creating not only a much larger and more complicated network, but also by incorporating all the networking advancements that have taken place since the mid-1990s, which are many. This book takes the popular Stevens appro