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Internet -- 5.1 A Fluid-flow Model of the AIMD/RED System -- 5.2 Stability and Fairness Analysis with Delay-free Marking -- 5.3 Boundedness of the Homogeneous-flow AIMD/RED System with Time Delay -- 5.4 Summary -- 5.5 Problems -- 6 AIMD in Wireless Internet -- 6.1 Introduction -- 6.2 Related Work -- 6.3 System Model -- 6.4 Analytical Model for Window-controlled Flows -- 6.5 Parameter Selection for AIMD -- 6.6 Performance Evaluation -- 6.7 Summary -- 6.8 Problems -- 7 TCP-friendly Rate Control in Wireless Internet -- 7.1 Introduction -- 7.2 System Model -- 7.3 Analytical Model for Rate-controlled Flows -- 7.4 Performance Evaluation -- 7.5 Summary -- 7.6 Problems -- 8 Multimedia Services in Wireless Random Access Networks -- 8.1 Brief History of Random Access Technologies -- 8.2 IEEE 802.11 Protocol -- 8.3 WLAN with Saturated Stations -- 8.4 WLAN with Unbalanced Traffic -- 8.5 TFRC in the Mobile Hotspot -- 8.6 Summary -- 8.7 Problems.
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Sommario/riassunto

Learn how to provide seamless, high quality multimedia for the wireless Internet This book introduces the promising protocols for multimedia services and presents the analytical frameworks for measuring their performance in wireless networks. Furthermore, the book shows how to fine-tune the parameters for Quality of Service (QoS) provisioning in order to illustrate the effect that QoS has upon the stability, integrity and growth of next generation wireless Internet. In addition, the authors provide the tools required to implement this understanding. These tools are particularly useful for design and engineering network architecture and protocols for future wireless Internet. Additionally, the book provides a good overview of wireless networks, while also appealing to network researchers and engineers. Key Features: . Provides a comprehensive and analytical understanding of the performance of multimedia services in wireless Internet, and the tools to implement such an understanding. Addresses issues such as IEEE 802.11, AIMD/RED (Additive Increase-Multiplicative Decrease/ Random Early Detection), multimedia traffic models, congestion control and random access networks. Investigates the impact of wireless characteristics on QoS constraint multimedia applications. Includes a case study on AIMD for multimedia playback applications. Features numerous examples, suggested reading and review questions for each chapter This book is an invaluable resource for postgraduate students undertaking courses in wireless networks and multimedia services, students studying advanced graduate courses in electrical engineering and computer science, and researchers and engineers in the field of wireless networks.