Selected Topics in Communication Networks and Distributed Systems

Sudip Misra Subhas Chandra Misra Isaac Woungang

Editors





CONTENTS

Chapter 1	Mobility in Wireless Communication Networks Ronan Skehill, Padraig Scully, Eduardo Cano, Joseph Johnson, Sean McGrath and John Nelson	1
Chapter 2	The Multimedia Broadcast/Multicast Service of the Universal Mobile Telecommunications System Antonios Alexiou, Christos Bouras, Vasileios Kokkinos and Evangelos Rekkas	43
Chapter 3	WIMAX/802.16 Broadband Wireless Networks Michel Barbeau, Paul Boone and Evangelos Kranakis	79
Chapter 4	The System Framework and Its Application in a Mobile RFID Service Network Namje Park, Rajit Gadh, Seungjoo Kim and Dongho Won	113
Chapter 5	Using Neural Networks in Wireless Man QoS Architectures Manjunath Ramachandra	141
Chapter 6	Using a Statistical Learning Model and SVM for Location Management in WLANS Abhishek Sisodia, Amit Gupta, Kunal Kapoor and Shashikala Tapaswi	163
Chapter 7	Transmission Power Control for Mobile Ad Hoc Networks Basel Alawieh, Chadi Assi and Hussein Mouftah	193
Chapter 8	Collision Avoidance Aware MAC Protocols for Multi-hop Ad Hoc Networks: Challenges, Solutions and Open Issues Basel Alawieh, Chadi Assi and Hussein Mouftah	217
Chapter 9	A Cross Layer DOA Routing Protocol for Mobile Ad Hoc Networks C. Mala, S. Vikram and N. P. Gopalan	243

vi Contents

Chapter 10	Optimization in an Ad Hoc Network C. Mala, S. Sandeep Kumar and N. P. Gopalan	261
Chapter 11	Area Coverage Problems in Wireless Sensor Networks Bang Wang, Cheng Fu, Hock Beng Lim, Minghui Li and Di Ma	277
Chapter 12	Cognitive Networks Manuel Peralta, Supratik Mukhopadhyay, Ramesh Bharadwaj and Krishna Shenai	321
Chapter 13	Routing and Traffic Management El-Sayed M. El-Alfy	343
Chapter 14	Network Management: A Tutorial and Survey $Hui\ Xu\ and\ Debao\ Xiao$	401
Chapter 15	The Principles of Network Monitoring Monica Brockmeyer and Jawwad Shamsi	433
Chapter 16	Network Information Flow and its Wireless Applications $Jiaqing\ Huang\ and\ Tegegne\ Gobana$	463
Chapter 17	A Theoretical Model for Grid, Cluster and Internet Computing Mark Burgin and Marc L. Smith	485
Chapter 18	Dataflow Computations on Enterprise Grids Chao Jin and Rajkumar Buyya	537
Chapter 19	Grid-Based Computing Platform for Large-Scale Online Applications K. L. Eddie Law and Y. C. Allen Yu	565
Chapter 20	Adaptive Multimedia Transmission over the Internet Christos Bouras and Apostolos Gkamas	589
Chapter 21	Analyzing Bandwidth usage in a Distributed Processing Environment Dennis Guster, Mark B. Schmidt, Renat Sultanov and Charles Hall	607
Chapter 22	Intrusion Detection in Networks and Applications Kapil Kumar Gupta, Baikunth Nath and Kotagiri Ramamohanarao	635

753

Chapter 23	Security in Mobile Ad Hoc Networks Venkat Balakrishnan, Vijay Varadharajan and Uday Tupakula	671
Chapter 24	Identity Management in Mobile Communication Systems Silke Holtmanns, Guenther Horn and Wolf-Dietrich Moeller	709
Chapter 25	Proactive Models for Mitigating Internet Denial-of-Service/Distributed Denial-of-Service Attacks H. R. Nagesh and K. Chandra Sekaran	731

Solutions