Record Nr. UNINA9910814050203321 Autore Walrand Jean Titolo Communication Networks : A Concise Introduction, Second Edition / / by Jean Walrand, Shyam Parekh Pubbl/distr/stampa Cham:,: Springer International Publishing:,: Imprint: Springer,, 2018 **ISBN** 3-031-79281-5 Edizione [2nd ed. 2018.] Descrizione fisica 1 online resource (XX, 220 p.) Collana Synthesis Lectures on Learning, Networks, and Algorithms, , 2690-4314 006.3 Disciplina Soggetti Artificial intelligence Cooperating objects (Computer systems) Programming languages (Electronic computers) **Telecommunication** Artificial Intelligence Cyber-Physical Systems Programming Language Communications Engineering, Networks Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Praise for Communication Networks: A Concise Introduction -- Preface Nota di contenuto -- The Internet -- Principles -- Ethernet -- WiFi -- Routing --Internetworking -- Transport -- Models -- LTE -- QOS -- Physical Layer -- Additional Topics -- Bibliography -- Authors' Biographies --Index. This book results from many years of teaching an upper division course Sommario/riassunto on communication networks in the EECS department at the University of California, Berkeley. It is motivated by the perceived need for an easily accessible textbook that puts emphasis on the core concepts behind current and next generation networks. After an overview of how today's Internet works and a discussion of the main principles behind its architecture, we discuss the key ideas behind Ethernet, WiFi networks, routing, internetworking, and TCP. To make the book as self-contained

as possible, brief discussions of probability and Markov chain concepts

are included in the appendices. This is followed by a brief discussion of mathematical models that provide insight into the operations of network protocols. Next, the main ideas behind the new generation of wireless networks based on LTE, and the notion of QoS are presented. A concise discussion of the physical layer technologies underlying various networks is also included. Finally, a sampling of topics is presented that may have significant influence on the future evolution of networks, including overlay networks like content delivery and peer-topeer networks, sensor networks, distributed algorithms, Byzantine agreement, source compression, SDN and NFV, and Internet of Things.